1. Legal Ad

    Documents:

        PB LEGAL AD 7-24-18.PDF

2. Agenda

    Documents:

        PB AGENDA 7-24-18.PDF

3. 86 Newbury Street

    Documents:

        NEWBURY ST. - 86 (MEMO).PDF
        NEWBURY ST. - 86 (STAFF MEMOS).PDF
        NEWBURY ST. - 86 (APPLICANTS SUBMITTAL).PDF
        NEWBURY ST. - 86 (PUBLIC COMMENT).PDF
        NEWBURY ST. - 86 (PLANS).PDF

    3.I. Additional Public Comment

        Documents:

            PC14 PAULA FOLEY-STELMACK 7-23-18.PDF

        3.I.i. PC15 Kate Philbin 7-24-18

            Documents:

                PC15 KATE PHILBIN 7-24-18.PDF

4. 977 Brighton Avenue

    Documents:

        BRIGHTON AVE. - 977 (REPORT).PDF
        BRIGHTON AVE. - 977 (STAFF ATTACHMENTS).PDF
        BRIGHTON AVE. - 977 (APPLICANTS SUBMITTAL).PDF
        BRIGHTON AVE. - 977 (PUBLIC COMMENT).PDF
        BRIGHTON AVE. - 977 (PLANS).PDF

    4.I. Additional Public Comment Received

        Documents:

            PC7 JOE MARTELLE 7-23-18.PDF

5. 178 Kennebec Street

    Documents:

        KENNEBEC ST. - 178 (REPORT).PDF

KENNEBEC ST. - 178 (STAFF ATTACHMENT AND PUBLIC COMMENT).PDF
KENNEBEC ST. - 178 (APPLICANTS SUBMITTAL).PDF
KENNEBEC ST. - 178 (PLANS).PDF

6. 24 St. Lawrence Street

Documents:

ST. LAWRENCE ST. - 24 (REPORT).PDF
ST. LAWRENCE ST. - 24 (REPORT ATTACHMENTS).PDF
ST. LAWRENCE ST. - 24 (APPLICANTS SUBMITTAL).PDF
ST. LAWRENCE ST. - 24 (PUBLIC COMMENT).PDF
ST. LAWRENCE ST. - 24 (PLANS).PDF

6.I. Additional Public Comment

Documents:

PC32 GAIL KUHLTHAU 7-23-18.PDF

6.I.i. PC33 Will Bartlett 7-24-18

Documents:

PC33 WILL BARTLETT 7-24-18.PDF

7. 325 St. John Street

Documents:

ST. JOHN ST. - 325 (MEMO).PDF
ST. JOHN ST. - 325 (MEMO ATTACHMENTS).PDF
ST. JOHN ST. - 325 (APPLICANTS SUBMITTAL).PDF
ST. JOHN ST. - 325 (PLANS).PDF

LEGAL ADVERTISEMENT - PORTLAND PLANNING BOARD

The Portland Planning Board will hold a meeting on Tuesday, July 24, 2018, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. Public comments will be taken for each item on the agenda during the estimated allotted time and written comments should be submitted to planningboard@portlandmaine.gov

Workshop - 4:30 p.m.

i. Level III Site Plan, 86 Newbury Street, 86 Newbury Street, LLC., Applicant. (4:30 - 5: 30 p.m. estimated time) The Board will hold a workshop to consider a proposal for the redevelopment of Shipyard Brewery at 86 Newbury Street, which is bounded by Newbury, Mountfort, Fore and Hancock Streets. The existing brewery building will be renovated and a new four to six story building is proposed with a gross floor area of 174,000 sf. The proposed uses include 60,000 sf of office space, 40,000 of technical fulfillment pharmacy, 10,000 of brewery, 4,000 sf of tasting room and retail, a 105 room hotel and structured parking for 360 vehicles. The focus of the workshop will be on transportation. The project is located in the India Street Form Based Code and subject to review under Portland's subdivision, site plan, and housing replacement review standards.

ii. Impact Fee Study, City of Portland, Applicant. (5:30-6:30 p.m. estimated time) The Planning Board will meet for a workshop to discuss the city's Impact Fee Study. The purpose of the study is to explore impact fees, which are one-time assessments charged to new development to cover the cost of infrastructure necessitated by that development, as a systematic means of addressing capital costs associated with new growth. This workshop will consider the findings of the study and possible ordinance language.

Public Hearing - 7:00 p.m.

Old Business

i. Level II Site Plan; 977 Brighton Avenue; Avesta Housing, Applicant. (7:00 p.m. -7:45 p.m. estimated time). The Board will hold a public hearing to consider a proposal for the development of forty units of senior housing. All of the dwelling units will be one-bedroom apartments and 34 of the units will be affordable. The site is in the Residence Professional (R-P) zone and is subject to review under the subdivision, site plan and affordable housing ordinances.

New Business

i. Level III Site Plan and Subdivision; 178 Kennebec Street; Maine Workforce Housing, LLC., Applicant.
(7:45- 8:30 p.m. estimated time) The Board will hold a public hearing to consider a proposal for the development of forty-six one-bedroom senior housing units with 28 affordable units. Parking for 19 vehicles is proposed. The site is in the R-6 zone and is subject to review under the subdivision, site plan and affordable housing ordinances.

ii. Level III Site Plan; 24 St. Lawrence Street, HR Property Management, Applicant.
(8:30- 9:15 p.m. estimated time) The Board will hold a public hearing to consider a plan by HR Property Management for construction of a four-story building for five (5) residential condominiums. The bedroom mix includes 4 two-bedroom units and 1 three-bedroom unit. Six parking spaces are proposed on the first level. The site is in the R-6 zone and is subject to the standards of the subdivision and site plan ordinances.

Evening Workshop

i. Level III Site Plan; 325 St. John Street, Robert Mahoney, representing Dunkin Brands, Inc., Applicant.
(9:15 p.m. estimated time) The Board will hold an evening workshop on a proposal to demolish the existing building (a restaurant) on the 30,239 sf site and construct a 2,350 sf Dunkin Donuts building with a drive-through window. The site is located in the B-2 zone and is subject to review under Portland's site plan, conditional use for a drive-through and delegated review for a Traffic Movement Permit.

SEAN DUNDON , CHAIR - PORTLAND PLANNING BOARD

CITY OF PORTLAND, MAINE

PLANNING BOARD

Sean Dundon, Chair
Brandon Mazer, Vice Chair
David Eaton
David Silk
Austin Smith
Maggie Stanley
Lisa Whited

AGENDA
PORTLAND PLANNING BOARD MEETING

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ii. Impact Fee Study, City of Portland, Applicant. **Due to scheduling conflicts, this item is being postponed.**

PUBLIC HEARING – 7:00 p.m.

1. ROLL CALL AND DECLARATION OF QUORUM
2. COMMUNICATIONS AND REPORTS
3. REPORT OF ATTENDANCE AT THE MEETING HELD ON JULY 17, 2018:
Workshop: Dundon, Mazer, Eaton, Silk, Stanley, and Whited. Smith recused for first item. All present for second item.
Public Hearing: All present.

4. REPORT OF DECISIONS AT THE MEETINGS HELD ON JULY 17, 2018:

i. Level III Subdivision/Site Plan and Conditional Use Applications; 56 Hampshire Street; New Height Group LLC, Applicant. Mazer moved and Stanley seconded a motion to table this item to August 14, 2018 at 7:00 p.m. Vote: 7-0

ii. Level III Site Plan and Subdivision; 4 Russell Street and Hill Street; New Day Farm, LLC, Applicant. Mazer moved and Stanley seconded a motion to approve the subdivision plat with three (3

)conditions of approval. Vote: 7-0. Mazer moved and Stanley seconded a motion to approve the site plan with four (4) conditions of approval. Vote: 7-0.

iii. Level III Site Plan; Thompson's Point Hotel; Thompson's Point; Forefront Hoteliers, LLC., Applicant. Mazer moved and Stanley seconded a motion to approve the site plan with six (6) conditions of approval. Vote: 7-0.

iv. Level III Subdivision and Site Plan; 765 Congress Street; Sam Reiche, representing 415 CA, LLC., Applicant. Mazer moved and Stanley seconded a motion to approve the subdivision plat. Vote: 7-0. Mazer moved and Stanley seconded a motion to approve the site plan with three (3) conditions of approval. Vote: 7-0.

5. OLD BUSINESS

i. Level II Site Plan; 977 Brighton Avenue; Avesta Housing, Applicant. (7:00 p.m. -7:45 p.m. estimated time). The Board will hold a public hearing to consider a proposal for the development of forty units of senior housing. All of the dwelling units will be one-bedroom apartments and 34 of the units will be affordable. The site is in the Residence Professional (R-P) zone and is subject to review under the subdivision, site plan and affordable housing ordinances.

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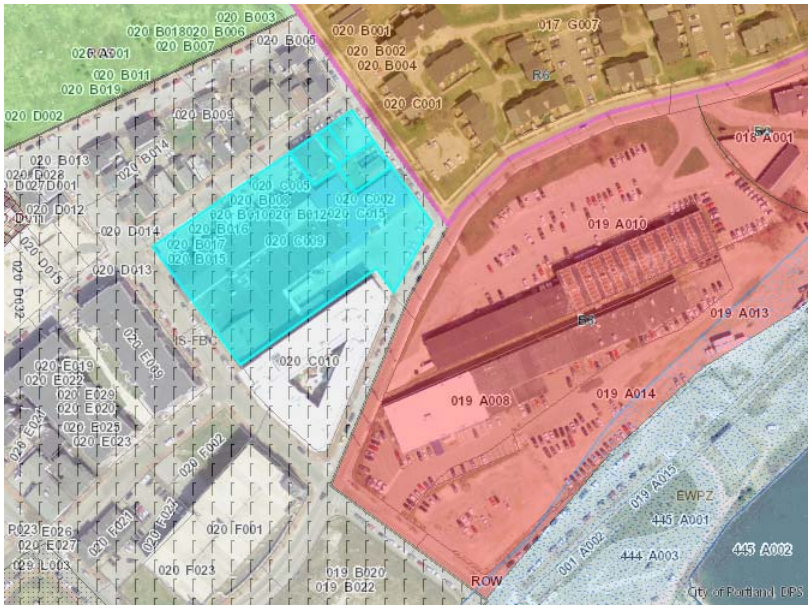
Memorandum
Planning and Urban Development Department
Planning Division

To:	Chair Dundon and Members of the Portland Planning Board
From:	Caitlin Cameron, Urban Designer; Christian Roadman, Planner
Date:	July 20, 2018
Re:	**July 24th 2018 Planning Board Workshop 2** Level III Site Plan, Subdivision, IZ Conditional Use 2-Acre Redevelopment: office, commercial, industrial, retail, residential 86 Newbury Street (#000045-2018) and (#CU-000048-2018) 86 Newbury Street LLC, David Bateman, Applicant

I. INTRODUCTION

86 Newbury Street LLC proposes to redevelop 93,775 square feet of space bounded by Fore, Hancock, Newbury, and Mountfort Streets. The proposed redevelopment site is currently home to Shipyard Brewing Company, which will retain a scaled-down presence on the site. Aside from the Residence Inn at 145 Fore Street (which is not part of this project), the only other building on the block proposed to remain is Shipyard's three-story brick building fronting Hancock Street. The proposed redevelopment includes the following:

office space –132,516 s.f
specialty pharmacy – 13,890 s.f.
technical fulfillment – 24,065 s.f.
brewery – 9,590 s.f
tasting room, retail – 6,298 s.f.
hotel – 72,797 s.f. & 105 rooms
residences – 9,060 s.f. & 10 units across three buildings
structured parking – 377 spaces, four levels
residential parking – 12 spaces



The proposed project is located in the India Street Form-Based Code zone (UN and UT subdistricts) and is within 100 feet of the Abyssinian Meeting House (73 Newbury Street, a local landmark). Because of this proximity, the Historic Preservation Board reviewed preliminary project designs at its May 16 and June 6 meetings. The applicant team incorporated input from the HP Board meetings into its design review. Subsequent staff design reviews have included HP staff. The workshop was noticed to 230 neighbors and interested parties, and public notice appeared in the *Portland Press-Herald* on July 13 and July 16, 2018.

Because of the size and complexity of this proposed redevelopment, the large-scale impacts of the new uses, and the concerns from the neighborhood and public comment, **the June 24 workshop is intended to focus on traffic**

and transportation-related items (especially the two Traffic Demand Management plans required) and also consider how the applicant has addressed the staff and Planning Board comments on the architecture, landscape, and sidewalk design.

Public Comment:
The applicant held a Neighborhood Meeting on May 15, 2018. Since the first Planning Board workshop, the Planning Department received ten (10) additional public comments (Attachments PC4 to PC13) expressing concern for the building scale, and the impact of this development on neighborhood character and traffic (car) congestion. There was also a comment regarding the loss of affordable housing units being demolished on the site. The predominant concern is regarding car traffic increases as a result of this project in a small neighborhood with small streets, confined by the waterfront – **a TDM is required for both the office and hotel in this case which will provide a multi-modal plan for those uses.** Several comments indicate a misunderstanding of the project – **no zoning amendment or waiver for height is proposed as part of this project and the number of parking spaces is around 400, not the 1,000 referenced.**

Applicant: 86 Newbury Street LLC (represented by David Bateman)
Agent / Representative: Gorrill Palmer (Lucas Anthony, P.E.)
Architect: Archetype, P.A. (David Lloyd)

Required reviews and requested waivers:

Applicant's Proposal	Applicable Standards
New construction over 50,000 s.f.	Level III Site Plan Review and ISFBC UN/ UT Design Review
Subdivision (10 dwelling units)	Level III Subdivision Review
Multi-family Residential of 10 units	Inclusionary Zoning Conditional Use
Waiver Requests	**Citation**
Number of Driveways (4 proposed)	City of Portland Technical Manual (limit of 2)
Driveway Location (100 ft. to intersection)	City of Portland Technical Manual (150 ft. to collector intersection)
Parking Aisle Width (20 ft. proposed)	City of Portland Technical Manual (24 ft.)
Existing utility poles along Newbury Street to remain above ground	Site Plan Ordinance, Section 14-526(c)(3)(b) – Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant, or complexity of revising existing overhead facilities. Subdivision Ordinance, Section 14-499(h) – All utility lines shall be placed underground unless otherwise approved by the Planning Board.
Frequency of Entries (UN - Newbury Street) – Residential Buildings	IS-FBC UN Dimensional Standards – 1 entry per building required (every 35'); 0 entry on one (1) of the residential buildings
Frequency of Entries (UN - Newbury Street) – Office Building	IS-FBC UN Dimensional Standards – 1 entry per building (every 35') required; 0 provided
Frequency of Entries (UT - Mountfort Street) – Office Building	IS- FBC UT Dimensional Standards – 2 entries required; 1 provided
Frequency of Entries (UT – Fore Street) – Office Building	IS-FBC UT Dimensional Standards – 1 entry required; 0 provided

II. PROJECT DATA

SUBJECT	*DATA*
Total Area of the Site	93,774 s.f.
Total Disturbed Area	93,774 s.f.
Existing Zoning	IS-FBC (UT, UN)
Existing Use	industrial & retail (brewery operations, tasting room/shop), surface parking
Proposed Use	office, commercial/ hotel, residential, industrial, retail, parking structure
Impervious Surface Area --Existing --Proposed --Net Change	 90,000 sf. 76,500 sf. 13,500 sf.
Building Footprint --Existing --Proposed --Net Change	 51,812 s.f. ~73,660 s.f. 21,848 s.f.
Building Floor Area --Existing --Proposed -Net Change	 56,489 s.f. ~268,216 s.f. 211,727 s.f.
Proposed Room Mix	(2) studios, (6) one-bedrooms, and (2) two-bedrooms (10 rental units); 105 hotel rooms
Parking Spaces	389 (377 parking garage, 12 below residential units)
Bicycle parking Spaces	38

III. EXISTING CONDITIONS

The site of the proposed development currently includes Shipyard Brewing Company's operations and parking as well as two multifamily buildings. The Shipyard complex spreads across the site (the entire complex touches each street bounding the development: Fore, Hancock, Newbury, and Mountfort). Immediately abutting Shipyard to the southeast is a Residence Inn hotel, the only building on the block that is not part of the proposed redevelopment. That hotel benefits from a loading and access easement off Fore Street and a 10-foot wide no-build easement at its boundary with the project site. The two existing multifamily buildings are located in the northeast area of the project site.

The site slopes downhill from Newbury Street to Fore Street, and the character of its surrounding development varies. Newbury Street falls under the UN – Urban Neighborhood Subdistrict, while Fore, Hancock, and Mountfort Streets fall under the UT – Urban Transitional subdistrict. Across Mountfort Street are the Munjoy South Townhouse apartments. Across Hancock Street is an uninterrupted block of 4 – 5 story condominiums. To the southeast of the site is the aforementioned Residence Inn hotel, and across Fore Street is Hamilton Marine. Across Newbury Street are historic, traditional single-family and multi-family dwellings ranging from 1.5 – 2 stories, as well as limited commercial frontage and the Abyssinnian Meeting House (a local historic landmark).

Within the proposed redevelopment area there are currently six curb cuts/ driveways: one on Fore Street, one on Hancock Street, three on Newbury Street, and one on Mountfort Street. While the project falls under the India Street Form Based Code, it is not part of nor within 100 feet of the India Street Historic District.

IV. PROPOSED DEVELOPMENT

1 HANCOCK STREET ELEVATION
1/16" = 1'-0"

The proposed redevelopment will eliminate all existing buildings except for the three-story brick Shipyard building with frontage on Hancock Street. This building is proposed to house a reduced Shipyard operation (brewing, tasting room, and retail) while the upper floors are repurposed as pharmacy and technical fulfillment. Proposed new buildings include:

- Three (3) residential buildings with ten (10) residential, rental units (two of which are proposed with retail on the ground floor)
- Office building (single tenant) of 132,516 square feet stretching from Newbury to Fore Street
- Pharmacy fulfillment – mix of laboratory and warehouse space with truck loading
- 105-room hotel and limited retail space off Hancock Street
- Structured parking with 377 spaces serving both the hotel and the new office / pharmacy / fulfillment spaces.

Additionally, the plan includes an open space/ pocket park across from the Abyssinian meeting house.

The applicant seeks waivers from the Technical Manual, Subdivision Ordinance, and Zoning as part of their submission (reference the table above and Attachment D). The applicant provided the following requests:

- Driveway Separation: The applicant seeks to retain the existing driveway approximately 95 feet from the intersection of Mountfort and Fore Streets (this does not meet the Technical Manual's specification that driveways be 150 feet from intersections). "We are requesting a waiver to allow the existing entrance on Fore Street to remain. It is approximately 100' from the Fore St/Mountfort St intersection."
- Curb Cuts: The applicant seeks to have four driveways as part of the project, which exceeds the Technical Manual's specification of two. "The proposed plan for 4 driveways makes the site considerably less non-conforming than its current condition. The existing site has 7 driveways, many of which are over 40 feet wide. This plan seeks to keep the existing driveway on Fore Street and provide a new driveway that serves the parking garage on Hancock Street. 2 lesser driveways that strictly serve the residential units and Pharmacy Deliveries on Newbury Street are proposed as well. This is a one-way route where vehicles enter on Hancock and leave on Newbury, with a very low number of trips expected per day."
- Utilities: The applicant offered the following response: "During its June 12 Workshop to review the proposed 86 Newbury Street mixed use project it was requested by the Planning Board that the Applicant investigate the potential of converting existing overhead power on Newbury Street to underground service. The Project Team as part of its due diligence efforts conducted an extensive design review meeting with CMP Staff to review and evaluate the feasibility of the undergrounding request. The current pole design and configuration on Newbury Street presents several challenges. These challenges are a

result of many factors including the residential nature of the opposite side of Newbury Street, prior undergrounding elsewhere in the area, and the presence of other overhead utilities. The first challenge is the fact that this section of street contains three riser poles for the primary electric circuit serving this area of the City and a separate fourth riser pole for the other non-electric utilities (telephone/cable) since these other utilities cannot be located on the same pole as electric. In general, riser poles are not able to be combined with other riser poles, so consolidating three poles into one pole is not an option based on our discussions with CMP. As noted above these risers are a result of prior undergrounding work elsewhere, so if a circuit goes below ground it must come out somewhere and this particular street corner happened to be where three circuits all came back above ground. The Applicant would have to bear the cost of relocating all of this infrastructure and is unlikely to recapture any of the costs in the future. In theory this work would be achievable but would require substantial engineering, design and construction work and cost. Additional coordination and buy-in from all of the utility providers such as cable television and telephone would be necessary to remove all the poles from Newbury Street, which would add another layer of cost. The second issue which is more prohibitive is the fact that all of the existing housing units on the opposite side of Newbury Street are served by the overhead power. Per CMP these secondary lines that cross Newbury Street and service the housing units are the responsibility of CMP to maintain as long as they remain overhead. In order to eliminate the overhead power these secondary lines would need to be run under the street and connected to the existing buildings. Once these secondary lines are run underground the maintenance and responsibility shifts from CMP to the individual building or unit owner. We would need to obtain written agreements with all of these owners acknowledging that they would be taking on an additional financial obligation for these secondary lines. In CMP's experience this is usually impossible to obtain 100% buy in from the neighbors as it does not benefit the existing users. In addition, the cost of work to switch from overhead to underground would be an additional burden on the owners of these residential properties. Without 100% buy in we would be required to maintain the existing overhead secondary lines serving the housing units, which would mean there would continue to be poles on Newbury Street. After reviewing these two significant challenges it was determined that the best course of action would be to attempt to reconfigure the existing overhead service to potentially eliminate some of the poles and work to straighten out some of the runs to have a more visually appealing configuration. As noted above, the four riser poles that exist at the corner of Newbury and Hancock are unsightly and detract from the visual aesthetics of the street corridor. The Applicant recognizes this in the context that they are creating a world-class development, but also recognizes that the cost to underground is not only challenging and cost-prohibitive but in reality, may not actually improve the situation. Similar to other developments that have put the utilities on their street underground, this project would end up shifting these riser poles to the intersection of Newbury and Mounfort Street. In all likelihood these poles, plus at least one additional riser pole would then end up at the end of Newbury Street, directly in line with the view corridor looking east down Newbury. This unintended consequence, as noted above would be costly and not necessarily achieve the goal of improving aesthetics of the Newbury Street corridor. Not only that it may shift the burden to another property, who may contemplate undergrounding in the future. Recognizing that undergrounding on Newbury Street has benefits and challenges the Applicant would be willing to engage with the City, CMP and other stakeholders to develop a more regional solution to undergrounding existing overhead lines. A strategy to prioritize undergrounding where it's most beneficial would serve the entire Eastern Waterfront Area, especially as it continues to grow and change. This type of approach would also serve to mitigate the unintended consequences noted above of shifting the burden on a street by street basis, with ever increasing costs and complications. However; this process should not hold up the progress of this time-sensitive project."

Additional staff comment: At this time, staff are unclear if the applicant intends to underground the remaining utility poles on Mountfort Street and Fore Street. Staff seek additional information regarding this issue.

Hancock Street perspective rendering showing proposed hotel, existing Shipyard, new residential (image: applicant)

V. STAFF REVIEW

A. RIGHT, TITLE AND INTEREST

The applicant submitted a copy of the deed as proof of right, title, or interest. The Batemans are acting as an authorized agent of the property owner. A current boundary survey was submitted as well.

The property includes two easement agreements with the neighboring Residence Inn property (Attachment P).

- One easement keeps a no-build zone of 10' between the Residence Inn property and the 86 Newbury property – this easement is maintained as noted in the Site Plan (Plan P4).
- The second easement is a loading and access easement to allow for access across the applicant's property to the 10' easement and for maintenance, dumpster, and service parking/loading. For now, the easement area is noted on the Site Plan (Plan P4) and in the access easement drawing (included at the end of Attachment P). The proposed new office building overhangs that area but must maintain the minimum 14' clearance required in the legal document; the parking layout was revised to remove parking spaces from this easement area. The Site Plan and Subdivision approval for the Residence Inn did not make any further requirements regarding this access and loading area.

The City will request an access easement from the applicant for those portions of the sidewalk that cross the property line – this occurs on Mountfort, Newbury, and Fore streets.

B. ADDITIONAL PERMITS

Traffic Movement Permit – Based on the traffic assessment memo, this project will generate greater than 100 trips which will require a Traffic Movement Permit issued by the City under its delegated authority. A permit application was submitted – staff have put review of this application on hold due to the consideration for an area-wide TMP permit. It is possible the TMP for this project will be a condition of approval of this Level III Site Plan/Subdivision. In addition, an area-wide parking study for the Eastern Waterfront was concluded in 2017 and recommendations from that study are being evaluated by the City Council. Bruce Hyman comments further on the status of the area-wide TMP and parking study:

City staff in the Planning and Public Works Departments have initiated discussions with the developers of three sites in the Eastern Waterfront area to collectively define an Eastern Waterfront Transportation District. The concept is to pool and build upon the data and analyses required as part of the TMP process (applicable to developments with peak hour vehicle trip generation of 100 trips, generally).

Under the current review process, each individual site would go through the TMP process accounting for its trips and only for projects previously permitted. Mitigation is then assessed based on that individual sites' impacts to the surrounding transportation system. In contrast under the proposed new concept, by combining these analyses, a better understanding of the cumulative impacts of these larger sites can be determined and more creative and effective mitigation and multi-modal transportation strategies can be devised and implemented. The developers would collectively fund a third-party reviewer to oversee and advance this district-wide TMP work under the direction of City staff.

The City has been in discussions with the MaineDOT about this concept and they are generally supportive. It's anticipated that the City would be the holder of the TMP which would establish a specified vehicle trip threshold for the District and each development site be required to provide mitigation according to their relative share of vehicle trips. This general approach has been done jointly by the cities of Biddeford-Saco.

Currently, we're gathering more information on the administration and structure of this alternative approach, and have additional details to work out with the DOT. We're hoping to move quickly on realizing this new framework and will keep the Board apprised of its progress.

The District is initially thought to be bounded by India St-Federal St-Mountfort St-Fore St-future Thames St Connector-Thames St/Waterfront.

DEP Permitting – The proposed construction will disturb over one acre; a Maine Construction General Permit (CGP) and a Permit by Rule (PBR) applications will be filed with the Maine DEP.

Department of Inland Fisheries and Wildlife – This state department advised the applicant team that protected bat species may occupy structures on the proposed project site (Attachment O). The department recommended "that construction or demolition work on bat-occupied portions of the structure not occur between June 1 and August 15, when young bats are still unable to fly and would likely die without prenatal care."

The applicant acknowledged this comment within their submission materials, but should specify the calendar limits to construction and demolition work on bat-occupied portions on their construction management plan and construction management plan narrative.

Maine Historic Preservation Office (MHPO) – the MHPO sought additional information from the applicant regarding the two buildings proposed for demolition, and raised the possibility of archaeological remains within the overall development site. MHPO recommended a Phase 1 Archaeological Reconnaissance Survey. Depending on the findings of this Survey, a Phase II recommendation could result. MHPO noted that much of that investigation could potentially "consist of monitoring construction-associated excavation in close cooperation with the site contractor."

In the applicant's response to comments, they stated the following:

"The MHPC recommended that a Phase I Archeological Reconnaissance Survey be performed in the area near the buildings at 70-72 Newbury an 10-12 Mountfort Street. In addition the MHPC requested that a history of these 2 buildings be provided including the tenants and thier ethnicity. The Applicant has retained the firm Independent Archeological Consulting, LLC (IAC) from Portsmouth, NH to perform these services, and they are currently underway and ongoing. Due to the amount of prior industrial use, development and redevelopment

only a small isolated area near the corner of Newbury and Mountfort Streets has remained undisturbed since the mid 1800's. This area is the focus of the archeological work. Relative to construction we do not anticipate any restrictions by MHPC. IAC has included construction monitoring for the initial earthwork phase of the project in their proposal and, dependent on the outcome of the Phase I, may be onsite during excavation work to monitor for archeological resources that can be recovered."

Staff request additional documentation or evidence (work description, invoice, scope of work) as well as report findings from the applicant as they are produced.

C. ZONING ASSESSMENT

1. General Assessment: The proposed buildings and parking structure are located in the IS-FBC zone application is quite complex and includes multiple buildings and four (4) different street frontages. Newbury Street is the UN subdistrict, Mountfort, Fore, and Hancock streets are all UT subdistricts. The more restrictive UN dimensional requirements apply on that frontage for a depth of 35' after which point the UT standards take over. On UN streets there is a three-story minimum and a four-story, 45' maximum. On UT streets the height maximum is six stories and 65'. The project appears to meet the height and setback requirements except on Newbury Street – staff request clarification and revision to the residential buildings to meet the height and front yard setback requirements. The building on Mountfort/Fore street proposes to take advantage of the ability to have a height bonus on the UT portions of the building – this takes the building up to seven stories and potentially 77' – additional information is pending to approve this height bonus. The project meets the maximum building length on all streets. The project seeks to use Additional Building Length provisions on Mountfort Street – 200' in length with massing variation and also the hotel building on Hancock Street exceeds the 100' building length – 114' with two modules with active doors and partitions. On Newbury Street, which can allow up to 50' (50' proposed), the project includes three (3) residential buildings and a commercial ground floor in two of those buildings. The Shipyard building remains as existing on Hancock Street; there is an addition to the building on the Newbury Street side but is interior to the lot and meets the exemptions for additions. Most significant is the applicant's request for partial waivers from the Frequency of Entries requirements on Fore, Mountfort, and Newbury Streets. See the Zoning Checklist for a complete analysis (Attachment 1).

2. Staff Analysis: The intent of the zone is for new buildings to be human-scaled and contextual – staff feel the intent of the zone and subdistrict purpose statements are being met by the project as currently proposed.

   14-275.1 Purpose: *The India Street Form-based Code is different that traditional zoning, . . . The intent of the India Street Form-based Code Zone is to establish a zoning district that encourages a vibrant, walkable, mixed-use urban district, preserves and values the existing historic neighborhood fabric, and fosters and supports local businesses and residential areas.*

   Specifically, the three small-scale residential buildings on Newbury Street continue the scale, width, and pattern found on the streetscape. The Hancock Street façade incorporates more active commercial ground floors for the hotel, brewery, and potential commercial retail. Fore Street is not anticipated to be an active edge at the ground level – the building interfaces with the street using a widened sidewalk and landscape buffer. **The Planning Board commented in the first workshop on the scale and lack of pedestrian friendliness on this street. The project meets the zoning dimensional standards but these concerns can be addressed through design revisions – see section E. Design Standards for more comment on this topic.** Mountfort Street is a transition edge to the abutting residential zone; the street is small and the proposed building mitigates the scale through massing variation, plane changes, material changes, and a slightly widened sidewalk – **applicant provided additional information on the design of that plaza space.**

   The revised zoning (2017) states in the instance of a conflict between building length and front yard setbacks, the building length shall rule – that determines the placement of the office building in relation to

Newbury Street in this case which is 200' in length on Mountfort and cannot be brought within 10' of both Fore and Newbury Streets given the lot dimensions. Staff support the placement of the building set back from the residential block across the street to mitigate the scale of the new building.

The zoning requirements for parking are met – all parking is provided interior to the block in structured parking with liner buildings.

Outstanding Zoning questions:

- Entries: Planning Board indicated support the requested waivers from providing all required entries – this impacts Fore Street, Newbury Street, and Mountfort Street. On Newbury Street, however, staff feel the retail entry for Building 2 should be brought to face the street and do not support a waiver for that building. Staff support this waiver for the corner residential building given that a retail entry is provided on Hancock Street but not the third residential building.
- Front Yard Setback: Front yard setback max is 5' on Newbury Street – residential buildings exceed this setback.
- Height: There is some question as to whether the residential building meet the 45' height requirement – average grade should be based on the four corners of those buildings. It appears at least two of the buildings may not meet the height requirement. The height bonus on Mountfort Street is contingent on meeting the green roof requirements.
    - Greenroof diagrams do not match landscape plans – revise and resubmit.
    - Staff request runoff calculations and finalization of the maintenance agreement.
    - Staff suggest that the Subdivision Plat and Condo documents include a stipulation that the 50% pervious surface must be maintained as a condition of approval.

1 | MOUNTFORT STREET ELEVATION
1/16" = 1'-0"

C. SUBDIVISION STANDARDS

(14-497(a). Review Criteria)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's subdivision ordinance. Staff comments are below and in *Attachments 1-2.*

1. Water, Air Pollution

The project is not anticipated to result in undue air or water pollution.

2 & 3. Adequacy of Water Supply

Applicant submitted a revised application for water capacity to the Portland Water District *(Attachment N)* and is awaiting the letter for capacity to serve.

4. Soil Erosion

No unreasonable soil erosion or reduction in the capacity of the land to hold water is anticipated. Site Plan (Plan P4) and Erosion Control Notes and Details (Plan P14) provide information about stabilizing the site during and after construction.

5. Impacts on Existing or Proposed Highways and Public Roads

The applicant provided a full traffic and transportation analysis. The project also requires a TMP permit and two TDM plans (hotel and office). Impacts on the roads/traffic generation is a common concern among the public comment for this project. Tom Errico, the city's consulting traffic engineer makes the following comments (Attachment 3):

- *The applicant has conducted a parking demand analysis according to ITE Parking Generation rates adjusted for time-of-day usage, Shared Use Reduction (6% reduction), and Other Modes Reduction (10% for Hotel and 15% for Others). According to the analysis, the proposed land uses will generate a peak parking demand of 354 parking spaces. I generally find the method to be reasonable, but need to review adjustment factors and parking rates in detail.*
- *The construction management plan needs additional detail as it relates to restricted movements (one-way streets) and sidewalk closures. I need to coordinate this item with DPW staff and will provide direction in the future.*

6. Sanitary Sewer/Stormwater Disposal

An updated wastewater capacity application was submitted to the Department of Public Works and is awaiting approval.

No grease trap is proposed – this should be considered given the possibility of retail on Newbury Street.

The green roof is proposed to achieve a height bonus – that green roof will be required to meet Ch 32 and provide stormwater runoff detention. The applicant has provided stormwater management and utility plans as well as information for the green roof. The City's consulting civil engineer makes the following comments (Attachment 2):

- *They have addressed stormwater O&M in their stormwater report, but will be providing a stormwater agreement under separate cover.*
- *Additional design information on the green roof will be provided once building design has been completed.*
- *The Applicant is waiting for additional information on the existing sewer line in Mountfort Street. They are planning to do test pits, per their plans, but have also requested as-built information from the City. Clarification of the proposed connection on Mountfort Street is needed – the note on the grading plan states that the proposed SMH 1 will receive "12" SD and existing sewer". The Applicant should clarify if this means the line will include existing sewer from their building. If yes, separate connections should be provided for sewer and storm drain.*

7. Solid Waste

Applicant responded that trash/solid waste removal is accommodated with trash rooms. Staff observed that only one trash room is indicated at the Fore Street garage level – trash management is needed for the hotel, retail, residential properties, brewery, and technical fulfillment.

8. Scenic Beauty

This proposal is not deemed to have an adverse impact on the scenic beauty of the area – the project does not encroach on the Mountfort Street corridor views to the waterfront. The project is within 100' of a historic landmark – as such, Newbury Street has been reviewed by the Historic Preservation Board and those comments appear below.

9. Comprehensive Plan

India Street Sustainable Neighborhood Plan

This newly adopted neighborhood plan includes the following goals and principles which are met by this proposal:

- Goal – Vitality – the project adds 10 new residential units, a hotel, and a large office building bringing more people to the neighborhood.

- **Goal – Diversity of building types and residents** – The residential units will potentially be rental properties with at least one workforce housing unit. The project brings a new office building and workers to the neighborhood. Another hotel is not contributing to this goal given the number of hotels already in this neighborhood.
- **Principle 7:** Guided Growth – the project provides small-scale residential development on Newbury Street while filling the interior of the block with the larger scale buildings.
- **Principle 8:** Form of Development – maintaining the pedestrian-scale block on Newbury Street, continuous sidewalks, and street-oriented buildings – these concepts are all included in the project.
- **Principle 13: Responsive to Climate Change** – this will be the third project in the neighborhood to have a green roof and address stormwater runoff.

Incentives for Affordable Housing and *Housing – Sustaining Portland's Future*
The proposed project is required under the newly adopted Division 30, Section 14-487, Ensuring Workforce Housing to provide at least 10% workforce housing units. Housing stock is placed in a multi-modal neighborhood with good connections to several neighborhoods, offices, and services. The IZ Conditional Use application was reviewed by Housing Program Manager Victoria Volent (Attachment 6) – the applicant will provide one (1) workforce housing unit on-site.

10. Financial and Technical Capacity
As noted above, the applicant has provided evidence of financial and technical capacity (Attachment H).

11. Wetland/Water Body Impacts
Project is not located within a watershed of any pond or lake or within 250 feet of any wetland, great pond or river.

12. Groundwater Impacts
There are no anticipated impacts to groundwater supplies.

13. Flood-Prone Area
Per the FEMA flood maps, the site is not located in a flood zone.

14. Wetland/Water Body Impacts
No potential wetlands within the proposed subdivision.

15. Wetland/Water Body Impacts
No river, stream or brook within or abutting the proposed subdivision.

(14-497(c) Conformity with Code) *Any proposed subdivision shall be in conformity with all relevant provisions of this Code.* Project has been reviewed for conformity with the zoning code – see staff analysis below.

D. SITE PLAN STANDARDS

14-526 Site Plan Standards

Traffic - Access, Circulation, Loading and Servicing - Reviewer Tom Errico is unable to fully evaluate the proposal and some of the waiver requests and asks for additional, specific information (Attachment 3):

- *The project site exceeds the number of driveways allowed by the City's Technical Standards (Two are permitted and four are proposed). I generally support the waiver but would like specific details on the truck delivery requirements (including vehicle turning templates for the proposed configuration between Hancock Street and Newbury Street) that warrant the one-way two driveway configuration for the residential units.*
- *The location of the driveway on Fore Street does not meet corner clearance to Mountfort Street. Given that this driveway is an existing condition and traffic volumes entering and exiting the site would not be expected to increase significantly, I support a waiver from the City's Technical Standards.*

- *The applicant should provide dimensional details and vehicle turning templates for the Fore Street driveway. Additionally, vehicle turning templates for truck movements internal to the site and details on management of deliveries should be provided.*
- *Sight distance measurements from the proposed driveways should be provided.*

Sidewalks –Staff have several revisions requested for the sidewalk design to meet the *City of Portland Technical Manual* standards especially regarding curb alignment, pedestrian crossings ramp, street trees, street lighting placement and fixture selection. **Planning Board specifically asked about bike parking locations** – a bike room is provided on Fore Street but without access directly to the street. Staff suggest that a door could be added to Fore Street for this access. Additional bike storage is provided within the parking structure near Hancock Street that would be accessed through the driveway and within the pocket parks but not within the sidewalks. Staff will work with the applicant on further revising these designs. The City's Transportation Planner had these additional comments (Attachment 4):

- *Pedestrian easements are needed for the full width of sidewalk being provided along the Newbury Street and Mountfort Street frontages*
- *The set of steps shown for Building A on Hancock Street are to be relocated out of the public ROW*
- *The Site Plan continues note 'Remove and Replace' granite curb along all street frontages - this needs to be updated to reflect the predominant use of new curb (and consolidated existing curb, if done) for a consistent, quality curb line treatment*
- *The Site Plan needs to show the street lighting treatments proposed (and shown on other sheets)*
- *The curbing symbols for Vertical Curb, Tipdown Curb and Flush Curb needs to be applied consistently so an accurate appraisal of the design plan can be conducted -*
    - *In the proposed pocket park opposite the Abyssinian Church, please clarify the curb treatment illustrated (states "Flush Vertical Granite Curb")*
- *The full design of the driveway to be reconstructed on Fore Street is to be shown - a waiver may be required if the driveway width is 33' feet as indicated*
- *It is suggested to straighten the slight curved jog in the curb line opposite Middle Street on Hancock Street*
- *The raised granite tree wells on Hancock Street are to be replaced with tree grates to provide a consistent treatment as that on the lower portion of Hancock Street*
- *The alignment of the crosswalk across Mountfort St and the configuration of the curb ramp serving it on the west side of Mountfort Street are to be reconsidered for directness of travel along Fore Street and ADA-accessibility of the curb ramp (consider ramping down the sidewalk and having the ramp serve as the landing area - the current design would prove very difficult for a wheelchair user traveling Fore Street)*
- *The physical space provided for the bike racks in the two pocket parks along Newbury Street and the office building entrance on Mountfort Street appears quite insufficient for the number of parking spaces shown - the spacing between racks needs to be a minimum of 36" on center (48" preferred) with 24" of clear space on each unobstructed end and 30" minimum on an end when mounted near a wall or building. Additional individual bike racks (Bike Hitches or Downtown Racks) should be located within the sidewalk along Hancock Street in proximity to active building entrances.*
- *The tree well on Fore Street closest to Mountfort Street is to be eliminated - the remaining two tree wells are to be placed adjacent to the curb line*
- *The proposed location of the Handicapped Parking spaces on the ground floor are to be reconsidered per ADA-requirements for proximity to building entrances - in general, "Accessible spaces must connect to the shortest accessible route to the accessible building entrance or facility they serve (https://adata.org/factsheet/parking)" - some of the H/C parking may be needed closer to the hotel lobby, for instance, and should not have to cross the parking garage entrance - it is unclear how, or if,*

H/C parking requirements are being met for other parking garage levels and site uses (such as the office building).

Public Transit Access - No transit shelter is required.

Parking – The parking requirement for this project per Ch 14 Division 20 is as follows:

- Residential (10 units) – 7 spaces required (12 provided); commercial space may require parking if office
- Hotel (105 rooms) – 26 required (27 provided)
- Office (132,516 sf) – 331 required (271 provided)
- Brewery (9,590 sf) – 10 required (10 provided)
- Retail – Tasting Room (4,300 sf – 2,000sf = 2,300sf) – 12 required (12 provided)
- Technical Fulfillment (24,065 sf) – 24 required (35 provided)
- Pharmacy (13,890 sf) – 14 required (25 provided)

Total is 424 parking spaces required (417 commercial; 7 residential); 389 provided (377 garage; 12 residential) = 35 parking space deficit

Additional staff comment: There is a discrepancy between the areas given on the site plan and the floor plans. The floor plans were used to determine the required number of parking spaces – this number is not met by the proposal. Clarification is requested on this discrepancy.

In addition, the project will increase the amount of on-street parking by closing some of the existing curb cuts. Staff request that on-street parking be restricted through either meters or time limits, and with residential parking permits. Applicant should submit suggested approach.

Tom Errico provided additional comment on parking demand and design (Attachment 3):

- *The parking garage parking layout requires a waiver for aisle width. The City standard is 24 feet and the project is proposing 21 feet. The applicant provided a generic letter noting the adequacy of this proposed layout. I would suggest that the applicant provide specific site examples (in Maine or nearby) for review. Additionally, I will conduct a review of parking facilities in the area to assess adequacy of the project and dimensions.*
- *The applicant has conducted a parking demand analysis according to ITE Parking Generation rates adjusted for time-of-day usage, Shared Use Reduction (6% reduction), and Other Modes Reduction (10% for Hotel and 15% for Others). According to the analysis, the proposed land uses will generate a peak parking demand of 354 parking spaces. I generally find the method to be reasonable, but need to review adjustment factors and parking rates in detail.*

Snow Storage – **Planning Board commented that snow removal for the alley should be addressed.** Applicant has not provided information for the alley snow removal/storage.

Transportation Demand Management – Transportation Demand Management plans are required for both the proposed office building and hotel (Attachment X) **Planning Board commented given the scale of development, location of site, and neighborhood concern, expect to see a strong TDM plan.** There is also significant public comment regarding the impact of traffic on this neighborhood emphasizing the importance of strong TDM proposals in this location with small-scale and disconnected streets. Staff had the following comments regarding the submitted TDM (Attachment 5):

- *Per the ordinance provisions governing TDM, the draft TDM Plan applies to the Vet's First Choice (VFC) and Cambria Hotel components of the proposed redevelopment of the Shipyard site*

- *The draft TDM Plan provides a good framework for defining the transportation context for the site and mix of uses/tenants, transportation/traffic and parking demand, TDM trip and parking reduction targets and TDM strategies to meet those targets*
- *The draft Plan provides a robust menu of TDM strategies for both employees (VFC and Cambria) and hotel guests*
- *The pricing of parking, and how that is pricing structured and applied, is proven to be one of the most effective ways to influence travel behavior*
    - *it is unclear at this time how parking costs for employees of VFC and Cambria and hotel guests will be applied - there are provisions, for instance, for VFC employees to "cash out" their parking but it is unclear how strong an incentive this will be - it is anticipated that parking will be "free" to VFC employees (as it currently is at its downtown Portland sites) and the "cash out" will be equivalent to the cost to VFC of the parking*
- *The extent of bus transit pass subsidies for VFC and Cambria employees is undecided ("Partial or full subsidy" stated) but transit incentives includes an unknown one-time incentive to give up parking for transit*
- *The current vehicle trip and parking reduction targets are quite modest but call for adjustment after the first year as part of the monitoring program - it is suggested that higher initial targets be established with strengthened pricing strategies*
- *The draft Plan contains a good plan for Monitoring, Data Collection and Reporting*

As stated earlier, the draft TDM Plan provides a solid framework within which to create a strong package of effective strategies to reduce vehicle trips and parking demand but require fine-tuning to match TDM targets to a package of strategies that are geared toward meeting or exceeding those targets.

Landscape Preservation / Site Landscaping and Screening – There are no significant landscape or natural features to preserve. No surface parking is provided – screening not applicable. If a transformer or other such utility is proposed at ground level, landscape screening should be provided there.

Landscape Plan – The applicant proposes substantial landscape improvements around the property and includes improvements to the Newbury Street frontage between the residential buildings and across from the Abyssinian on the recommendation of the Historic Preservation Board (Plan P15).

- Applicant made revisions based on City Arborist comments including the placement of street trees on the private property on Newbury and Mountfort Streets. Street trees on Fore Street should be revised to be placed next to the curb; remove the street tree at corner of Fore and Mountfort streets.
- A well-defined edge is needed on the west edge of the Abyssinian green space – this should be achieved either with the residential building placement or with a landscape wall. **See Historic Resources and Design Standards sections below.**
- Staff support the landscape buffer between the sidewalk and building on Fore Street – should have a curb or planter wall between the sidewalk and landscape.
- Remove the landscape areas between the sidewalk and the retail spaces on Newbury Street – should be hardscape.
- Street trees within the sidewalk furnishing zone should be shown in grates, size as large as possible.
- City Arborist may comment further on the plant selection
- Ten (10) trees are required for the residential use, 12 are provided. In addition, for the commercial uses, street trees are required every 30-45' which is approximately 22 trees required. **A contribution to the Street Tree Fund will be required = 22 + 10 = 32 required; 17 provided; 15 trees x $400 = $6,000**

Water quality, Stormwater Management and Erosion Control - See comments from Civil Engineer (Attachment 2). The project proposes to achieve a height bonus by providing 50% pervious lot coverage and a green roof. Additional calculations are needed to show the runoff detention of the green roof meeting the expected public

benefit in exchange for the height increase; design details are also required. The green roof must meet Chapter 32 and provide a Stormwater Maintenance Agreement. The applicant provided a diagram demonstrating how the 50% pervious lot coverage is met – staff recommend that the 50% pervious lot coverage be included in the Subdivision Plat and Condo docs to ensure this requirement is upheld.

Public Safety - The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance address the principles of natural surveillance, access control and territorial reinforcement so that the design of developments enhance the security of public and private spaces and reduce the potential for crime.

- *This proposal includes many recessed entries and private open spaces making CPTED principles critical.*
- *The lighting levels are one strategy to ensure safety and visibility. The lighting on the alley between the residential properties and Shipyard was revised to meet Technical Manual standards* – **Planning Board commented on the safety in the alley.**
- *The entrances to the residential properties should be made more legible from the street – in some cases, the entrance should be on Newbury Street, in others, the path and canopy to those side entries should be more apparent.*
- *What strategies are employed on Fore Street garage entrance to prevent unwanted behavior/hidden corners?*

Fire Prevention and Public Utilities – The water and sewer capacity letters are pending receipt. The Fire Department requests each building have its own address and commented that each residential building will require its own sprinkler riser. **Planning Board and staff commented on the importance of minimizing and undergrounding the overhead utilities – on Newbury Street this is of concern given the narrow sidewalk and the proximity to residential egress windows.**

Massing, Ventilation and Wind Impact and Shadows: Generally addressed in the Design Review. The project is on the edge of the zone and should thoughtfully transition to the scale of the neighboring residential properties on Mountfort Street. The project is currently meeting the zoning height requirements – except possibly the residential buildings and for evidence showing eligibility for the bonus height on Mountfort/Fore streets which is still to be determined.

Historic Resources – The project is within 100' of a historic landmark – the Abyssinian Meetinghouse. Therefore, the project has received advisory design review from the Historic Preservation Board on May 16, 2018 and continues to include Historic Preservation staff review.

2 NEWBURY STREET ELEVATION
1/16" = 1'-0"

The Historic Preservation review comments:

- *Further differentiate design of the three residential buildings (to read less like one development) – this could be through materials, entrance locations, plane changes*
- *Make residential entrances more legible – either on the street or with canopies extended to street*
- *The corner building was revised to differentiate planes of the gabled and flat-roofed sections*
- *The strorefront design needs further revision to meet best practices for the elements of storefront design*
- *Introduce a stronger edge to the proposed pocket park that reflects the scale of the Abyssinian building*

Exterior Lighting including Street Lighting – Staff evaluated the photometric plan – the minimum and maximum light levels are met in most cases. Lighting is provided by a combination of street lights, building lights and pole lights. **Lighting for the alley between Shipyard and the residential buildings was revised to meet the Technical Manual standards (requirement is min .2 fc max 5 fc).** Most of the building entrances for this project are recessed away from the street – for this reason, building and site lighting levels is very important for safety reasons. The building and pole lighting must be full cutoff lights – reconsider the sconce selection. Street lights are required along all frontages in the ROW, including Fore Street and are indicated on the Utility and Lighting plans. The lights need to meet the Technical Standards for street lighting and match the lights installed elsewhere in the India Street neighborhood (Eastern Waterfront medium) – in this case, lights should all be medium scale, black, LED, and 3000 K color temperature – add the appropriate detail to Sheet C402.

Noise and Vibration – The revised submission indicates where the HVAC will be located and how it will be screened from the public ROW and neighboring residential properties even if the exact specifications are submitted later. Staff are not satisfied these locations and designs meet the design standards.

Construction Management Plan – Applicant provided a plan but no narrative – staff is waiting to review and comment after complete submission using the City's template.

E. DESIGN STANDARDS

The site is located within the IS-FBC zone with Newbury a UN street and the remaining three streets as UT. Preliminary design reviews concluded that the building designs generally meet overall intent of the zone with a few outstanding points regarding materials and character, residential building design, and scale and material placement on the office building. Design checklist see Attachment 1.

Revisions: Applicant made revisions to the three residential buildings – the façade design, entrance placement, and footprint of buildings (note the overhang now at the alley). Additional revisions include landscape and sidewalk details at Fore and Mountfort Streets. The placement of curtain wall and brick was also revised somewhat on the office building. The Hancock Street elevations remain mostly the same.

Staff Analysis + Planning Board Comments:

Response to Planning Board comment:

- Newbury/Hancock Street
  PB comment: Scale is contextual, fitting – supportive of the direction. What materials are proposed – did you consider a brick base? Facades are reading flat. Is mixed-use viable for the 2nd building? More definition of the residential entries.

Applicant response: Storefronts were revised; Applicant revised Building 1 to have plane change between gable and flat roof mass; Building 3 was revised to have street-facing entry and a "pop-up" roof.
Staff comment: Staff are supportive of the street-facing entry on Building 3; Storefronts should be revised to meet best practice/traditional storefront design with a base and transom configuration; staff would prefer to see the retail entry on Building 2 face the street; remove the landscape areas between the sidewalks and retail fronts; Staff are not supportive of the roofline change to Building 3 – flat/simple roof form; Articulation should be addressed by an element like bay windows on Buildings 2 and 3 – more bays, regular, symmetrical placement; What is material for the clapboard? Concern about clapboard near the street from a durability stand point. Residential entries not very legible from the street.

- Fore Street Façade

  PB comment: Large scale and lack of articulation on the Fore Street building façade. This corner should be considered a key focal point. There were also questions about the level of reflectivity and tint to the windows; request for consideration of worker comfort and passive solar/solar gain. Suggestions included sun shading to address exposure/office comfort as well as the articulation/scale concerns; Generally reconsider the level of articulation.

  Applicant response: There are no discernable changes to the façade of the building.

  Staff comment: Staff strongly encourage the applicant pursue external, horizontal sun shading as both an articulation element to differentiate the floors, bring visual interest and dimension to the tall façade, pedestrian enclosure and comfort, and address the Planning Board comments, especially related to pedestrian and worker comfort and sun exposure. Below are examples of the recommended approach of horizontal shading at each floor to Fore Street façade and wrapping the corner on part of the Mountfort Street curtain wall façade. The sun shade approach could also provide a "cornice" or terminus device at the roofline of the curtain wall which right now lacks a sense of termination with only a railing. More information should be provided (wall section?) of the curtain wall system, level of reveal, etc.

- Fore Street Pedestrian Interface

  PB comment: Large scale and lack of pedestrian friendliness of the Fore Street building interface with the sidewalk. This pedestrian experience should be improved. Suggestions included adding street trees; reducing the overhang or appearance of looming building; reconsider the amount of landscape at ground level.

  Applicant response: Ground floor building façade is now indented with clerestory windows; landscape area between building and sidewalk.

  Staff comment: Support general approach of the indented building with landscape with some revision: Shift street trees to edge of curb; Remove the street tree at the corner; Landscape edge at building should have a defined edge - a curb or ideally a seat wall.

- Public Domain

  PB comment: Design should make clear what is public and what is private domain; Provide diagram/clarity on circulation and entry points.

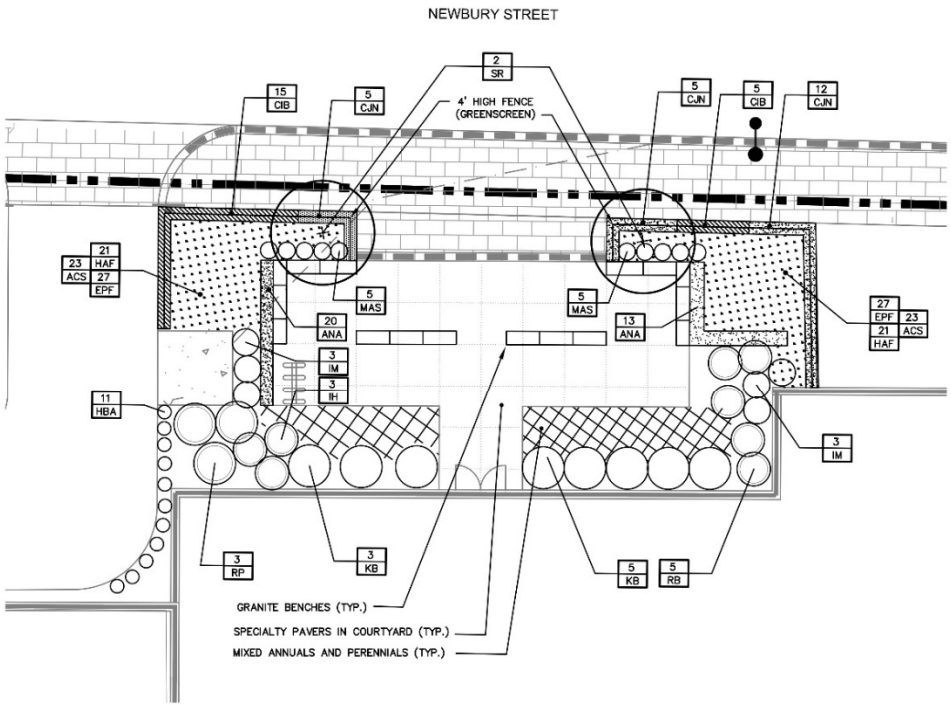
  Applicant response: Applicant indicates entry points on the floorplans. Pocket park, lighting, entrances revised.

  Staff comment: Further comment regarding the pocket park below. Staff are satisfied with the entrance locations and level of activity except for:

  - The distance and legibility of the residential entrances on Building 1 and 2
  - The retail entrance for Building 2 should face the street
  - What is the nature of the door facing Newbury Street?

- Mountfort Street Entrance Design:
  PB comment: Clarify and provide more detail on the office entry plaza – grades, landscape, interface with sidewalk. Scale of entry needs to be commiserate with the scale of the building. Use plaza to provide an amenity for workers – ie seating, shade, etc.
  Applicant response: See renderings provided above. Grades were revised, planter seating walls provided; entrance canopies and fenestration enlarged
  Staff comment: Staff are satisfied with these improvements as both indicating the entry at a scale commiserate with the scale of the façade and with providing amenity to office workers. Bike parking should be revised per staff comment. Staff raise the question whether this portion of the building should have brick for the entire height of the face – would like to see options with varying placement of brick. What is the sign plan for this building?

- Abyssinian Relationship/Open Space Design
  PB comment: Provide more detail on the landscape design on Newbury Street. There should be a direct relationship between the open space and the Abyssinian building; Hold the edge of the space with building or wall; Given the north-facing open space, what will be successful plantings there? How dark will it be?
  Applicant response: More detailed design of pocket park provided; features include fence with green screen, trees, benches, understory plantings; transformer pad, bike parking, and building door added.
  Staff comment: Staff are unclear as to the intended use for this space which currently is designed almost as a forecourt to the office door rather than a parklet relating to the Abyssinian. The space directly across from the Abyssinian is an amenity for the neighborhood residents and visitors as well as providing a point from which to appreciate the Abyssinian Meetinghouse – the Historic Preservation Board and staff feel that the western and eastern edges of that space should be better defined with a landscape wall – so far this has not been accomplished. Staff would like to better understand the function of the door shown opening into the parklet space – is that an entrance, egress only? How is that door intended to be used. There are too many elements in this space muddling its design and intended use – utility pad, bicycle parking, doorway, fencing. The design does not currently meet the goals of the staff or HP review in its relationship to the Abyssinian or the neighborhood street. This space should also be distinct in character from the other landscape areas on Newbury Street.



INSET 'A'
1"=10'

Additional Staff Comment: The design priorities for new construction in this neighborhood are buildings that maintain the urban street wall, engage the public realm, and respect and fit into the established context. The hotel and existing Shipyard building continue the more active frontage that is being established on Hancock Street. Generally, staff feel to be contextual, new design in this neighborhood should be simple and consistent and use massing and articulation to provide human scale. The three residential buildings on Newbury Street are contextually sensitive in scale and provides an active ground floor with commercial use, however, staff and HP Board review feel some further revision is needed to the proportion of the retail façade composition, that façade articulation on the residential buildings should take a more traditional form such as bay windows, and especially that entrances should be more direct and legible from the street. Staff are especially interested in mitigating scale and impact of the large office building on the surrounding residential blocks. The design successfully creates interesting forms and massing, and maintains the street walls. The building is setback from the street edge on Newbury Street to provide buffer to the small-scale residential across the street. Staff continue to consider material placement and especially the use of curtain wall in this context. The main entry to the office is on Mountfort Street and is occurs at a massing indentation/plaza in the building. Visual interest is brought through massing variation, façade plane changes of the bay windows, and varied roof lines. There is a regular pattern of vertical proportioned windows, consistent with the traditional patterns. Staff would like to study the roofline of the hotel and office building in relationship to Fore Street and the overall skyline to better evaluate that relationship to the context – the proposed location and design for the rooftop appurtenances is not acceptable. These must be better integrated with the overall building design and roof forms as required by the *IS-FBC Building Design Standards*.

For the Public Hearing, staff request:

- Renderings of project from all street views; aerial view
- Residential Buildings Newbury Street – Revisions per staff and Board comment
- Rooftop Appurtenances – Revisions for more integrated approach on residential buildings per *Building Design Standards.*
- Newbury Street: Landscape design approach across from Abyssinian revised per staff/HP comment
- Sign Master Plan

VI. HOUSING REPLACEMENT DETERMINATION

The site of this application currently includes nine (9) residential units that are proposed to be demolished. Per the Housing Replacement Ordinance, the applicant is required to replace those nine (9) units or pay a replacement fee.

The purpose of Sec. 14-483 Housing preservation and replacement of the Land Use Code is:

1) *To promote and facilitate an adequate supply of housing, particularly affordable housing for all economic groups;*
2) *To limit the net loss of housing units in the city;*
3) *To preserve housing in zones where housing is permitted for in the city for all residents in order to promote the health, safety, and welfare of its citizens.*

The applicant intends to replace the nine (9) existing residential units on this site within the proposed three (3) residential buildings (ten (10) units total) on Newbury Street. The applicant is subject to the performance guaranty for the nine (9) residential units to be demolished prior to issuance of demolition permit.

VII. INCLUSIONARY ZONING CONDITIONAL USE

Because the proposal includes ten (10) residential units, the applicant is required by Division 30, Section 14-487 to provide at least one (1) workforce, one-bedroom housing unit (on-site or off-site) or pay the fee-in-lieu. The applicant proposes to include one (1) workforce, two-bedroom housing unit on-site to satisfy the requirements. The IZ Conditional Use application was reviewed by Victoria Volent (Attachment 6).

VIII. NEXT STEPS

Staff ask for Planning Board guidance on the following:

- Technical Manual waiver requests
- Transportation Demand Management Plans – Hotel and Office
- Any additional design comments – especially for Newbury and Fore Streets; HVAC and rooftop appurtenances
- Overhead Utilities on Newbury Street

The final submission will need to address the Site Plan and Subdivision review standards, including the following:

- License: Sidewalk easements (condition of approval)
- Subdivision: Plat under review by staff
- Transportation: Information in support of waiver requests (garage dimensions, # of curb cuts)
- Site Design: Revise sidewalks/ROW design and materials, street lights, and street tree layouts per staff comment and per Technical Manual standards
- Zoning: Height bonus (green roof) – Provide stormwater maintenance agreement (Condition of approval); Revised diagram needed; Add notes to the Subdivision Plat and condo docs that 50% pervious lot area must be maintained
- Zoning: Resolve outstanding staff questions
- Design: Revise locations and screening details for HVAC on roof and transformer pad
- Parking: Suggest approach for on-street parking restrictions
- Utilities: Awaiting Wastewater and Water Supply approvals
- Utilities: Meet waiver criteria for underground utilities; Indicate approach on Mountfort Street
- Provide a Construction Management Plan narrative in the City template format for review
- Housing Replacement: Post performance guaranty for nine (9) residential units to be demolished
- IZ Conditional Use: Enter into Affordable Housing Agreement prior to Certificate of Occupancy
- Additional Permits: Submit separate applications to DEP and verify compliance with CGP and PBR permits
- Indicate how you are meeting the DPE and MHPO recommendations for construction – address in Construction Management Plan narrative. Staff request additional documentation or evidence (work description, invoice, scope of work) as well as report findings from the applicant as they are produced.
- Address any Planning Board comment/concerns

ATTACHMENTS:

Attachments to Memorandum – Staff Comment

1. Zoning and Design Checklist
2. Civil and Stormwater
3. Traffic/Transportation
4. Sidewalk Design
5. TDM Review
6. IZ Conditional Use

Public Comments

PC4 Karen Snyder 6.26.18
PC5 Debby Murray 6.25.18
PC6 Joey Brunelle 6.27.18
PC7 Anna Medina 7.6.18
PC8 Rae Cousins 7.10.18
PC9 Stephen Gaal 7.10.18
PC10 Stan Berkow 7.11.18
PC11 Mike Curran 7.19.18
PC12 Washington Sq Housing Association
PC13 Kris Lape 7.18.18

Applicant's Submittal

A. Cover and Cover Letter
B. Table of Contents
C. Level III Checklist
D. Waiver Table
E. Agent Authorization
F. Maps
G. Narrative 05-30-2018
H. Technical and Financial Capacity Letter
I. Photo Sheet
J. Traffic Assessment with Attachments
K. Stormwater Management Report
L. Erosion Control Report
M. Wastewater Capacity Application
N. Utility Ability to Serve Letters
O. Resource Protection Responses
P. Title-Right-Interest and Easements
Q. Fire Code Summary
R. Zoning Analysis Table
S. Neighborhood Meeting Documents
T. Combined Light Fixture Cut Sheet
U. Glazing Comp Chart – SB60 vs SB70XL (clear vs tinted)
V. Parking Generation Tables 6-25-2018
W. TMP Application 06-11-18
X. Shipyard TDM Plan – 180706
Y. Comment Response Table

Plans

P1. Cover
P2. Existing Conditions Survey
P3. Demolition
P4. Site Plan
P5. Utility Insets
P6. Grading
P7. Site Details
P8. Site and Lighting Details
P9. Drainage & Utility Details
P10. Focal Point and Detention Pond Details
P11. Detention Pond and Drainage Details
P12. Focal Point Details
P13. Subslab Drainage
P14. Erosion Control Notes and Details
P15. Elevations
P16. Floor Plans
P17. Landscape
P18. Landscape Details
P19. Green Roof
P20. Utility Plan
P21. Grading Insets
P22. Subdivision Plan
P23. Lighting Plan
P24. Average Grade Diagram
P25. Green Roof Rendering
P26. Perspectives
P27. Construction Management Plan DRAFT 07.02.18

Development Review Checklist

IS-FBC

Level I / Level II / Level III / Master Plan
Project Name:__Shipyard_____
Address:__86 Newbury Street_____
Description: Alteration / Addition / New Construction
Date Received:__7/3/18_____ Prelim / Final
Planner:__Caitlin Cameron_____
Subdistrict UN / UT / UA

	Complies	More Info	Does Not Comply	N/A	Comments
PURPOSE					
General Guiding Principles	☒	☐	☒	☐	Most principles met – Newbury Street needs more design iteration to develop a consistent street character with blocks across the street. Fore Street façade needs revision to meet purpose statement 3
Subdistrict Intent	☒	☐	☐	☐	UT Hancock, Fore, Mountfort; UN Newbury
GENERAL DEV. STANDARDS					
(a) Prohibited Uses	☒	☐	☐	☐	
(b) Siting Standards					
Mid-Block Permeability	☐	☐	☐	☒	
Frontage Req. – Additional Building Length	☒	☐	☐	☐	UT Mountfort = 200’ with massing variation UT Hancock = 114’ Hotel with 2 modules
Setbacks	☒	☐	☐	☐	
Small Lot < 35’	☐	☐	☐	☒	
Side Yard less than 5’	☐	☐	☐	☒	
Special corner treatment	☐	☐	☐	☒	
Attached Buildings	☐	☐	☐	☒	
Landscaping & Screening					
Surface Parking	☐	☐	☐	☒	
1st Lot Layer - Height	☐	☐	☐	☒	
1st Lot Layer – Perm.	☐	☐	☐	☒	
Other Lot Layer - Height	☐	☐	☐	☒	

	Complies	More Info	Does Not Comply	N/A	Comments
(c) Height Standards					
Height Bonus - Eligible?	☒	☐	☐	☐	UT eligible streets – 1 bonus story allowed; Height not to exceed 77' from average grade
Height Bonus – Conditions Green Roof + Pervious = 50% lot	☐	☒	☒	☐	Staff request additional info – revise diagram 50% pervious lot area to accurately reflect the landscape plan and staff request to remove the landscape areas on Newbury Street, Ch 32 compliance and calculations, details, and green roof maintenance agreement. 50% Lot Area = 46,887sf req; ?? proposed 50% Roof Area = 35,631sf req; 24,817sf proposed
(d) Parking Standards	☒	☐	☐	☐	
SUBDISTRICT DIMS REQ.					
Siting Standards					
Orientation	☒	☐	☐	☐	Buildings on Hancock and Mountfort streets have a principal façade oriented to the street. Office building oriented to Mountfort Street. Hotel oriented to Hancock Street. Residential buildings are oriented to Newbury Street but lack principal entries.
Corner Condition	☒	☐	☐	☐	UN is dominant subdistrict on Newbury Street; UN/UT streets, applicant is allowed to decide building orientations.
Lot Coverage	☒	☐	☐	☐	Under 90% required
Frontage Requirements					
Building Length	☒	☐	☐	☐	UN – residential buildings all 50' UT Fore – less than 100' Shipyard building to remain as existing length
Additional Bldg Length	☒	☐	☐	☐	UT Mountfort – 200' with massing variation UT Hancock – less than 200' with 2 modules with active doors.
Fenestration Req. (UA)	☐	☐	☐	☒	
Setbacks					
Principal Building					

Front Yard	☒	☐	☒	☐	5’ max for UN street; 10’ max for UT streets; staff suggest extending sidewalks into front yard where feasible. Front yard max of 5’ is exceeded for residential buildings; front yard max of 10’ is exceeded on Newbury Street for office; building because building has met 200’ max building length.
Side Yard	☒	☐	☐	☐	At least 10’ on all side yards.
Side Yard	☒	☐	☐	☐	
Exceptions?	☐	☐	☐	☒	
Rear Yard	☐	☐	☐	☒	No rear yards
	Complies	**More Info**	**Does Not Comply**	**N/A**	**Comments**
Building Entries					
Frequency	☐	☐	☒	☐	Newbury = 1 required per building; 2 buildings provided; 2 missing (waiver requests) Mountfort = 2 required; 1 provided (waiver request) Fore = 1 required; 0 provided (waiver request) Hancock = 1 required for residential building; 1 provided; 2 required for Hotel, 2 provided
Principal Entry Orientation	☒	☐	☒	☐	Each street has a principal entry except Fore St (waiver request)
Principal Entry Elevation	☒	☒	☐	☐	All entries appear to be at grade; Is retail entry on Hancock at grade?
Height Standards					
Principal Building					
Height	☒	☐	☒	☐	Newbury = UN 45’max – show average grade for those individual buildings. Some buildings appear not to meet the height max. Hancock, Mountfort, Fore = UT 65’ max
Stories	☒	☒	☐	☐	3 stories on Newbury; 7 stories on Mountfort/Fore (more info needed for bonus story); 6 stories on Hancock
Stepbacks (UT, bonus)	☒	☐	☐	☐	15’ stepbacks provided for bonus floor

Accessory Building(s)	☐	☐	☐	☒	
Parking Standards					
Surface Parking Location	☐	☐	☐	☒	No surface parking
Garage Door Setback	☒	☐	☐	☐	No doors, opening set back from front façade on Hancock and Fore streets
Garage Door Opening	☒	☐	☐	☐	Opening on Hancock is 40' but not a door

IS-FBC: Building Design Standards (BDS)

	Complies	More Info	Does Not Comply	N/A	Comments
BUILDING DESIGN STANDARDS (BDS)					Review (7/16/18) Caitlin Cameron, Deb Andrews, Christian Roadman; HP Advisory review on 5/16/18 and 6/6/18
1. Neighborhood Context					
Intent	☒	☐	☒	☐	Be mindful of the transitional nature of the site – especially on Newbury and Mountfort streets. The large office building needs to be contextual with the small-scale, residential streets and blocks that surround it. The façade composition and material placement can be used to transition this office use and larger scale – Planning Board and staff request that the scale of the Fore St building be mitigated with articulation. Newbury Street residential buildings will be good scale for transition from residential buildings across the street. Hancock Street is mostly mid-rise buildings – hotel is appropriate scale and has active frontage.
Guidelines	☒	☐	☒	☐	Generally, staff are satisfied by the proposal. Staff and HP board had additional suggestions for the residential buildings – façade planes should be articulated with elements such as regular, symmetrical bay windows, entries and articulation of entries, window proportions should be taller as found in context.

2. Massing & Proportion					
Intent	☒	☐	☐	☐	Office building uses massing variation to moderate the scale in relationship with the smaller scale residential buildings surrounding. The residential buildings could use more variation in the massing – perhaps a recessed plane on the front at entries, plane change for flat roof vs. gable roof.
Guidelines	☒	☐	☐	☐	
Standard 2.1	☒	☐	☐	☒	2 modules on Hancock for hotel building
3. Articulation & Composition					
Intent	☒	☐	☒	☐	Met on Hancock Street. Planning Board and staff commented on the lack of articulation on Fore St – remains to be addressed. Residential buildings add scale and activity with storefronts, entries.
Guidelines	☒	☒	☐	☐	Façade plane changes, overhanging cornices, massing variation. For the residential buildings with retail below – retail treatment should follow standard design for storefront with a base and transom; Residential articulation should be addressed through façade relief rather than roof "pop-ups" – regular/symmetrical bays are the preferred method for these facades.
Standard 3.1: 3 required	☒	☐	☒	☐	Hotel: expression of structure, material changes; canopy at entry; lintels, trim, cornice Shipyard: windows added; expression of structure; more emphasis on door Residential 1: façade plane change; expression of structure at ground floor; trim and cornice line Residential 2: bay window; expression of structure at ground floor; trim and cornice line – more bays if possible. Residential 3: covered entry; trim and cornice line – add bays Office Mountfort: recessed entry, canopy, expression of structure, changes in material type, patterns in material Office Fore:
Standard 3.2	☐	☒	☐	☐	

Standard 3.3: Blank Wall	☒	☐	☐	☐	UN: 15’ max. length UT: 30’ max. length
4. Fenestration					
Intent	☒	☐	☐	☐	Regular pattern of windows, consistency
Guidelines	☒	☐	☐	☐	
Standard 4.1 (UA only)	☐	☐	☐	☒	
Standard 4.2	☒	☐	☐	☐	
Standard 4.3	☒	☐	☐	☐	.61 VT required’ met
Standard 4.4	☐	☒	☒	☐	Spandrel provided within curtain wall at floors – sun shading or other articulation measures required.

	Complies	More Info	Does Not Comply	N/A	Comments
5. Building Materials					
Intent	☒	☐	☒	☐	In the case of the residential and hotel buildings and brick portions of the office building – these intent statements are met. Quality and scale intent is not met with EIFS and curtain wall detail.
Guidelines	☒	☒	☒	☐	Hotel building has appropriate mix of brick and industrial references. What kind of clapboard is proposed for residential buildings? Concern about fiber cement clapboard durability close to the ground. EIFS does not meet the standards for quality and durability. Curtain wall was scaled back but lacks articulation as commented by staff and Planning Board.
6. Building Entries					
Intent	☒	☒	☐	☐	Most facades include active entries. What is the nature of the office door on Newbury?
Guidelines	☒	☐	☒	☐	Some revisions requested regarding residential entries – prominent and legible from the street. This was accomplished in Building 3. Retail entries should face street on Building 2. More prominent residential entry gesture to street.
Standard 6.1	☒	☐	☒	☐	Principal entry for hotel on Hancock, for office on Mountfort, for residential buildings on Newbury. Fore Street does not have an entrance and would require a waiver; one of the residential buildings does not have a street-facing door. Office entry was revised to be more in scale with the building/more emphasis with canopies, glazing.
Standard 6.2 (UA only)	☐	☐	☐	☒	
Standard 6.3	☐	☒	☐	☐	
Standard 6.4	☒	☐	☒	☐	Met on the hotel/retail façade; Brewery; office building; Not met by residential Building 2 which has active ground floor space without a direct door. Side residential doors are connected to sidewalk with paths.
Standard 6.5	☒	☐	☐	☐	

Standard 6.6	☒	☐	☐	☐	Slight setback; No garage doors
Standard 6.7: Frequency	☒	☒	☒	☐	See zoning checklist and waiver requests; HP and staff review find that the residential buildings would benefit from entries on the street or that are much more legible from the street. Building 3 was revised to bring entrance facing the street.
7. Roof Lines					
Intent	☐	☐	☒	☐	Roof forms are not integrated design - Roof mechanical systems are not integrated into a complete architectural form. Concern regarding placement and design integration, long views.
Guidelines	☒	☐	☒	☐	Applicant responded to HP board request to vary the residential roof forms and introduce a front-end gable to relate to the buildings across the street. Staff feel that flat roofs are appropriate for multi-family buildings. The new "pop-up" on the third residential building is not contextual and exceeds the height limits. Overall forms do not take into account rooftop appurtenances.
Standard 7.1	☐	☐	☒	☐	Rooftop systems are treated as an afterthought – not integrated into roof forms or overall design. Residential roof systems are large and prominent in relationship with the scale and roof forms of those buildings.
Standard 7.2	☒	☐	☐	☐	
8. Structured Parking					
Intent	☒	☐	☐	☐	The impact of the garage is minimized because it is internal to the lot and concealed by active building uses.
Guidelines	☒	☐	☐	☐	The structured parking is buried behind other buildings. Garage uses precast siding material to coordinate with the building base.
Standard 8.1	☒	☐	☐	☐	
Standard 8.2	☒	☐	☐	☐	
Standard 8.3	☒	☐	☐	☐	
Standard 8.4	☒	☐	☐	☐	

Portland Maine Yes. Google's good here.

Caitlin Cameron <ccameron@portlandmaine.gov>

86 Newbury - Shipyard 2nd workshop comments

Lauren Swett <lswett@woodardcurran.com> Thu, Jul 19, 2018 at 11:51 AM
To: Caitlin Cameron <ccameron@portlandmaine.gov>
Cc: Christian Roadman <croadman@portlandmaine.gov>

Hi Caitlin and Christian,

The Applicant has addressed all of my comments in some form. The remaining outstanding items:

- Ability to serve approval – they have updated their requests to the utilities based on the updated site layout, but are still waiting for final approval.
- They have addressed stormwater O&M in their stormwater report, but will be providing a stormwater agreement under sepratate cover.
- A construction management plan figure has been provided, but the written plan has not.
- Additional design information on the green roof will be provided once building design has been completed.

The 4 comments I had originally that relate to these items will remain as unresolved in Energov. The others I had have been resolved, but I'm adding the following:

- The Applicant is waiting for additional information on the existing sewer line in Mountfort Street. They are planning to do test pits, per their plans, but have also requested as-built information from the City. Clarification of the proposed connection on Mountfort Street is needed – the note on the grading plan states that the proposed SMH 1 will receive "12" SD and existing sewer". The Applicant should clarify if this means the line will include existing sewer from their building. If yes, separate connections should be provided for sewer and stormdrain.

Let me know if you have any questions, or need anything else from me.

Thanks,

Lauren

From: Caitlin Cameron <ccameron@portlandmaine.gov>
Sent: Wednesday, July 18, 2018 2:41 PM
To: thomas.errico@tylin.com; Peverada, John <jbp@portlandmaine.gov>; Hyman, Bruce <bhyman@portlandmaine.gov>; Tarling, Jeff <jst@portlandmaine.gov>; Lauren Swett <lswett@woodardcurran.com>; Robert Thompson <rmt@portlandmaine.gov>; Keith Gray <kgray@portlandmaine.gov>
Cc: Christian Roadman <croadman@portlandmaine.gov>
Subject: 86 Newbury - Shipyard 2nd workshop comments

[Quoted text hidden]

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

Portland Maine Yes. Google's good here.

Caitlin Cameron <ccameron@portlandmaine.gov>

PL-45-2018: Shipyard Redevelopment: Site Plan Review

Bruce Hyman <bhyman@portlandmaine.gov> Thu, Jul 19, 2018 at 2:43 PM
To: Caitlin Cameron <ccameron@portlandmaine.gov>, Christian Roadman <croadman@portlandmaine.gov>
Cc: Tom Errico <thomas.errico@tylin.com>, Keith Gray <kgray@portlandmaine.gov>, Caitlyn C Abbott <cabbott@portlandmaine.gov>, Jeremiah Bartlett <jbartlett@portlandmaine.gov>

Good afternoon, Caitlin and Christian,

The following are my comments on the Site Plan (C-101) and Grading Plan (C-103) revised plans dated 7/3/18 for the Shipyard Redevelopment for the purposes of the Workshop next week. Further comments may also be forthcoming.
My comments are the following:

- Pedestrian easements are needed for the full width of sidewalk being provided along the Newbury Street and Mountfort Street frontages
- The set of steps shown for Building A on Hancock Street are to be relocated out of the public ROW
- The Site Plan continues note 'Remove and Replace' granite curb along all street frontages - this needs to be updated to reflect the predominant use of new curb (and consolidated existing curb, if done) for a consistent, quality curb line treatment
- The Site Plan needs to show the street lighting treatments proposed (and shown on other sheets)
- The curbing symbols for Vertical Curb, Tipdown Curb and Flush Curb needs to be applied consistently so an accurate appraisal of the design plan can be conducted -
    - In the proposed pocket park opposite the Abyssinian Church, please clarify the curb treatment illustrated (states "Flush Vertical Granite Curb")
- The full design of the driveway to be reconstructed on Fore Street is to be shown - a waiver may be required if the driveway width is 33' feet as indicated
- It is suggested to straighten the slight curved jog in the curb line opposite Middle Street on Hancock Street
- The raised granite tree wells on Hancock Street are to be replaced with tree grates to provide a consistent treatment as that on the lower portion of Hancock Street
- The alignment of the crosswalk across Mountfort St and the configuration of the curb ramp serving it on the west side of Mountfort Street are to be reconsidered for directness of travel along Fore Street and ADA-accessibility of the curb ramp (consider ramping down the sidewalk and having the ramp serve as the landing area - the current design would prove very difficult for a wheelchair user traveling Fore Street)
- The physical space provided for the bike racks in the two pocket parks along Newbury Street and the office building entrance on Mountfort Street appears quite insufficient for the number of parking spaces shown - the spacing between racks needs to be a minimum of 36" on center (48" preferred) with 24" of clear space on each unobstructed end and 30" minimum on an end when mounted near a wall or building. Additional individual bike racks (Bike Hitches or Downtown Racks) should be located within the sidewalk along Hancock Street in proximity to active building entrances.
- The tree well on Fore Street closest to Mountfort Street is to be eliminated - the remaining two tree wells are to be placed adjacent to the curb line
- The proposed location of the Handicapped Parking spaces on the ground floor are to be reconsidered per ADA-requirements for proximity to building entrances - in general, "Accessible spaces must connect to the shortest accessible route to the accessible building entrance or facility they serve (https://adata.org/factsheet/parking)" - some of the H/C parking may be needed closer to the hotel lobby, for instance, and should not have to cross the parking garage entrance - it is unclear how, or if, H/C parking requirements are being met for other parking garage levels and site uses (such as the office building).

Previous comments touched upon the need for updated Site Details which have not been provided in this newest plan set.

Do not hesitate to contact me if you or the applicant have any questions.

Best regards,

Bruce
--
Bruce Hyman
Transportation Program Manager
Transportation Division

Department of Planning & Urban Development
389 Congress Street
Portland, Maine 04101
(207) 874-8717 phone

bhyman@portlandmaine.gov
http://www.portlandmaine.gov/1363/Transportation-Division
Yes! Transportation's Good Here ....

Portland Maine Yes. Google's good here.

Caitlin Cameron <ccameron@portlandmaine.gov>

86 Newbury Street - Preliminary Site Plan Traffic Comments

Tom Errico <thomas.errico@tylin.com> Fri, Jul 20, 2018 at 9:23 AM
To: Caitlin Cameron <ccameron@portlandmaine.gov>
Cc: Christian Roadman <croadman@portlandmaine.gov>, Bruce Hyman <bhyman@portlandmaine.gov>, Keith Gray <kgray@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Jeff Tarling (JST@portlandmaine.gov)" <JST@portlandmaine.gov>

Hi Caitlin – I have reviewed the application materials and I offer the following traffic comments regarding site plan details.

- The project site exceeds the number of driveways allowed by the City's Technical Standards (Two are permitted and four are proposed). I generally support the waiver but would like specific details on the truck delivery requirements (including vehicle turning templates for the proposed configuration between Hancock Street and Newbury Street) that warrant the one-way two driveway configuration for the residential units.

- The location of the driveway on Fore Street does not meet corner clearance to Mountfort Street. Given that this driveway is an existing condition and traffic volumes entering and exiting the site would not be expected to increase significantly, I support a waiver from the City's Technical Standards.

- The parking garage parking layout requires a waiver for aisle width. The City standard is 24 feet and the project is proposing 21 feet. The applicant provided a generic letter noting the adequacy of this proposed layout. I would suggest that the applicant provide specific site examples (in Maine or nearby) for review. Additionally, I will conduct a review of parking facilities in the area to assess adequacy of the project and dimensions.

- The applicant has conducted a parking demand analysis according to ITE Parking Generation rates adjusted for time-of-day usage, Shared Use Reduction (6% reduction), and Other Modes Reduction (10% for Hotel and 15% for Others). According to the analysis, the proposed land uses will generate a peak parking demand of 354 parking spaces. I generally find the method to be reasonable, but need to review adjustment factors and parking rates in detail.

- The applicant should provide dimensional details and vehicle turning templates for the Fore Street driveway. Additionally, vehicle turning templates for truck movements internal to the site and details on management of deliveries should be provided.

- Sight distance measurements from the proposed driveways should be provided.

- The construction management plan needs additional detail as it relates to restricted movements (one-way streets) and sidewalk closures. I need to coordinate this item with DPW staff and will provide direction in the future.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TY LIN INTERNATIONAL
12 Northbrook Drive
Falmouth, ME 04105

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"One Vision, One Company"

Portland Maine Yes. Google's good here.

Caitlin Cameron <ccameron@portlandmaine.gov>

PL-45-2018: Shipyard Redevelopment: DRAFT Transportation Demand Management Plan

Bruce Hyman <bhyman@portlandmaine.gov> Fri, Jul 20, 2018 at 10:50 AM
To: Caitlin Cameron <ccameron@portlandmaine.gov>, Christian Roadman <croadman@portlandmaine.gov>

Good morning, Caitlin and Christian,

The following are my comments on the DRAFT TDM Plan dated July 6, 2018:

- Per the ordinance provisions governing TDM, the draft TDM Plan applies to the Vet's First Choice (VFC) and Cambria Hotel components of the proposed redevelopment of the Shipyard site
- The draft TDM Plan provides a good framework for defining the transportation context for the site and mix of uses/tenants, transportation/traffic and parking demand, TDM trip and parking reduction targets and TDM strategies to meet those targets
-
- The draft Plan provides a robust menu of TDM strategies for both employees (VFC and Cambria) and hotel guests
- The pricing of parking, and how that is pricing structured and applied, is proven to be one of the most effective ways to influence travel behavior in
    - it is unclear at this time how parking costs for employees of VFC and Cambria and hotel guests will be applied - there are provisions, for instance, for VFC employees to "cash out" their parking but it is unclear how strong an incentive this will be - it is anticipated that parking will be "free" to VFC employees (as it currently is at its downtown Portland sites) and the "cash out" will be equivalent to the cost to VFC of the parking
    -
- The extent of bus transit pass subsidies for VFC and Cambria employees is undecided ("Partial or full subsidy" stated) but transit incentives includes an unknown one-time incentive to give up parking for transit
-
- The current vehicle trip and parking reduction targets are quite modest but call for adjustment after the first year as part of the monitoring program - it is suggested that higher initial targets be established with strengthened pricing strategies
- The draft Plan contains a good plan for Monitoring, Data Collection and Reporting

As stated earlier, the draft TDM Plan provides a solid framework within which to create a strong package of effective strategies to reduce vehicle trips and parking demand but require fine-tuning to match TDM targets to a package of strategies that are geared toward meeting or exceeding those targets.

Please don't hesitate to contact me if you or the Board have any questions.

Best regards,

Bruce

--
Bruce Hyman
Transportation Program Manager
Transportation Division

Department of Planning & Urban Development
389 Congress Street
Portland, Maine 04101
(207) 874-8717 phone

bhyman@portlandmaine.gov
http://www.portlandmaine.gov/1363/Transportation-Division
Yes! Transportation's Good Here ....

Portland, Maine | Yes. Life's good here.

Planning & Urban Development Department

To: Caitlin Cameron, Urban Designer, Planning & Urban Development Department

From: Victoria Volent, Housing Program Manager, Housing & Community Development Division

Date: July 10, 2018

Subject: 86 Newbury Street – Inclusionary Zoning Conditional Use

---

All developments of ten (10) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Division 30, Section 14-487 of the Zoning Ordinance.

Division 30, Section 14-487, Ensuring Workforce Housing, requires at least ten percent (10%) of the dwelling units in the development shall meet the definition of Workforce Housing units for sale or for rent. The ordinance under Section 14-487 e 3 also requires the number of bedrooms in the workforce units shall be at least 10% of the total number of bedrooms in the development.

The development located at 86 Newbury Street proposes the creation of 10 rental units consisting of two (2) studio units, six (6) one-bedroom units, and two (2) two-bedroom units. As dwelling units for rent, the designated Workforce Unit will be restricted to households earning up to 100% of Area Median Income (AMI). Based on the requirements outlined in Section 14-487, the development is required to provide a minimum of one (1) workforce unit with one (1) bedroom. The Applicant has elected to provide one (1) Workforce Unit, on-site, consisting of one (1) two-bedroom unit to satisfy the ordinance's minimum requirements. As such, the project has met the minimum requirements set forth in Section 14-487.

Staff recommends the Board Approve this Conditional Use provided the Applicant and the City enter into an agreed upon Affordable Housing Agreement (AHA) before a Building Permit may be issued.

The Affordable Housing Agreement will outline the details of the affordability restrictions placed on the Workforce Unit and will be filed as covenant to the property's deed with the Cumberland County Registry of Deeds before a Certificate of Occupancy may be issued.

Sincerely,

Victoria Volent
Housing Programs Manager

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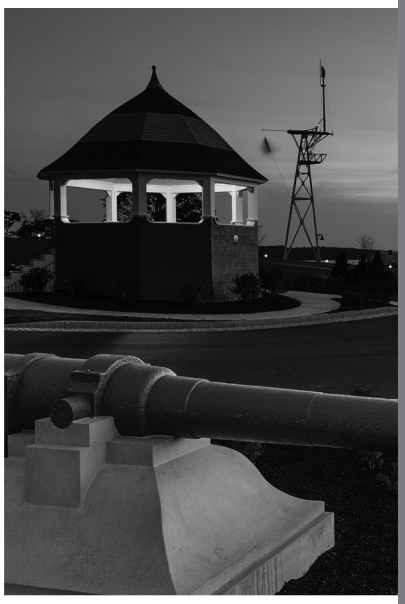


Level III Site Plan and Subdivision Application for 86 Newbury Street Redevelopment Portland, Maine

PREPARED FOR:
86 Newbury Street
Portland, Maine

April 2018

SUBMITTED BY:
Gorrill Palmer
707 Sable Oaks Drive
Suite 30
So. Portland, ME 04106
207.772.2515

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

May 2, 2018

Barbara Barhydt
Planning and Urban Development Department
City of Portland
Fourth Floor, City Hall
389 Congress Street
Portland ME 04101

Re: Level III Site Plan Application
Proposed Shipyard Brewing Redevelopment
86 Newbury Street (Tax Map 020, Block C, Lot 9 – 127 Fore Street)

Dear Barbara,

On behalf of 86 Newbury Street, LLC, we are pleased to submit the enclosed Level III Site Plan Application for the proposed **Shipyard Brewery Redevelopment** at 86 Newbury Street. The planned four to six story building with a varied foot-print and gross floor area totaling approximately 174,000 sf will accommodate a mix of office and industrial (brewing and specialty pharmacy) uses with limited retail space, a hotel, residential units, and structured parking.

Separately from this Site Plan Application we plan to submit an Application for a Traffic Movement Permit for the project. We will coordinate with the City relative to methodology and peer review.

The site is approximately two acres in size and is currently home to the Shipyard Brewery, two apartment buildings (020 C005 and 020 C002) and some surface parking areas that serve the brewery and residential uses. The site occupies the majority of the block bound by Newbury, Mountfort, Fore and Hancock Streets in Portland. The site generally slopes in a southeasterly direction towards Fore Street. As indicated on the City of Portland zoning map, the property is zoned IS-FBC (India Street Form-Based Code Zone).

The development plan primarily includes 60,000 sf of *office*, 60,000 sf of *specialty pharmacy*, 40,000 sf of *technical fulfillment pharmacy*, 10,000 sf of *brewery,* 8,000 sf of *residential* within a 9-unit / four-story building at the corner of Hancock and Newbury Streets and a 105-room *hotel*. The parking for the proposal is supported by a 360 space three-level garage.

The existing Shipyard Brewing retail shop / tasting room will remain and be expanded in size slightly from 2,500 to 4,000 sf. The existing three-story Shipyard Brewery building will remain and be renovated to accommodate the Specialty Pharmacy, and 10,000 sf for Shipyard to retain some brewing operations on-site. The remaining Shipyard bottling and warehousing facility will be demolished along with the two existing residential buildings on Newbury and Mountfort Street. Shipyard is also pursuing plans to develop the brewery's Portland distribution center (at 182 Read Street) into a more comprehensive production facility that will produce Shipyard beer and its allied beverages.

The proposed redevelopment is planned to be constructed as one phase but is expected to be permitted in phases in order to accommodate the proposed schedule. The permit phasing is anticipated to be as follows:

1. Demolition of the two Existing Residential Structures (separate demolition permits to be submitted)
2. Renovation of the Existing Shipyard Brewery Building (separate building permit to be submitted)
3. Demolition of the balance of the site and construction of the proposed Office and Hotel (this Level III Site Plan)

Submitted via E-Plan you will find this Cover Letter/Project Summary along with a Level III Site Plan Application package and set of plans illustrating the proposal for Final Site Plan Review.

We appreciate the Planning Department's consideration of our proposal and look forward to meeting with City staff, and with the Planning Board to present the proposal and address any questions. If you require any additional information, please don't hesitate to contact our office.

Sincerely,

Gorrill Palmer

Lucas Anthony, P.E.
Project Manager

Copy: Mr. David Bateman, 86 Newbury Street, LLC

LSA/ceh/U:\3184_Shipyard Brewing\P Applications\Local\Level III Site Plan Application\(E-PLAN) Electronic Filing Docs\ Cover Letter-Project Summary.doc

TABLE OF CONTENTS

Section	Location
Application Form	Attachment 1
Agent Authorization	Attachment 2
Project Narrative	Attachment 3
Architectural Narrative	Attachment 4
Average Grade Calculation	Attachment 5
Financial and Technical Capacity Letter	Attachment 6
Photos of Existing Site	Attachment 7
Traffic Memo	Attachment 8
Stormwater Management Report	Attachment 9
Erosion and Sedimentation Control Report	Attachment 10
Wastewater Application	Attachment 11
Utility Ability to Serve Letters	Attachment 12
Natural Resource Responses	Attachment 13
Title, Right and Interest	Attachment 14
Fire Code Standards Letter	Attachment 15
Floor Plans	Attachment 16
Building Elevations	Attachment 17

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

LEVEL II and LEVEL III APPLICATION SUBMISSION CHECKLIST

Submit each Tab as one PDF file and bookmark the items as noted below

Please confirm by electronically checking the boxes to the left

Tab 1 – General Application Documents

Checklist	Items to be Provided
Yes NA Plan ✔ ☐ ☐	PROJECT DESCRIPTION • Cover Letter with detailed project description
Yes NA Plan ✔ ☐ ☐	COMPLETED CHECKLIST – LEVEL III APPLICATION
Yes NA Plan ✔ ☐ ☐	RIGHT, TITLE AND INTEREST • Deeds, leases, or purchase and sales agreements
Yes NA Plan ☐ ☐ ☐	EVIDENCE OF STATE OR FEDERAL APPROVALS, if applicable • Permits or letters of non-jurisdiction, if applicable under separate cover
Yes NA Plan ✔ ☐ ✔	ZONING ASSESSMENT • Table listing required and proposed uses and dimensional standards Zoning Assessment Table
Yes NA Plan ✔ ☐ ✔	EXISTING &/OR PROPOSED EASEMENTS OR COVENANTS, if applicable • Evidence of existing easements and any proposed easements
Yes NA Plan ✔ ☐ ☐	WAIVER REQUESTS • Written request for waiver describing request and reason. Waiver Table
Yes NA Plan ✔ ☐ ☐	FINANCIAL CAPABILITY • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes NA Plan ✔ ☐ ☐	TECHNICAL CAPABILITY • Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

LEVEL II AND LEVEL III SITE PLAN STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.

Submit each Tab as one PDF file and bookmark the items as noted below

Tab 2 - TRANSPORTATION

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Transportation Analysis- Traffic Impact (14-526 (a) 1)** • Provisions for pedestrian, bicycle, vehicle, and loading circulation and incremental volume of traffic impacts • Traffic Impact Study (Technical Manual, Section 1) if applicable
Yes NA Plan ✔	**Access and Circulation (14-526 (a) 2 a)** • Access and internal circulation, addressing ADA access • Access and egress impacts on traffic flows • Description and use of drive-up features, if applicable
Yes NA Plan ✔	**Loading and Servicing (14-526 (a) 2 b)** • Loading and servicing needs, route and travel way geometrics for deliveries • Turning templates for delivery vehicles, if applicable
Yes NA Plan ✔	**Sidewalks (14-526 (a) 2 c)** • Sidewalks and condition along street frontages and internal walkways • Engineered details for ADA ramps and public sidewalk details meeting sidewalk materials policy and ADA ramp construction details as applicable (Technical Manual, Section 1)
Yes NA Plan ✔	**Public Transit (14-526 (a) 3), if applicable** • Existing available transit services • Proposed site plan design details, such as easement, pad base, and shelter
Yes NA Plan ✔	**Off-Street Parking: Vehicle & Motorcycle/Scooter) (14-526 (a) 4 a and c)** • Expected parking demand, proposed parking supply, ADA parking, and applicable Zoning Requirements • Address Technical Manual standards (Section 1) for curb cut separation and parking lot layout and locate on site plan
Yes NA Plan ✔	**Bicycle Parking (14-526 (a) 4 b)** • Address bicycle parking requirements and identify locations on-site • Construction details for bike racks (Technical Manual, Section 1)
Yes NA Plan ✔	**Snow Storage (14-526 (a) 4 d)** • Management plan for snow removal and locate snow storage areas on plan
Yes NA Plan	**Traffic Demand Management (TDM) (14-526 (a) 5), if applicable** • Develop TDM with Trip Reduction Targets and Strategies Under separate cover

Tab 3 - ENVIRONMENTAL AND LANDSCAPE FEATURES

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Preservation of Significant Natural Features (14-526 (b) 1), if applicable** • Trees, plants, habitats listed on State or Federal list of endangered or threatened • High and moderate value waterfowl and wading habitat • Aquifers on Casco Bay Islands • Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) • Proposed preservation areas and protection measures • Documentation from environmental consultants, determinations from applicable state agencies
Yes NA Plan ✔	**Landscaping and Landscape Preservation (14-526 (b) 2 a)** • Preservation of trees and preservation within required zoning setbacks (Technical Manual, Section 4) • Protection measures of existing vegetation during construction • Protection measures within Shoreland Zone, if applicable
Yes NA Plan ✔ ✔	**Site Landscaping (14-526 (b) 2 b)** • Screening and buffering of service areas and between non-residential and residential uses • Planting plans with plant schedule and sizes (Technical Manual, Section 4)
Yes NA Plan ✔ ✔	**Parking Lot Landscaping (14-526 (b) 2 b ii), if applicable** • Landscaped islands within parking areas (Technical Manual, Section 4)
Yes NA Plan ✔ ✔	**Street Trees (14-526 (b) 2 b iii)** • Existing Heritage or Feature Trees on site and measures to preserve • Identify street trees on the plan meeting the site plan and Technical Manual standards (Section 4) or identify alternative measures, if applicable

Tab 4 - ENVIRONMENTAL AND STORMWATER

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Water Quality, Stormwater Management and Erosion Control (14-526 (b) 3 a)** • Stormwater report in compliance with Section 5 of Technical Manual and DEP Chapter 500 stormwater for basic, general and flooding standards, as applicable • Erosion control plan and measures • Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater, as applicable • Subsurface sanitary sewage disposal and groundwater protection

Tab 5 - PUBLIC INFRASTRUCTURE AND SAFETY

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Consistency with City Master Plans (14-526 (c) 1)** • Identify consistency with master plans • Proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes NA Plan ✔	**Public Safety and Fire Prevention (14-526 (c))** • Address Crime Prevention through Environmental Design (CPTED) (Technical Manual, Section 3) • Emergency vehicle access • Address consistency with public safety standards (Technical Manual, Section 3) • Submit a code summary referring NFPA 1 and all Fire Department standards (Technical Manual, Section 3) – Fire Checklist
Yes NA Plan ✔	**Availability and Adequacy of Public Utilities (14-526 (c) 3) (Technical Manual, Sections 2 & 9)** • Electrical services, including providing underground services • Identify existing and proposed connections for public utilities and required public utility upgrades • Sewer line connections are required, if there is a main within 200 feet • Proposed solid waste management facilities on-site and management for the site • Written evidence of the ability to serve from utility companies, as applicable

Tab 6 - SITE DESIGN

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Massing, Ventilations and Wind Impact (14-526 (d) 1)** • Wind and ventilation impacts on adjoining structures and/or adjacent public spaces. Wind study, if applicable • Bulk, location or height impacts on adjoining structures • Identify and locate HVAC equipment and venting away from public spaces and residential properties • Identify screening and manufacturing specifications for noise, if applicable
Yes NA Plan ✔	**Shadows (14-526 (d) 2), if applicable** • Shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes NA Plan ✔	**Snow and Ice Loading (14-526 (d) 3)** • Building design to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes NA Plan ✔	**View Corridors (14-526 (d) 4), if applicable** • Protection of designated view corridors (Portland Design Manual, Appendix 1)

Yes NA Plan ✔	**Historic Resources (14-526 (d) 5), if applicable** • Identify developments within Historic Districts or affecting Designated Landmarks • Certificate of Appropriateness or other evidence • Identify Developments within 100 feet of Historic Districts or affecting Designated Landmarks. Advisory HP review may be required • Address preservation and documentation of Archaeological Resources
Yes NA Plan ✔	**Exterior Lighting (14-526 (d) 6)** • Cut sheets of on-site light fixtures and any architectural or specialty lights (Technical Manual, Section 12) • Engineered details for any lights proposed in street right-of-way (Technical Manual, Section 10)
Yes NA Plan ✔	**Noise and Vibration (14-526 (d) 7)** • Evidence of noise levels for equipment, such as equipment specifications, to demonstrate consistency with zoning requirements
Yes NA Plan ✔ ✔	**Signage and Wayfinding (14-526 (d) 8), if applicable** • Signage plan showing the location, dimensions, height and setback of all existing and proposed signs. Signs in Historic Districts are reviewed by Historic Preservation staff • Proposed commercial and directional signage on site
Yes NA Plan ✔	**Zone Related Design Standards (14-526 (d) 5)** • Address Historic Preservation Design Review, if applicable • Address any applicable design review standards by zone • Address submission requirements from Design Manual, page 1, addressing neighborhood context • Description of exterior materials, color, finish, and samples

Tab 7 - Construction Management Plan

Check list	
Yes NA Plan	**Construction Management Plan** • Construction Management Document and Plan under separate cover

Level II and Level III Site Plan Checklist

Please upload the following drawings with the listed details into e-Plan

☑ **RECENT BOUNDARY SURVEY** (stamped by Maine Licensed Surveyor)

Must be in compliance with Technical Manual, Section 13

SITE PLAN(s) (stamped by Maine Licensed Engineer) including:

☑ Existing Conditions

- Approximate location of structures on abutting property
- Topography
- Locate water courses
- Delineate wetlands
- Zone lines

☑ Proposed Site Plan

- Ground floor area, and grade elevations for all buildings

☑ Access, Circulation, and Parking

- Streets and intersections adjacent to site , any proposed geometric modifications
- Location, dimensions and materials of all existing and proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas
- Existing and proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications

☑ Site Considerations

- Identify snow storage areas
- Location of fire hydrants
- Location of solid waste management facilities

☑ **UTILITY PLAN** including:

- Existing utilities on site and within public streets
- Location, sizing, and directional flows of all existing and proposed utilities
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

☑ **GRADING and DRAINAGE PLAN** including:

- Existing grades and drainage
- Proposed grades
- Proposed stormwater management meeting Technical Manual (Section 5) standards
- Location and proposed alteration of a water course
- Preservation or alteration of wetlands

☑ **EROSION CONTROL**

- Must be in compliance with Technical Manual, Section 5

☑ **LANDSCAPE PLAN** including:

- Existing vegetation to be preserved and preservation measures
- Proposed landscaping and buffers
- Planting schedule

☑ **RECORDING PLAT**, if applicable

- IF SUBDIVISION: Must be in compliance with requirements of Section 14-496 (b)

☑ **ARCHITECTURAL PLANS & RENDERINGS** including:

- Exterior building elevations, color renderings, illustrations of all sides
- Location and dimensions of all existing & proposed HVAC & mechanical equipment, all proposed screening
- Provide context drawings, if applicable (Design Manual, page 1)
- Floor plans

Standard to be Waived: Cite Ordinance or Technical Manual Standard	Cite Standard Language: Cite specific language of applicable Ordinance or Technical Manual Standard	Waiver Being Sought: Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	Justification for Waiver: Address specific waiver criteria, if applicable, and document reasons for the waiver request.
WAIVER #1: Chapter 14-526 (a) 4.a.iv. and Technical Manual Figure 1-27	Parking spaces and aisles shall meet applicable dimensional standards as detailed in Section 1 of the Technical Manual. Figure 1-27 of the Technical Manual, titled Standard Parking Spaces, shows a 24' aisle for 90 degree parking @ 9'x18'	We are requesting a two-way parking lot drive aisle wide of 21 feet within the parking structure, for a total bay width of 57 feet.	See Attached.
WAIVER #2: Section 1.7.2.8 of the Technical Manual	No more than 2 driveways shall be permitted for ingress and egress purposes to any commercial, industrial or residential (with 10 or more parking spaces) site.	We are requesting 2 driveways to access the commercial portion of the site, and 2 driveways for residential.	See Attached.
WAIVER #3: Section 1.7.2.7 of the Technical Manual	Along arterial and collector streets, access driveways to corner lots shall be located a minimum of 150' from the intersection.	We are requesting a waiver to allow the existing entrance on Fore Street to remain. It is approx. 100' from the Fore St/Mountfort St intersection.	See Attached.

WAIVER REQUEST #1: Chapter 14-526 (a) 4.a.iv. and Technical Manual Figure 1-27 states that parking spaces and aisles shall meet applicable dimensional standards as detailed in Section 1 of the Technical Manual. Figure 1-27 of the Technical Manual, titled Standard Parking Spaces, shows a 24' aisle for 90-degree parking @ 9'x18'.

Justification: The Applicant is requesting a waiver to allow for drive aisles within the parking garage to be 21 feet wide. This equates to a double loaded parking bay that is 57 feet wide versus the typical 60 feet.

The parking garage is dimensionally constrained to a width of 114 feet due to the existing "No-Build Easement" adjacent to the Residence Inn and the existing Shipyard Brewing building on the other side. This 114-foot dimension requires that the parking layout consist of 18-foot-deep parking spaces with a 21-foot drive aisle. The Applicant has contracted with Strescon Limited for construction of the parking garage. Strescon has significant experience in the design and construction of garages in constrained urban areas and has determined that the width reduction of 3 feet will not adversely impact circulation. A letter from Strescon confirming the suitability is attached here.

WAIVER REQUEST #2: Section 1.7.2.8 of the Technical Manual states that No more than 2 driveways shall be permitted for ingress and egress purposes to any commercial, industrial or residential (with 10 or more parking spaces) site.

Justification: The site in its existing condition has seven driveways, five of those driveways exceed the typical 24 feet width with one that is 50 feet wide. Along Newbury Street alone there three driveways that total 115 feet in overall width, which equates to almost 30% of the sites frontage.

Our request is for 4 driveways in total, one is existing on Fore Street and is proposed to remain as noted below. As noted on the Site Plan we also have a 24-foot-wide driveway on Hancock Street to serve the parking garage and a 16-foot-wide driveway on Hancock which connects to Newbury Street.

Due to the mixed-use nature of the project and the fact that the property has frontage on four streets, the Applicant is requesting a waiver to allow two additional driveways. These driveways each serve a distinct and necessary purpose and will provide for efficient access to the various proposed uses. The Hancock Street entry to the garage is the access to the upper 3 levels of the garage and is the location for the hotel valet desk. The existing driveway on Fore Street is the access for the lower level of the parking garage and also is the delivery truck access for the Fulfillment portion of the project. The Fore Street driveway is also the only access that the adjacent Residence Inn has for deliveries and trash removal. They Residence Inn has no driveways of its own and as such relies on an access easement to allow for deliveries and trash removal.

It is the Applicants opinion that the number of driveways proposed is the minimum necessary to accomplish the project goals. Although the request is for a waiver to code, the proposal makes the site less non-conforming than it is today. In addition, the proposed configuration will allow for additional on-street parking due to the decreased number and width of driveways at the site.

WAIVER REQUEST #3: Section 1.7.2.7 of the Technical Manual states that Along arterial and collector streets, access driveways to corner lots shall be located a minimum of 150' from the intersection.

Justification: As noted above the existing driveway on Fore Street is proposed to remain and serve as the lower level garage entrance to the project. The driveway is approximately 95 feet from Mountfort Street and has served as the main location for Shipyard's trucks to enter for many years. When in operation the driveway saw truck traffic from Shipyard on a daily basis, with the new use being much less truck reliant the number of trucks using the Fore Street driveway is expected to be reduced. Also, as noted above, this driveway is the only location that the adjacent Residence Inn has for deliveries and trash removal. Due to the critical nature of this driveway, to the Project itself and the Residence Inn the Applicant is requesting a waiver to allow this existing non-conforming condition to be allowed to remain.

To Whom it May concern,

June 28, 2018

Strescon Limited is a major manufacturer of Total Precast Parking Garages in Eastern North America. Over the past ten years Strescon Limited has manufactured several garages with a bay width of 57' (overall clear width of 114'). Each garage had restrictions on site that limited the overall width of the garage. The garages have 90-degree parking with a stall width of 8'6" and a stall depth of 18' providing a travel aisle width of 21'. In each case the garages are functioning well.

Several of the garages had an independent third-party traffic flow analysis conducted of the garage and met all regulations.

If you require further information, do not hesitate to contact;

Andrew LeVatte

Andrew LeVatte
Business Development
Strescon Limited
Cell; 902-221-1721
Phone; 902-494-7404

86 Newbury Street, LLC

470 Fore Street, Suite 400
Portland, ME 04101

March 5, 2018

Re: **Agent Authorization**
Shipyard Redevelopment
Portland, Maine

To Whom It May Concern:

86 Newbury Street LLC ("Developer") is in the process of re-developing a site (the "Site") in the state of Maine, Cumberland County, located at the existing Shipyard Brewery property in Portland. On behalf of the Developer, I hereby authorize Gorrill Palmer, (the "Engineer") to act as agent for the purpose of obtaining permits and approvals related to the development of the Site.

In such capacity, the Engineer's authority is expressly limited to signing and delivering applications for permits and approvals that are related to the development of the Site, advancing nominal funds as are required to file such applications and representation at meetings and hearings for the applications. The Engineer is not authorized to negotiate on the Developer's behalf or to bind or obligate the Developer in any manner whatsoever, including without limitation accruing any obligations on the Developer's behalf to pay for or construct improvements without additional authorization in writing.

This authorization is effective as of the date of this correspondence, and will remain valid until revoked in writing.

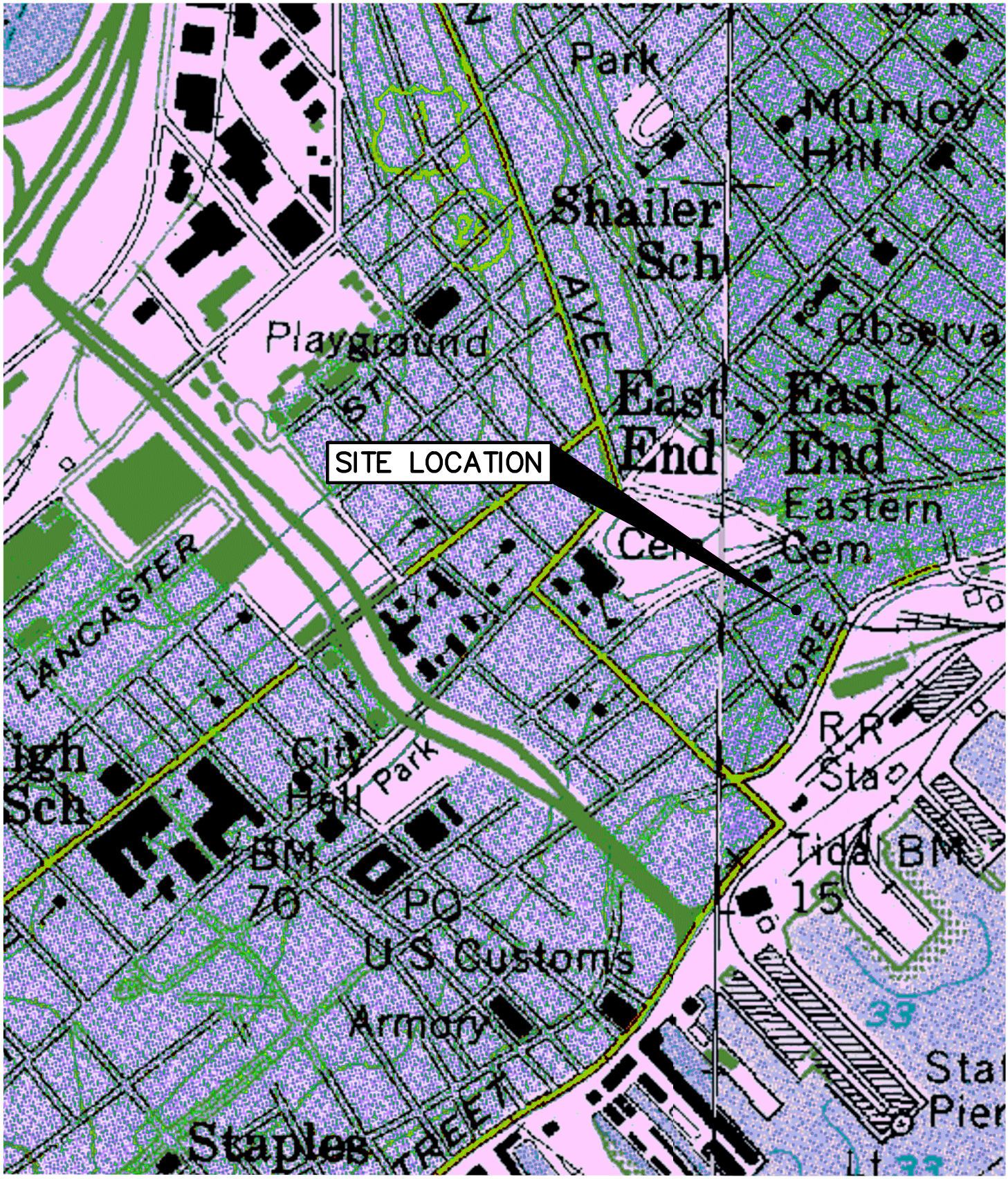
If you have any questions or if I can be of any further assistance, please contact me at (207) 772-2992.

Very truly yours,

86 Newbury Street LLC

David Bateman

It's: MEMBER



U.S.G.S. Location Map

Shipyard Brewing Company - Portland, Maine

U.S.G.S. Portland East/West, Maine -7.5 Minute Series (Topographic)

Design: BMG	Date: MARCH 2017
Draft: CG	Job No.: 3184
Checked: LSA	Scale: None
File Name: 3184-LOCATION.dwg	

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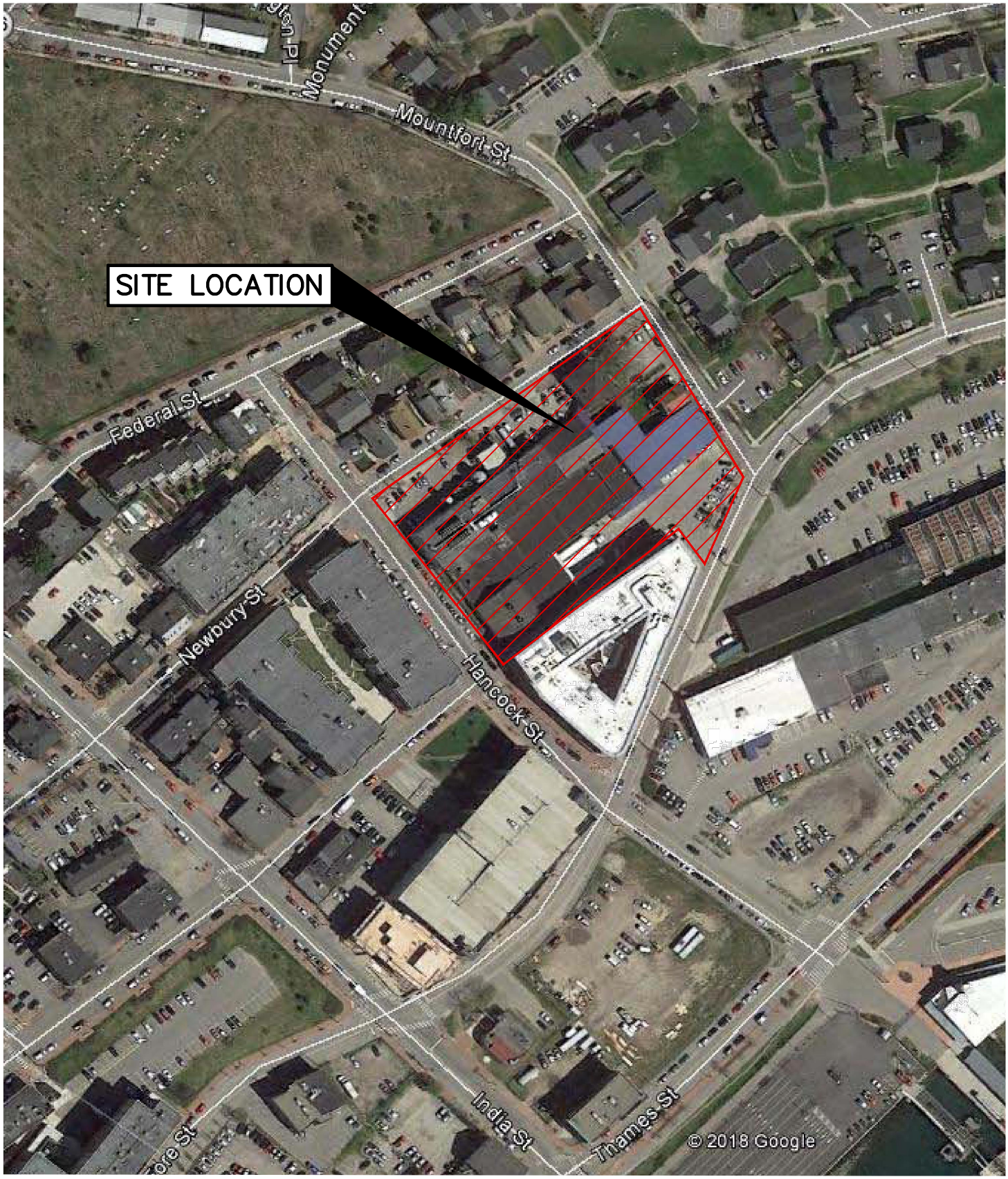
Figure 1



Aerial Location Map

Shipyard Brewing Company - Portland, Maine

Design: CH	Date: MARCH 2018
Draft: CH	Job No.: 3184
Checked: LSA	Scale: None
File Name: 3184-LOCATION.dwg	

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Figure 2

Flood Map- 1986 Effective

Shipyard Brewing Company - Portland, Maine
from Portland, Maine Flood Map Viewer

Design: CH	Date: MARCH 2018	
Draft: CH	Job No.: 3184	
Checked: LSA	Scale: None	
File Name: 3184-LOCATION.dwg		

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Figure
3

NARRATIVE – Level III Site Plan

Project Description

The project site is approximately two acres in size and is currently home to the Shipyard Brewery, two apartment buildings and surface parking areas that serve the brewery and residential uses. The site occupies the block bound by Newbury, Mountfort, Fore and Hancock Streets in Portland. The parcel consists of Tax Map 20C Lots 1, 2, 5, 9, and 15. The site generally slopes in the southeasterly direction with slopes in the range of 3% to 7%. The property is zoned IS-FBC, India Street Form-Based Code Zone. Refer to Attachment 3 for the Location Map.

The proposed redevelopment project consists of approximately 175,000 sf of new mixed office, industrial and limited retail uses; comprised of 107,000 sf office space, 24,000 sf Specialty Pharmacy, 35,000 sf Technical Fulfillment. The project includes renovation of approximately 15,000 to accommodate the scaled down brewing operation and existing tasting room and retail space. The existing three-story Shipyard Brewery building will remain and be renovated and repurposed to accommodate the Specialty Pharmacy, while the current Shipyard bottling and warehousing facility will be demolished along with the two existing residential buildings on Newbury and Mountfort Street. In addition to the 175,000 sf of mixed uses described above, the proposed redevelopment includes a 105-room hotel (73,000 sf) and ten (10) residential units. All of the proposed uses are to be supported by structured parking provided within a four-level garage, with a total of 380 spaces. The residential buildings will have parking beneath the buildings.

As noted above, Shipyard Brewing will retain a presence at the site in the form of a scaled down brewing operation with the associated tasting room and retail store. The balance of the brewing, shipping receiving, and storage operations of Shipyard will be relocated to a site within the City of Portland.

The proposed construction is planned to occur in overlapping phases, with a brief description as follows:

1. Demolition of the two Existing Residential Structures (separate demolition permits to be submitted)
2. Renovation of the Existing Shipyard Brewery (separate Building Permit to be submitted)
3. Demolition of the balance of the site and construction of the proposed Office and Hotel (this Level III Site Plan)

Existing Conditions

The project site is currently the home of Shipyard Brewing and has existed as a mix of residential and industrial uses for over two centuries. The Shipyard facility occupies more than half of the block bound by Fore, Mountfort, Newbury and Hancock Streets, with the balance of the property occupied by the Residence Inn. Shipyard Brewing's operations at the site consist of brewing, bottling, warehousing, storage, shipping, receiving, office space, retail shop and a tasting room. The retail space and tasting room are located on the Hancock Street frontage, while the Newbury Street area is more industrial with an area for delivery and receiving of raw materials, silos for

storage, some surface parking and the entrance to the Shipyard offices. Further down Newbury Street, an existing three-story building which was constructed in 1893 houses six apartment units. On Mountfort Street, another 3-unit apartment building is located approximately halfway down the block. Fore Street provides the main entry to the shipping and receiving area of the Shipyard Brewery, along with some surface parking. Photos of the existing site area included in Attachment 7.

The Shipyard facility is made up of a number of buildings constructed over the years for various purposes. The existing 3-story building that fronts on Hancock Street and is home to the Shipyard retail store and tasting room was constructed between 1914 - 1920. This building will be renovated as part of the proposed development, while the balance of the buildings on site will be razed. The renovation of the building will be used for continued brewing operations for Shipyard on the lower floor while the upper floors will be renovated for pharmacy and fulfillment space. The retail store and tasting room will be housed next to the proposed hotel with a new storefront on Hancock Street.

The site is currently served by existing utilities including water, sewer, drainage, electric, gas, cable tv and telephone which are available on all four sides of the site. The site is mostly impervious and slopes generally from elevation 50' on Newbury Street to 25' on Fore Street (NGVD). The site is within Flood Zone C according to FEMA 230051 0014 B, which is listed as an area of minimal flooding. With the exception of the 3-story building to be preserved, the balance of the site will be disturbed during construction.

At this time a geotechnical exploration has not been performed, however, surrounding conditions are known to exist of loose surficial fills on top of medium to soft glaciomarine clays overlying loose to medium dense glaciofluvial sands overlying loose to dense glacial till overlying bedrock at depths varying from 22 to 42 feet below the ground surface. Groundwater depths are anticipated to vary across the site depending on location but can be expected within six feet of the existing ground surface.

Evidence of Right, Title and Interest

The subject property is made up of one parcel, which is controlled by the Applicant- 86 Newbury Street, LLC. Evidence of the right to file this application is included in Attachment 14.

Evidence of State and/or Federal Permits

Traffic Movement Permit - Based on the traffic assessment memo (Attachment 8), this project will generate greater than 100 trips which will require a Traffic Movement Permit issued by the City under its delegated authority. This permit application will be submitted under separate cover from this Level III Site Plan Application.

DEP Permitting – The proposed construction will disturb over one acre; a Maine Construction General Permit (CGP) and Permit by Rule (PBR) applications will be filed with the Maine DEP.

Zoning Assessment

The project site is located in the India Street Form-Based Code Zone (IS-FBC) with frontage along the subdistricts *Urban Neighborhood* (UN) and *Urban Transitional* (UT). The zone places a primary emphasis on a building's physical form and its relationship to the street with the intent to establish a vibrant, walkable, and mixed-use urban district.

The proposed development is aligned with the zone's guiding principles and is designed to realize the objectives of the subdistricts and the overall IS-FBC. The zoning objectives for the portion of the site abutting Newbury Street (*Urban Neighborhood*) and Hancock, Mountfort and Fore Streets (*Urban Transitional*) are listed below for reference.

Section 14-275.7(a) Urban Neighborhood (UN) subdistrict: "The intent of this subdistrict is to maintain and promote a small-scale, less active urban fabric. Buildings may be more private in character and have smaller footprints with building types including, but not limited to, single-family, rowhouses, duplexes, triple-deckers, and double-triples. Building frontages may be less transparent and entries may be raised above sidewalk level with frontage types including raised, recessed doorways, porches, and stoops. The streetscape has variable setbacks and landscaping with many buildings within one block and streets tend to be narrow."
Section 14-275.7(b) Urban Transitional (UT) subdistrict: "The intent of this subdistrict is to encourage higher density, mixed-use building types that accommodate any use. Building frontages are a mix of activity level, have larger footprints, and the most flexibility of height and scale. Building ground floor spaces tend to accommodate flexible and changing uses with frontage types including doorways, forecourts, arcades, and storefronts. The streetscape may be less active than the UA subdistrict with wide sidewalks, street trees, and setbacks and stepbacks providing relief from large building masses."

The project architect (Archetype Architects) has prepared a narrative that addresses the design of the buildings relative to the IS-FBC along with the average building grade calculations. See below for the Architect's narrative. A Zoning Assessment Table is provided as Attachment 18.

In general, the proposed development conforms to the key zoning requirements of the IS-FBC in the following manner:

(a) Prohibited uses. - The development's proposed uses are not listed among the IS-FBC's prohibited uses

(b) Siting standards – The proposed development will comply with the following:

1. Mid-block permeability. Not required within the location of the proposed development based on the IS-FBC Regulating Plan.
2. Frontage requirements. The proposed development conforms to the minimum street frontage. Building length and massing requirements and structured parking exceptions are covered under the Architects Narrative.
3. Setbacks. With the exception of Newbury Street and the UN subdistrict, the proposed building conforms to the required setbacks, with more details outlined in the project architect's plans.
4. Landscape and screening. There is no surface parking proposed, all parking is within the proposed parking structure and beneath the proposed residential buildings. Public spaces and the streetscapes along Newbury and Mountfort, have been designed with plantings and street trees to enhance the space and the pedestrian environment.
5. Building additions. The proposed development will be reviewed as a Level III Site Plan.

(c) Height standards. - The proposed development includes bonus stories as part of the height bonus provision in the IS-FBC. Please refer the Floor Plans provided by the Architect provided within Attachment 16. The Applicant is proposing a green roof in order to qualify for the bonus story.

(d) Parking standards. - The proposed 380 space four-level garage conforms to the standards in the City of Portland Design Manual, and more details can be found in the Architect's plans. Parking requirements for proposed uses are outlined in a table included on the Site Plan (Sheet C100).

Architectural

The site is bordering four distinct streets and includes the Urban Neighborhood (UN) subdistrict and the Urban Transitional (UT) subdistrict within the India Street Form Based Code (IS-FBC) Zone. The designs were based upon the intent of each district criteria. Therefore, the project presents an architecture which is a reflection of the district as outlined in the IS-FBC.

The UT zone runs along Fore street then up both Mountfort and Hancock Streets. The architecture directly facing Fore Street is open and presents a full glass façade, as we move up Hancock and Mountfort the architecture modifies to reflect the transition to the UN zone. Per our critique from staff we have modified the Mountfort Street elevations to have more brick with punched openings, thus addressing the more residential nature of those streets.

After discussions with Planning Staff we have modified the Hancock Street face on the hotel to remove some of the asymmetry in favor of symmetry. Along Newbury Street we now have three apartment buildings which meet the intent of the UN with small scale less urban fabric. Each building is entered from Newbury Street thru a courtyard for residential access. Two of the buildings on the westerly end have small commercial space at street level. We have incorporated a back alley for vehicular access to the residential buildings. The alley will also allow for deliveries to the Pharmacy use which will be located in the former brewery building. In addition, the new window openings being installed in the existing Brewery have been modified per staff suggestion to be less horizontal. The remaining area to the east of these structures will be developed as a park and a court yard will be developed directly across the street from the historically significant Abyssinian Church.

Easements or Other Burdens

An existing loading and access easement that benefits the adjacent Residence Inn is shown on the Site Plan. The easement coincides with the existing driveway along Fore Street and is approximately 40 feet wide. The easement is intended to allow truck access to the Residence Inn dumpster enclosure which is at the rear of the building. The easement, and associated driveway will be impacted by the proposed redevelopment. The Applicant will attempt to negotiate an alternate arrangement with the owner of the Residence Inn to address the proposed impact to the access easement. There is also a 10-foot wide no-build easement benefiting adjacent Residence Inn property that runs along the developments southeasterly boundary and is also shown on the Site Plan. A copy of the recorded document containing both easements can be found in Attachment 14A.

Proposed Waivers

A breakdown of the requested waivers is included in the Waiver Table in Attachment 1B of this application.

Financial and Technical Capacity

Please see Attachment 6 for a summary of the Applicant's technical experience and financial capacity.

The Applicant has retained a highly-qualified team of professionals to undertake planning, permitting and design tasks on this project. Services will be provided by the following companies:

Architect	David Lloyd Archetype, PA 48 Wharf Street Portland, ME 04101 (207) 772-6022 lloyd@archetypepa.com
General Contractor	Joe Dillavou Allied Cook Construction PO Box 1396 Portland, ME 04104 (207) 772-2888 jdillavou@alliedcook.com
Civil Engineer	Lucas Anthony, P.E. Gorrill Palmer 707 Sable Oaks Drive, Suite 030 South Portland, ME 04106 (207) 772-2515 lanthony@gorrillpalmer.com
Traffic and Transportation Consultants	Randy Dunton, P.E. (Traffic Impact Study) Gorrill Palmer 707 Sable Oaks Drive, Suite 030 South Portland, ME 04106 (207) 772-2515 rdunton@gorrillpalmer.com Sarah Cushman (TDM) Cushman Transportation Consulting, LLC 94 Beckett Street, 2nd Floor Portland, ME 04101 (207) 200-1910 sarah@sarahcushman.com
Surveyor	Randy R. Loubier, PLS Owen Haskell, Inc. 390 US Route 1, Unit 10 Falmouth, ME 04105 (207)774-0424 rloubier@owenhaskell.com
Landscape Architect	Chris Di Matteo, PLA Gorrill Palmer 707 Sable Oaks Drive, Suite 030 South Portland, ME 04106 (207) 772-2515 cdimatteo@gorrillpalmer.com
Geotechnical Consultant	William Peterlein, P.E.

	Summit Geoengineering Services 145 Lisbon Street, Suite 601 Lewiston, ME 04240 (207) 576-3313 bpeterlein@summitgeoeng.com
Electrical Engineer	Will Bennett Bennett Engineering 7 Bennett Drive Freeport, ME 04032 (207) 865-9475 will@bennettengineering.net

Construction Management Plan

A preliminary construction management plan has been prepared by the General Contractor and is included with this submittal. Similar to the site and architectural plans, the construction management plan will be refined as the project progresses and input from Staff and the Planning Board is incorporated.

Traffic Study and Access Conditions

A memo summarizing the Traffic Study for this project is provided in Attachment 8. An application for a Traffic Movement Permit will be submitted subsequently under separate cover.

As noted earlier in this narrative, the site is bordered by Fore, Mountfort, Newbury and Hancock Streets. The site has a total of seven (7) existing driveway openings, one on Fore, two on Mountfort, three on Newbury, and one on Hancock Street. The proposed redevelopment will reduce the number of driveways from seven to four. Two primary driveways will provide ingress/egress to the parking garage, while a more minor driveway located on Hancock Street is proposed to access the parking beneath the proposed residential buildings along Newbury Street.

Code allows for 2 driveways, as such we are requesting a waiver to code to allow 4 driveways. This waiver request reduces the existing non-conformities present on the site and may increase the number of on-street parking spaces. No driveways are proposed on Mountfort Street.

Significant Natural Features

The site contains no significant natural feature and is nearly 100% impervious consisting of buildings and paved areas. Letters from the Maine Department of Inland Fisheries and Wildlife, and the Maine Natural Areas Program state there are no significant natural features on the property. Letters are included in Attachment 13.

Stormwater Management Plan

Section 14-526.b.3.b of the Land Use Ordinance states that all development other than Level I residential shall comply with Section 5 of the Technical Manual including Basic, General, and Flooding standards as applicable to prevent and control the release of pollutants to waterbodies, watercourses, wetlands and groundwater, and reduce adverse impacts associated with increases or changes in flow, soil erosion and sedimentation.

Section 5.II.b and Section 5.11.c of the Technical Manual states that Level II and III site plans shall be required to submit a stormwater management plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management Rules, including Basic, General and Flooding standards. The Basic Standard will be met by implementation of erosion control measures as outlined in the Erosion and Sedimentation Control Report submitted with this application in Attachment 10. The General and Flooding Standards are addressed in the Stormwater Management Report for the project which is provided in Attachment 9.

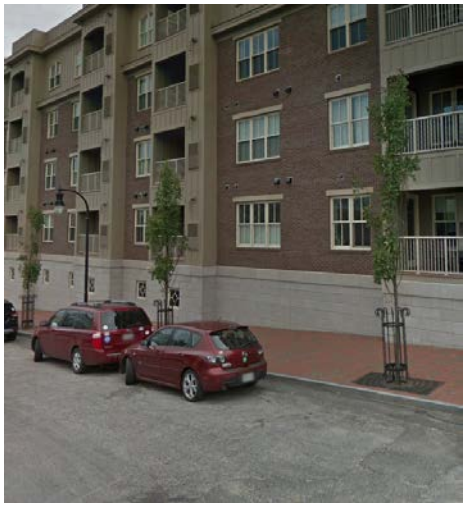
Project's Consistency with Portland's Comprehensive Plan

The proposed development is located within one of the City's priority growth areas, a district that has recently been re-zoned to utilize Portland's first form-based zoning code. The proposed mix of uses is consistent with the objectives of the India Street Form-Based Code Zone and the Future Land Use Plan city wide. The proposed development increases economic development at the City's core, *reinforcing the center*, while not sacrificing housing accommodations.

The Comprehensive Plan or "Portland's Plan 2030", is organized around six interconnected themes which constitute the vision statement for the City. The following briefly summarizes the goals of this project relative to these six themes:

Equitable – The project includes 12 housing units to replace the existing units to be removed. A portion of those meeting the City's Inclusionary Zoning Standards, are planned to be affordable workforce housing units.

Sustainable – The site in its current condition has no provisions for the treatment of stormwater runoff. The proposed development will provide measures to improve water quality of the runoff from non-roofed impervious areas. In addition, the building will incorporate a green roof to further reduce impervious areas and runoff.



Dynamic – The mixed-use development will activate the Hancock Street frontage by relocating and enhancing the existing Shipyard Brewing tasting room and retail shop, while also incorporating the main entry to the new hotel. These uses will add pedestrian activity, and the sidewalk and streetscape improvements will complement the redevelopment that has occurred on the opposite side of Hancock Street and the broader area.

Secure – The proposed redevelopment constitutes an investment that will enhance the City's tax revenue base while retaining existing jobs and creating new ones both during and after construction. Shipyard Brewing will maintain a presence at the site, while relocating some operations to another location in Portland. The new office component of the project will retain existing jobs and create opportunity and space to allow the tenant to grow its workforce. The hotel use will serve Portland's already thriving tourism industry and provide new job opportunities at the same time.

Authentic – The proposed redevelopment represents a significant investment in the City but recognizes that blending in with the neighborhood is critical. Elements considered include: enhancing the walkability of the neighborhood by improving sidewalks and streetscapes on all four streets and respecting the transitional nature of the existing uses along Newbury Street by using indigenous, local materials in the architecture. Further, the plan maintains Shipyard's tasting room and brewing presence at this historical, authentic location for the company.

Connected – The site's location relative to the Eastern Waterfront, Commercial Street and the Old Port, Ocean Gateway and other new and exciting nearby development, along with the existing transportation infrastructure will provide great connections for all modes of travel. With new sidewalk improvements, bike infrastructure, a close connection to the METRO system and the ferry, and marine transportation, this site is ideally located and will cater to all these modes of travel and can lessen visitors, guests and employees dependency on car use.

Utility Capacity to Serve

Letters were sent to the Portland Water District, Central Maine Power, Fairpoint, Spectrum and Unitil requesting confirmation of their ability to serve the project. Responses are provided in Attachments 12A-E. Outstanding responses will be forwarded to the City upon receipt.

NFPA 1 and Fire Department Technical Standards

A fire code summary is provided in Attachment 15. Existing fire hydrants are located near the northwest corner of the parcel at the intersection of Hancock Street and Newbury Street, north of the parcel on Newbury Street, and the southeast corner of the parcel at the intersection of Mountfort Street and Fore Street.

Conformity with Applicable Design Standards

The following narrative discusses the projects compliance with the design standards of Section 14-526 of the City Land Use Code as noted below:

A. Transportation Standards

1. **Impact on Surrounding Street Systems**
   The project is projected to generate in excess of 100 trip ends during the peak hour which will require a Traffic Movement Permit. This permit will be submitted under separate cover from this Site Plan Application.

2. **Access and Circulation**
   a. Site Access and Circulation
      i. The project is designed to provide safe and reasonable access and internal circulation for the entire site and will be designed to comply with the standards set forth in Section I of the Technical Manual.
      ii. Points of access are located to avoid conflicts with existing turning movements and traffic flows. The existing driveway on Fore Street does not meet the required distance to the intersection at Mountfort Street. Given this, the Applicant is requesting a waiver to allow the driveway to remain in its current location in order to allow access to the ground floor parking

and truck access to the loading dock. The existing distance is 120 feet, while the required is 150 feet.

iii. The project does not propose drive up features.

b. Loading and Servicing

i. The project is designed to provide a safe loading and service area that does not impede site access, vehicle circulation, pedestrian movements, or parking. Loading will occur within the site parking garage and be accessed, as it is today, from the existing driveway on Fore Street. As noted on the elevations, the floor height of 14' feet for the ground floor level parking will allow enough clearance for ambulances.

c. Sidewalks

i. The project provides sidewalks on all building frontages.

ii. Existing sidewalks within the area of work will be repaired or replaced in conformance with Chapter 25 of the City Code and Section 1 of the Technical Manual.

iii. The project is designed to provide continuous internal walkways between existing and planned public sidewalks, street crossings, and building entrances.

3. Public Transit Access

a. The project will result in the construction of at least 20,000 square feet of gross floor area for commercial use and is further than 0.25 miles from an existing transit shelter. The nearest Public Transit is the Metro M8 Local Service bus route which has stops at Casco Bay Lines and Franklin Towers. The Breez Express Service has a stop at India and Congress Street. Both of these locations are slightly over 0.25 miles away, as such the Applicant is willing to coordinate with Greater Portland Transit (Metro) to locate a bus stop at the property.

b. See above

c. See above

4. Parking

a. Location and Required Number of Vehicle Parking Spaces

i. Off-street parking as proposed will meet the applicable zoning requirements. 323 spaces are required by code and the proposed parking garage will have approximately 360 spaces. Excess spaces are anticipated to be offered for monthly lease which would help to satisfy the demand for parking in the Eastern Waterfront area.

ii. A TDM is being prepared and will be submitted under separate cover.

iii. The project is anticipated to exceed the minimum parking requirement by more than 10%. However; given the demand for parking in the Eastern Waterfront area the Applicant anticipates that the additional spaces can be leased on a monthly basis to help satisfy some of area-wide parking demand.

iv. Parking spaces meet applicable dimensional standards. A waiver is requested for the drive aisle width in the parking garage, see Waiver Table in Attachment 1B.

v. Parking is provided within the proposed parking structure and will be constructed of permanent and durable hard surface that is not subject to ponding or erosion.

b. Location and Required Number of Bicycle Parking Spaces

i. The project provides secure bicycle parking in conformance with Section 1 of the Technical Manual.

a. The project meets the requirement for two bicycle parking spaces for every five dwelling units by providing a minimum of two bike parking spaces, which will be located within the ground floor parking area under the residential building.
b. The project provides for two bicycle parking spaces for every ten vehicle parking spaces for the first one hundred required vehicle parking spaces, plus one bicycle parking space for every twenty-required motor vehicle parking space over one hundred required vehicle parking spaces. Based on the current parking count, 33 spaces would be required. The Applicant plans to meet this requirement through the use of exterior bike racks and an interior bike storage room for office commuters.
c. The project creates more than ten required vehicle parking spaces. The bicycle parking spaces standard is met by the number of required spaces from Section 14-526.a.4.b.i.b above.

c. Motorcycle and Scooter Parking
   i. The site plan accommodates access and parking for two-wheeled motorized vehicles. As detailed design proceeds, an area within the parking garage will be designated for two-wheeled vehicles.

d. Snow Storage
   i. Limited area onsite is available for snow storage, as such it is anticipated that the site will be managed with a maintenance contract that provides for the removal of snow from the site.
   ii. With a maintenance contract in place, it is not anticipated that encroachment by snow storage on parking requirements, pedestrian walkways, or stormwater management systems would occur for any extended periods of time.

5. Transportation Demand Management

a. A TDM plan will be submitted under separate cover which complies with the City of Portland TDM standards as described in Section 1 of the Technical Manual.

B. Environmental Quality Standards

1. Preservation of Significant Natural Features

a. The project site does not contain any significant natural features according to the Maine Natural Areas Program. The Maine Department of Inland Fisheries and Wildlife indicated that there may be State Endangered bat species and bat species of Special Concern occupying the structure(s) on site. The Department recommends that construction or demolition work on bat-occupied portions of the structure not occur between June1 and August 15, when young bats are unable to fly. The site does not contain habitat for waterfowl and wading birds, does not contain aquifers, wetlands, watercourses, significant vernal pools, or floodplains.
b. The project does not contain areas set aside for preservation.

2. Landscaping and Landscape Preservation

a. Landscape Preservation
   i. The project site contains only one tree of any size. The tree is not in a location or elevation that would allow it to be preserved.
   ii. The project will include street trees as specified in Section 4 of the Technical Manual to the extent possible, however, none are in a condition that warrants preservation. There is no significant vegetation on site that warrants preservation. As noted above, one tree exists on Newbury Street that is not in a location that would allow preservation and also is in conflict

with the existing overhead utilities. Given the proposed excavation work in the vicinity of the tree it would not be possible to preserve the tree.

iii. See above, no trees are proposed for preservation.

iv. The landscaping proposed for this site will provide well in excess of the required replacement for the one tree to be removed.

v. Project is not located within the Shoreland Zone.

b. Site Landscaping

i. Landscaped Buffers

a. Loading and servicing areas, dumpsters, and storage areas and utility structures will be appropriately screened from view from public sidewalks, streets and adjacent properties.

b. Understory planting within the setbacks will be provided to meet the requirements of this section.

c. The residential component of the project will incorporate a landscape buffer of at least 10 feet wide and 6 feet tall, between the residential and commercial uses. An area is currently reserved on the plans and will be designed to meet the requirements of this section as the project design development progresses.

d. See item c. above.

ii. Parking Lot Landscaping

a. No surface parking is proposed, all parking will be within the proposed parking structure.

iii. Street Trees

a. Street trees are proposed in general accordance to Section 4 of the Technical Manual.

3. Water Quality, Stormwater Management and Erosion Control

a. A site specific Stormwater Management Plan has been prepared and is included in Attachment 9.

b. The project complies with the standards of Section 5 of the Technical Manual, please refer to the storm.

c. The project is not located within the watershed of an Urban Impaired Stream.

d. The project is not a level 1 minor residential development. However, basic erosion control standards are met.

e. The project is not anticipated to pose a risk of groundwater contamination either during or post-construction as described in Sections 5 and 9 of the Technical Manual. The project will be served by a public sewer system.

f. The project proposes to connect to public sanitary system as shown on the plans.

C. Public Infrastructure and Community Safety Standards

1. Consistency with City Master Plans

a. The development has been designed to be consistent with the City's Zoning Ordinance and Master Plan relative to offsite infrastructure including sewer, stormwater, sidewalks and streets.

b. The project will include suitable easements, rights and improvements to connect or continue off-premises public infrastructure.

2. Public Safety and Fire Prevention

a. The project design has not advanced to the stage where details have been developed that incorporate all public safety principles for Crime Prevention through Environmental Design (CPTED). The site will be designed with the intent to enhance the security of public and private spaces and to reduce the potential for crime through the following:

i. The project allows for natural surveillance that promotes visibility of public space and areas.

ii. The project allows for controlled access that promotes authorized and appropriate access to the site.
iii. The project promotes a sense of ownership and responsibility through environmental design.

b. The project will be designed for adequate emergency vehicle access to the site in accordance with City standards for street widths and turning radii as described in Section I of the Technical Manual.

c. The project is consistent with City public safety standards, Section 3 of the City of Portland Technical Manual. The site is proposed to be served by the Portland Water District with buildings to be sprinklered. Fire hydrants are located to the southeast of the parcel at the corner of Mountfort and Fore Street, to the north of the parcel on Newbury Street, and to the northwest of the parcel at the intersection of Newbury and Hancock Street.

3. Availability and Adequate Capacity of Public Utilities

a. The project is not anticipated to overburden sanitary sewers and storm drains, water lines, or other public infrastructure and utilities. Water and sewer usage are expected to be reduced given the proposed relocation of Shipyard's brewing operations to another site in the City of Portland. Letters from the various utilities indicating their ability to serve the project are included in Attachment 12.

b. Electrical service for the project will be underground. There is existing overhead electrical along Newbury, Mountfort and Fore Streets, which includes services to surrounding properties not owned by the Applicant. Due to the extreme cost to retrofit the properties, existing electrical service on aforementioned streets will remain overhead.

c. The plans shall be designed meet all the provisions within Section 2 and 9 of the Technical Manual for installation of new or upgrades to existing sanitary sewers, storm drains, water lines, or other utilities.

d. The project is within 200 feet of a public sanitary collection and treatment system. The project will connect to the nearest available public sewer.

e. All sanitary sewer and stormwater utilities proposed as part of the project will be designed to City standards.

f. The project will incorporate dumpsters or a compactor that will be screened from public sidewalks, streets, and adjacent properties. Details of this are forthcoming as detailed design proceeds and is dependent on negotiation with the adjacent Residence Inn.

D. Site Design Standards

1. Massing, Ventilation and Wind Impact

a. The bulk, location, and height of the proposed buildings and structures is not anticipated to result in health or safety problems from a reduction in ventilation to abutting structures or changes to the existing wind climate. Please refer to the Architects narrative for additional details.

b. The bulk, location, and height of the proposed buildings and structures minimize, to the extent feasible, any substantial diminution in the value or utility to neighboring structures under different ownership. Please refer to the Architects narrative for additional details.

c. HVAC venting mechanisms direct exhaust away from public spaces and residential properties directly adjacent to the site.

2. **Shadows**
   a. The development will not result in shadows that fall on publicly accessible open space. There are no public open spaces directly adjacent to the site.

3. **Snow and Ice Loading**
   a. Project buildings and structures will be designed to prevent significant amounts of accumulated snow and ice from loading or falling onto adjacent properties and public ways.

4. **View Corridors**
   a. The project is not located within a Viewing Protection Corridor as identified on the View Corridor Protection Plan with the Design Manual.

5. **Historic Resources**
   a. The site is not located within the historic preservation district, nor have any buildings been identified designated as landmarks. The Applicant has received correspondence from the Maine Historic Preservation Commission (MHPC) which identified two of the existing buildings as the William Mundy House and the William Mundy Block, respectively. The Commission has requested additional information on the two buildings. The two buildings are not identified as local Historic Landmarks as shown on the "Historic Districts with Historic Landscapes, Cemeteries & Individual Landmarks City of Portland Peninsula Effective April 15, 2009". Therefore, at this time, a Certificate of Appropriateness is not required.
   b. The Maine Historic Preservation Commission identified the National Register Listed Abyssinian Meeting House as being adjacent to the project. The project location is adjacent to, but not within the India Street Historic District.
   c. At this time, no state or local archaeological resource is known to exist on the site. As noted in the letter from the MHPC, a Phase 1 Archeological Survey is recommended for the area surrounding the two existing residential structures and the associated nearby parking area.

6. **Exterior Lighting**
   a. Site Lighting
      i. All exterior site lighting, including lighting of building entrances will be full cut off with no light emitted above the horizontal plane or spilled onto adjacent properties and streets. The project lighting plan will be designed to conform to the applicable standards of Section 12 of the Technical Manual.
      ii. Exterior lighting along Newbury and Hancock Streets which abut residential uses will be employ house-side shielding.
   b. Architectural and Specialty Lighting
      i. Architectural and specialty lighting of features such as architectural details, monuments, public art, or other site features will be designed to illuminate specific details or attributes only and meet the standards of Section 12 of the Technical Manual.
      ii. No up-lighting is proposed.
   c. Street Lighting
      i. Street lighting will be provided as shown on the plans and will utilize fixtures as required by City Technical standards

7. **Noise and Vibration**
   a. HVAC and Mechanical Equipment
      i. All heating, Ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will be designed by a professional to meet all state and federal emissions requirements, and will:
         a. Be located to the interior of the site, away from abutting residential properties.
         b. Be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof.
      ii. Emergency generators, if provided, will not be activated for more than one hour per week for routine maintenance and testing. Noise levels will not exceed City standards except in designated emergencies or for emergency generator testing. Emergency generator testing will only occur during the permitted hours of 9:00 a.m. and 5:00 p.m., Monday through Friday.

8. **Signage and Wayfinding**
   a. All signage will be designed to meet the applicable requirements of Division 22 of the City Code and the following provisions:
      i. Not applicable, the project is not located on a Historic Landmark or within a Historic District or Historic Landscape District.
      ii. The size, scale, proportions, design, materials, placement and source and intensity of illumination of all permanent or freestanding building signs shall be designed to complement the building and its immediate context as follows:
         a. Signage will be designed to conceal architectural features such as window sills, lintels or cornices from view.
         b. Signs will be designed and sized to fit the scale and proportions of the building and the feature or area of the building to which it is affixed.
         c. Freestanding signs will be designed to not adversely affect visibility at intersections or access drives.
         d. Sign lighting will be downwardly directed, internally illuminated and/or shielded to avoid glare and light spillover towards the sky.
         e. Signs will not be affixed to rooftop mechanicals, mechanical penthouses or other rooftop appurtenances unless those appurtenances have been screened and integrated into the architecture of the development.
      iii. On-site directional traffic signage will be designed to enable users to safely and easily navigate the site and not adversely affect visibility.

9. **Zoning Related Design Standards**
   a. Development is not located in zones specified in Section 14-526(d)9.
   b. A Master Development Plan is not proposed.

BATEMAN PARTNERS LLC
DEVELOPERS & CONSULTANTS

470 FORE ST., SUITE 400
PORTLAND, MAINE 04101

TELEPHONE (207) 772-2992
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Bateman Partners, LLC was created specifically to develop and manage real estate, which the principals have done since 1979. The principles have developed projects in southern Maine in excess of $200 million dollars from 1979 through 2017. Many of these projects Bateman Partners, LLC and / or its principals still own and / or manage.

The Principals of Bateman Partners, LLC initially developed both elderly and family subsidized housing in conjunction with the New Hampshire and Maine State Housing Authorities. The focus of development eventually spread to market rate housing and commercial office buildings as the City of Portland grew throughout the 1980's. Recreational developments included the Falmouth Country Club and its adjacent residential subdivision, as well as Diamond Cove, a 193-acre island resort community.

Over the last seven years Bateman Partners, LLC has used their combined knowledge to develop over 60,000 SF of medical office, 300 units of affordable housing as well as multiple single family home subdivisions. The Principals of Bateman Partners are David Bateman, Nathan Bateman, and Aaron Bateman.

David Bateman is the president of Bateman Partners, LLC. David is a trained architect with extensive experience in the field of design and construction. David is responsible for all day-to-day management of the Bateman Partners, LLC entities and their assets

David has extensive experience in the following specific areas:

- Feasibility and market analysis
- Project design and master planning
- Local, State and federal approvals and permitting
- Project financing
- Equity syndication
- Contract negotiation
- Construction supervision and estimating
- Project management
- Sales and Marketing

Since 1979 David has been responsible for the acquisition, development, and management of real estate projects with a combined development cost in excess of $200 million dollars.

David's personal goal has been to provide Maine with innovative projects, which improve the quality of life for its residents. Whether it be pioneering the concept of "scattered site" family housing, (a method which blends subsidized housing into existing neighborhoods), creating Maine's first elderly congregate care facility, or through traditional commercial and resort developments, the basic commitment to quality of life has never been compromised.

Nathan Bateman is the Vice President of Bateman Partners, LLC. Nathan holds a bachelors degree with a focus of Finance and Entrepreneurial studies from Babson College. Nathans responsibilities include all the day-to-day management of the Bateman Partners, LLC entities and their assets. Nathan's responsibilities also include creating feasibility studies for potential projects, obtaining local and state approvals, securing financing and overall project management.

Nathan is also the Vice President and co-owner of both Phoenix Management and Phoenix Property Services located in Saco, Maine.

Aaron Bateman is the Treasurer of Bateman Partners, LLC. Aaron holds a bachelors degree with a focus in Finance from Babson College. Aaron's role at Bateman Partners is that of Asset management and financial planning.

Aaron is also the President and co owner of Phoenix Management and Phoenix Property Services located in Saco, Maine. Aaron has grown both of these companies over the last 10 years from an employee base of 3 to a staff of 40 employees that manages over 1,000 units of housing, 250,000 SF of commercial buildings and multiple home owner and condo associates. www.phoenixmanagementcompany.com

REAL ESTATE PROJECTS DEVELOPED BY DAVID BATEMAN AND BATEMAN PARTNERS, LLC

Subsidized and Market Rate Housing Projects	**Development Costs**
- Summer Street / 32 units of elderly and family housing Located in Biddeford, Maine	1.40 M
- Presidential Housing / 45 units of elderly housing Located in Biddeford, Maine	2.00 M
- Central Block / 24 units of elderly housing Located in Farmington, New Hampshire	1.10 M
- Bay View Apartments / 71 unit market rate rental complex Portland, Maine	2.40 M
- Bethel Housing / 20 units of elderly housing Located in Bethel, Maine	.98 M
- Pleasant Street / 45 units of elderly and family housing Located in Saco, Maine	2.40 M
- Lincoln Street / 21 units of scattered site family housing Located in Saco, Maine	1.60 M
- Pierson Lane / 68 units of scattered site family housing Located in Biddeford, Maine	4.90 M
- Front Street / 36 units of elderly housing	1.90 M

Located in Sanford, Maine	
- Falls I / 61 units of family housing	3.40 M
Located in Saco, Maine (moderate income)	
- Cummings Mill / 48 Luxury Apartments	5.60 M
Located in the historic Cummings Mill,	
South Berwick, Maine	
- Forest Green Associates, L.P. / 40 units of family housing	4.60 M
Located in Biddeford, ME	
- York Manor Associates, L.P. / 45 units of elderly housing	3.20 M
Located in Biddeford, ME	
- Sullivan School / 34 units of family housing	4.60 M
Located in Berwick, ME	
- Drowne School Associates, L.P. / 38 Unit elderly housing	4.50 M
Located in Cumberland, ME	
- Boiler House Lofts / 36 units of family housing	7.20 M
Located in Saco, ME	
- Eliot Commons / 38 Units of market rate senior housing	4.80 M
Located in Eliot, ME	
	56.58 M

Commercial, Subdivisions and Master Plan Projects

- Marineast Complex / 87 market rate rental town homes	6.00 M
10,000 sq'. Commercial building	
South Portland, Maine	
- Safford House / historic rehabilitation	.83 M
9,000 sq'. commercial office building	
Portland, Maine	
- Harbor Plaza / 60,000 sq'. commercial office building	7.50 M
and 200 car parking facility	
Portland, Maine	
- Lowell St. Medical Building / 30,000 sq'. medical building	1.80 M
with offices and ambulatory clinic facility	
Portland, Maine	
- Ocean View Retirement Complex / 70 unit congregate care facility	4.50 M
Falmouth, Maine (Phase I)	
- Falmouth Country Club / 18 hole championship golf course	4.73 M
and related private club facilities	
Falmouth, Maine	
- Falmouth on the Green Subdivision / 122 lot residential	5.70 M
subdivision encompassing 450 acres, which surround	
the Falmouth Country Club	
Falmouth, Maine	
- Diamond Cove McKinley Estates / 197 acre resort development	16.00 M
Located on Great Diamond Island	
Portland, Maine	
- Portland Harbor Hotel / 100 room boutique	13.00 M
Hotel located in the "Old Port" Commercial	
Area of Portland, Maine	
- OHM Properties, LLC 6,000 sq' medical office building	1.50 M
Located in Falmouth, ME	

- 468 Fore Street / 16,000 sq' of office, retail and hotel facility. This facility supports the existing Portland Harbor Hotel Located in Portland, ME	5.70 M
- 74 County Road, LLC / 10,336sq' medical office building for Mercy Hospital Located in Gorham, ME	2.80 M
- Tidewater LLC / 50 Lot Single Family Home Subdivision Located in Falmouth, ME	8.00 M
- Tidewater Village / Road and Utility upgrades to support 4 Commercial building pad sites in Falmouth, ME	2.00 M
- Clearwater II, LLC / 20,000 sq' Mixed use building consisting of 7 residential condos and 5 commercial / medical condos	5.00 M
- 385 Route One, LLC / 10,500 sq' Medical office building for Mercy Hospital Located in Yarmouth, ME	3.00 M
-7 West Falmouth Crossing, LLC / 6,120sq' medical office for Mercy Hospital located in Falmouth, ME	2.00 M
- The Inn at Diamond Cove / 22 unit Condo Hotel Located on Great Diamond Island, Portland ME	9.50 M
- Village Green Cumberland / 58 unit single family home subdivision Located in Cumberland, ME	6.50 M
- 1 Independence Drive / 15,000 sq.' medical building for New England Cancer Specialists Located in Kennebunk, ME	4.10 M
- 185 Fore Street / 9 Unit mixed use condo project Located in Portland, ME	7.50 M
- 179 Foreside Road / 8 Lot Subdivision that included providing a Beach to the Town of Cumberland / Located in Cumberland, ME	8.70 M
- 16 Middle Street / 50,000 sq.' Office Building Located in Portland, ME	9.00 M
- Eliot Commons / 38 Units of market rate senior housing Located in Eliot, ME	4.80 M
	135.36 M

Projects Currently Under Development / Construction

- Tidewater Farm / 40 unit elderly housing project Located in Falmouth, ME	8.00 M
- Fisherman's Wharf Hotel / 100 Room Hotel Located in Portland, ME	25.00 M
- Fisherman's Wharf Office Building / 60,000 SF Office and Retail Located in Portland, ME	22.00 M
- Fisherman's Wharf Parking Garage / 511 Car Parking Garage Located in Portland, ME	13.50 M
- 86 Newbury Street Garage / 277 Car Parking Garage Located in Portland, ME	10.00 M
- 86 Newbury Street Hotel / 132 Room Hotel Located in Portland, ME	27.5 M
- 86 Newbury Street Office Building / 120,000 SF Office building Located in Portland, ME	36.5 M
- 105 Topsham Medical building / 47,000 sq.' medical building Located in Topsham, ME	11.5 M
	154.00 M

GORRILL PALMER

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86 Newbury Street Photo Sheet

Photo 1: Looking North from at intersection of Middle and Hancock Streets

Photo 2: Looking south from Newbury Street

Photo 3: Looking west from Mountfort Street

Photo 4: Looking west at corner of Mountfort and Fore Streets

GORRILL PALMER

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Preliminary Traffic Assessment
Shipyard Redevelopment – Portland, Maine
(JN 3184)

Date: April 18, 2018
Subject: Preliminary Traffic Assessment
Proposed Shipyard Redevelopment, Portland, Maine
To: File
From: Randy Dunton / Emily Tynes, Gorrill Palmer

Introduction

Gorrill Palmer (GP) has prepared this traffic assessment for the proposed redevelopment of 86 Newbury Street in Portland, Maine. The site is located between Fore Street, Newbury Street, Mountfort Street, and Hancock Street in Portland, Maine. The site is identified on City Tax Maps F10NE and G10SE, Lots 020 C009, 020 C002, 020 C005, 020 C015, and 020 C001.

The existing site has a single full movement access on the following streets: Hancock Street, Fore Street, Mountfort Street, and three full movement accesses on Newbury Street. The existing site has the following land uses:

- Manufacturing (brewing, bottling, storage, loading, and mechanical/boiler room): 63,045 sf
- Apartment: 8 dwelling units
- Office: 6,082 sf
- Retail: 1,250 sf
- Tasting Room: 1,250 sf

The redevelopment is proposed to include a multi-level parking garage with approximately 360 spaces and the following land uses:

- Manufacturing (online-order pharmacy, mechanical/boiler room): 111,525 sf
- Hotel: 105 rooms
- Office: 60,000 sf
- Retail: 2,000 sf
- Tasting Room: 2,000 sf
- Apartment: 9 dwelling units

The site is proposed to be accessed via four site accesses, two less than the current site. The first floor of the proposed parking garage will be accessed through an existing access on Fore Street, and the upper levels of the garage are proposed to be accessed via two new full movement entrances; one on Hancock Street and one on Mountfort Street. The existing northerly site access on Hancock Street is proposed to be used by the new residential units.

The following is a summary of the preliminary traffic evaluation for the proposed project:

Trip Generation

Proposed

The trip generation for the proposed site was calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation*, Seventh Edition. More recent editions of ITE are available, however, the Seventh Edition is the most recent edition accepted by MaineDOT. The trip generation for the proposed site has been based on the following uses and sizes:

- Manufacturing (online-order pharmacy, mechanical/boiler room): 111,525 sf
- Hotel: 105 rooms
- Office: 60,000 sf
- Retail: 2,000 sf
- Tasting Room: 2,000 sf
- Apartments: 9 dwelling units

The following summarizes the ITE Land Use Codes (LUCs) used to calculate the trip generation for the proposed site:

- LUC 140 – Manufacturing
- LUC 220 – Apartment
- LUC 310 – Hotel
- LUC 710 – General Office Building
- LUC 814 – Specialty Retail
- LUC 936 – Drinking Place

The following table summarizes the ITE trip generation for the proposed site. The trip generation calculations are attached.

ITE Trip Generation Summary

Building Use	Size	ITE Trip Generation				
		AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Office	60,000 sf	125	125	120	120	33
Specialty Retail	2,000 sf	1	14	5	10	13
Drinking Place	2,000 sf	---	---	23	31	33
Hotel	105 rooms	59	55	62	64	76
Manufacturing	111,525 sf	81	87	83	84	31
Apartment	9 Units	5	5	6	6	5
Site Total		**271**	**286**	**299**	**315**	**191**

As shown in the table, during the peak hours of the generator, the site is forecast to generate 286 and 315 trip ends during the AM and PM peak hours of the generator respectively. A trip end is a trip into or out of the site, thus a round trip is equal to two trip ends.

Shared Use Reduction – Proposed Site

Since the project is a mixed use development with complementary uses, a shared use reduction can be applied to the site trip generation. GP has used the National Cooperative Highway Research Program (NCHRP) 684 Internal Capture Estimation Tool to estimate the traffic that will visit more than one destination without leaving the site. The NCHRP 684 spreadsheet uses the ITE forecast trip generation for each type of land use (office, retail, restaurant, residential, hotel, and other) and estimates the trips that will travel between two uses without leaving the site. This yields an internal trip capture percentage, which is the percentage of trip ends that will travel between two uses. For the purpose of this evaluation, GP classified the tasting room (drinking place) as a restaurant. The following tables summarize the AM and PM peak hour internal trip capture percentages for the proposed site:

AM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	113	12	3%	0%	3	0	3
Retail	1	0	0%	0%	0	0	0
Restaurant	0	0	0%	0%	0	0	0
Residential	1	4	0%	0%	0	0	0
Hotel	35	24	0%	13%	0	3	3
Other	61	20	N/A	N/A	0	0	0
Total	**211**	**60**	**1%**	**5%**	**3**	**3**	**6**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

AM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	113	12	4%	17%	5	2	7
Retail	7	7	29%	29%	2	2	4
Restaurant	0	0	0%	0%	0	0	0
Residential	2	3	0%	0%	0	0	0
Hotel	30	25	0%	12%	0	3	3
Other	61	26	N/A	N/A	0	0	0
Total	**213**	**73**	**3%**	**10%**	**7**	**7**	**14**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	18	102	0%	0%	0	0	0
Retail	2	3	50%	67%	1	2	3
Restaurant	15	8	13%	38%	2	3	5
Residential	4	2	50%	0%	2	0	2
Hotel	34	28	3%	4%	1	1	2
Other	29	54	0%	0%	0	0	0
Total	**102**	**197**	**6%**	**3%**	**6**	**6**	**12**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	18	102	0%	0%	0	0	0
Retail	6	4	67%	50%	4	2	6
Restaurant	22	9	9%	56%	2	5	7
Residential	4	2	50%	50%	2	1	3
Hotel	38	26	3%	4%	1	1	2
Other	42	42	N/A	N/A	0	0	0
Total	**130**	**185**	**7%**	**5%**	**9**	**9**	**18**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

The NCHRP 684 spreadsheet does not have information for the Saturday peak hour of the generator. To estimate a reduction for a Saturday the AM and PM trip capture percentages were

averaged and applied to the Saturday peak hour of the generator. This resulted in a Saturday internal trip capture of approximately 4% of total trips which results in a reduction of 8 trip ends (4 entering and 4 exiting).

The following table summarizes the reduced trip generation for the proposed site due to shared use trips:

Reduced Trip Generation Summary

Building Use	Trip Generation				
	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
ITE Total	271	286	299	315	191
Shared Use Reduction	-6	-14	-12	-18	-8
Reduced Site Total	**265**	**272**	**287**	**297**	**183**

As shown in the table, the proposed site with the shared use reduction is forecast to generate 272 trip ends and 297 trip ends during the AM and PM peak hours of the generator respectively.

Other Modes of Transportation Reduction – Proposed Site

Since the site is located in an urban environment, it is expected that a portion of site traffic will use alternative modes of transportation to get to and from the site. These other modes could include options such as transit, biking, or walking. A trip generation reduction due to other modes of transportation has been applied to the proposed site trip generation with the shared use reduction. The other modes reduction has been evaluated separately for the non-residential site uses and the proposed hotel.

Residential: The other modes reduction for residential land uses is based on information from the 2009-2013 American Community Survey (ACS) Five-Year Estimate by Census Tract for the City of Portland. Rick Harbison, Planner and GIS Specialist for the Greater Portland Council of Governments, used this data to create maps (attached) that show the estimated percentage of workers living in each Portland Census Tract that use each mode of transportation to travel to work. The site is located on the southeast corner of Census Tract 5, which is a predominantly commercial area. Census Tracts 2 and 3 border the site, so the reduction was calculated by dividing the estimated number of people walking, bicycling, and taking the bus to work in the three Census Tracts by the estimated total number of working people in the same three Census Tracts. This calculation yields a reduction of 35.8%. This methodology was approved by the City as part of the nearby 58 Fore Street redevelopment project.

Non-Residential: The other modes reduction for non-residential land uses was based on 2010 Consensus Transportation Planning Products (CTPP) means of transportation to work data for Census Tract 5, where the site is located. This data indicates that the ratio of cars to workers

is 85% in the area (calculations attached), indicating that approximately 15% of employees use modes of transportation other than a car to commute to work. A reduction of 15% was applied to the non-residential uses. It should be noted that the methodology used to calculate this reduction was approved by the City of Portland as part of the nearby 58 Fore Street redevelopment project.

Hotel: There is limited data available for hotels, so a conservative reduction of 10% was used for the hotel trip generation. It should be noted that this hotel other modes reduction was approved by the City of Portland as part of the nearby 58 Fore Street redevelopment project.

The following table summarizes the other modes of transportation reduction for the site trip generation:

Other Modes of Transportation Reduction Summary

Trip Generation	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Site Trip Generation					
Residential Trip Gen	5	5	4	3	5
Non-Residential Trip Gen	204	215	223	232	106
Hotel Trip Gen	56	52	60	62	72
Subtotal	**265**	**272**	**287**	**297**	**183**
Other Modes Reduction					
Residential Reduction	2	2	1	1	2
Non-Residential Reduction	31	32	33	35	16
Hotel Reduction	6	5	6	6	7
Total Reduction	**39**	**39**	**40**	**42**	**25**
Reduced Trip Generation	**226**	**233**	**247**	**255**	**158**

As shown in the table, the forecast trip generation for the proposed site, including the shared use reduction and the other modes reduction, is 233 trip ends during the AM peak hour of the generator and 255 trip ends during the PM peak hour of the generator.

Trip Generation Credit

When determining the need for a MaineDOT Traffic Movement Permit (TMP), MaineDOT allows a trip generation credit to be taken for on-site uses that have been operational within the last 10 years. All of the existing land uses on the site are eligible for credit. The trip generation credit for the existing site has been calculated using ITE *Trip Generation*, Seventh Edition. The following LUCs were used to calculate the trip generation for the existing site:

- LUC 140 – Manufacturing
- LUC 220 – Apartment
- LUC 710 – General Office Building
- LUC 814 – Specialty Retail
- LUC 936 – Drinking Place

The following table summarizes the ITE trip generation for the existing site

ITE Trip Generation Summary

Building Use	Size	ITE Trip Generation				
		AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Manufacturing	63,045 sf	46	49	47	47	18
Office	6,082 sf	20	20	19	19	5
Apartment	8 dwelling units	4	4	5	5	4
Specialty Retail	1,250 sf	1	9	3	6	8
Drinking Place	1,250 sf	---	---	14	19	21
Site Total		**71**	**82**	**88**	**96**	**56**

As shown in the table, the site is forecast to generate 82 trip ends during the AM peak hour of the generator and 96 trip ends during the PM peak hour of the generator.

Shared Use Reduction – Existing Site

Consistent with the proposed trip generation calculations, the existing site is a mixed use development with complementary uses and therefore a shared use reduction can be applied to the overall site trip generation. GP used the same NCHRP 684 spreadsheets as those used for the proposed site to calculate the shared use reduction for the existing site. The following tables summarize the AM and PM peak hour internal trip capture percentages for the existing site. Detailed calculations are attached.

AM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	18	2	0%	0%	0	0	0
Retail	1	0	0%	0%	0	0	0
Restaurant	0	0	0%	0%	0	0	0
Apartment	1	3	0%	0%	0	0	0
Other	35	11	N/A	N/A	0	0	0
Total	**55**	**16**	**0%**	**0%**	**0**	**0**	**0**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

AM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	18	2	6%	50%	1	1	2
Retail	5	4	20%	25%	1	1	2
Restaurant	1	3	0%	0%	0	0	0
Apartment	0	0	0%	0%	0	0	0
Other	34	15	N/A	N/A	0	0	0
Total	**58**	**24**	**3%**	**9%**	**2**	**2**	**4**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	3	16	0%	0%	0	0	0
Retail	1	2	0%	50%	0	1	1
Restaurant	9	5	11%	0%	1	0	1
Apartment	3	2	0%	0%	0	0	0
Other	16	31	N/A	N/A	0	0	0
Total	**32**	**56**	**3%**	**2%**	**1**	**1**	**2**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	3	16	0%	0%	0	0	0
Retail	3	3	33%	67%	1	2	3
Restaurant	13	6	8%	17%	1	1	2
Apartment	3	2	33%	0%	1	0	1
Other	24	23	N/A	N/A	0	0	0
Total	**46**	**50**	**7%**	**6%**	**3**	**3**	**6**

*These values are taken directly from the NCHRP spreadsheets (attached), which may not match exact calculations due to rounding in the spreadsheet.

The NCHRP 684 spreadsheet does not have information for the Saturday peak hour of the generator. To estimate a reduction for a Saturday the AM and PM trip capture percentages were averaged and applied to the Saturday peak hour of the generator. This resulted in a Saturday internal trip capture of approximately 3% of total trips which results in a reduction of 2 trip ends (1 entering and 1 exiting).

The following table summarizes the reduced trip generation for the existing site:

Reduced Trip Generation Summary

Building Use	Trip Generation				
	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
ITE Total	71	82	88	96	56
Shared Use Reduction	0	-4	-2	-6	-2
Site Total	**71**	**78**	**86**	**90**	**54**

As shown in the table, the existing site is estimated to generate 78 trip ends during the AM peak hour of the generator and 90 trip ends during the PM peak hour of the generator including the shared use reduction.

Other Modes of Transportation Reduction – Existing Site

Since the site is located in an urban environment, it is expected that a portion of site traffic will use alternative modes of transportation. Consistent with the proposed site trip generation calculations, a trip generation reduction due to other modes of transportation has been applied to existing site trip generation (including the shared use reduction). The other modes reduction has been calculated for residential and non-residential uses.

Residential: The same 35.8% reduction that was applied to residential land uses for the proposed site was used.
Non-Residential: The same 15% reduction that was applied to non-residential land uses for the proposed site was used.

The following table summarizes the other modes of transportation reduction for the site:

Other Modes of Transportation Reduction Summary

Trip Generation	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Site Trip Generation					
Residential	4	4	5	4	4
Non-Residential	67	74	81	86	50
Site Total	**71**	**78**	**86**	**90**	**54**
Other Modes Reduction					
Residential Reduction	1	1	2	1	1
Non-residential Reduction	10	11	12	13	7
Total Reduction	**11**	**12**	**14**	**14**	**8**
Reduced Trip Generation	**60**	**66**	**72**	**76**	**46**

As shown in the table, the existing site is estimated to generate 66 trip ends and 76 trip ends during the AM and PM peak hours of the generator respectively. This trip generation represents the trip generation credit for the site.

Net Site Trip Generation

The net site trip generation is calculated by subtracting the credit for the existing site from the trip generation for the proposed site. The following table summarizes the net trip generation for the site:

Net Site Trip Generation Summary

Trip Generation	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Proposed	226	233	247	255	158
Existing	-60	-66	-72	-76	-46
Net Trip Generation	**166**	**167**	**175**	**179**	**112**

As shown in the table, the site is forecast to generate 167 trip ends during the AM peak hour and 179 trip ends during the PM peak hour. A trip end is defined as a trip into or out of the site, thus a round trip is equal to two trip ends. The site is forecast to generate over 99 trip ends during a peak hour, so a MaineDOT Traffic Movement Permit is required. Since the site is forecast to generate fewer than 200 trip ends during a peak hour, Section 7 (Traffic Impact Study) will not be required by MaineDOT. The City of Portland does, however, require a Traffic Impact Study for sites that generate over 99 trip ends, so a Traffic Impact Study will still need to be completed and submitted after the Scoping Meeting is held.

Trip Distribution and Assignment

Based on ITE's *Trip Generation*, the NCHRP 684 Internal Capture, and the other modes of transportation reduction, the following trip distribution is anticipated for the site:

- AM Peak Hour Adjacent Street: 132 in / 34 out
- AM Peak Hour Generator: 128 in / 39 out
- PM Peak Hour Adjacent Street: 55 in / 120 out
- PM Peak Hour Generator: 68 in / 111 out
- Saturday Peak Hour Generator: 60 in / 52 out

GP has assumed that all trips are primary in nature and made for the sole purpose of going to and from the site. This is likely a conservative assumption since specialty retail and drinking places typically generate pass-by trips, where someone visits the site on their way to or from another destination.

The trip assignment has been based on the location of the site driveways, existing traffic patterns identified from a combination of AADT values provided in MaineDOT's MapViewer tool, and turning movement counts completed for other projects at the intersections of Fore Street with Hancock Street and Fore Street with Mountfort Street. To refine the trip assignment for the TMP application and the Traffic Impact Study, it is recommended that turning movement counts are collected at the intersections of Hancock Street with Middle Street, Hancock Street with Newbury Street, and Mountfort Street with Newbury Street.

The preliminary AM and PM Trip Assignment is shown on the attached Figure 2.

Other Development

Approved projects that have been constructed but are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment traffic volumes for this project. Based on conversations with Portland City Staff, there are several projects in the vicinity of the site that should be considered. The trip generation for the following projects will need to be included in background traffic for this project:

- 167 Fore Street: Ocean Gateway Addition
- 158 Fore Street: AC Hotel
- 62 India Street: India Newbury Residential
- 20 Thames Street: Residential
- 50 India Street: cPort Credit Union
- 221 Congress Street: Residential
- 58 Fore Street: Mixed-use
- 0 Hancock Street: WEX
- 203 Fore Street: Portland II Hotel
- 56 Hampshire Street: Verdante at Lincoln Park

The trip generation for these projects will be included in the Traffic Impact Study to be completed after the scoping meeting.

Crash History

Gorrill Palmer obtained the crash data from MaineDOT for the period of 2014-2016, the most recent period available (attached).

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three-year period.

Based on the crash data provided by MaineDOT, there are no HCLs in the immediate vicinity of the site. It should be noted that there were two collisions involving bicyclists that occurred within the study area. These collisions will be reviewed in more detail in the Traffic Impact Study.

Sight Line Evaluation

The site is proposed to have the following accesses:

- Hancock Street garage access – new
- Hancock Street residential parking access – existing surface lot access
- Mountfort Street garage access – new
- Fore Street garage access – existing surface lot access

GP completed a site visit to evaluate the sight distances at the existing and proposed site accesses. The City of Portland requires that MaineDOT criteria be met. Basic sight line standards are as follows:

Standards for Sight Distance

Speed Limit (mph)	MaineDOT / City Requirement (ft)
25	200
30	250
35	305
40	360
45	425

The available sight distances have been evaluated in accordance with MaineDOT standards. The evaluation method is as follows:

Driveway observation point:	10 feet from edge of traveled way
Height of eye at driveway:	3 ½ feet above pavement
Height of approaching vehicle:	4 ¼ feet above pavement

The posted speed limit is 25 mph on all frontage roads, which requires a MaineDOT and City of Portland sight distance of 200 feet. The following table summarizes the measured sight distances available at the existing and proposed site accesses:

Sight Distance Summary

Site Access	Available Sight Distance (ft)		
	Required	Looking Left	Looking Right
Hancock Street Garage	200	200*	200*
Hancock Street Residential	200	200*	To Intersection
Mountfort Street	200	200*	200*
Fore Street	200	200*	200*

As shown in the table, the sight distance requirement could be met at all site accesses. The sight distances with a '*' indicate sight distances that can be met if on-street parking is removed or relocated on either side of the site access. The visibility of exiting vehicles is blocked by on-street parking for all site accesses. It should be noted that limited available sight distance due to on-street parking spaces is common throughout the City. The following describes each access in more detail:

Proposed Hancock Street garage entrance: to meet the sight distance requirements, looking left approximately eight spaces on the east side of Hancock Street to the south of the proposed access would need to be removed or relocated. Looking right, approximately three parking spaces on the east side of Hancock Street north of the proposed access would need to be removed to meet the requirements.

Existing Hancock Street surface lot entrance to be the residential parking entrance: to meet the sight distance requirements, looking left approximately two spaces on the east side of Hancock Street between the existing site access and the proposed garage access would need to be removed or relocated. Looking right, the sight distance is to the intersection, so no modification to on-street parking is required.

Proposed Mountfort Street garage entrance: to meet the sight distance looking left and looking right, approximately six on-street parking spaces on the west side of Mountfort Street between Fore Street and Newbury Street would need to be removed or relocated.

Existing Fore Street surface lot entrance proposed to be a garage entrance: to meet the sight distance looking left approximately three spaces on the north side of Fore Street to the east of the site access would need to be removed or relocated. Looking right, the hotel loading zone would need be relocated approximately 40 feet to the west, which would displace approximately two parking spaces.

For all four site entrances to meet the sight distance requirements, a total of approximately 25 on-street parking spaces would need to be removed or relocated. The internal site accesses have not been evaluated as part of this preliminary traffic assessment. We recommend checking the sight distances of the internal accesses during construction to ensure the sight distance requirements are met.

Available Pedestrian, Bicycle, and Transit Facilities

Being located in downtown, the site is surrounded by pedestrian, bicycle, and transit accommodations. As stated in the trip generation portion of this report, according to data from the 2010 CTPP, approximately 15% percent of people in this area of Portland commute by modes of transportation other than driving a vehicle. The streets in the immediate vicinity of the site have sidewalks on both sides, with marked crosswalks at most intersections. This site is also close to one end of the Eastern Promenade Trail, which is used by both pedestrians and bicyclists. This trail helps connect the site to the multimodal transportation network in the city.

Additionally, there are several bus stops within a half mile of the site. Many of these are METRO bus stops which helps connect the site to other areas of Portland as well as South Portland, Westbrook, Gorham, Yarmouth, Freeport, and Brunswick. METRO is currently upgrading their bus routes which could make transit a more desirable mode of travel. Taking METRO, riders can also connect to other bus services, such as the Lakes Region Explorer, which connects Portland to Bridgton.

Conclusion

The following is a summary of the conclusions and recommendations:

1. The proposed site is forecast to generate 233 trip ends during the AM peak hour of the generator and 255 trip ends during the PM peak hour of the generator.

2. The net trip generation increase for the site (after consideration of shared trips and other modes of transportation) is forecast to be 167 trip ends during the AM peak hour of the generator and 179 trip ends during the PM peak hour of the generator. Since the site is forecast to generate over 99 trip ends during a peak hour (net), a MaineDOT Traffic Movement Permit is required. The site is forecast to generate fewer than 200 trip ends during a peak hour, so Section 7 (Traffic Impact Study) will not be required by MaineDOT as part of the TMP application process, however, the City of Portland will require a Traffic Impact Study.

3. Based on the crash data provided by MaineDOT, there are no HCLs in the immediate vicinity of the site.

4. All site accesses require sight distances of 200 feet in both directions to meet the MaineDOT and City of Portland requirements. The existing sight distance at most site accesses is restricted by on street parking.

5. Being in downtown the site is located in an area with sidewalks on both sides of the street in the vicinity of the site, as well as crosswalks at most intersections and close access to the Eastern Promenade Trail. Additionally, there are several METRO bus stops within a half mile of the site that connect the site to other METRO routes, as well as other bus services, such as the Lakes Region Explorer.

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	4/13/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Proposed) Hotel
Land Use Code (LUC) 310

Rooms: 105

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution	
				IN	OUT	IN	OUT
Weekday	T = 8.17 (X)	858	10	50%	50%	429	429
AM Peak Hour of Adj. Street Traffic	T = 0.56 (X)	59	20	60%	40%	35	24
PM Peak Hour of Adj. Street Traffic	T = 0.59 (X)	62	25	55%	45%	34	28
AM Peak Hour of Generator	T = 0.52 (X)	55	32	55%	45%	30	25
PM Peak Hour of Generator	T = 0.61 (X)	64	35	60%	40%	38	26
Saturday	T = 8.19 (X)	860	8	50%	50%	430	430
Saturday Peak Hour of Gen.	T = 0.72 (X)	76	9	55%	45%	42	34

* Percentages rounded to nearest 5%

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Proposed) General Office Building
Land Use Code (LUC) 710

Square Feet 60,000

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	900	78	50%	50%	450	450	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**125**	**217**	**90%**	**10%**	**113**	**12**	**0.83**
PM Peak Hour	T = 1.12 (X) + 78.81	146	235	15%	85%	22	124	0.82
Saturday	T = 2.14 (X) + 18.47	147	17	50%	50%	74	73	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	24	10	55%	45%	13	11	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 11.01 (X)	661	78	50%	50%	331	330	---
AM Peak Hour	T = 1.55 (X)	93	217	90%	10%	84	9	---
PM Peak Hour	T = 1.49 (X)	89	235	15%	85%	13	76	---
Saturday	T = 2.37 (X)	142	17	50%	50%	71	71	---
Saturday Peak Hour of Gen.	T = 0.41 (X)	25	10	50%	50%	13	12	---

* Percentages rounded to nearest 5%

PM Peak Hour:	**T = 1.49/1.55 (AM Peak)**	**120**	**15%**	**85%**	**18**	**102**	**---**
SAT Peak Hour:	**T = 0.41/1.55 (AM Peak)**	**33**	**50%**	**50%**	**17**	**16**	**---**

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Proposed) Manufacturing
Land Use Code (LUC) 140

Gross Floor Area 111,525

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split *		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	T = 3.82 (X)	426	62		50%	50%	213	213
AM Peak Adjacent Street	T = 0.73 (X)	81	50		75%	25%	61	20
PM Peak Adjacent Street	T = 0.74 (X)	83	54		35%	65%	29	54
AM Peak Hour of Generator	T = 0.78 (X)	87	50		70%	30%	61	26
PM Peak Hour of Generator	T = 0.75 (X)	84	50		50%	50%	42	42
Saturday	T = 1.49 (X)	166	2		50%	50%	83	83
Saturday Peak Hour of Gen.	T = 0.28 (X)	31	2	**	50%	50%	16	15

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Proposed) Specialty Retail Center
Land Use Code (LUC) 814

Gross Floor Area (ft²): 2,000

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT
Weekday	T = 44.32 (X)	89	4	50%	50%	45	44
Peak Hour of Adjacent Street Traffic 7-9 AM**	T = 0.74 (X)	1	N/A	60%	40%	1	0
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.71 (X)	5	5	45%	55%	2	3
AM Peak Hour of Generator	T = 6.84 (X)	14	4	50%	50%	7	7
PM Peak Hour of Generator	T = 5.02 (X)	10	3	55%	45%	6	4
Saturday	T = 42.04 (X)	84	3	50%	50%	42	42
Saturday Peak Hour of Gen.***	T = 6.63 (X)	13	3	50%	50%	7	6

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center and applied to 814 PM rate.

* Percentages rounded to nearest 5%

***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Proposed) Drinking Place
Land Use Code (LUC) 936

Square Feet 2,000

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split *		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	---	---	---		---	---	---	---
PM Peak Hour of Adj. St.	T = 11.34 (X)	23	12		65%	35%	15	8
PM Peak Hour of Gen.	T = 15.49 (X)	31	8		70%	30%	22	9
Saturday	---	---	---		---	---	---	---
Sat. Peak Hour of Generator	T = 16.48 (X)*	33	---	***	65%	35%	21	12

*Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 932 - High-Turnover (Sit-Down) Restaurant

** Percentages rounded to nearest 5%

***Directional split for this peak hour assumed based on other peak hours for this land use and the directional split for LUC 932 - High-Turnover

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	4/13/2018	South Portland, Maine 04106

(Existing) Apartment
Land Use Code (LUC) 220

Dwelling Units: 9

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Sample Size		Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT
Weekday	T = 6.72 (X)	60	86		50%	50%	30	30
AM Peak Hour of Adj. Street Traffic	T = 0.51 (X)	5	78		20%	80%	1	4
PM Peak Hour of Adj. Street Traffic	T = 0.62 (X)	6	90		65%	35%	4	2
AM Peak Hour of Generator	T = 0.55 (X)	5	81		30%	70%	2	3
PM Peak Hour of Generator	T = 0.67 (X)	6	83		60%	40%	4	2
Saturday	T = 6.39 (X)	58	15		50%	50%	29	29
Saturday Peak Hour of Gen.	T = 0.52 (X)	5	14	**	50%	50%	3	2

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN: 3184

Project Description: Shipyard Redevelopment

Project Location: Portland, ME

Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Existing Site Trip Generation

Time Period	Hotel	General Office Building	Manufacturing	Specialty Retail	Drinking Place	Apartment	**Total Site Trip Ends**	Hotel IN	Hotel OUT	General Office Building IN	General Office Building OUT	Manufacturing IN	Manufacturing OUT	Specialty Retail IN	Specialty Retail OUT	Drinking Place IN	Drinking Place OUT	Apartment		**Total Site IN**	**Total Site OUT**
AM Peak Adjacent Street	59	125	81	1	---	5	**271**	35	24	113	12	61	20	1	0	---	---	1	4	211	60
PM Peak Adjacent Street	62	120	83	5	23	6	**299**	34	28	18	102	29	54	2	3	15	8	4	2	102	197
AM Peak Hour of Generator	55	125	87	14	---	5	**286**	30	25	113	12	61	26	7	7	---	---	2	3	213	73
PM Peak Hour of Generator	64	120	84	10	31	6	**315**	38	26	18	102	42	42	6	4	22	9	4	2	130	185
Saturday Peak Hour of Gen.	76	33	31	13	33	5	**191**	42	34	17	16	16	15	7	6	21	12	3	2	106	85

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	ET
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/13/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	60,000	sf	125	113	12
Retail	814	2,000	sf	1	1	0
Restaurant	936	2,000	sf	0	0	0
Cinema/Entertainment				0		
Residential	220	9	Dwelling Units	5	1	4
Hotel	310	105	rooms	74	35	24
All Other Land Uses[2]	140	111,525	sf	81	61	20
Total				286	211	60

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	3	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	271	211	60
Internal Capture Percentage	2%	1%	5%
External Vehicle-Trips[3]	265	208	57
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	3%	0%
Retail	0%	N/A
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	0%	13%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	113	113	1.00	12	12
Retail	1.00	1	1	1.00	0	0
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	1	1	1.00	4	4
Hotel	1.00	35	35	1.00	24	24

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	8	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	18	3	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	5		0	0	0	0
Restaurant	16	0		0	0	1
Cinema/Entertainment	0	0	0		0	0
Residential	3	0	0	0		0
Hotel	3	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	3	110	113	110	0	0
Retail	0	1	1	1	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	1	1	1	0	0
Hotel	0	35	35	35	0	0
All Other Land Uses[3]	0	61	61	61	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	12	12	12	0	0
Retail	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	4	4	4	0	0
Hotel	3	21	24	21	0	0
All Other Land Uses[3]	0	20	20	20	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/13/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	60,000	sf	120	18	102
Retail	814	2,000	sf	5	2	3
Restaurant	936	2,000	sf	23	15	8
Cinema/Entertainment				0		
Residential	220	9	Dwelling Units	6	4	2
Hotel	310	105	rooms	62	34	28
All Other Land Uses[2]	140	111,525	sf	83	29	54
Total				299	102	197

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	1		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	1	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	299	102	197
Internal Capture Percentage	4%	6%	3%
External Vehicle-Trips[3]	287	96	191
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	50%	67%
Restaurant	13%	38%
Cinema/Entertainment	N/A	N/A
Residential	50%	0%
Hotel	3%	4%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	18	18	1.00	102	102
Retail	1.00	2	2	1.00	3	3
Restaurant	1.00	15	15	1.00	8	8
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	4	4	1.00	2	2
Hotel	1.00	34	34	1.00	28	28

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		20	4	0	2	0
Retail	0		1	0	1	0
Restaurant	0	3		1	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	4	19	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	6		4	0	2	6
Restaurant	5	1		0	1	24
Cinema/Entertainment	1	0	0		0	0
Residential	10	0	2	0		4
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	18	18	18	0	0
Retail	1	1	2	1	0	0
Restaurant	2	13	15	13	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	2	4	2	0	0
Hotel	1	33	34	33	0	0
All Other Land Uses[3]	0	29	29	29	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	102	102	102	0	0
Retail	2	1	3	1	0	0
Restaurant	3	5	8	5	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	1	27	28	27	0	0
All Other Land Uses[3]	0	54	54	54	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	ET
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/13/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed AM Generator Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	60,000	sf	125	113	12
Retail	814	2,000	sf	14	7	7
Restaurant	936	2,000	sf	0	0	0
Cinema/Entertainment				0		
Residential	220	9	Dwelling Units	5	2	3
Hotel	310	105	rooms	55	30	25
All Other Land Uses[2]	140	111,525	sf	87	61	26
Total				286	213	73

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	0	0	0	0
Retail	2		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	3	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	286	213	73
Internal Capture Percentage	5%	3%	10%
External Vehicle-Trips[3]	272	206	66
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	4%	17%
Retail	29%	29%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	0%	12%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	113	113	1.00	12	12
Retail	1.00	7	7	1.00	7	7
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	2	2	1.00	3	3
Hotel	1.00	30	30	1.00	25	25

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	8	0	0	0
Retail	2		1	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	19	4	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	0	0	0	0
Retail	5		0	0	0	0
Restaurant	16	1		0	0	1
Cinema/Entertainment	0	0	0		0	0
Residential	3	1	0	0		0
Hotel	3	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	5	108	113	108	0	0
Retail	2	5	7	5	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	30	30	30	0	0
All Other Land Uses[3]	0	61	61	61	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	2	10	12	10	0	0
Retail	2	5	7	5	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	3	3	3	0	0
Hotel	3	22	25	22	0	0
All Other Land Uses[3]	0	26	26	26	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	ET
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/13/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed PM Generator Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	60,000	sf	120	18	102
Retail	814	2,000	sf	10	6	4
Restaurant	936	2,000	sf	31	22	9
Cinema/Entertainment				0		
Residential	220	9	Dwelling Units	6	4	2
Hotel	310	105	rooms	64	38	26
All Other Land Uses[2]	140	111,525	sf	84	42	42
Total				315	130	185

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	3		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	1	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	315	130	185
Internal Capture Percentage	6%	7%	5%
External Vehicle-Trips[3]	297	121	176
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	67%	50%
Restaurant	9%	56%
Cinema/Entertainment	N/A	N/A
Residential	50%	50%
Hotel	3%	4%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	18	18	1.00	102	102
Retail	1.00	6	6	1.00	4	4
Restaurant	1.00	22	22	1.00	9	9
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	4	4	1.00	2	2
Hotel	1.00	38	38	1.00	26	26

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		20	4	0	2	0
Retail	0		1	0	1	0
Restaurant	0	4		1	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	4	18	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	6		6	0	2	6
Restaurant	5	3		0	1	27
Cinema/Entertainment	1	0	1		0	0
Residential	10	1	3	0		5
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	18	18	18	0	0
Retail	4	2	6	2	0	0
Restaurant	2	20	22	20	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	2	4	2	0	0
Hotel	1	37	38	37	0	0
All Other Land Uses[3]	0	42	42	42	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	102	102	102	0	0
Retail	2	2	4	2	0	0
Restaurant	5	4	9	4	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	1	2	1	0	0
Hotel	1	25	26	25	0	0
All Other Land Uses[3]	0	42	42	42	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 4/13/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Proposed Site Trip Generation After Shared Use Reduction

Time Period	Hotel	General Office Building	Manufacturing	Specialty Retail	Drinking Place	Apartment	**Total Site Trip Ends**	Hotel IN	Hotel OUT	General Office Building IN	General Office Building OUT	Manufacturing IN	Manufacturing OUT	Specialty Retail IN	Specialty Retail OUT	Drinking Place IN	Drinking Place OUT	Apartment IN	Apartment OUT	**Total Site IN**	**Total Site OUT**
AM Peak Adjacent Street	56	122	81	1	---	5	**265**	35	21	110	12	61	20	1	0	---	---	1	4	**208**	**57**
PM Peak Adjacent Street	60	120	83	2	18	4	**287**	33	27	18	102	29	54	1	1	13	5	2	2	**96**	**191**
AM Peak Hour of Generator	52	118	87	10	---	5	**272**	30	22	108	10	61	26	5	5	---	---	2	3	**206**	**66**
PM Peak Hour of Generator	62	120	84	4	24	3	**297**	37	25	18	102	42	42	2	2	20	4	2	1	**121**	**176**
*Saturday Peak Hour of Gen.	72	31	31	12	31	5	**183**	40	32	16	15	16	15	7	5	20	11	3	2	**102**	**81**

* - NCHRP does not provide shared use reduction information for the Saturday Peak Hour of the Gen. so the the average reduction of the other peak hours (4%) was used.

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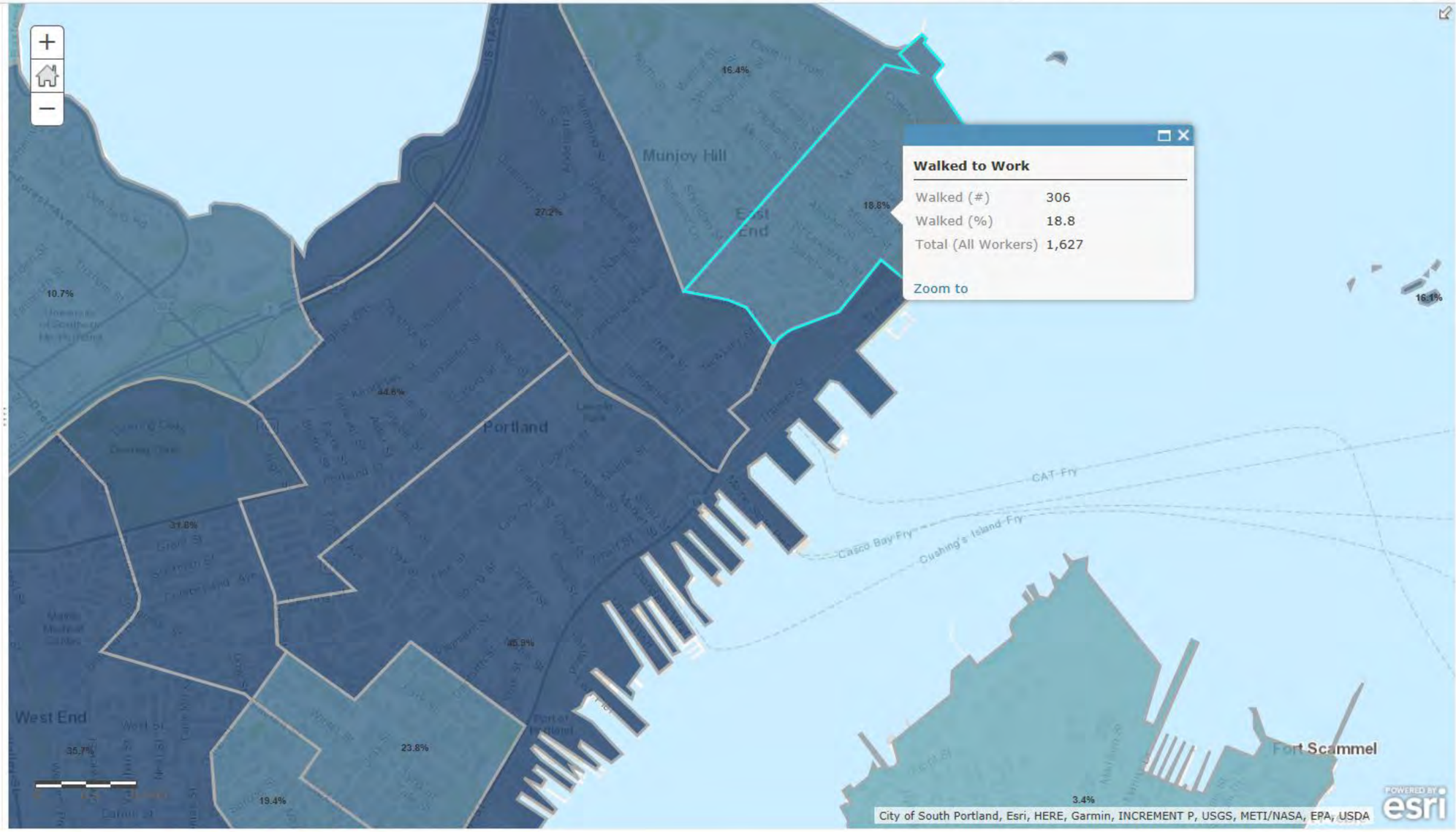

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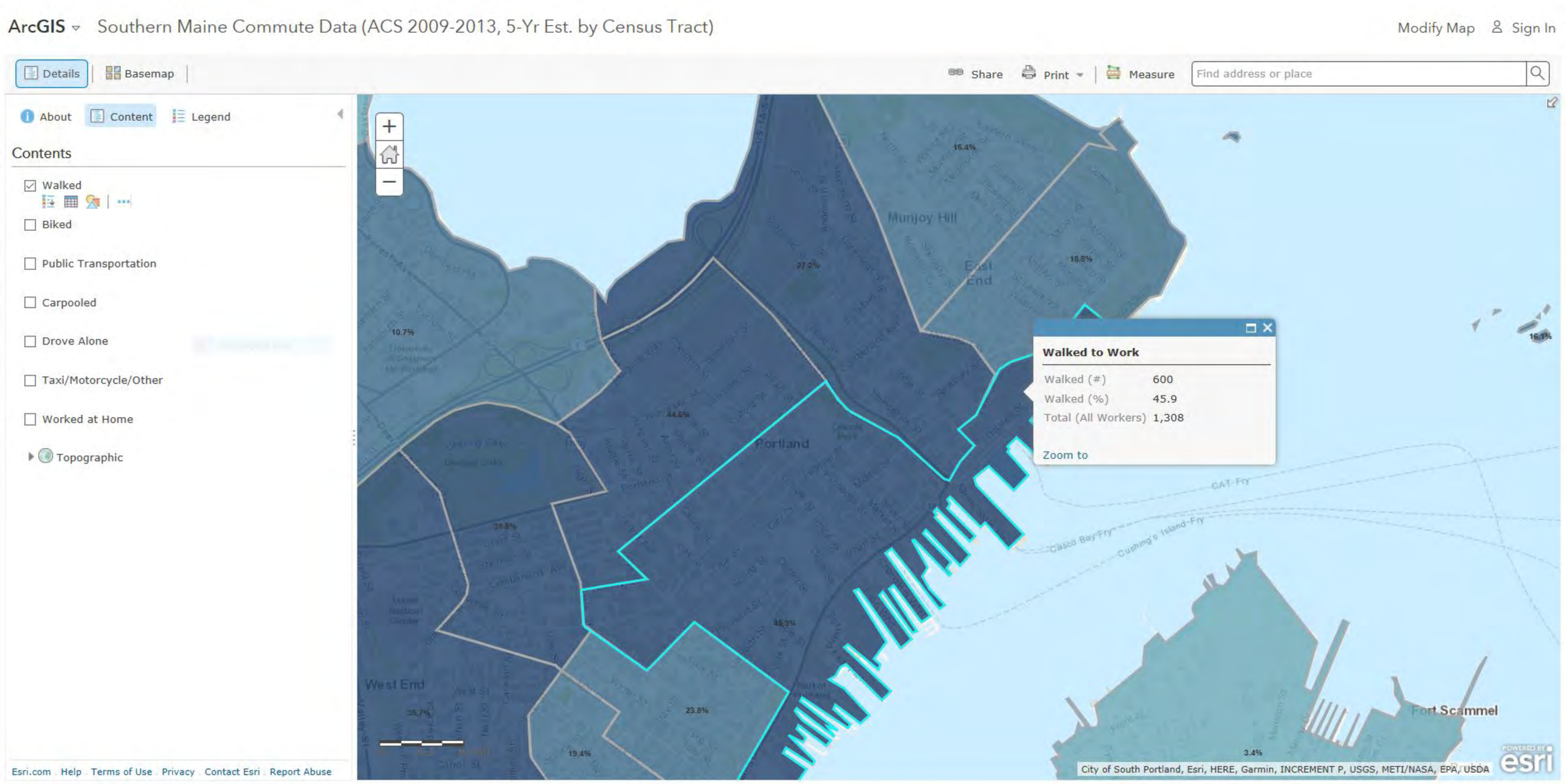
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31.8%
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Walked (%) 45.9
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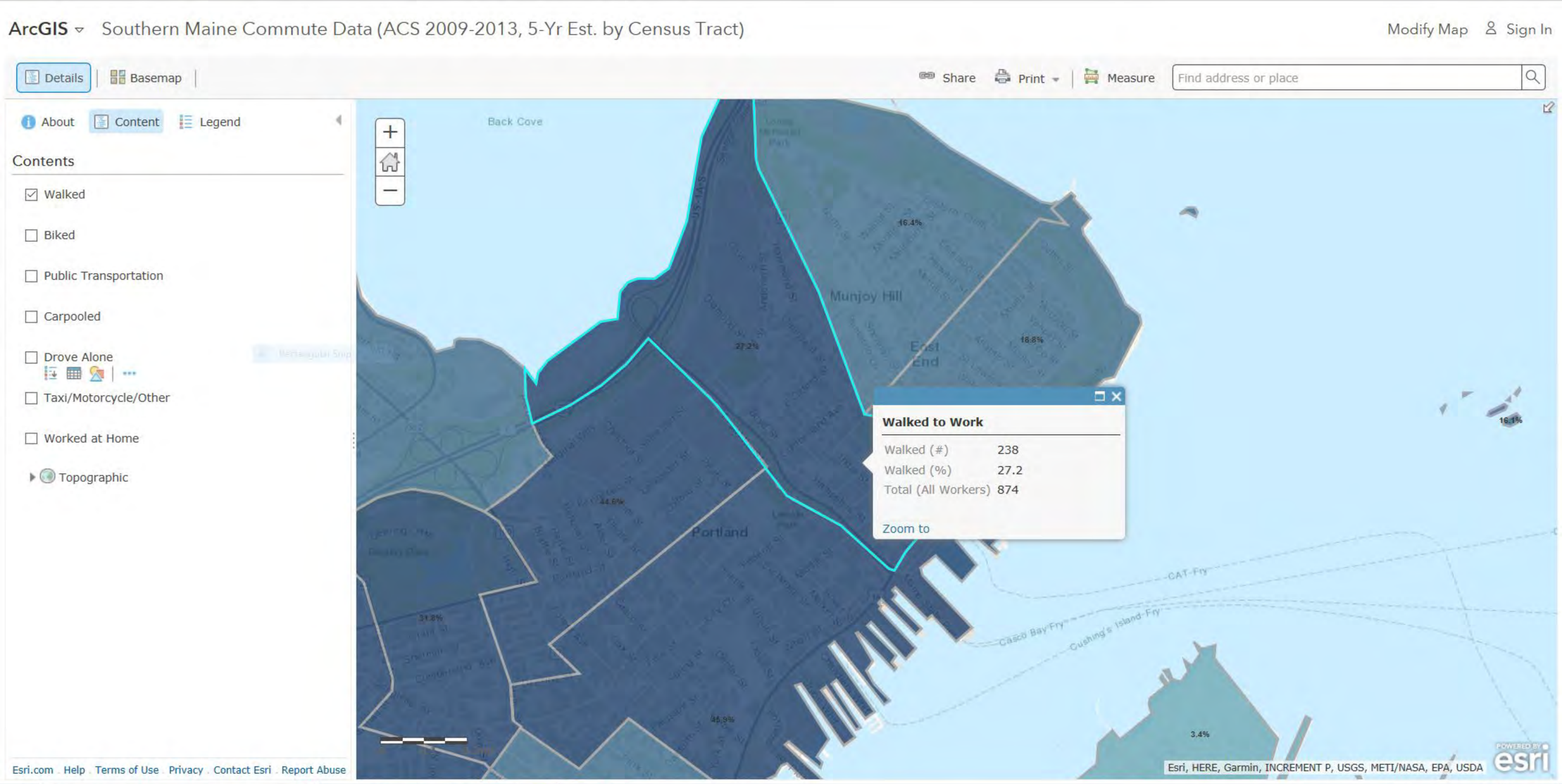
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Taxi/Motorcycle/Other
Worked at Home
Topographic
Back Cove
Munjoy Hill
East End
Portland
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27.2%
44.6%
31.8%
46.9%
16.1%
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Walked to Work
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Walked (%) 27.2
Total (All Workers) 874
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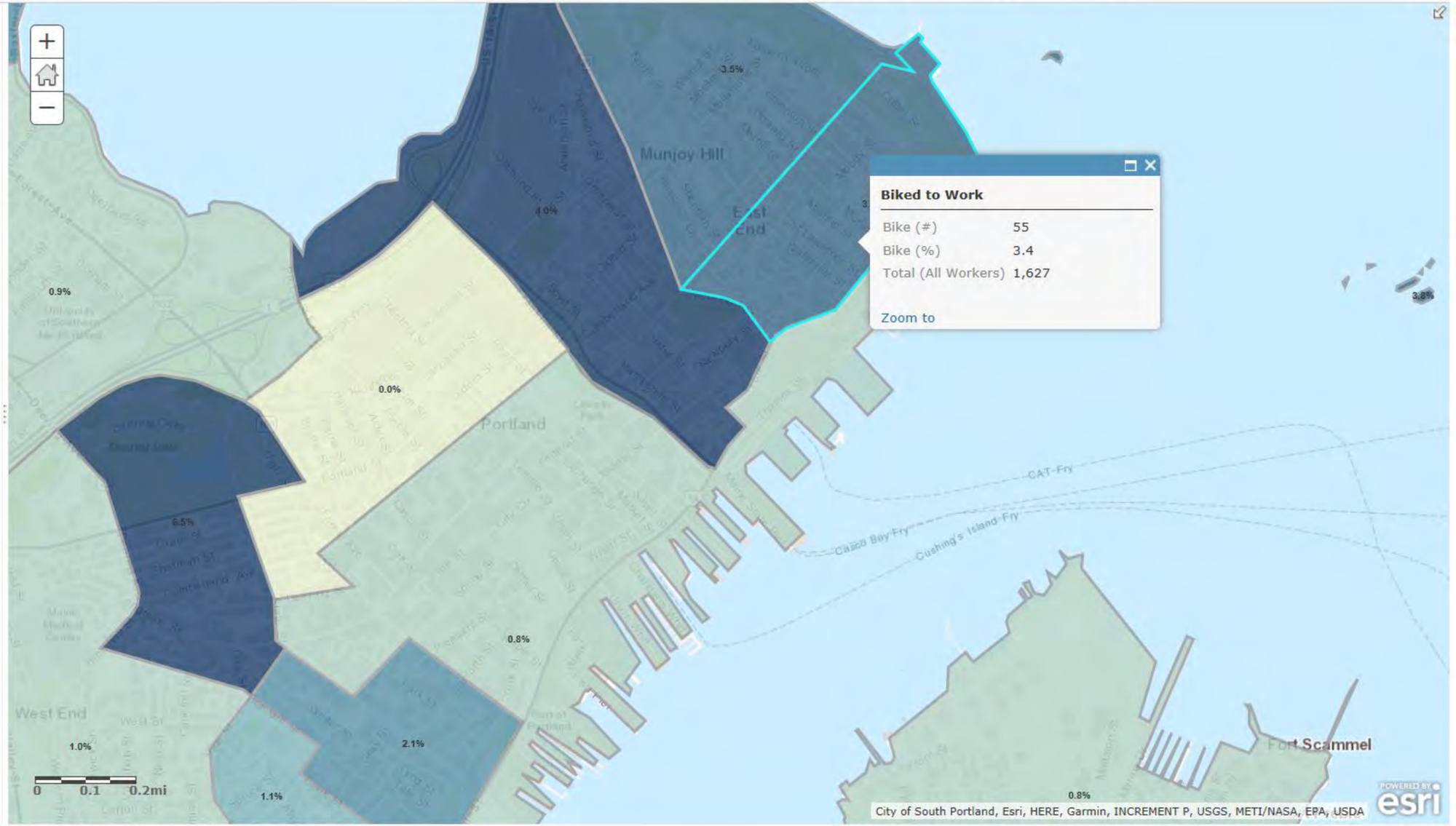

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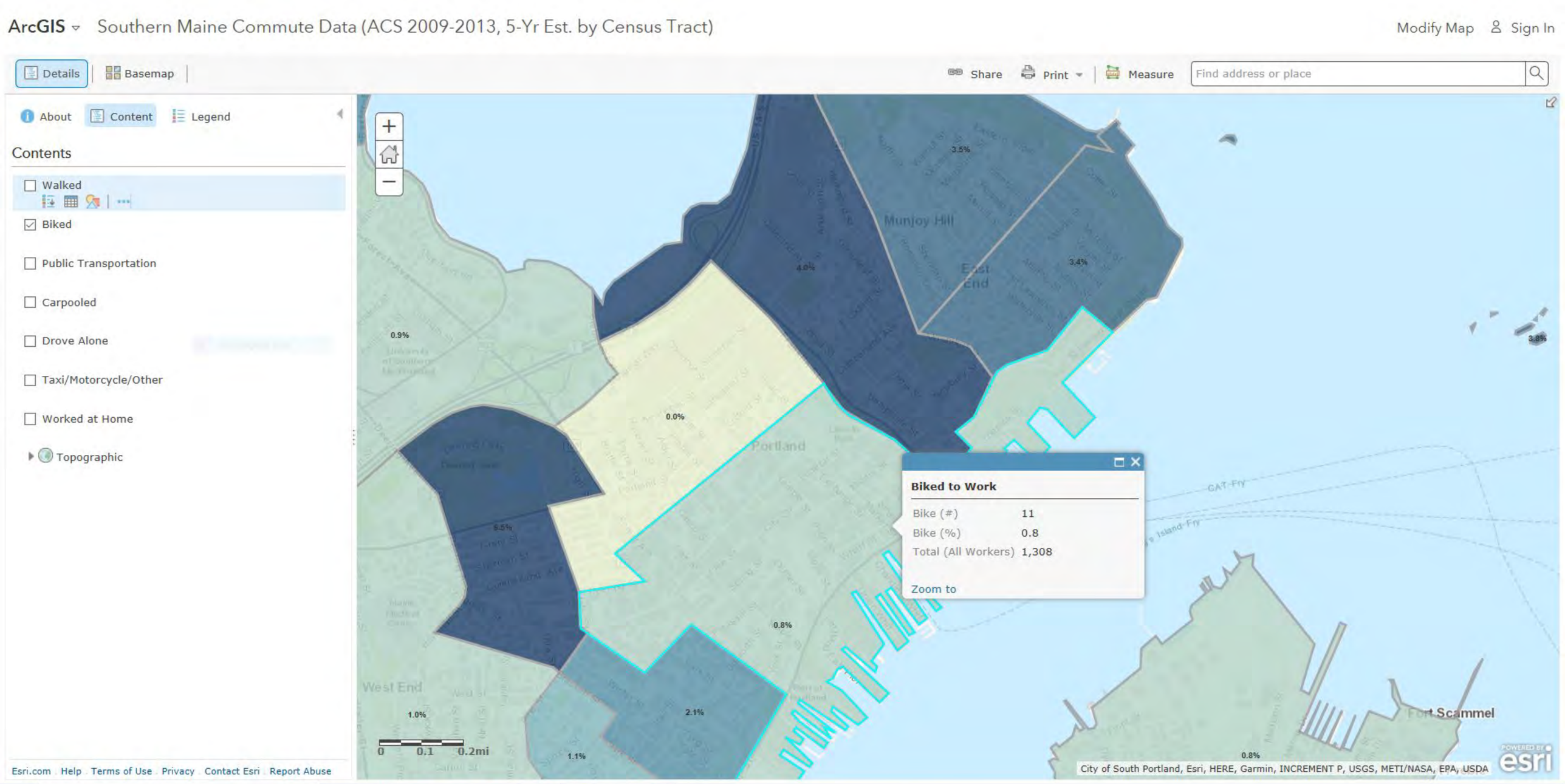
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Worked at Home
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Portland
West End
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1.0%
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0.8%
Biked to Work
Bike (#) 11
Bike (%) 0.8
Total (All Workers) 1,308
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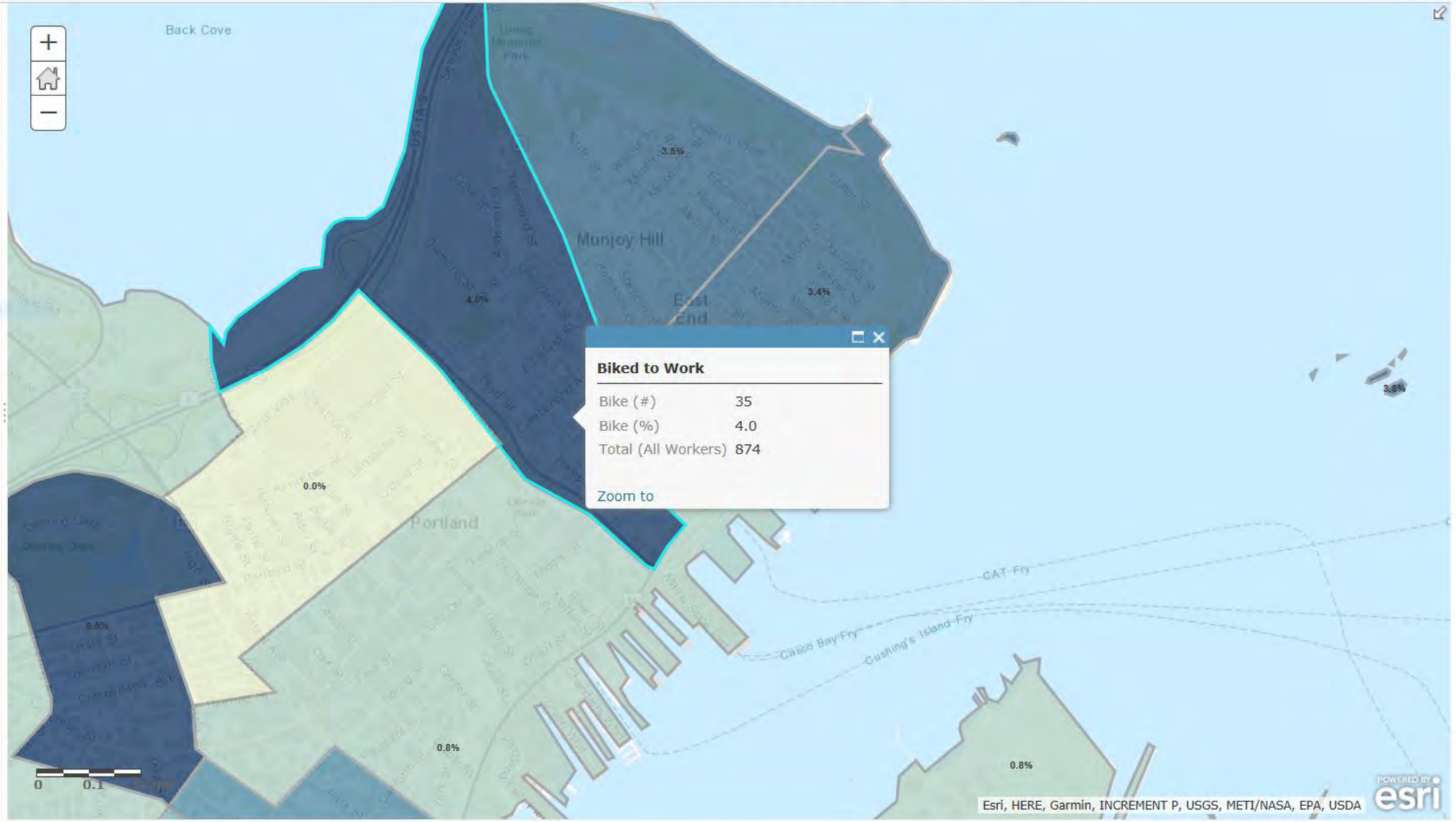

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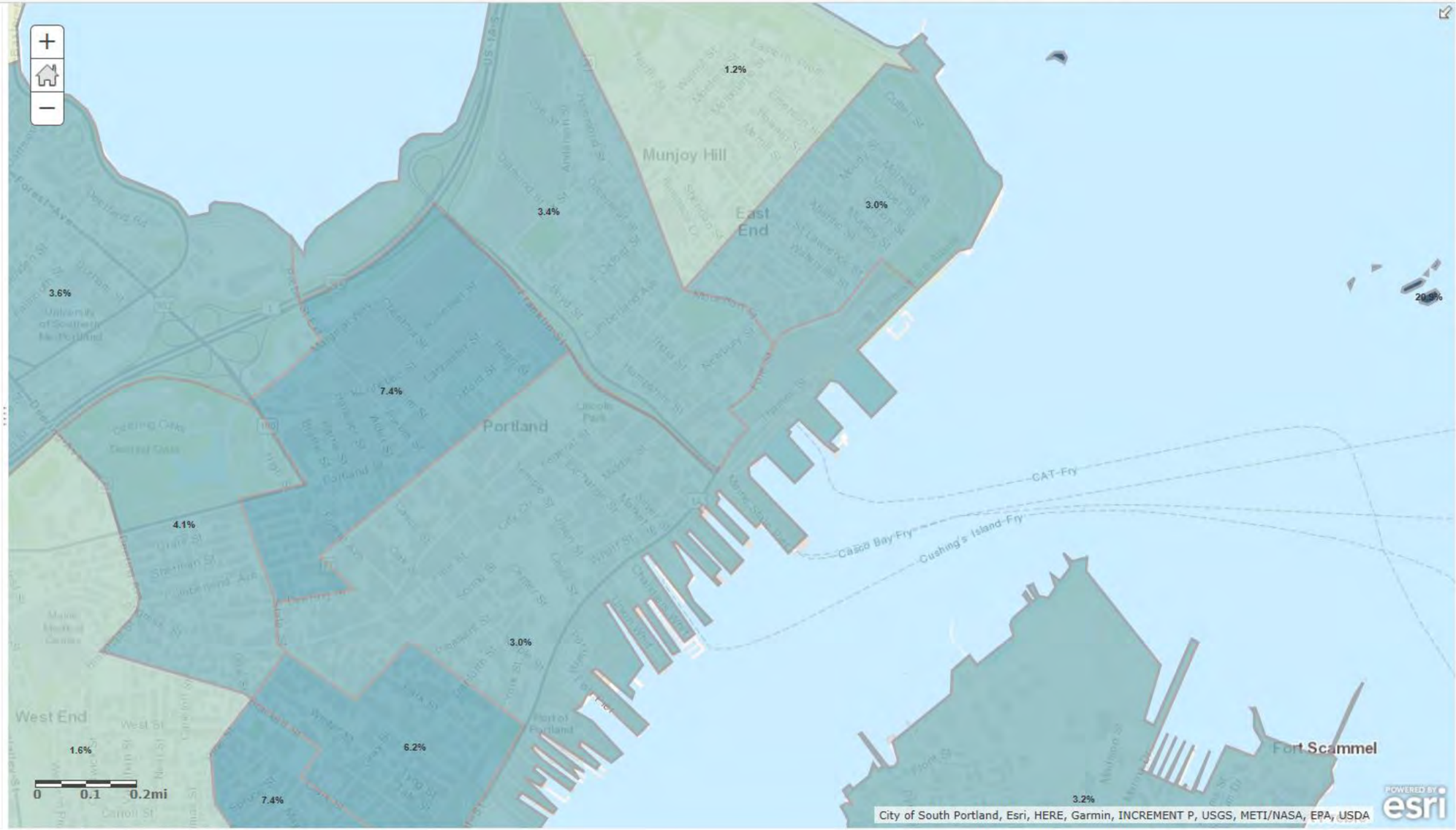
- Topographic



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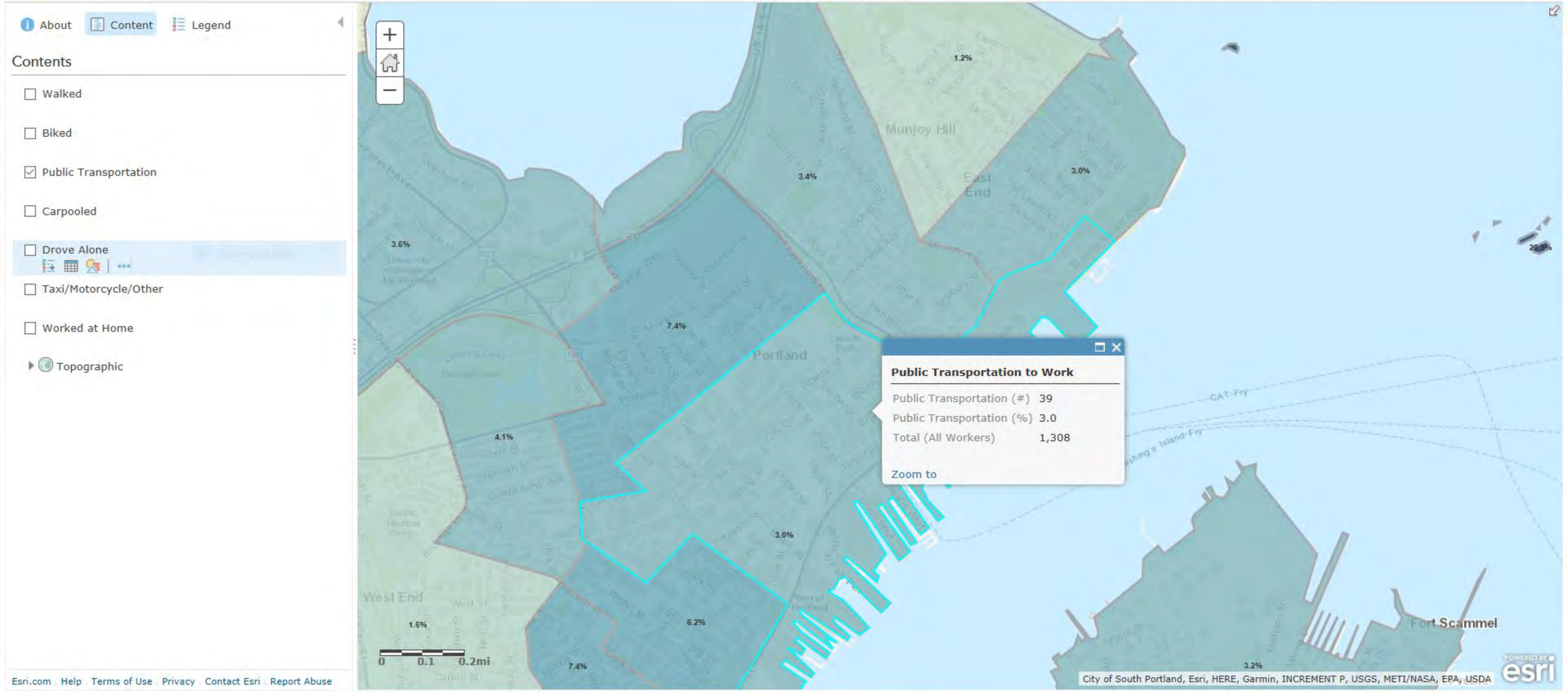

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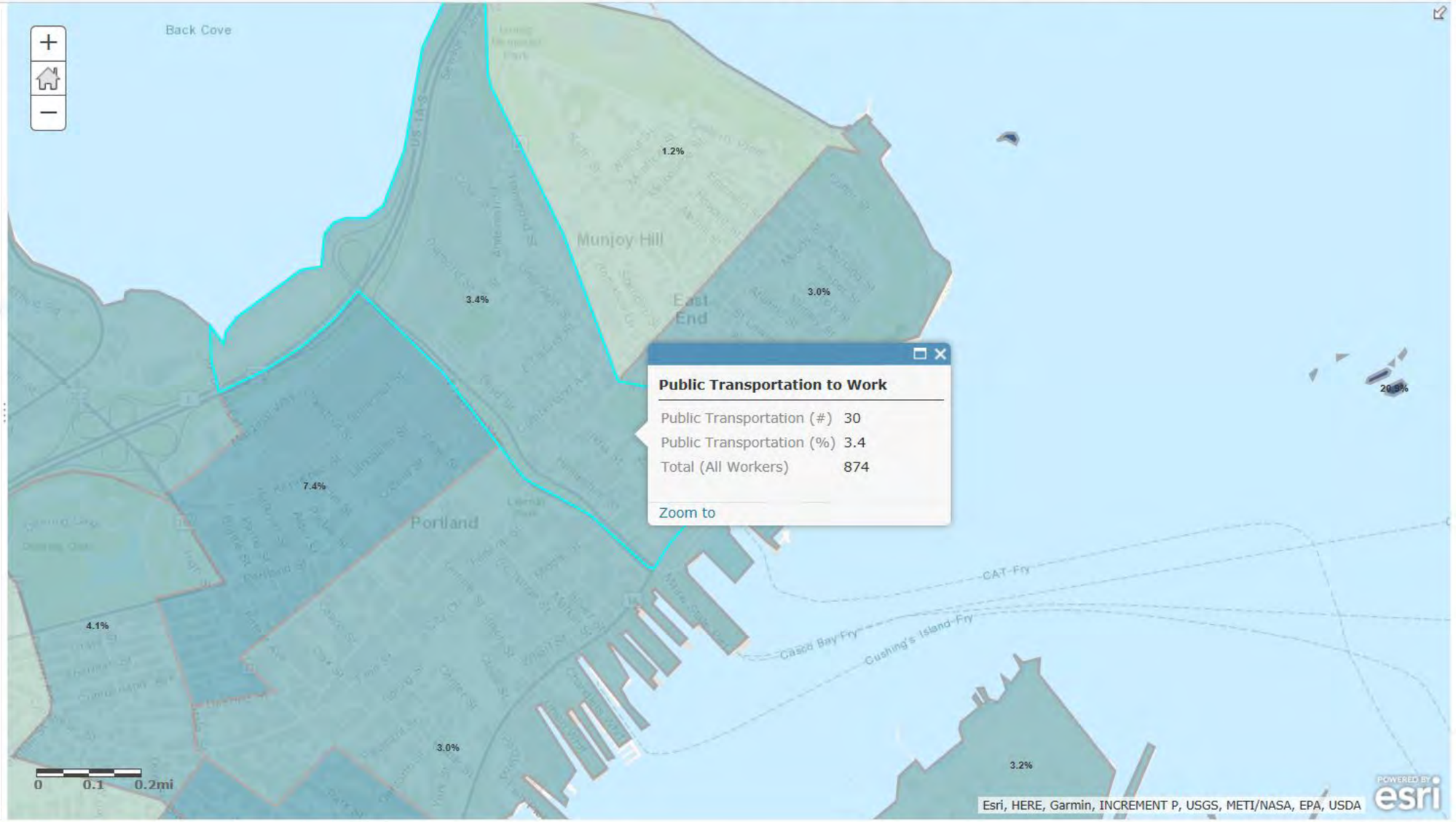
Contents

- [ ] Walked
- [ ] Biked
- [x] Public Transportation
- [ ] Carpooled
- [ ] Drove Alone
- [ ] Taxi/Motorcycle/Other
- [ ] Worked at Home
- [ ] Topographic



Public Transportation to Work

Public Transportation (#)	30
Public Transportation (%)	3.4
Total (All Workers)	874

Zoom to

Type here to search 12:19 PM 3/7/2018

Emily Tynes

From: Christine Grimando <cdg@portlandmaine.gov> on behalf of Christine Grimando
Sent: Thursday, December 1, 2016 2:44 PM
To: Randy Dunton
Cc: Tom Errico; Jeremiah Bartlett; David Senus; Mary McCrann; Emily Tynes; Bruce Hyman; Kevin Costello; Jeff Levine; Stuart O'Brien
Subject: Re: Trip Distribution - 58 Fore Street Project

Randy,

In the course of reviewing the TMP application materials for the other modes reductions, we've concluded that the 35.8% reduction discussed at the scoping meetings is appropriate to account for residential uses, and 10% for hotel use, but that trips for other, non-residential uses warrant a separate approach. For those work and non-work trips to the site, we propose an assumption of an 18% reduction based on 2010 CTPP data (http://ctpp.transportation.org/Pages/5-Year-Data.aspx) for Tract 3, which includes the eastern waterfront and downtown, and shows a drive to work alone rate of 78% and a total ratio of cars to workers of 82% when carpooling is accounted for.

If you have another way to calculate these reductions, we are open to discussing alternatives, as well. However, we would like to make sure the work and non-work trips reflect the fact that those workers and other visitors will be coming from a broad commuter/market area and therefore these trips are likely to have a lower reduction than home-based trips.

As Tom Errico's prior comments reflect, we expect to see these reductions linked to and supported by the robustness of the TDM plan.

Christine

Christine Grimando, AICP
Senior Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

A202105 - Means of Transportation (18) (Workers 16 years and over)

Current date: 4/4/2018 10:13:02 AM (Eastern Daylight Time)

Measures: Workers 16 and Over

WORKPLACE		Census Tract 3, Cumberland County, Maine
Means of Transportation 18	Output	
Total, means of transportation	Estimate	17,470
	Margin of Error	783
Car, truck, or van -- Drove alone	Estimate	13,640
	Margin of Error	788
Car, truck, or van -- In a 2-person carpool	Estimate	1,245
	Margin of Error	233
Car, truck, or van -- In a 3-person carpool	Estimate	80
	Margin of Error	59
Car, truck, or van -- In a 4-person carpool	Estimate	60
	Margin of Error	51
Car, truck, or van -- In a 5-or-6-person carpool	Estimate	15
	Margin of Error	19
Car, truck, or van -- In a 7-or-more-person carpool	Estimate	30
	Margin of Error	37
Bus or trolley bus	Estimate	280
	Margin of Error	99
Streetcar or trolley car	Estimate	0
	Margin of Error	119
Subway or elevated	Estimate	0
	Margin of Error	119
Railroad	Estimate	4
	Margin of Error	2
Ferryboat	Estimate	60
	Margin of Error	36
Bicycle	Estimate	280
	Margin of Error	119
Walked	Estimate	1,570
	Margin of Error	260
Taxicab	Estimate	15
	Margin of Error	20
Motorcycle	Estimate	15
	Margin of Error	22

A202105 - Means of Transportation (18) (Workers 16 years and over)

Current date: 4/4/2018 10:13:02 AM (Eastern Daylight Time)

Measures: Workers 16 and Over

WORKPLACE		Census Tract 5, Cumberland County, Maine
Means of Transportation 18	Output	
Total, means of transportation	Estimate	2,195
	Margin of Error	331
Car, truck, or van -- Drove alone	Estimate	1,800
	Margin of Error	284
Car, truck, or van -- In a 2-person carpool	Estimate	125
	Margin of Error	55
Car, truck, or van -- In a 3-person carpool	Estimate	0
	Margin of Error	119
Car, truck, or van -- In a 4-person carpool	Estimate	10
	Margin of Error	14
Car, truck, or van -- In a 5-or-6-person carpool	Estimate	10
	Margin of Error	18
Car, truck, or van -- In a 7-or-more-person carpool	Estimate	0
	Margin of Error	119
Bus or trolley bus	Estimate	25
	Margin of Error	44
Streetcar or trolley car	Estimate	0
	Margin of Error	119
Subway or elevated	Estimate	0
	Margin of Error	119
Railroad	Estimate	0
	Margin of Error	119
Ferryboat	Estimate	15
	Margin of Error	21
Bicycle	Estimate	4
	Margin of Error	18
Walked	Estimate	135
	Margin of Error	91
Taxicab	Estimate	0
	Margin of Error	119
Motorcycle	Estimate	0
	Margin of Error	119

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	4/13/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Residential	35.8%
Non-Residential	15.0%
Hotel Reduction	10.0%

Total Proposed Site Trip Generation After Shared Use Reduction and Multimodal Reduction

Time Period	Hotel	General Office Building	Manufacturing	Specialty Retail	Drinking Place	Apartment	Total Site Trip Ends	Hotel		General Office Building		Manufacturing		Specialty Retail		Drinking Place		Apartment		Total Site	
								IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**
AM Peak Adjacent Street	50	103	69	1	---	3	**226**	32	18	94	9	52	17	1	0	---	---	1	2	**179**	**47**
PM Peak Adjacent Street	54	102	71	2	15	3	**247**	30	24	15	87	25	46	1	1	11	4	1	2	**82**	**165**
AM Peak Hour of Generator	47	100	74	9	---	3	**233**	27	20	92	8	52	22	4	5	---	---	1	2	**175**	**58**
PM Peak Hour of Generator	56	102	71	3	20	2	**255**	33	23	15	87	36	35	2	1	17	3	1	1	**103**	**152**
Saturday Peak Hour of Gen.	65	27	26	10	27	3	**158**	36	29	14	13	14	12	6	4	17	10	2	1	**87**	**71**

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Existing) Manufacturing
Land Use Code (LUC) 140

Gross Floor Area 63,045

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT
Weekday	T = 3.82 (X)	241	62		50%	50%	121	120
AM Peak Adjacent Street	T = 0.73 (X)	46	50		75%	25%	35	11
PM Peak Adjacent Street	T = 0.74 (X)	47	54		35%	65%	16	31
AM Peak Hour of Generator	T = 0.78 (X)	49	50		70%	30%	34	15
PM Peak Hour of Generator	T = 0.75 (X)	47	50		50%	50%	24	23
Saturday	T = 1.49 (X)	94	2		50%	50%	47	47
Saturday Peak Hour of Gen.	T = 0.28 (X)	18	2	**	50%	50%	9	9

* Percentages rounded to nearest 5%
** Not Available (Assumption)

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Existing) General Office Building
Land Use Code (LUC) 710

Square Feet 6,082

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	154	78	50%	50%	77	77	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**20**	**217**	**90%**	**10%**	**18**	**2**	**0.83**
PM Peak Hour	T = 1.12 (X) + 78.81	86	235	15%	85%	13	73	0.82
Saturday	T = 2.14 (X) + 18.47	31	17	50%	50%	16	15	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	4	10	55%	45%	2	2	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 11.01 (X)	67	78	50%	50%	34	33	---
AM Peak Hour	T = 1.55 (X)	9	217	90%	10%	8	1	---
PM Peak Hour	T = 1.49 (X)	9	235	15%	85%	1	8	---
Saturday	T = 2.37 (X)	14	17	50%	50%	7	7	---
Saturday Peak Hour of Gen.	T = 0.41 (X)	2	10	50%	50%	1	1	---

* Percentages rounded to nearest 5%

PM Peak Hour:	**T = 1.49/1.55 (AM Peak)**	**19**		**15%**	**85%**	**3**	**16**	**---**
SAT Peak Hour:	**T = 0.41/1.55 (AM Peak)**	**5**		**50%**	**50%**	**3**	**2**	**---**

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Existing) Apartment
Land Use Code (LUC) 220

Dwelling Units: 8

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Sample Size		Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT
Weekday	T = 6.72 (X)	54	86		50%	50%	27	27
AM Peak Hour of Adj. Street Traffic	T = 0.51 (X)	4	78		20%	80%	1	3
PM Peak Hour of Adj. Street Traffic	T = 0.62 (X)	5	90		65%	35%	3	2
AM Peak Hour of Generator	T = 0.55 (X)	4	81		30%	70%	1	3
PM Peak Hour of Generator	T = 0.67 (X)	5	83		60%	40%	3	2
Saturday	T = 6.39 (X)	51	15		50%	50%	26	25
Saturday Peak Hour of Gen.	T = 0.52 (X)	4	14	**	50%	50%	2	2

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Existing) Specialty Retail Center
Land Use Code (LUC) 814

Gross Floor Area (ft²): 1,250

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution	
				IN	OUT	IN	OUT
Weekday	T = 44.32 (X)	55	4	50%	50%	28	27
Peak Hour of Adjacent Street Traffic 7-9 AM	T = 0.74 (X)	1	N/A	60%	40%	1	0
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.71 (X)	3	5	45%	55%	1	2
AM Peak Hour of Generator	T = 6.84 (X)	9	4	50%	50%	5	4
PM Peak Hour of Generator	T = 5.02 (X)	6	3	55%	45%	3	3
Saturday	T = 42.04 (X)	53	3	50%	50%	27	26
Saturday Peak Hour of Gen.***	T = 6.63 (X)	8	3	50%	50%	4	4

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center and applied to 814 PM rate.

***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

* Percentages rounded to nearest 5%

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Existing) Drinking Place
Land Use Code (LUC) 936

Square Feet 1,250

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split **		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	---	---	---		---	---	---	---
PM Peak Hour of Adj. St.	T = 11.34 (X)	14	12		65%	35%	9	5
PM Peak Hour of Gen.	T = 15.49 (X)	19	8		70%	30%	13	6
Saturday	---	---	---		---	---	---	---
Sat. Peak Hour of Generator	T = 16.48 (X)*	21	---	***	65%	35%	14	7

*Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 932 - High-Turnover (Sit-Down) Restaurant

** Percentages rounded to nearest 5%

***Directional split for this peak hour assumed based on other peak hours for this land use and the directional split for LUC 932 - High-Turnover (Sit-Down) Restaurant during Saturday Peak Hour of the Generator

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Existing Site Trip Generation

Time Period	Manufacturing	General Office Building	Apartment	Specialty Retail	Drinking Place	**Total Site Trip Ends**	Manufacturing		General Office Building		Apartment		Specialty Retail		Drinking Place		**Total Site**	
							IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**
AM Peak Adjacent Street	46	20	4	1	---	**71**	35	11	18	2	1	3	1	0	---	---	55	16
PM Peak Adjacent Street	47	19	5	3	14	**88**	16	31	3	16	3	2	1	2	9	5	32	56
AM Peak Hour of Generator	49	20	4	9	---	**82**	34	15	18	2	1	3	5	4	---	---	58	24
PM Peak Hour of Generator	47	19	5	6	19	**96**	24	23	3	16	3	2	3	3	13	6	46	50
Saturday Peak Hour of Gen.	18	5	4	8	21	**56**	9	9	3	2	2	2	4	4	14	7	32	24

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	20	18	2
Retail	814	1,250	sf	1	1	0
Restaurant	936	1,250	sf	0	0	0
Cinema/Entertainment						
Residential	220	8	dwelling units	4	1	3
Hotel						
All Other Land Uses[2]	140	63,045	sf	46	35	11
Total				71	55	16

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	71	55	16
Internal Capture Percentage	0%	0%	0%
External Vehicle-Trips[3]	71	55	16
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	0%	N/A
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	18	18	1.00	2	2
Retail	1.00	1	1	1.00	0	0
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	1	1	1.00	3	3
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		0	0	0	0
Restaurant	3	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	0	0		0
Hotel	1	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	18	18	18	0	0
Retail	0	1	1	1	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	1	1	1	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	35	35	35	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	2	2	2	0	0
Retail	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	3	3	3	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	11	11	11	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	19	3	16
Retail	814	1,250	sf	3	1	2
Restaurant	936	1,250	sf	14	9	5
Cinema/Entertainment						
Residential	220	8	dwelling units	5	3	2
Hotel						
All Other Land Uses[2]	140	63,045	sf	47	16	31
Total				88	32	56

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	88	32	56
Internal Capture Percentage	2%	3%	2%
External Vehicle-Trips[3]	86	31	55
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	0%	50%
Restaurant	11%	0%
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	3	3	1.00	16	16
Retail	1.00	1	1	1.00	2	2
Restaurant	1.00	9	9	1.00	5	5
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	3	3	1.00	2	2
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	0		1	0	1	0
Restaurant	0	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		3	0	1	0
Restaurant	1	1		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	0	1	0		0
Hotel	0	0	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	3	3	3	0	0
Retail	0	1	1	1	0	0
Restaurant	1	8	9	8	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	3	3	3	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	16	16	16	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	16	16	16	0	0
Retail	1	1	2	1	0	0
Restaurant	0	5	5	5	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	31	31	31	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing AM Generator Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	20	18	2
Retail	814	1,250	sf	9	5	4
Restaurant	936	1,250	sf			
Cinema/Entertainment						
Residential	220	8	dwelling units	4	2	2
Hotel						
All Other Land Uses[2]	140	63,045	sf	49	34	15
Total				82	59	23

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	1		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	82	59	23
Internal Capture Percentage	5%	3%	9%
External Vehicle-Trips[3]	78	57	21
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	6%	50%
Retail	20%	25%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	18	18	1.00	2	2
Retail	1.00	5	5	1.00	4	4
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	2	2	1.00	2	2
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	1		1	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	0	0	0	0
Retail	1		0	0	0	0
Restaurant	3	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	0	0		0
Hotel	1	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	1	17	18	17	0	0
Retail	1	4	5	4	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	34	34	34	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	1	1	2	1	0	0
Retail	1	3	4	3	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	15	15	15	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing PM Generator Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	19	3	16
Retail	814	1,250	sf	6	3	3
Restaurant	936	1,250	sf	19	13	6
Cinema/Entertainment						
Residential	220	8	dwelling units	5	3	2
Hotel						
All Other Land Uses[2]	140	63,045	sf	47	24	23
Total				96	46	50

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	1		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	96	46	50
Internal Capture Percentage	6%	7%	6%
External Vehicle-Trips[3]	90	43	47
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	33%	67%
Restaurant	8%	17%
Cinema/Entertainment	N/A	N/A
Residential	33%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	3	3	1.00	16	16
Retail	1.00	3	3	1.00	3	3
Restaurant	1.00	13	13	1.00	6	6
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	3	3	1.00	2	2
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	0		1	0	1	0
Restaurant	0	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		4	0	1	0
Restaurant	1	2		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	0	2	0		0
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	3	3	3	0	0
Retail	1	2	3	2	0	0
Restaurant	1	12	13	12	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	2	3	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	24	24	24	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	16	16	16	0	0
Retail	2	1	3	1	0	0
Restaurant	1	5	6	5	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	23	23	23	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Existing Site Trip Generation After Shared Use Reduction

Time Period	Manufacturing	General Office Building	Apartment	Specialty Retail	Drinking Place	**Total Site Trip Ends**	Manufacturing		General Office Building		Apartment		Specialty Retail		Drinking Place		**Total Site**	
							IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**
AM Peak Adjacent Street	46	20	4	1	---	**71**	35	11	18	2	1	3	1	0	---	---	**55**	**16**
PM Peak Adjacent Street	47	19	5	2	13	**86**	16	31	3	16	3	2	1	1	8	5	**31**	**55**
AM Peak Hour of Generator	49	18	4	7	---	**78**	34	15	17	1	1	3	4	3	---	---	**56**	**22**
PM Peak Hour of Generator	47	19	4	3	17	**90**	24	23	3	16	2	2	2	1	12	5	**43**	**47**
*Saturday Peak Hour of Gen.	18	5	4	7	20	**54**	9	9	3	2	2	2	3	4	14	6	**31**	**23**

* - NCHRP does not provide shared use reduction information for the Saturday Peak Hour of the Gen. so the the average reduction of the other peak hours (3%) was used.

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Non-Residential	15.0%
Residential	35.8%

Total Existing Site Trip Generation After Shared Use Reduction and Multimodal Reductior

Time Period	Manufacturing	General Office Building	Apartment	Specialty Retail	Drinking Place	**Total Site Trip Ends**	Manufacturing IN	Manufacturing OUT	General Office Building IN	General Office Building OUT	Apartment IN	Apartment OUT	Specialty Retail IN	Specialty Retail OUT	Drinking Place IN	Drinking Place OUT	**Total Site IN**	**Total Site OUT**
AM Peak Adjacent Street	39	17	3	1	---	**60**	30	9	15	2	1	2	1	0	---	---	**47**	**13**
PM Peak Adjacent Street	40	16	3	2	11	**72**	14	26	3	13	2	1	1	1	7	4	**27**	**45**
AM Peak Hour of Generator	42	15	3	6	---	**66**	29	13	14	1	1	2	3	3	---	---	**47**	**19**
PM Peak Hour of Generator	40	16	3	3	13	**76**	20	20	3	13	1	2	1	2	10	3	**35**	**41**
Saturday Peak Hour of Gen.	15	4	3	6	17	**46**	8	7	3	1	1	2	3	3	12	5	**27**	**19**

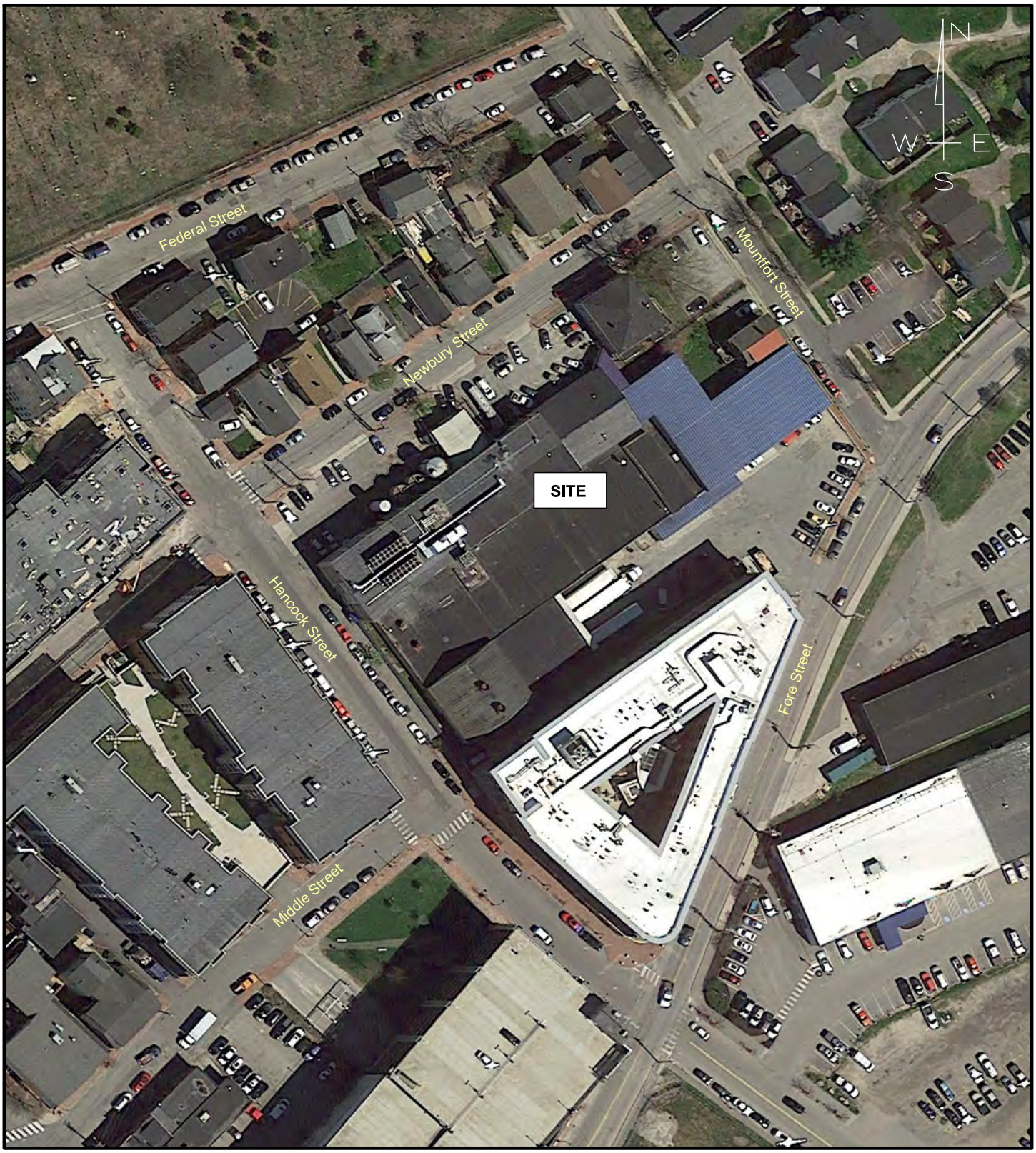
JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

Net Site Trip Generation After Shared Use Reduction and Other Modes Reduction

Time Period	Total Site Trip Ends	Total Site IN	OUT
AM Peak Adjacent Street	**166**	132	34
PM Peak Adjacent Street	**175**	55	120
AM Peak Hour of Generator	**167**	128	39
PM Peak Hour of Generator	**179**	68	111
Saturday Peak Hour of Gen.	**112**	60	52

Location Map

Figure No. 1



SHIPYARD REDEVELOPMENT
PORTLAND, MAINE

Design:	JP	Scale:	NONE
Draft:		Date:	APRIL 2018
Checked:	ET	File Name:	3184-TRAFF.dwg

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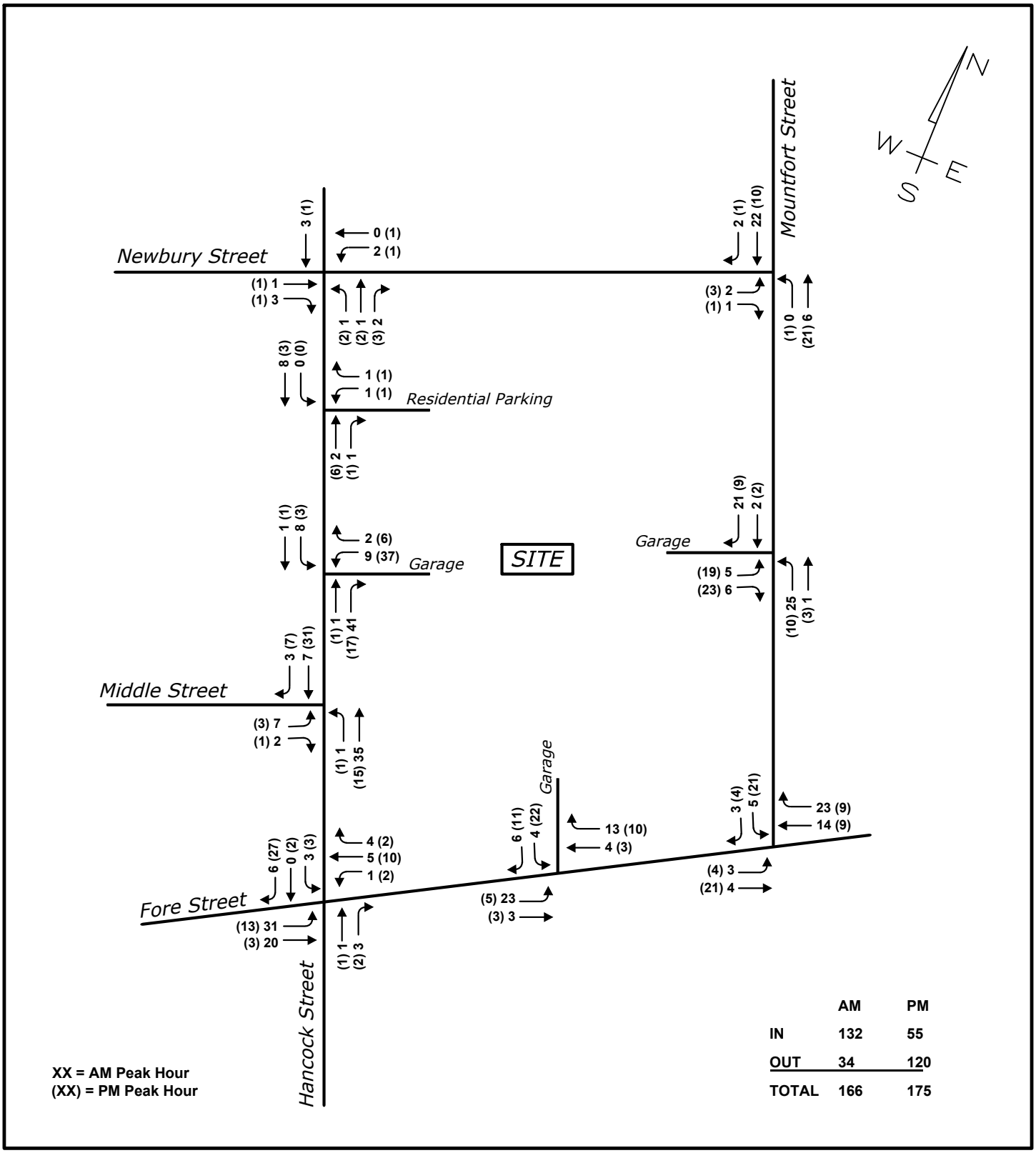
Trip Assignment

Figure No. 2



	AM	PM
IN	132	55
OUT	34	120
TOTAL	166	175

XX = AM Peak Hour
(XX) = PM Peak Hour

SHIPYARD REDEVELOPMENT
PORTLAND, MAINE

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PORTLAND NODE MAP

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0.095 Miles

1 inch = 0.07 miles

Date: 3/8/2018
Time: 10:04:34 PM

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Fore St area in Portland

REPORT PARAMETERS

Year 2014, Start Month 1 through Year 2016 End Month: 12

Route: **0560286**	Start Node: **18836**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18822**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560524**	Start Node: **18798**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18820**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560344**	Start Node: **18797**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **71558**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560344**	Start Node: **71558**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **71560**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561110**	Start Node: **18797**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18798**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560531**	Start Node: **18804**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **18803**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560531**	Start Node: **18803**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18802**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561000**	Start Node: **18804**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18822**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560505**	Start Node: **18817**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18818**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

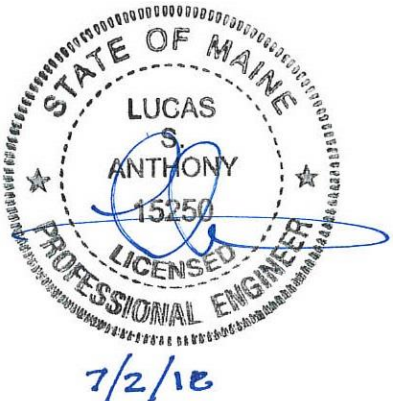
Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
18836	0560286 - 0.08	Int of FORE ST WATERVILLE ST	2	0	0	0	0	0	0	0.0	1.905	0.00	0.46	0.00
												Statewide Crash Rate:	0.14	
18820	0560286 - 0.28	Int of FORE ST MOUNTFORT ST	2	1	0	0	1	0	0	100.0	2.153	0.15	0.44	0.00
												Statewide Crash Rate:	0.14	
71558	0560286 - 0.37	Int of FORE ST HANCOCK ST	2	0	0	0	0	0	0	0.0	1.637	0.00	0.47	0.00
												Statewide Crash Rate:	0.14	
18822	0560286 - 0.45	Int of FORE ST INDIA ST	2	5	0	0	0	2	3	40.0	4.304	0.39	0.39	1.00
												Statewide Crash Rate:	0.15	
18798	0560524 - 0.14	Int of FEDERAL ST E MOUNTFORT ST	2	2	0	0	0	0	2	0.0	0.516	1.29	0.59	2.19
												Statewide Crash Rate:	0.14	
18802	0560524 - 0.17	Int of MOUNTFORT ST NEWBURY ST	2	1	0	0	0	0	1	0.0	0.486	0.69	0.60	1.15
												Statewide Crash Rate:	0.14	
18803	0560344 - 0.04	Int of HANCOCK ST NEWBURY ST	2	1	0	0	0	0	1	0.0	0.234	1.43	0.58	2.47
												Statewide Crash Rate:	0.14	
18818	0560344 - 0.09	Int of HANCOCK ST MIDDLE ST	2	0	0	0	0	0	0	0.0	0.533	0.00	0.59	0.00
												Statewide Crash Rate:	0.14	
71560	0560344 - 0.19	Int of HANCOCK ST THAMES ST	2	0	0	0	0	0	0	0.0	1.216	0.00	0.51	0.00
												Statewide Crash Rate:	0.14	
18797	0561110 - 0.20	Int of FEDERAL ST E HANCOCK ST	2	1	0	0	0	0	1	0.0	0.128	2.60	0.39	6.61
												Statewide Crash Rate:	0.14	
18804	0560531 - 0.11	Int of INDIA ST NEWBURY ST	2	2	0	0	0	0	2	0.0	2.061	0.32	0.47	0.00
												Statewide Crash Rate:	0.15	
18817	0561000 - 0.18	Int of INDIA ST MIDDLE ST	2	3	0	0	1	2	0	100.0	2.525	0.40	0.45	0.00
												Statewide Crash Rate:	0.15	
Study Years:	3.00	**NODE TOTALS:**		16	0	0	2	4	10	37.5	17.698	0.30	0.27	1.12

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18820	18836	3131698	0 - 0.20	0560286 - 0.08	0.20	2	4	0	0	2	0	2	50.0	0.00367	363.70	446.98	0.00
Int of FORE ST	MOUNTFORT ST			RD INV 05 60286											Statewide Crash Rate: 171.12		
18820	71558	4047688	0 - 0.09	0560286 - 0.28	0.09	2	6	0	0	0	0	6	0.0	0.00186	1073.77	532.43	2.02
Int of FORE ST	MOUNTFORT ST			RD INV 05 60286											Statewide Crash Rate: 171.12		
71558	18822	4047689	0 - 0.08	0560286 - 0.37	0.08	2	1	0	0	0	0	1	0.0	0.00166	201.33	548.59	0.00
Int of FORE ST	HANCOCK ST			RD INV 05 60286											Statewide Crash Rate: 171.12		
18798	18802	194393	0 - 0.03	0560524 - 0.14	0.03	2	0	0	0	0	0	0	0.0	0.00015	0.00	1723.24	0.00
Int of FEDERAL ST E	MOUNTFORT ST			RD INV 05 60524											Statewide Crash Rate: 400.85		
18802	18820	194401	0 - 0.05	0560524 - 0.17	0.05	2	2	0	0	0	0	1	0.0	0.00020	3305.85	1671.22	1.98
Int of MOUNTFORT ST	NEWBURY ST			RD INV 05 60524											Statewide Crash Rate: 400.85		
18797	18803	194392	0 - 0.04	0560344 - 0	0.04	2	1	0	0	0	0	1	0.0	0.00005	7247.95	1167.68	6.21
Int of FEDERAL ST E	HANCOCK ST			RD INV 05 60344											Statewide Crash Rate: 400.85		
18803	18818	194403	0 - 0.05	0560344 - 0.04	0.05	2	1	0	0	0	0	1	0.0	0.00008	4151.10	1648.21	2.52
Int of HANCOCK ST	NEWBURY ST			RD INV 05 60344											Statewide Crash Rate: 400.85		
71558	18818	4047715	0 - 0.04	0560344 - 0.09	0.04	2	0	0	0	0	0	0	0.0	0.00018	0.00	1696.99	0.00
Int of FORE ST	HANCOCK ST			RD INV 05 60344											Statewide Crash Rate: 400.85		
71560	71558	4047714	0 - 0.06	0560344 - 0.13	0.06	2	0	0	0	0	0	0	0.0	0.00046	0.00	1429.64	0.00
Int of HANCOCK ST	THAMES ST			RD INV 05 60344											Statewide Crash Rate: 400.85		
18797	18798	194391	0 - 0.10	0561110 - 0.20	0.10	2	1	0	0	0	0	0	0.0	0.00005	7134.70	1189.87	6.00
Int of FEDERAL ST E	HANCOCK ST			RD INV 05 61110											Statewide Crash Rate: 400.85		
18803	18804	194402	0 - 0.08	0560531 - 0.11	0.08	2	1	0	0	0	0	1	0.0	0.00009	3742.80	1684.71	2.22
Int of HANCOCK ST	NEWBURY ST			RD INV 05 60531											Statewide Crash Rate: 400.85		
18802	18803	194400	0 - 0.08	0560531 - 0.19	0.08	2	1	0	0	0	0	1	0.0	0.00006	5165.40	1524.86	3.39
Int of MOUNTFORT ST	NEWBURY ST			RD INV 05 60531											Statewide Crash Rate: 400.85		
18804	18817	3122291	0 - 0.05	0561000 - 0.13	0.05	2	1	0	0	1	0	0	100.0	0.00103	324.59	713.45	0.00
Int of INDIA ST	NEWBURY ST			RD INV 05 61000											Statewide Crash Rate: 207.39		
18817	18822	3106813	0 - 0.05	0561000 - 0.18	0.05	2	0	0	0	0	0	0	0.0	0.00109	0.00	703.09	0.00
Int of INDIA ST	MIDDLE ST			RD INV 05 61000											Statewide Crash Rate: 207.39		
18817	18818	194423	0 - 0.08	0560505 - 0.39	0.08	2	0	0	0	0	0	0	0.0	0.00037	0.00	1498.45	0.00
Int of INDIA ST	MIDDLE ST			RD INV 05 60505											Statewide Crash Rate: 400.85		
Study Years: 3.00				**Section Totals:**	1.08		19	0	0	3	0	14	15.8	0.01098	576.78	405.31	1.42
				Grand Totals:	1.08		35	0	0	5	4	24	25.7	0.01098	1062.50	556.08	1.91

STORMWATER MANAGEMENT REPORT



1. Overview

Under the Stormwater Management Statute (38 M.R.S.A. §420-D) instituted by the Maine Department of Environmental Protection, a person may not construct, or cause to be constructed, a project that includes one acre or more of disturbed area without prior approval from the Department.

Section 5.II of the City of Portland Technical Manual states:

> *"Projects that require a Stormwater Permit pursuant to 38 M.R.S.A Sec. 420-D (Stormwater Management Law) and projects that may substantially affect the environment and require a site location of development (Site Law) permit pursuant to 38 M.R.S.A Sec 481-490 shall be reviewed for conformance with Chapter 500 under the City's Delegated Review Authority or by the Maine Department of Environmental Protection."*

This Exhibit demonstrates the developer has made adequate provision for controlling Stormwater Runoff and is being submitted to be reviewed for conformance with Chapter 500 under the City's Delegated Review Authority.

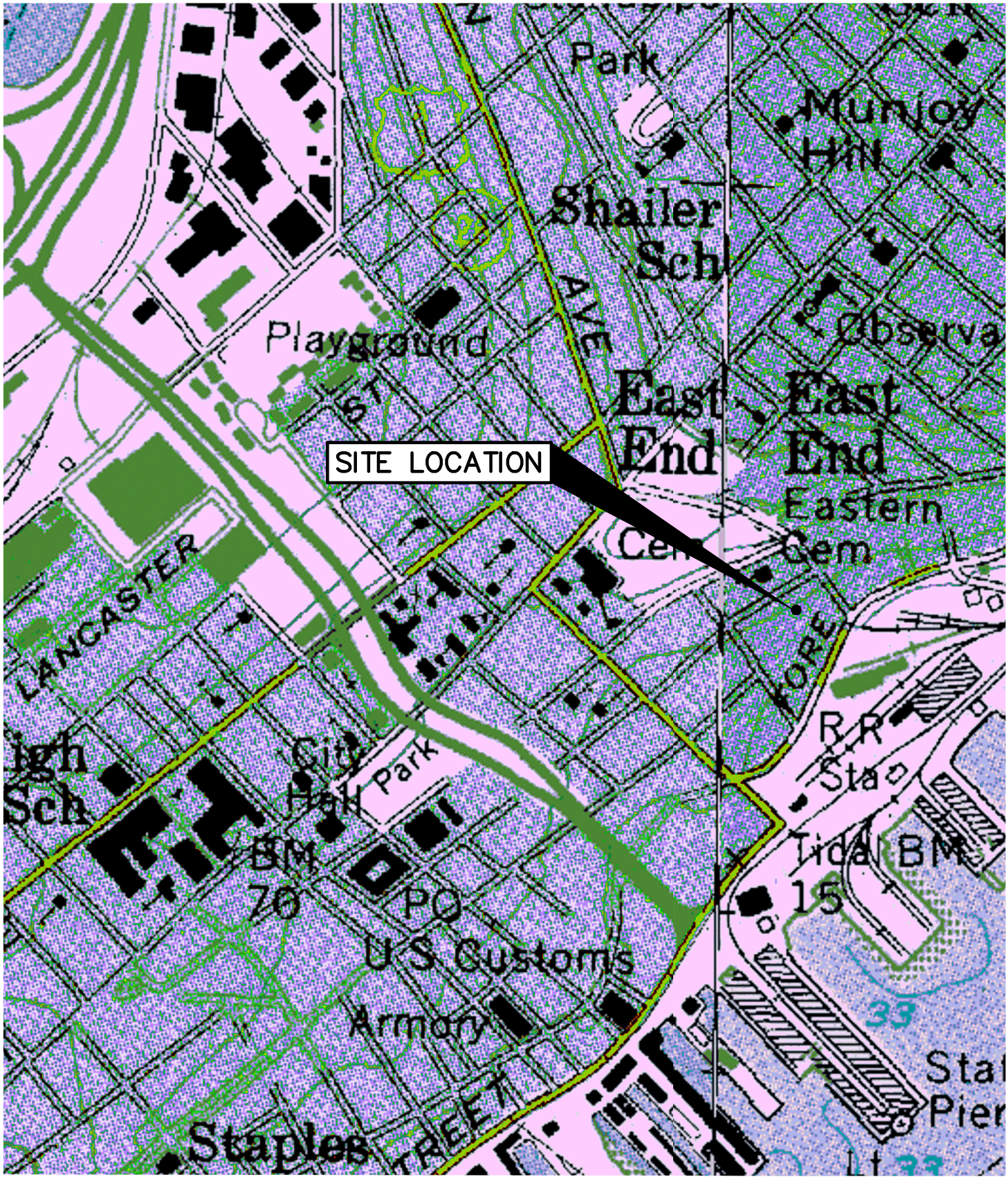
2. Introduction

86 Newbury Street, LLC has retained Gorrill Palmer to prepare plans and permit applications for a proposed multi-use redevelopment located at 86 Newbury Street. The site is shown on Portland Assessor's Tax Map 20C Lots 1, 2, 5, 9, and 15. The properties are approximately 2.15 acres in size in total and located in the India Street Form-Based Code Zone (IS-FBZ). Figure 1 is a map showing the project location and follows this page. The subject properties are currently developed with the Shipyard Brewery and two residential structures. The Shipyard Brewery consists of three connected buildings and controls a majority of the subject properties with frontages on Mountfort, Newbury, Hancock, and Fore Streets. The two residential structures are located to the northeast of the project site and have frontages on Mountfort and Newbury Streets. The developer will seek a Stormwater Permit by Rule from the Maine Department of Environmental Protection (MDEP) as the project proposes to disturbed greater than 1 acre of area. The plans prepared by Gorrill Palmer include the infrastructure necessary to serve the project. This narrative contains the Stormwater Management measures which are appropriate for this site.

3. Development Description

The project site is currently developed with 52,400 sq. ft. of the Shipyard Brewery, a 1,935 sq. ft. three story residential building, and a 765 sq. ft. residential building. The site also consists of 33,655 sq. ft. of impervious parking area, and 5,110 sq. ft. of vegetated area.

The project requires the removal of the existing residential buildings and the Shipyard bottling facility which is approximately 34,360 sq. ft. The three story 31,250 sq. ft., and two story 6,650 sq. ft. buildings which make up the remainder of the Shipyard Brewery are to remain.



U.S.G.S. Location Map

Shipyard Brewing Company - Portland, Maine

U.S.G.S. Portland East/West, Maine -7.5 Minute Series (Topographic)

Design: BMG	Date: MARCH 2017
Draft: CG	Job No.: 3184
Checked: LSA	Scale: None
File Name: 3184-LOCATION.dwg	

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Figure 1

The project is a multi-use redevelopment consisting of industrial (brewery and specialty pharmacy), office, retail, hotel, residential uses, and structured parking. The project includes approximately 10,250 sq. ft. of vegetated area, doubling the amount of existing vegetated area on site.

Abutting land uses include:

- North – Residential (single family home
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East – Residential (townhouse)

The development of the site results in approximately 3,048 sq. ft. of new non-roof impervious area and a total disturbed area of approximately 1.78 acres.

4. Surface Water

There are no lakes located on, adjacent to or downstream of the project site. Casco Bay, which outlets to the Atlantic Ocean, is located approximately 750 feet south of the site.

5. General Topography

Topography in the area of the proposed construction has slopes of 3% to 11%. Elevations on the site range from 48 feet on the northern boundary of the site to 22 feet along the southern boundary of the site.

6. Flooding

Based upon the FEMA maps, no areas within the site are located in a 100-year floodplain.

7. Natural Drainage Ways

The project as currently proposed does not include alteration of any natural drainage ways.

8. Alterations to Land Cover

Changes in land cover will include the removal of existing pavement and structures and the construction of new pavement, buildings, and landscaped areas.

9. Stormwater Management Control

The project site is not tributary to an Urban Impaired Stream. Section 5.II of the Technical Manual states,

> *"The City of Portland's applicability requirements for all development within Portland, which are specified below, supersede the applicability thresholds specified within the Chapter 500 Rules."*

The City of Portland Technical Manual, Section 5.II.D states:

"Redevelopment Projects: All projects not subject to requirements of an existing Site Law or Stormwater Management Law Permit that include redevelopment of non-roof impervious area greater than 5,000 square-feet and are subject to City of Portland review shall provide stormwater quality treatment in accordance with the General Standards for no less than 50% of the redeveloped impervious area. The runoff from any upgradient area must be either directed away from the stormwater treatment measure or that measure must be sized to treat the runoff from the upgradient area."

The site is not subject to requirements of an existing Site Law or Stormwater Management Law Permit. As the project proposes to redevelop greater than 5,000 sq. ft. of parking/drive areas to roof, the projects falls within this threshold. Therefore, the project is required to a treat 50% of the non-roof impervious area in accordance with MDEP General Standards through the City of Portland's delegated authority.

The Basic Standard is presented in the Erosion and Sedimentation Control report included with this application. The General Standards are presented as follows.

The development currently proposes a Proprietary Biofiltration System, hereafter referred to as "FocalPoint", to provide water quality treatment.

The Maine Department of Environmental Protection rules and regulations regarding stormwater concentrate on four stormwater management objectives:

- Effective Pollutant Removal
- Cooling
- Channel Protection
- Flood Control

These objectives may be met either directly by providing BMP's that manage and treat the runoff after is has been created, or indirectly by incorporating low impact development site planning concepts to minimize production and contamination of runoff by maximizing infiltration and evapotranspiration.

9.1 Current Treatment Methods

Under the General Standard, the redevelopment is required to treat 0% of the impervious and developed area. Since the project is a redevelopment project which results in the reduction of impervious area, the change in use does not have as high of an impact ranking as compared to existing conditions.

The City of Portland requires any redevelopment project which includes redevelopment of non-roof impervious area greater than 5,000 square-feet provide stormwater quality treatment in accordance with the General Standards for no less than 50% of the non-roof redeveloped impervious area.

The applicant proposes to treat 52.8% of the new, non-roof impervious area. This appears to be the most practicable treatment for the proposed redevelopment.

The four treatment measures listed in Chapter 500 and described in Volume III of the Stormwater BMP Manual are:

- Wetpond with detention above the permanent pool
- Filters
- Infiltration
- Buffers

Below is a brief description of each treatment method.

Wetpond with detention above the permanent pool:

Wet ponds are stormwater detention impoundments that have a permanent pool of water and have the capacity to temporarily store storm water runoff while it is released at a controlled rate. They can be designed to provide flood control as well as water quality treatment. Properly sized and maintained, wet ponds can achieve high rates of removal for a number of urban pollutants, including sediment and the pollutants associated with sediment, such as trace metals, hydrocarbons, BOD, nutrients, and pesticides. The addition of an underdrained gravel trench in the bench area around the permanent pool allows for slow, extended release of stormwater without risk of blockage and effective cooling to avoid thermal impacts. This BMP treatment method is generally used to treat runoff from large drainage areas.

Filters

Filtration BMPs such as grassed underdrained soil filters and biocells have shown to be very effective at removing a wide range of pollutants from stormwater runoff, particularly organic soil filter media. They can be constructed in combination with infiltration practices, or with an underdrain filter, where infiltration is not feasible. Soil filters can be designed and constructed using common materials. Underdrained soil filters control stormwater quality by capturing and retaining runoff and passing it through a filter bed comprised of a specific soil media. Various filter media may be used, the most common including sand filters and organic filters. Once through the soil media, the runoff is collected in a perforated underdrain pipe and discharged to the receiving water. The filter and underdrain provides for slow release of smaller storm events, minimizing stream channel erosion, as well as cooling the discharge. Vegetated underdrain soil filters can also be designed to provide detention above the channel protection volume.

Infiltration

Infiltration measures control stormwater quantity and quality, by retaining all or part of runoff on-site and discharging it into the ground. Infiltration is designed to occur at the surface (as in infiltration basins and to a degree vegetated swales and buffers), or in subsurface systems (e.g., infiltration trenches and infiltrators). The basic function of an infiltration system is to remove a portion of runoff from the total runoff volume of the site and treatment comes about through absorption, straining, microbial decomposition in the soil and trapping of particulate matter within pretreatment areas. Pretreatment to remove sediments, grease and oils is required prior to discharge to the infiltration

measure. Possible pretreatment measures include filter strips, swales with check dams, sand filters, sediment traps, grease and oil traps, and sediment basins.

Buffers

Buffer strips are natural, undisturbed strips of natural vegetation or planted strips of close growing vegetation adjacent to and downslope of developed areas. As stormwater runoff travels over the buffer area, vegetation slows the runoff and traps particulate pollutants. They are also effective for phosphorus removal when designed in accordance with the volume III BMP technical design manual. The buffers are preceded by a level lip spreader which allows for thermal cooling of the runoff and a distribution of the flow to a sheet flow rather than direct discharge. The effectiveness of buffers for pollutant removal depends on the flow path length and slope, the buffer berm length, the soil permeability, the size of drainage area, and the type and density of vegetation. Buffers are used to treat runoff from relatively small amounts of impervious area, as typically found in residential developments and small commercial and industrial sites. This type of BMP requires minimal maintenance and provides an aesthetically pleasing area.

9.2 Approach and Analysis for Quality and Quantity

The proposed development will be required to meet the Basic Standard, BMP Standard under the General Standard, and the Flooding Standard under the City Ordinance. Based upon review of the four recommended and approved methods for mitigating the increased frequency and duration of channel erosive flows, and to allow for cooling of the stormwater runoff, as required by the BMP Standards, the developer is proposing to use a FocalPoint.

9.3 Water Quality Sizing Requirements

The City of Portland requires the project to meet the Maine DEP General Standards. Under the City of Portland Redevelopment Standard, and upon discussion with the City Staff, the project is required to a treat 50% of the non-roof impervious area in accordance with MDEP General Standards through the City of Portland's delegated authority. The following strategy was utilized to provide the required treatment:

FocalPoint

Subcatchment 2AS is tributary to the proposed FocalPoint system. The tributary area consists of paved and landscaped area.

Test pits have not been excavated at the proposed location for the FocalPoint. A geotechnical report for an adjacent property prepared by S.W. Cole, indicated groundwater at depths of about six feet within the surficial fill soils perched atop relatively impervious glaciomarine clays. Due to the findings of the report, it is assumed that the seasonal high groundwater table will be less than one foot below the proposed filter bottom, therefore an impermeable linear is proposed under the FocalPoint to separate groundwater from surficial stormwater.

There are four non-roof impervious areas on site. Two of the areas occur where parking/drives are located today- a parking lot/loading dock area on Fore Street, and a parking area along Newbury Street. These areas are not included in the required treatment calculation since the surface type is not proposed to change, nor are significant grade changes proposed.

Two rooftop courtyards are proposed on the roof of the structured parking. The courtyards are expected to see limited foot traffic. Since the courtyards are not expected to see conditions consistent with roadside walkways, such as calcium chloride, phosphorous, metals, or TSS levels, the courtyards are not included as non-roof impervious area requiring treatment.

Two areas of new non-roof impervious area are proposed where vegetated areas currently exist and are included in the non-roof impervious area requiring treatment. One is a courtyard adjacent to Newbury Street; the other area is a courtyard along Mountfort Street. The required treatment is shown in Table 1 below.

Table 1

Required Treatment Summary

Type	SF	Treatment Threshold	Area required to be treated (SF)
New Non-Roof Impervious Area	2,315	50%	1,158

A FocalPoint Biofiltration System coupled with a Subsurface Chamber Treatment Row is proposed for stormwater quality treatment. The FocalPoint is designed to allow stormwater runoff to flow through a high performance engineered soil blend to capture pollutants. Stormwater runoff flows through the media and into an Open-Cell Underdrain system. Stormwater then flows to a subsurface Chamber Treatment Row sized to treat the 1 year – 24 hour storm event. The Chamber Treatment Row is coupled with additional subsurface chambers to provide storage for channel protection volume.

The proposed FocalPoint will treat stormwater runoff from impervious and landscaped area near the location of the employee entrance courtyard off Newbury Street as described above.

FocalPoint's are defined in Volume III Appendix B (Proprietary Systems). Proprietary systems are defined as a system or practice designed for stormwater runoff treatment from a development that has to meet all the stormwater requirements of Maine's Stormwater Law, and the Chapter 500 Stormwater Management Rule to be considered equivalent to any of the suggested structures found in the BMP Manual. A proprietary system must be live-tested for a variety of storm lengths and intensities. The system must remove at least 60% total phosphorous, with at least similar removals of metals (zin and copper), and hydrocarbons; it must provide temperature reduction and channel protection storage detention either independently or in combination with another measure; and it must also be maintainable.

The FocalPoint system received approval by MDEP in February 2017. The proposed system was designed in accordance with MDEP approval letter dated February 2, 2017. A copy of

the letter is included in Attachment A. A Maine - Chapter 500 Design Worksheet/Checklist provided by ACF Environmental is included in Attachment B – FocalPoint Calculations. A manufacturer's review letter provided by ACF Environmental is included in Attachment C.

The development will be required to provide the treatment volume for the 1 inch times the subcatchments impervious area plus 0.4 inch times the subcatchments landscaped developed area. The FocalPoint system must convey the runoff from the tributary area for a 0.95 inch type III 24 hour storm as required by the MDEP. The FocalPoint system has been designed and has been modelled in HydroCAD to demonstrate the entire volume of a 1.6 inch type III 24 hour storm is treated prior to activation of the bypass/overflow such that the system qualifies for a full stormwater credit through the City of Portland. The filter media has an exfiltration rate of 100 inches/hour. The surface media must be 176 sq. ft./acre of impervious area and 176 sq. ft./acre of vegetated area multiplies by 0.4. The filter media depth shall be 1.5 feet. The ratio of the media volume stored above it is no less than 1 to 5. The runoff from the FocalPoint will enter a subsurface chamber storage system.

Runoff will enter the subsurface chamber storage system through an Isolator Row. The Isolator Row is required to convey the peak runoff from the 1 year type III 24 hour storm, without overflowing, at a rate of 0.227 cfs per chamber. The chamber system will provide storage for the water quality volume and release the flow over a 24-48 hour period. The subsurface chambers will be installed within a stone bed assumed to have 40% porosity.

Runoff from storms producing the water quality volume will be conveyed from the pond through the underdrain system. A valve will be placed on the underdrain to regulate the outflow through the underdrain. The valve will be field adjusted to maintain the outflow time between 24 and 48 hours. Yearly maintenance of the FocalPoint system will include monitoring the outflow after a rainfall event to ensure the outflow time is within the required parameters, and inspecting the system for accumulation of sediment within the Isolator Row. Prior to construction, the applicant will enter into an inspection and maintenance contract that will cover a five year time period. Larger storms will be conveyed from the subsurface system though an Outlet Control Structure (OCS1) with a weir set at the water quality elevation.

Subcatchment 2AS is tributary to the proposed FocalPoint. The tributary area consists of the adjacent courtyard/patio area and landscaped area. The following table presents the FocalPoints performance:

Table 2		
FocalPoint 1		
	REQUIRED	**PROVIDED**
Impervious Area		1,222 sq. ft.
Vegetated Developed Area		1,695 sq. ft.
Water Quality Treatment Volume	159 cu. ft.	
Runoff 0.95 inch Type III Storm	0.03 cfs	
Runoff 1.6 inch Type III Storm	0.18 cfs	
FocalPoint mulch bed elevation		43.00
Max. stage over filter for 0.95" storm		43.78
Max. stage over filter for 1.6" storm		46.05

Rim of overflow structure		46.75
Filter surface area	9 sq. ft.	20 sq. ft.
Temporary Volume stored over filter (0.95" storm)		44 cu. ft.
Temporary Volume stored over filter (1.6" storm)		44 cu. ft.
Filter media ratio	> 1 to 5	> 1 to 5
1-Year Storm Peak Flow		0.26 cfs
Cultec Recharger 330XLHD Isolator Row Chambers required	1	2
Cultec Recharger 330XLHD required for Water Quality Volume	3	4
Total Cultec Recharger 330XLHD Chambers		27
Treatment Volume	159 cu. ft.	
Storage Base Elevation		40.00 ft.
Water Quality Volume Elevation		41.10 ft.

Four chambers are provided for the peak flow control as required to provide treatment for the water quality volume. Two of the chambers will make up the Isolator Row as required for the one year storm peak flow. The weir outlet for OCS1 will be set at the water quality volume elevation. Runoff for the water quality volume will be released from the chambers by the underdrain.

The FocalPoint filter storage tables are included in Attachment C.

The proposed stormwater system will be tied into the existing sewer system on Mountfort Street since there does not appear to be an existing drainage system in the area.

9.4 Conclusion – Overall Treatment

Table 3, below, presents a summary of the provided treatment by the FocalPoint system which satisfies the General Standard.

Table 3		
Treatment Summary		
Type	Impervious	Pervious
Non-roof area treated by FocalPoint	1,222 sq. ft.	1,695 sq. ft.
Non-roof area untreated	1,093 sq. ft.	4,912 sq. ft.
Total non-roof developed area	2,315 sq. ft.	6,607 sq. ft.
Percent Treated	52.8%	25.65%
Required Percent Treated per City Section 5.II.D	50%	0%

The proposed project will utilize one FocalPoint to mitigate runoff from the redevelopment as required by the BMP Standards and the City of Portland Standards. The redevelopment is required to control runoff from 50% of the non-roof impervious area. As proposed, the project is controlling 52.8% of the non-roof impervious area.

A Water Quality Map depicting the treated area is included in Attachment D.

9.5 Water Quantity Sizing Requirements

The stormwater management study provides an analysis of predevelopment and post-development stormwater runoff rates.

The Natural Resource Conservation Service Medium Intensity Soil Survey was used to identify onsite and off-site soils. The project site is comprised of hydrologic soil type D and what was identified as 'Cut and Fill Land", which was assumed to be soil type D. The off-site areas were modeled as hydrologic soil type D based on the Medium Intensity Soil Survey. An excerpt from the Medium Intensity Soil Survey follows this page.

The SCS TR-20 methodology, using the HydroCAD program, was employed by Gorrill Palmer to analyze predevelopment and post-development conditions. A 24-hour, SCS Type III storm distribution for the 2-, 10-, and 25-year storm frequency were used. The corresponding rainfall amount for each storm is 3.1", 4.6", and 5.8", respectively. HydroCAD computations are provided in Attachment E.

Land use cover, delineations of watershed hydraulic flow paths, and hydrologic soils data were obtained using the following data:

1. Portland 7.5 Minute Quadrangle Maps prepared by the U.S.G.S.
2. On-site topographic survey with 2' contour intervals from an existing conditions plan of the site
3. Aerial Photography of the project site, obtained from the Maine Office of GIS.
4. Natural Resource Conservation Service Medium Intensity Soil Survey
5. Field Reconnaissance.

Predevelopment Conditions

The drainage study analyzes the watershed in the predevelopment condition as depicted on the Predevelopment Watershed Map.

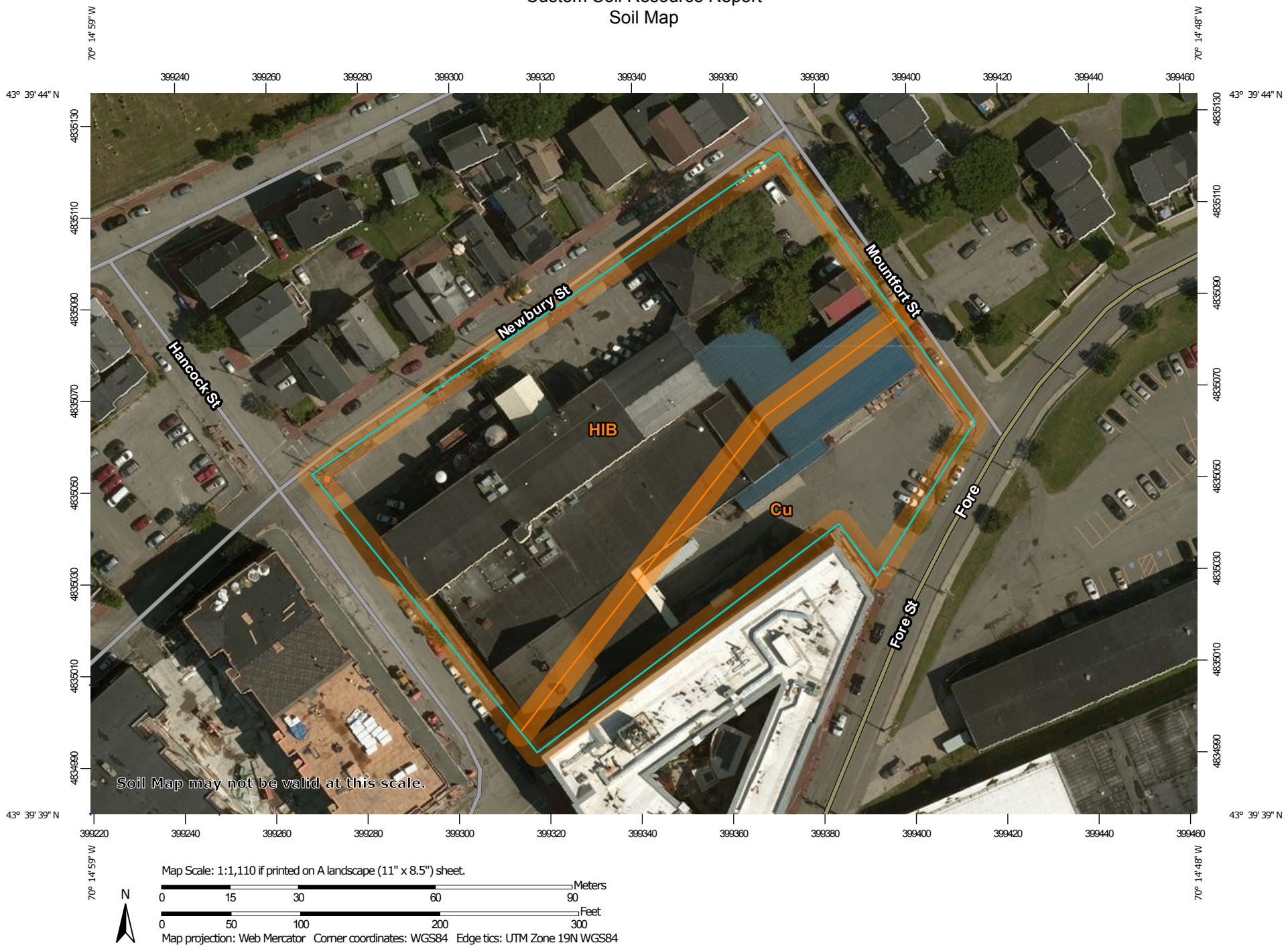
The predevelopment was analyzed as four subcatchments.

Subcatchment 1S consists of approximately 7,405 sq. ft. of onsite roof area, 13,983 sq. ft. of onsite parking area, 13,896 sq. ft. of offsite road area, and 5,358 sq. ft. of offsite sidewalk area.

Subcatchment 2S consists of approximately 3,746 sq. ft. of onsite roof area, 3,267 sq. ft. of onsite parking area, 5,097 sq. ft. of onsite vegetation, 3,006 sq. ft. of offsite road area, and 1,437 sq. ft. of offsite sidewalk area.

Subcatchment 3S consists of approximately 2,134 sq. ft. of onsite stone walkway, 38,507 sq. ft. of onsite roof area, and 9,932 sq. ft. of onsite parking area.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,110 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 12, Sep 15, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2013—Aug 11, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Cu	Cut and fill land	0.7	28.9%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	1.7	71.1%
Totals for Area of Interest		**2.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Subcatchment 4S consists of approximately 2,701 sq. ft. of onsite roof area, and 6,447 sq. ft. of onsite parking area.

Three points of interest (POI's) were analyzed corresponding to the subcatchments. The POI's are as follows:

- POI1 – Catch basin on Hancock Street
- POI2 – Catch basin on Mountfort Street
- POI3 – Property line on Fore Street.

POI1 is shown at the catch basin on Hancock Street across from Middle Street.

POI2 is shown at the catch basin on Mountfort Street as it is the closest point to the property line. The catch basin is tied into the existing sewer manhole on Fore Street. For the purposes of comparing flows to the post-development conditions, it is assumed that if the post-development flow at the sewer manhole is less than the predevelopment flow at the catch basin, the flooding standard will be satisfied.

POI3 consists of two watersheds. Watershed 3S drains to an existing catch basin onsite. The runoff is then piped subsurface to a sewer manhole in Fore Street. Watershed 4S consists of surficial flow where runoff exits the property at Fore Street. The runoff from Watershed 4S follows a curb line on Fore Street approximately 15 feet to a catch basin where the runoff enters the sewer system on Fore Street. Since the runoff from Watershed 3S and 4S merge just south of the site, they are modelled to the same POI3 at the property line on Fore Street for the purposes of comparing flows to the post-development conditions.

Table 4 below presents the peak flow rates at the points of interest in the predevelopment condition for the 2, 10, and 25 year 24 hour storm. HydroCAD calculations for pre-development conditions are included in Attachment F. A watershed map for the predevelopment conditions (Drawing WS1) is included in Attachment G.

Table 4 – Predevelopment Peak Flow Rates (cfs)

Point of Interest	Peak Flow (cfs)		
	2 Year 3.1 inches	10 Year 4.6 inches	25 Year 5.8
	Pre	Pre	Pre
1	2.82	4.22	5.34
2	1.02	1.61	2.08
3	4.15	6.20	7.84

Post-development Conditions

Analysis for the post-development condition consist of determining post-development peak flows and limiting the post-development flows to predevelopment levels. Detention will be provided through attenuation of peak flows due to water quality storage as well as storage of the 25 year peak runoff volume within the subsurface chambers.

The post-development was analyzed as five subcatchments.

Subcatchment 1S consist of approximately 13,985 sq. ft. of onsite roof area, 23,487 sq. ft. of roadway and onsite driveway, and 1,859 sq. ft. of onsite vegetated area.

Subcatchment 2S consists of approximately 8,444 sq. ft. of road area and 2,207 sq. ft. of landscaped area.

Subcatchment 2AS consists of approximately 1,222 sq. ft. of impervious courtyard area and 1,677 sq. ft. of landscaped area.

Subcatchment 2BS consists of approximately 1,327 sq. ft. of impervious roof area, 1,899 sq. ft. of impervious pavement area, and 177 sq. ft. of landscaped area.

Subcatchment 3S consist of approximately 2,134 sq. ft. of onsite stone walkway, 687 sq. ft. of landscaped area, 2,241 sq. ft. of impervious driveway area and 55,570 sq. ft. of impervious roof area.

Three points of interest (POI's) were analyzed corresponding to the subcatchments. The POI's are as follows:

- POI1 – Catch basin on Hancock Street
- POI2 – Catch basin on Mountfort Street
- POI3 – Property line on Fore Street.

POI1 is shown at the catch basin on Hancock Street across from Middle Street.

POI2 consists of three watersheds. Watershed 2S is surficial runoff starting at the northeastern side of the property near the intersection of Newbury Street and Mountfort Street. The surficial runoff flows south to a catch basin near the intersection of Mountfort Street and Fore Street. The catch basin is tied into an existing sewer manhole on Fore Street. Watershed 2AS is the area tributary to the FocalPoint. Runoff from this area is treated then stored in subsurface chambers. Runoff is then conveyed to the existing sewer line in Mountfort Street which is connected to the same sewer manhole on Fore Street as Watershed 2S. Watershed 2BS is impervious roof area, impervious pavement area, and vegetated area which is conveyed to the existing sewer line in Mountfort Street, bypassing treatment via stormdrain.

POI3 consists of Watershed 3S. Due to the addition of building roof area, Watershed 4S has been merged with Watershed 3S. POI3 is taken at the property line to show comparison to the predevelopment conditions.

HydroCAD calculations for post-development conditions are included in Attachment F. A watershed map for the post-development conditions (Drawing WS2) is included in Attachment G.

A comparison of predevelopment and post-development peak flow at the POI locations is presented in Table 5.

Table 5 – Comparison of Peak Flows (cfs)						
Point of Interest	**Peak Flow (cfs)**					
	2 – Year 3.1 inches		10 – Year 4.6 inches		25 –Year 5.8 inches	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
1	2.82	2.77	4.22	4.17	5.34	5.29
2	1.02	0.95	1.61	1.48	2.08	1.88
3	4.15	4.34	6.20	6.48	7.84	8.19

As can be seen from Table 5, the peak flows at the Points of Interest are less than predevelopment levels for POI1 and POI2. POI3 shows a slight increase in peak flows compared to predevelopment levels. POI3 consists of 55,570 sq. ft. of roof area, however, a portion of the roof is a green roof. The storage for the green roof has not been included in the model, and due to the numerous variables and inherent inaccuracies of the HydroCAD drainage program, the slight increase in peak flow is believed to be insignificant.

9.6 Conclusion – Overall Water Quantity

The peak flow to the Points of Interests have been reduced to below predevelopment peak levels for the 2-year and 10-year storms at POI1 and POI2, meeting the Flooding Standard. The slight increase at POI3 is not anticipated to have an adverse effect on downstream areas.

10. Construction BMPs

Additional water quality treatment will be provided during construction by best management practices (BMP). Standard BMP's to be employed include siltation fencing around the downslope construction perimeter, stabilized construction entrances, and siltation sacks.

11. Post-Construction Stormwater Management Plan

The stormwater facilities will be maintained by the Applicant, 86 Newbury Street, LLC or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report.

Long-term operation/maintenance for the stormwater facilities must comply with Chapter 32 of the City of Portland Code of Ordinances. An excerpt for the annual report requirements is provided below:

> *The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.*

Snow Storage:
Plowed snow stored on-site shall not be placed over the FocalPoint filter system. Snow shall be removed from the site by a private commercial waste hauler.

Inspection and Maintenance Frequency and Corrective Measures:
The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:
Inspect catch basins 2 times per year (preferably in Spring and Fall) to observe that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12" from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. At a minimum, remove floating debris and hydrocarbons at the time of the inspection.

Vegetated Areas:
Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

Ditches, Swales, and other Open Stormwater Channels:
Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel's bottom or sideslopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

Roadways and Parking Surfaces: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

Inlet/Outlet Control Structures:
Inspect structures and piping 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris within the structure.

Stormdrain Outlets:
Inspect outlets 2 times per year (preferably in Spring and Fall) to ensure that the outlets are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the outlet and within the conduit Repair any erosion damage at the stormdrain outlet.

Subsurface Detention Chambers:
Inspect chambers per manufacturer's recommendation. At a minimum, inspect chambers two times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove sediment from isolator row when depth of sediment reaches three inches.

FocalPoint System:
A five year maintenance and inspection contract shall be obtained with a professional with knowledge of erosion and stormwater control including experience with the FocalPoint system. The contract shall be renewed before its expiration. At a minimum the system shall be inspected every six months. Remove sediment and provide maintenance as required based upon the inspection.

12. Conclusion

Gorrill Palmer has been retained by 86 Newbury Street, LLC to prepare plans and permit applications for a proposed multi-use development, located at 86 Newbury Street in Portland, Maine. A stormwater management plan pursuant to the regulations of MDEP Chapter 500 Stormwater Management Rules including General, Flooding, and Basic Standards is required by the City of Portland. The basic and flooding standards have been met through detention and implementation of erosion and sedimentation controls. A stormwater management plan to provide treatment of runoff that will provide for cooling of the runoff from impervious areas, sediment removal, and subsurface filtration treatment has been proposed in the Erosion and Sedimentation Control report which will meet the intent of the Chapter 500 Standards.

13. Attachments

Attached to this section are the following items:

Attachment A – Maine Department of Environmental Protection FocalPoint Approval letter
Attachment B – Manufacturer's Review Letter
Attachment C – FocalPoint Storage Tables
Attachment D – Water Quality Map
Attachment E – HydroCAD Calculations
Attachment F – Pre/Post Watershed Map

ATTACHMENT A

MAINE DEPARTIMENT OF ENVIRONMENTAL PROTECTION FOCALPOINT APPROVAL LETTER

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

February 2, 2017

Stormwater Systems ACF-Convergent Water Technologies Alliance
23 Faith Drive
Gorham, ME 04038
ATTN: Robert Woodman and Scott Gorneau

Dear Mr. Woodman and Mr. Gorneau:

This letter replaces the May 16, 2016 approval from the Department of Environmental Protection (Department) that authorized the use of the FocalPoint system. The FocalPoint system (a high performance modular biofiltration system), when installed in series with a subsurface chamber-based treatment row, meets the requirements of the General Standards (Section 4.C.) of the Stormwater Management Rules (Chapter 500), provided that the system is filled with the FocalPoint engineered filter media; it is sized to meet the requirements of the General Standards (Section 4.B.); and it is installed, operated and maintained in accordance with the following provisions:

1. The FocalPoint system must be sized in accordance with the manufacturer's latest field test results with the goal of treating 90% of the annual runoff volume. To accomplish this, the system must be modelled in HydroCAD (or similar TR-55 modelling software) to demonstrate that the entire volume of a 0.95 inch Type III 24-hr storm is treated prior to activation of the bypass/overflow (typically set at 6" to 12" above the mulch surface). When sizing the FocalPoint system to meet Chapter 500, note that runoff from the entire contributing drainage area, including pervious areas, must be included in the modeled runoff values.

2. The surface area of the media within the FocalPoint must be a minimum of 174 square feet per 1 acre of impervious area treated (26 sq. ft. per 0.15 acres). The thickness of the media is to be no less than 1.5 ft. (18 inches) and the ratio of the surface area of the filter media bed in square feet to the ponding volume in cubic feet must be no less than 1 to 5.

3. The FocalPoint system consists of five components that include: 1) an open cell underdrain; 2) a wide aperture separation mesh wrap around the underdrain; 3) a layer of clean washed, 3/8" diameter bridging stone; 4) advanced high flow rate engineered media with an infiltration rate of 100 inches per hour; and 5) double shredded hardwood mulch. These components are built from the bottom up to create a mostly permeable profile that measures 3 feet from bottom of underdrain to top of mulch. The ponding

depth above the mulch surface is typically 6 to 12 inches and varies based on site conditions. An overflow outlet should be placed above the ponding depth.

4. The FocalPoint system requires the establishment of vegetation that is tolerant of wet and dry conditions. Plants that are not performing as desired should be replaced as needed. A list of appropriate plants for use in the FocalPoint system is provided at: http://www.acfenvironmental.com/products/stormwater-management/filtration/focal-point/.

5. The FocalPoint biofiltration system must be placed in-line with a subsurface chamber-based treatment row that is approved by the Department such that both the treated discharge and the bypass discharge from the FocalPoint system drain to the treatment row. The treatment row must be sized to treat the peak flow from a 1-year, 24-hour storm event. The treatment row structure must be continuous and without obstacle for cleaning, and must have access at both ends for the removal of accumulated sediment and debris. The treatment row must be underlain with a bottom surface consisting of 2 layers of woven geotextile (e.g., ACF S300) that extends 18 to 24 inches beyond all sides of the bottom of the structure.

6. Additional storage downstream of the FocalPoint and treatment row will be required to store at least the sum of 1.0 inch of runoff from the impervious areas and 0.4 inches of runoff from the lawn and landscaped areas that drain to the system unless attenuation of the channel protection volume is not required (i.e. direct discharge to a lake, tidal waters, or a major river). An external outlet control structure must control the flow out of a downstream storage system, sized for the entire channel protection volume, and drain in no less than 24 hours or more than 48 hours.

7. If required for flooding control, the storage system can be sized to provide for the storage and release of the peak flow with a regulated flow rate from 24-hour storms of the 2, 10, and 25-year frequencies such that the peak flows from the project site do not exceed the peak flow prior to undertaking the project.

8. The applicant must demonstrate that the design meets all the manufacturer's specifications and shall be reviewed by the manufacturer prior to submission to the Department for approval. Review and approval of the design by the manufacturer will be sufficient to demonstrate conformance with the manufacturer's specifications. The FocalPoint system must be installed by a manufacturer's certified installer or under the supervision of a manufacturer's representative.

9. Components of the system that are delivered in bulk (i.e., mulch, high flow media and clean washed bridging stone), should be contained in nylon super sacks to promote ease of storage and protection during on-site construction activities.

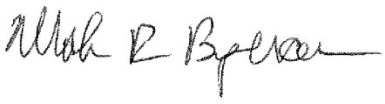
10. The FocalPoint and treatment row system should be inspected and maintained if necessary at least once every six months to maintain the established efficiency for pollutant removal. Prior to construction, a five-year binding inspection and maintenance contract must be provided prior to the Department for review and approval, and must be renewed before contract expiration. The contract will be with a professional with knowledge of erosion and stormwater control, including experience with the proposed system.

11. The overall stormwater management design must meet all Department criteria and sizing specifications and will be reviewed and approved by the Department prior to use.

12. This approval is conditional on full-scale, cold climate field testing results, performed in accordance with the Department's protocols, confirming that the pollutant removal efficiency and sizing of the FocalPoint system are appropriate. The "permit shield" provision (Section 14) of the Chapter 500 rules will apply, and the Department will not require the replacement of the system if, with proper maintenance, pollutant removals do not satisfy the General Standard Best Management Practices.

Questions concerning this decision should be directed to David Waddell at (207) 215-6932 or Jeff Dennis at (207) 215-6376.

Sincerely,



Mark Bergeron, P.E.
Director
Bureau of Land Resources

cc: Don Witherill, Maine DEP

ATTACHMENT B

MANUFACTURER'S REVIEW LETTER

ACF Environmental
2831 Cardwell Rd
Richmond, VA 23234

Benjamin Grondin
Design Engineer
Gorrill-Palmer
707 Sable Oaks Drive, Suite 30
South Portland, ME 04106

April 9, 2018

SUBJECT: Plan Review and Construction Oversight Commitment
Shipyard Redevelopment

Dear Benjamin,

Thank you for forwarding the check list, HydroCAD model and preliminary plans dated March 2018 for the Shipyard Redevelopment project in Portland, Maine to ACF environmental for review of the proposed FocalPoint biofiltration system.

Our team has reviewed the plans and take no exceptions to the location and application of the FocalPoint system for this project.

It appears that the system has been designed in accordance with the design criteria set forth by Maine DEP in the May 16, 2016 FocalPoint system approval letter and meets the system's specifications etc.

With regard to the installation, ACF Environmental will host a preconstruction meeting with the site contractor and will be on-site during the entire installation to ensure that the installation is being conducted in accordance with our standard installation procedures.

ACF Environmental will also provide the first year's maintenance on the FocalPoint bed area.

We look forward to a successful completion of this project.

Sincerely,

W. Scott Gorneau, P.E.
National Manager – Stormwater Systems
ACF Environmental

ATTACHMENT C

FOCALPOINT STORAGE TABLES

Stage-Area-Storage for Pond P1: Cultec Chamber

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
39.50	0	42.15	268
39.55	3	42.20	272
39.60	6	42.25	276
39.65	8	42.30	279
39.70	11	42.35	283
39.75	14	42.40	286
39.80	17	42.45	289
39.85	19	42.50	292
39.90	22	42.55	295
39.95	25	42.60	298
40.00	28	42.65	300
40.05	34	42.70	303
40.10	40	42.75	306
40.15	46	42.80	309
40.20	52	42.85	312
40.25	58	42.90	314
40.30	64	42.95	317
40.35	70	43.00	**320**
40.40	76		
40.45	82		
40.50	88		
40.55	94		
40.60	100		
40.65	106		
40.70	112		
40.75	118		
40.80	124		
40.85	130		
40.90	136		
40.95	141		
41.00	147		
41.05	153		
41.10	159		
41.15	165		
41.20	170		
41.25	176		
41.30	182		
41.35	187		
41.40	193		
41.45	198		
41.50	204		
41.55	209		
41.60	214		
41.65	220		
41.70	225		
41.75	230		
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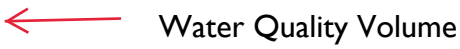
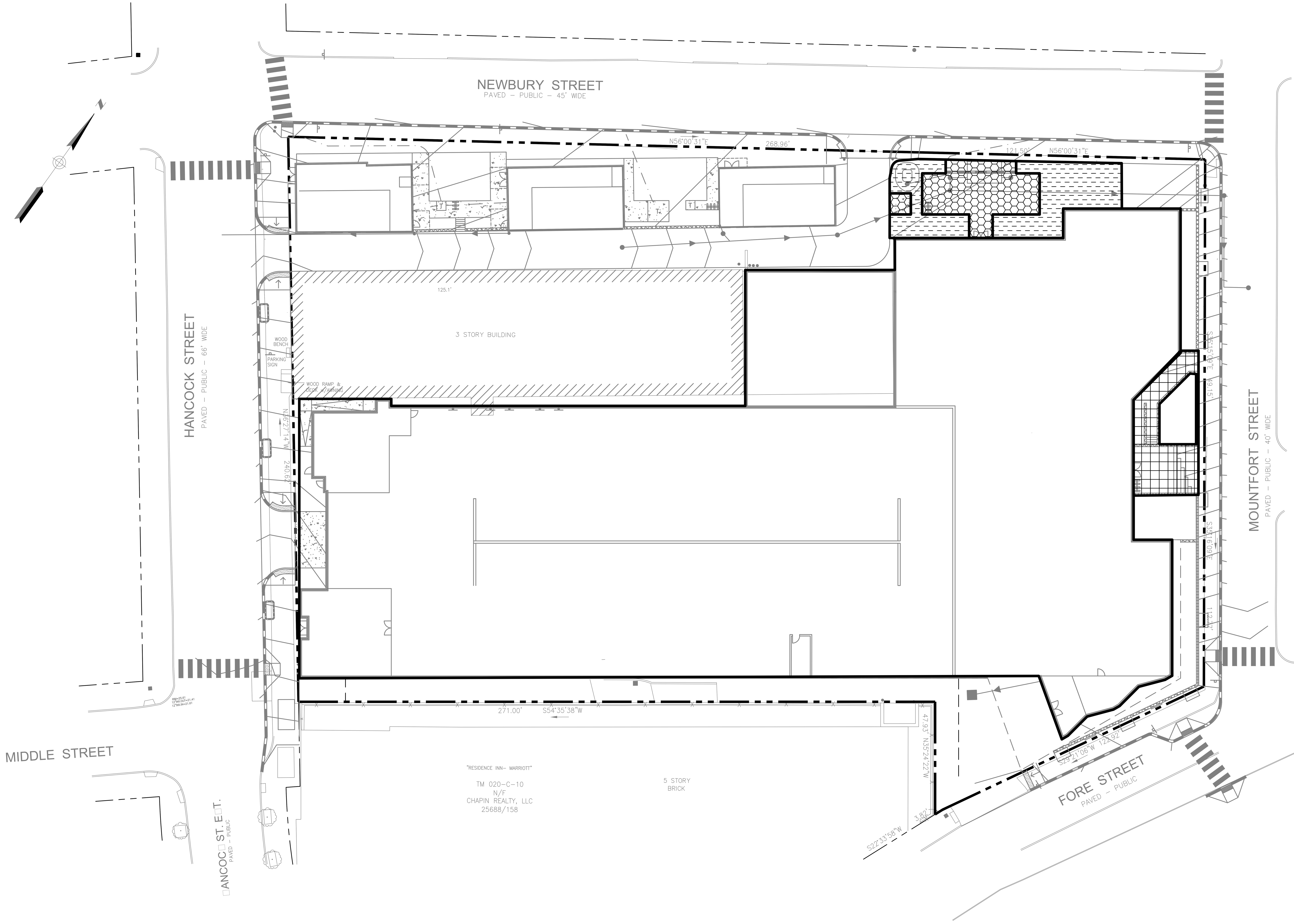
41.85	240		
41.90	245		
41.95	250		
42.00	254		
42.05	259		
42.10	263		



ATTACHMENT D

WATER QUALITY MAP

Table 3 - Treatment Summary		
	Impervious (Non-Roof)	Landscaped
Area Treated by Focal Point 1 (SF)	1,222	1,695
Total Area Treated (SF)	1,222	1,695
Area Untreated (SF)	1,093	4,912
Total Area (SF)	2,315	6,607
Percent Treated	52.8%	25.65%
Percent Required	50%	0%



LEGEND:

- NEW NON-ROOF IMPERVIOUS TREATED BY FOCALPOINT #1 (1,222 SF)
- NON-ROOF REDEVELOPED AREA UNTREATED (1,093 SF)
- VEGETATED AREA TREATED BY FOCALPOINT #1 (1,695 SF)

1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS ANTHONY
15250
LICENSED
PROFESSIONAL ENGINEER
7/2/18

U:\3184_Shipyard Brewing\Z - CAD\DWG\3184-WQ.dwg 7/3/2018 4:37 PM

Rev.	Date	Revision

Issued For	Date	By
SITE PLAN AND SUBDIVISION	7/3/18	LSA

Design: CEH | Draft: | Date: JUL 2018
Checked: LSA | Scale: 1"=20' | Job No.: 3184
File Name: 3184-WQ.dwg

This plan shall not be modified without written permission from Gorrill Palmer (GP). Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to GP.

GORRILL PALMER
Relationships. Responsiveness. Results.
www.gorrillpalmer.com
207.772.2515

Drawing Name: Water Quality Map
Project: Shipyard Redevelopment
Newbury Street, Portland, ME
Client: 86 Newbury Street, LLC
470 Fore Street, Portland, ME 04101

Drawing No. WQ

ATTACHMENT E

HYDROCAD CALCULATIONS

0.95 INCH STORM

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

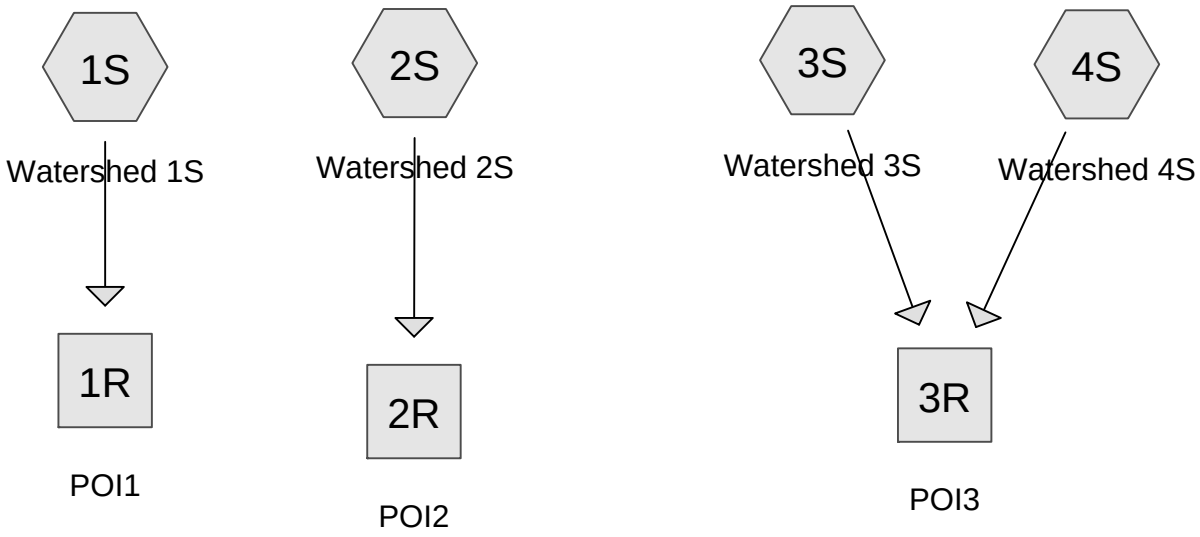
Pond FP1: FocalPoint 20sf Peak Elev=43.78' Storage=0 cf Inflow=0.02 cfs 54 cf
Primary=0.02 cfs 54 cf Secondary=0.00 cfs 0 cf Outflow=0.02 cfs 54 cf

1.6 INCH STORM

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond FP1: FocalPoint 20sf Peak Elev=46.05' Storage=1 cf Inflow=0.05 cfs 158 cf
Primary=0.05 cfs 158 cf Secondary=0.00 cfs 0 cf Outflow=0.05 cfs 158 cf

PRE-DEVELOPMENT



Subcat Reach Pond Link

Routing Diagram for Pre_2018FEB22
Prepared by Gorrill Palmer, Printed 7/3/2018
HydroCAD® 10.00-16 s/n 01265 © 2015 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Watershed 1S Runoff Area=40,642 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=5.34 cfs 17,433 cf

Subcatchment 2S: Watershed 2S Runoff Area=16,553 sf 66.51% Impervious Runoff Depth>4.70"
Tc=5.0 min CN=93 Runoff=2.08 cfs 6,489 cf

Subcatchment 3S: Watershed 3S Runoff Area=50,573 sf 95.78% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=6.64 cfs 21,693 cf

Subcatchment 4S: Watershed 4S Runoff Area=9,148 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=1.20 cfs 3,924 cf

Reach 1R: POI1 Inflow=5.34 cfs 17,433 cf
Outflow=5.34 cfs 17,433 cf

Reach 2R: POI2 Inflow=2.08 cfs 6,489 cf
Outflow=2.08 cfs 6,489 cf

Reach 3R: POI3 Inflow=7.84 cfs 25,617 cf
Outflow=7.84 cfs 25,617 cf

Total Runoff Area = 116,916 sf Runoff Volume = 49,539 cf Average Runoff Depth = 5.08"
6.57% Pervious = 7,677 sf 93.43% Impervious = 109,239 sf

Summary for Subcatchment 1S: Watershed 1S

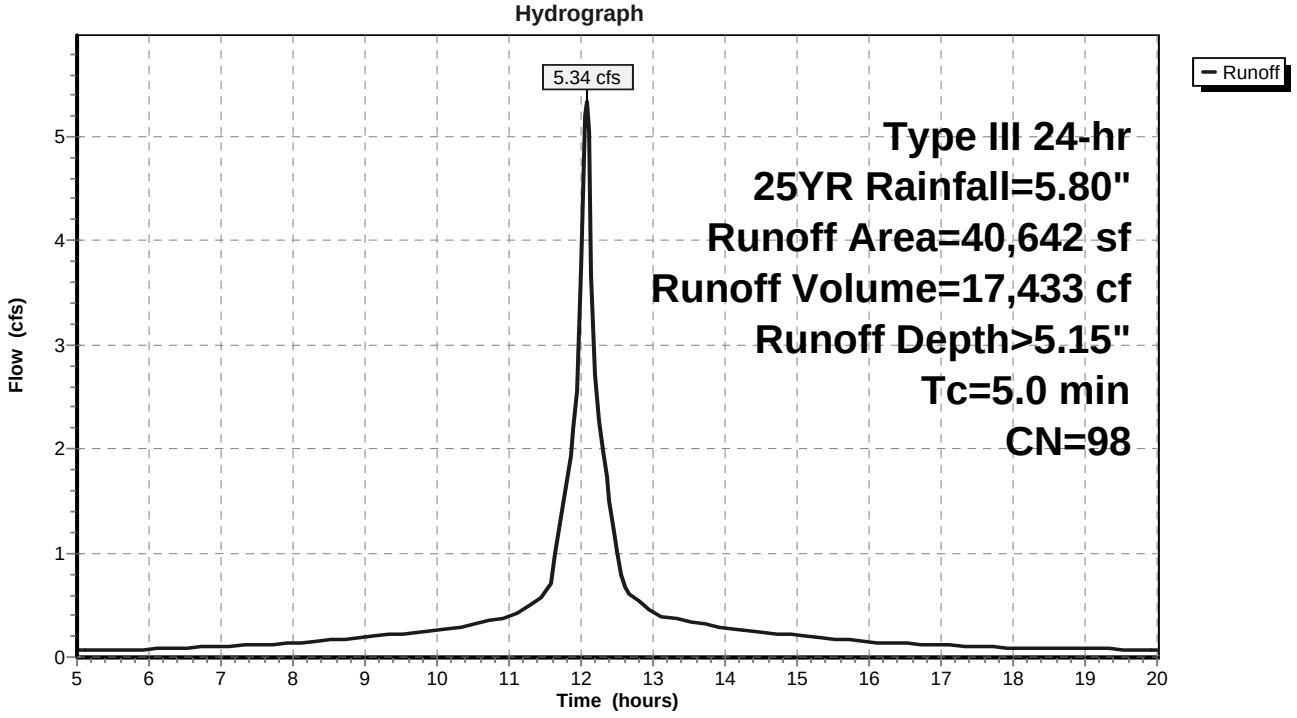
Runoff = 5.34 cfs @ 12.07 hrs, Volume= 17,433 cf, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
7,405	98	Roofs, HSG D
13,983	98	Paved parking, HSG D
13,896	98	Paved roads w/curbs & sewers, HSG D
5,358	98	Paved roads w/curbs & sewers, HSG D
40,642	98	Weighted Average
40,642		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Path**

Subcatchment 1S: Watershed 1S



Summary for Subcatchment 2S: Watershed 2S

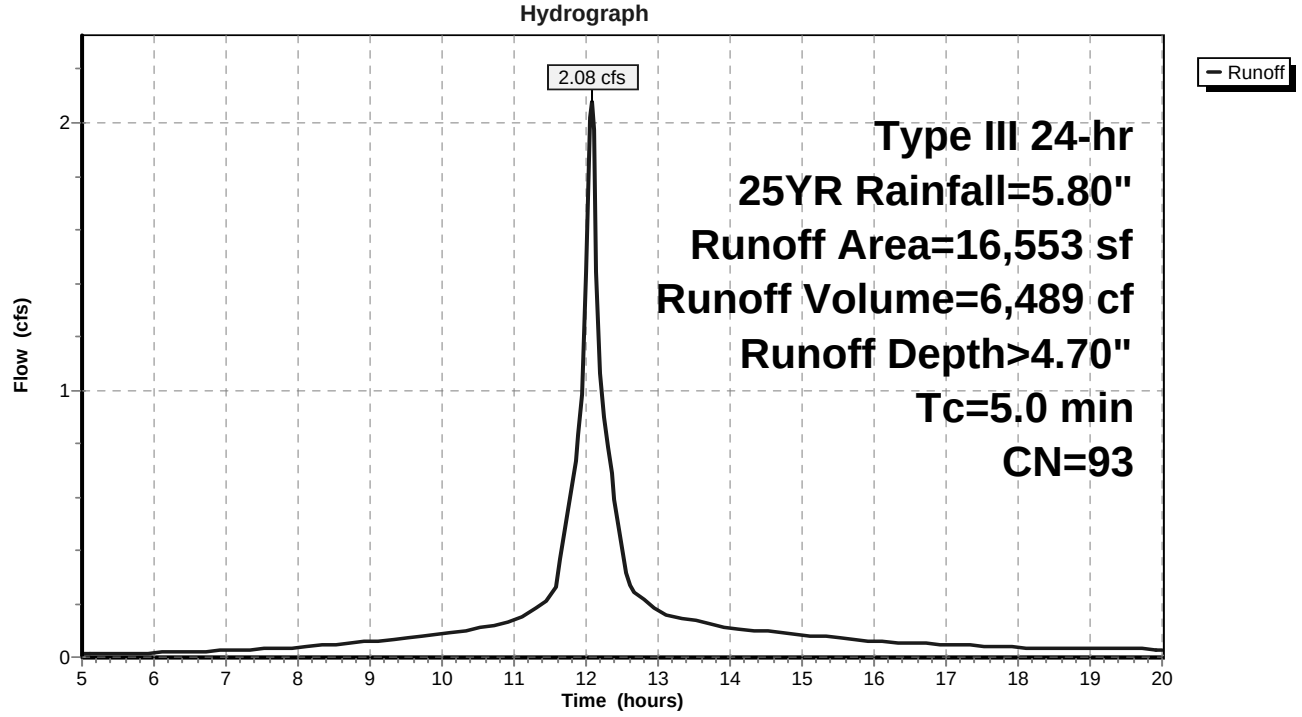
Runoff = 2.08 cfs @ 12.07 hrs, Volume= 6,489 cf, Depth> 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
3,746	98	Roofs, HSG D
3,267	98	Paved parking, HSG D
2,783	98	Paved roads w/curbs & sewers, HSG D
1,214	98	Paved roads w/curbs & sewers, HSG D
5,543	84	50-75% Grass cover, Fair, HSG D
16,553	93	Weighted Average
5,543		33.49% Pervious Area
11,010		66.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Segment AB**

Subcatchment 2S: Watershed 2S



Summary for Subcatchment 3S: Watershed 3S

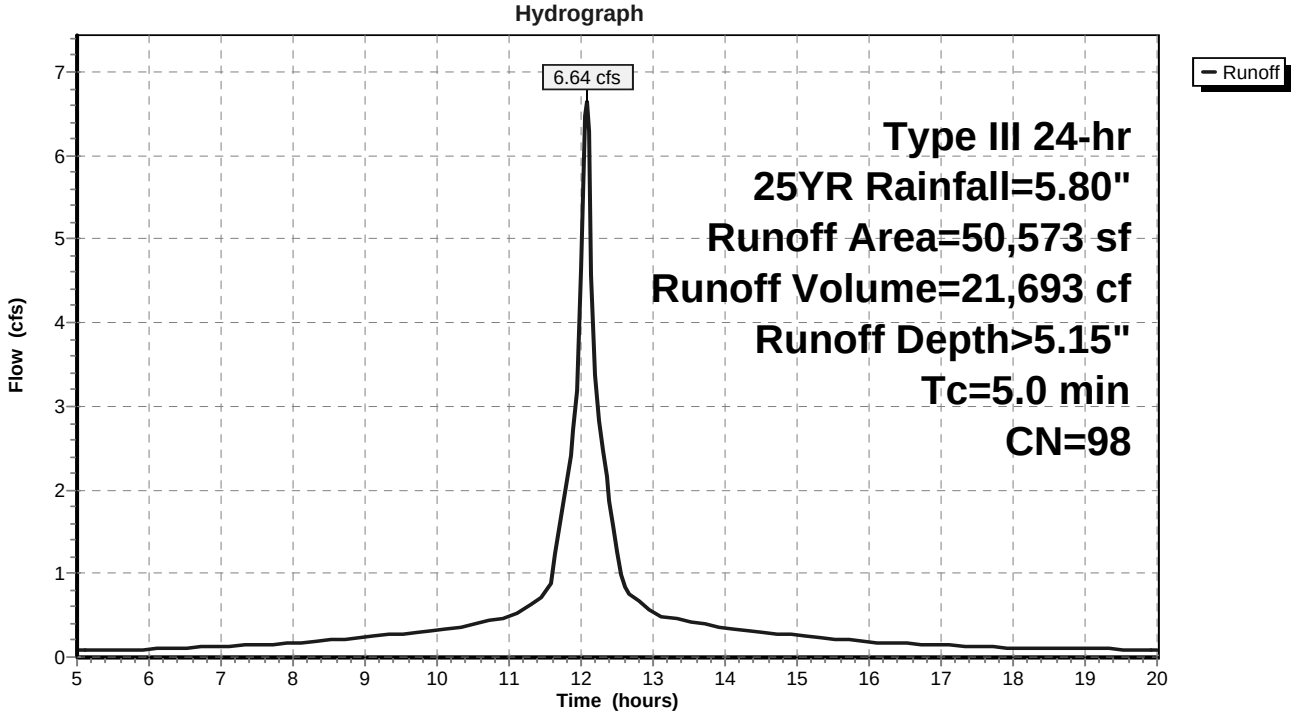
Runoff = 6.64 cfs @ 12.07 hrs, Volume= 21,693 cf, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
2,134	96	Gravel surface, HSG D
38,507	98	Roofs, HSG D
9,932	98	Paved parking, HSG D
50,573	98	Weighted Average
2,134		4.22% Pervious Area
48,439		95.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Path**

Subcatchment 3S: Watershed 3S



Summary for Subcatchment 4S: Watershed 4S

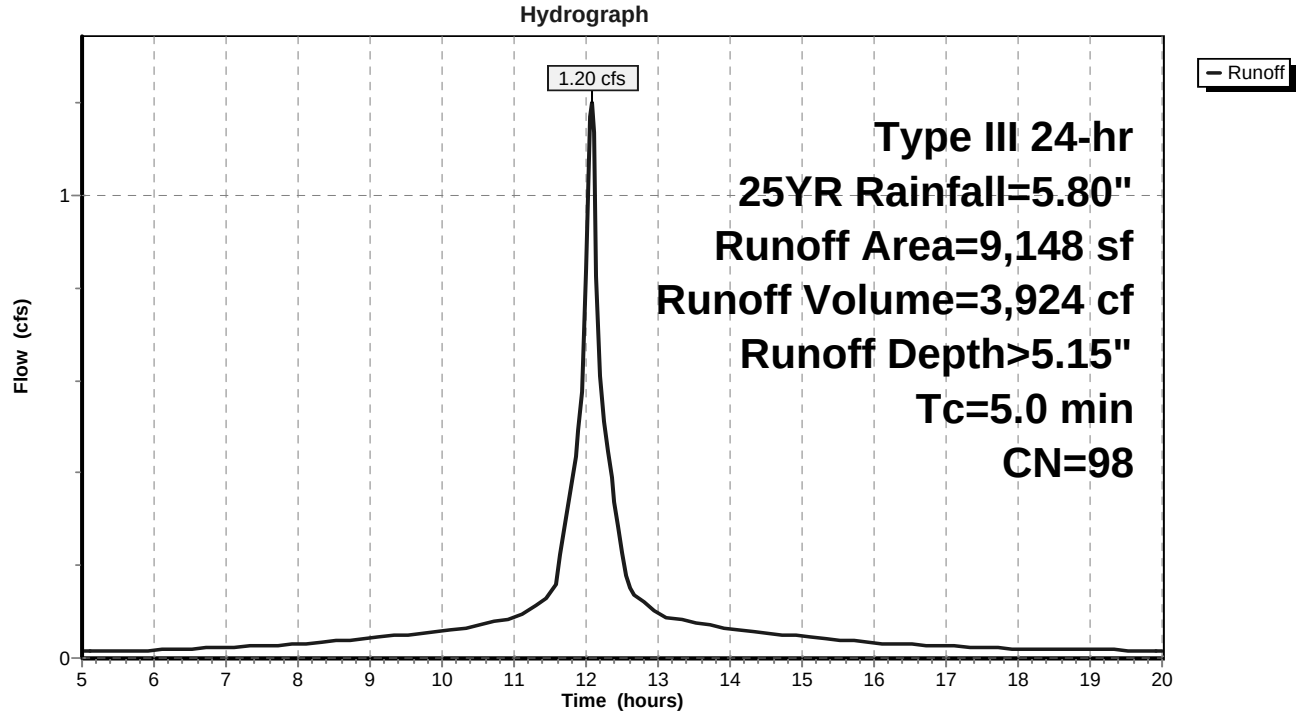
Runoff = 1.20 cfs @ 12.07 hrs, Volume= 3,924 cf, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
2,701	98	Roofs, HSG D
6,447	98	Paved parking, HSG D
9,148	98	Weighted Average
9,148		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Path**

Subcatchment 4S: Watershed 4S

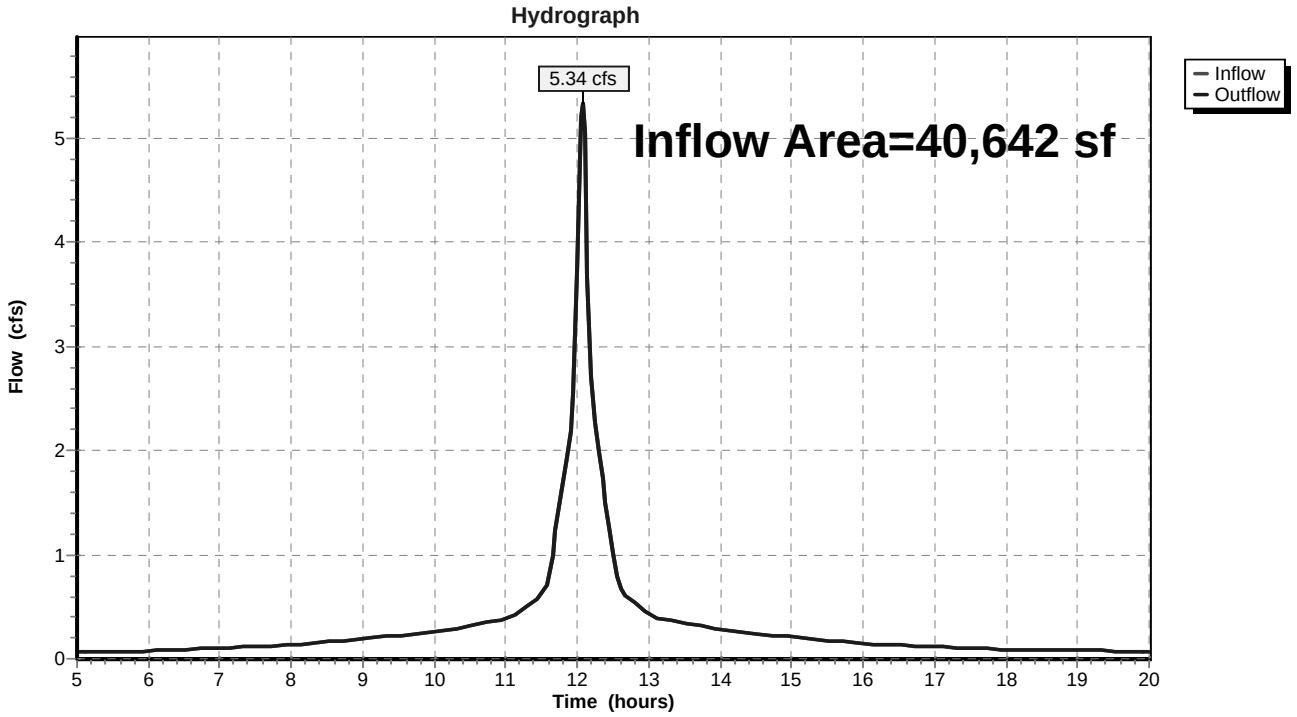


Summary for Reach 1R: POI1

Inflow Area = 40,642 sf,100.00% Impervious, Inflow Depth > 5.15" for 25YR event
Inflow = 5.34 cfs @ 12.07 hrs, Volume= 17,433 cf
Outflow = 5.34 cfs @ 12.07 hrs, Volume= 17,433 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: POI1

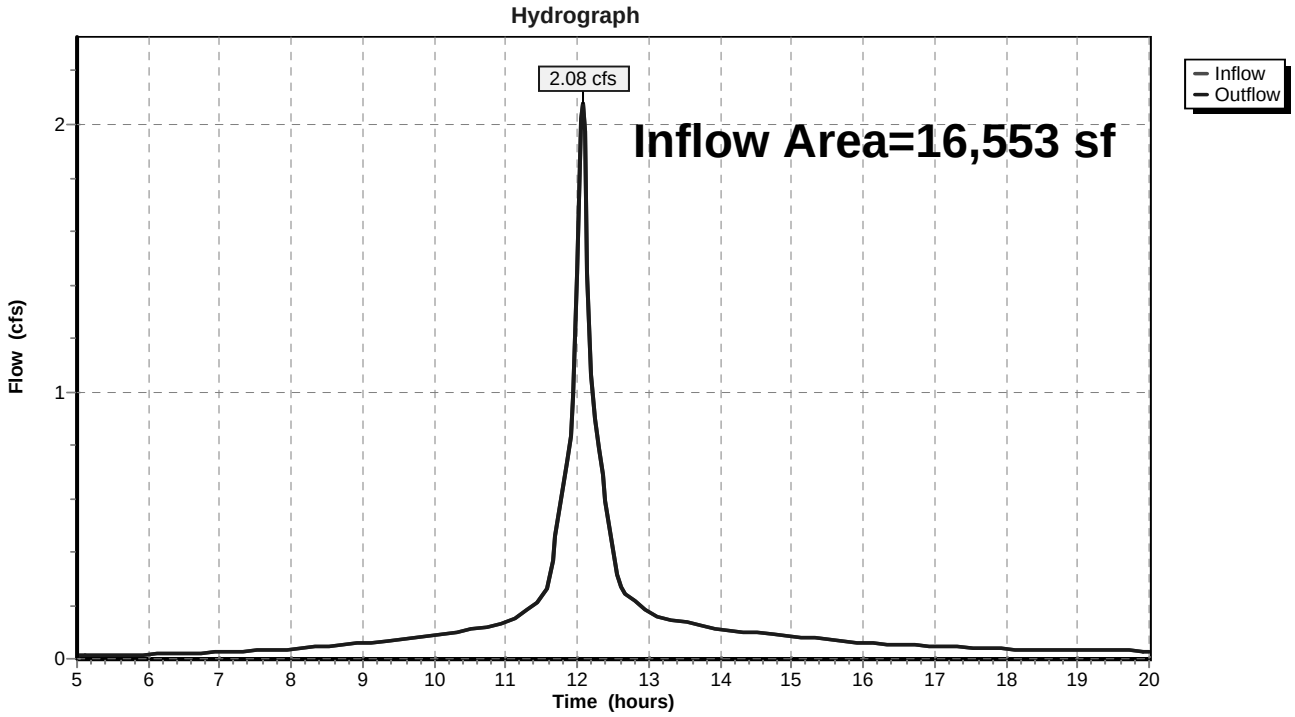


Summary for Reach 2R: POI2

Inflow Area = 16,553 sf, 66.51% Impervious, Inflow Depth > 4.70" for 25YR event
Inflow = 2.08 cfs @ 12.07 hrs, Volume= 6,489 cf
Outflow = 2.08 cfs @ 12.07 hrs, Volume= 6,489 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: POI2

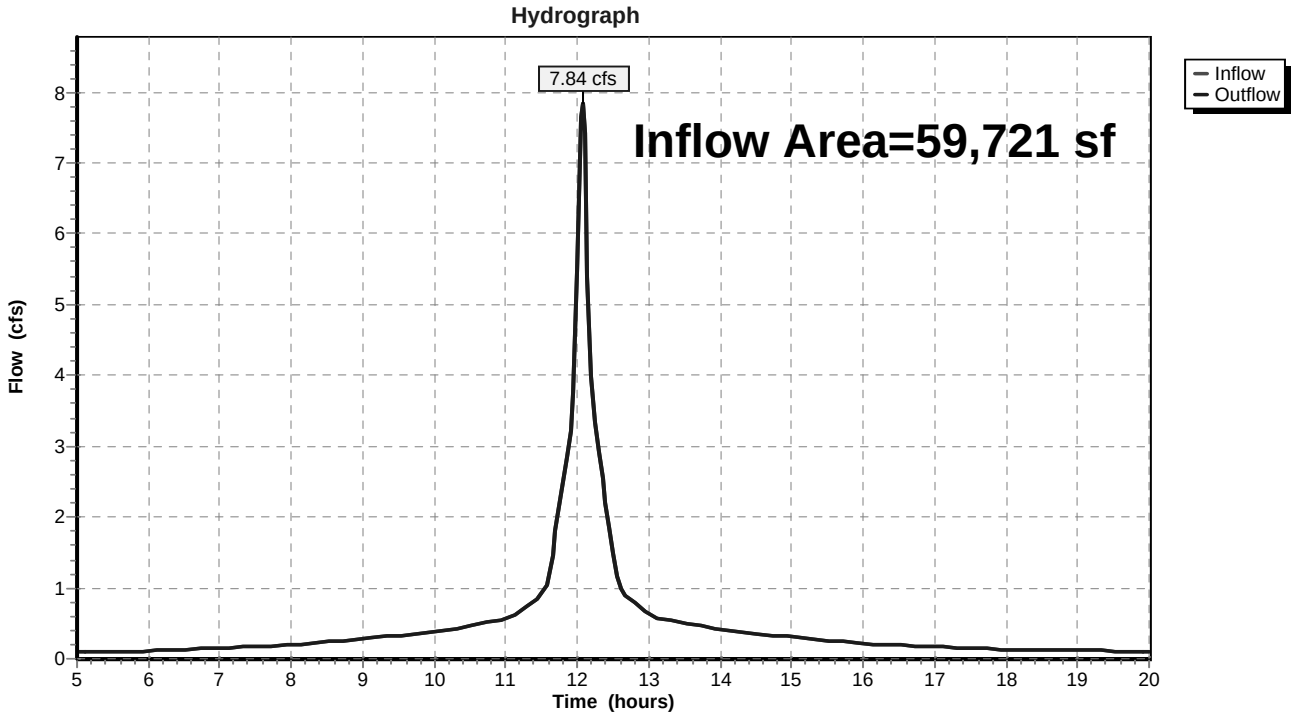


Summary for Reach 3R: POI3

Inflow Area = 59,721 sf, 96.43% Impervious, Inflow Depth > 5.15" for 25YR event
Inflow = 7.84 cfs @ 12.07 hrs, Volume= 25,617 cf
Outflow = 7.84 cfs @ 12.07 hrs, Volume= 25,617 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 3R: POI3



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Watershed 1S Runoff Area=40,642 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=2.82 cfs 9,084 cf

Subcatchment 2S: Watershed 2S Runoff Area=16,553 sf 66.51% Impervious Runoff Depth>2.22"
Tc=5.0 min CN=93 Runoff=1.02 cfs 3,062 cf

Subcatchment 3S: Watershed 3S Runoff Area=50,573 sf 95.78% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=3.51 cfs 11,303 cf

Subcatchment 4S: Watershed 4S Runoff Area=9,148 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=0.64 cfs 2,045 cf

Reach 1R: POI1 Inflow=2.82 cfs 9,084 cf
Outflow=2.82 cfs 9,084 cf

Reach 2R: POI2 Inflow=1.02 cfs 3,062 cf
Outflow=1.02 cfs 3,062 cf

Reach 3R: POI3 Inflow=4.15 cfs 13,348 cf
Outflow=4.15 cfs 13,348 cf

Total Runoff Area = 116,916 sf Runoff Volume = 25,494 cf Average Runoff Depth = 2.62"
6.57% Pervious = 7,677 sf 93.43% Impervious = 109,239 sf

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Watershed 1S Runoff Area=40,642 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=4.22 cfs 13,731 cf

Subcatchment 2S: Watershed 2S Runoff Area=16,553 sf 66.51% Impervious Runoff Depth>3.60"
Tc=5.0 min CN=93 Runoff=1.61 cfs 4,961 cf

Subcatchment 3S: Watershed 3S Runoff Area=50,573 sf 95.78% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=5.25 cfs 17,086 cf

Subcatchment 4S: Watershed 4S Runoff Area=9,148 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.95 cfs 3,091 cf

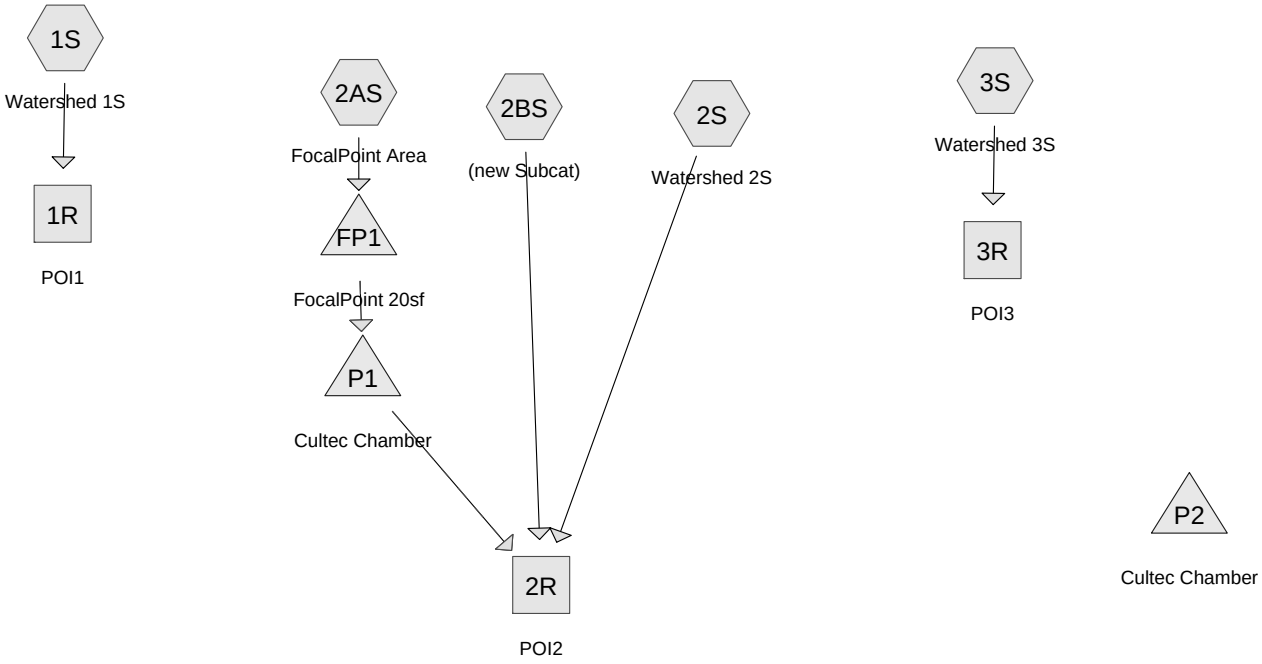
Reach 1R: POI1 Inflow=4.22 cfs 13,731 cf
Outflow=4.22 cfs 13,731 cf

Reach 2R: POI2 Inflow=1.61 cfs 4,961 cf
Outflow=1.61 cfs 4,961 cf

Reach 3R: POI3 Inflow=6.20 cfs 20,177 cf
Outflow=6.20 cfs 20,177 cf

Total Runoff Area = 116,916 sf Runoff Volume = 38,868 cf Average Runoff Depth = 3.99"
6.57% Pervious = 7,677 sf 93.43% Impervious = 109,239 sf

POST DEVELOPMENT



Subcat Reach Pond Link

Routing Diagram for Post_FocalPoint1
Prepared by Gorrill Palmer, Printed 7/3/2018
HydroCAD® 10.00-16 s/n 01265 © 2015 HydroCAD Software Solutions LLC

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Watershed 1S Runoff Area=39,331 sf 95.27% Impervious Runoff Depth=5.44"
Tc=5.0 min CN=97 Runoff=5.29 cfs 17,845 cf

Subcatchment 2AS: FocalPoint Area Runoff Area=2,899 sf 42.15% Impervious Runoff Depth=4.43"
Tc=5.0 min CN=88 Runoff=0.35 cfs 1,071 cf

Subcatchment 2BS: (new Subcat) Runoff Area=3,403 sf 94.80% Impervious Runoff Depth=5.44"
Tc=5.0 min CN=97 Runoff=0.46 cfs 1,544 cf

Subcatchment 2S: Watershed 2S Runoff Area=10,651 sf 79.28% Impervious Runoff Depth=5.10"
Tc=5.0 min CN=94 Runoff=1.39 cfs 4,525 cf

Subcatchment 3S: Watershed 3S Runoff Area=60,632 sf 95.35% Impervious Runoff Depth>5.56"
Tc=5.0 min CN=98 Runoff=8.19 cfs 28,100 cf

Reach 1R: POI1 Inflow=5.29 cfs 17,845 cf
Outflow=5.29 cfs 17,845 cf

Reach 2R: POI2 Inflow=1.88 cfs 7,141 cf
Outflow=1.88 cfs 7,141 cf

Reach 3R: POI3 Inflow=8.19 cfs 28,100 cf
Outflow=8.19 cfs 28,100 cf

Pond FP1: FocalPoint 20sf Peak Elev=46.84' Storage=52 cf Inflow=0.35 cfs 1,071 cf
Primary=0.05 cfs 788 cf Secondary=0.30 cfs 283 cf Outflow=0.35 cfs 1,071 cf

Pond P1: Cultec Chamber Peak Elev=42.73' Storage=305 cf Inflow=0.35 cfs 1,071 cf
Primary=0.03 cfs 984 cf Secondary=0.08 cfs 87 cf Outflow=0.11 cfs 1,071 cf

Pond P2: Cultec Chamber Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf

Total Runoff Area = 116,916 sf Runoff Volume = 53,086 cf Average Runoff Depth = 5.45"
7.48% Pervious = 8,741 sf 92.52% Impervious = 108,175 sf

Summary for Subcatchment 1S: Watershed 1S

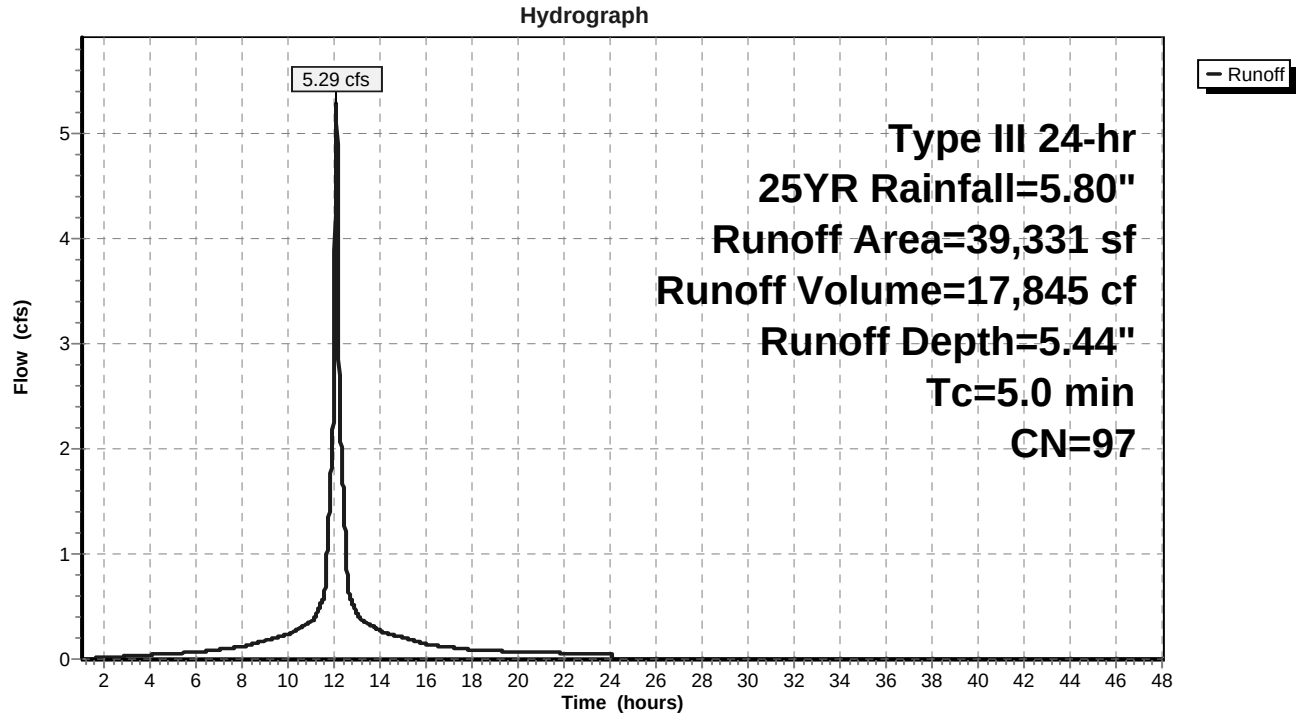
Runoff = 5.29 cfs @ 12.07 hrs, Volume= 17,845 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
13,985	98	Roofs, HSG D
23,487	98	Paved roads w/curbs & sewers, HSG D
1,859	80	>75% Grass cover, Good, HSG D
39,331	97	Weighted Average
1,859		4.73% Pervious Area
37,472		95.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Path**

Subcatchment 1S: Watershed 1S



Summary for Subcatchment 2AS: FocalPoint Area

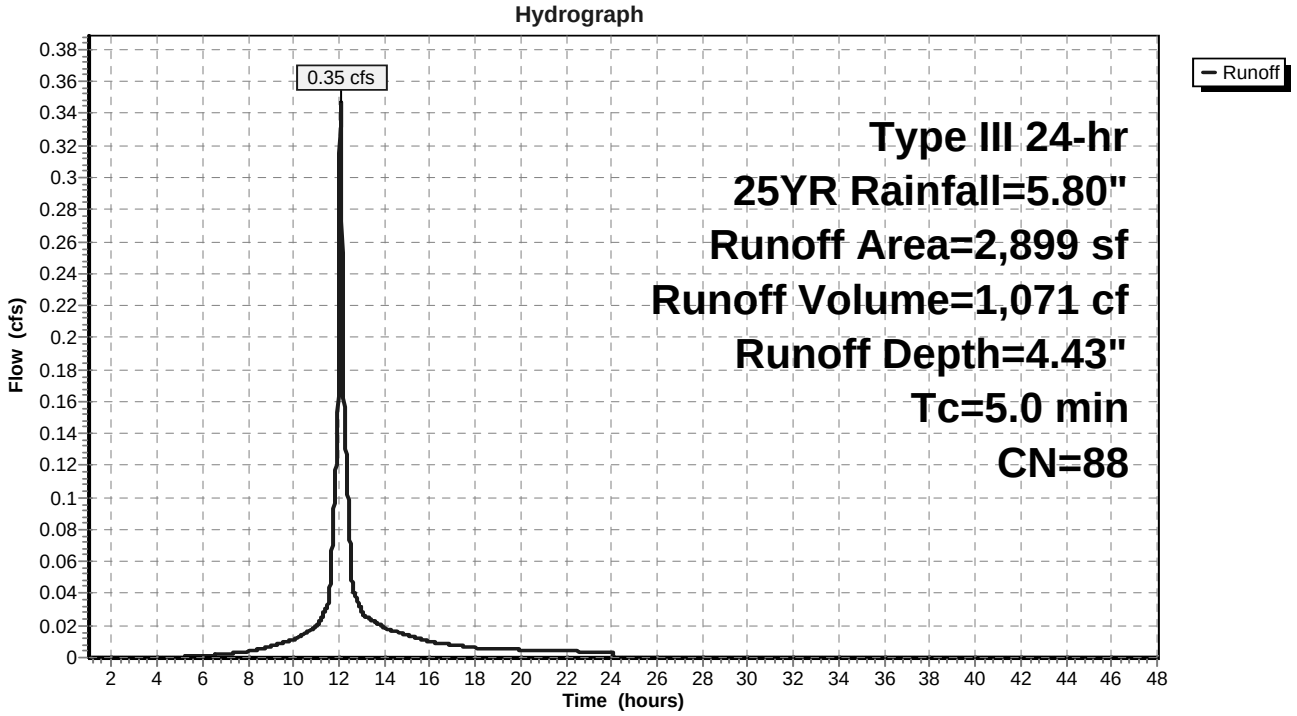
Runoff = 0.35 cfs @ 12.07 hrs, Volume= 1,071 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
1,222	98	Paved parking, HSG D
1,677	80	>75% Grass cover, Good, HSG D
2,899	88	Weighted Average
1,677		57.85% Pervious Area
1,222		42.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, ab**

Subcatchment 2AS: FocalPoint Area



Summary for Subcatchment 2BS: (new Subcat)

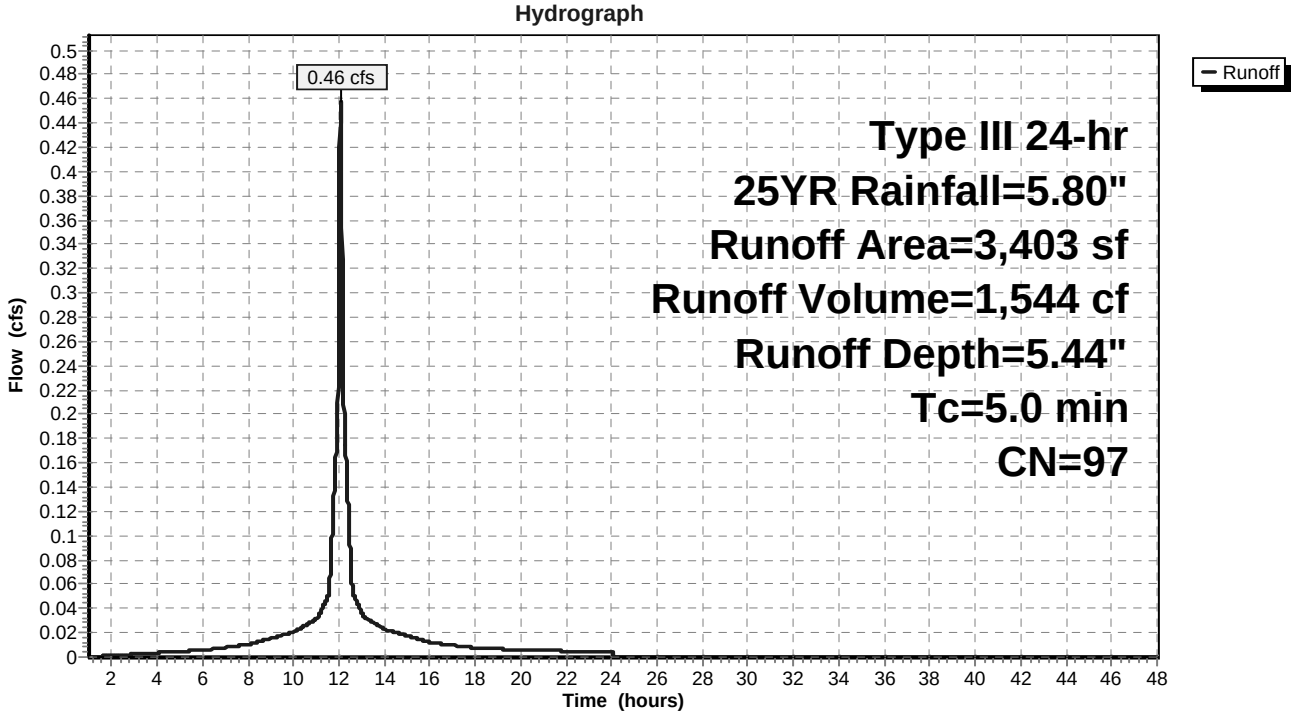
Runoff = 0.46 cfs @ 12.07 hrs, Volume= 1,544 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
1,327	98	Roofs, HSG D
1,899	98	Paved roads w/curbs & sewers, HSG D
177	80	>75% Grass cover, Good, HSG D
3,403	97	Weighted Average
177		5.20% Pervious Area
3,226		94.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, a-b**

Subcatchment 2BS: (new Subcat)



Summary for Subcatchment 2S: Watershed 2S

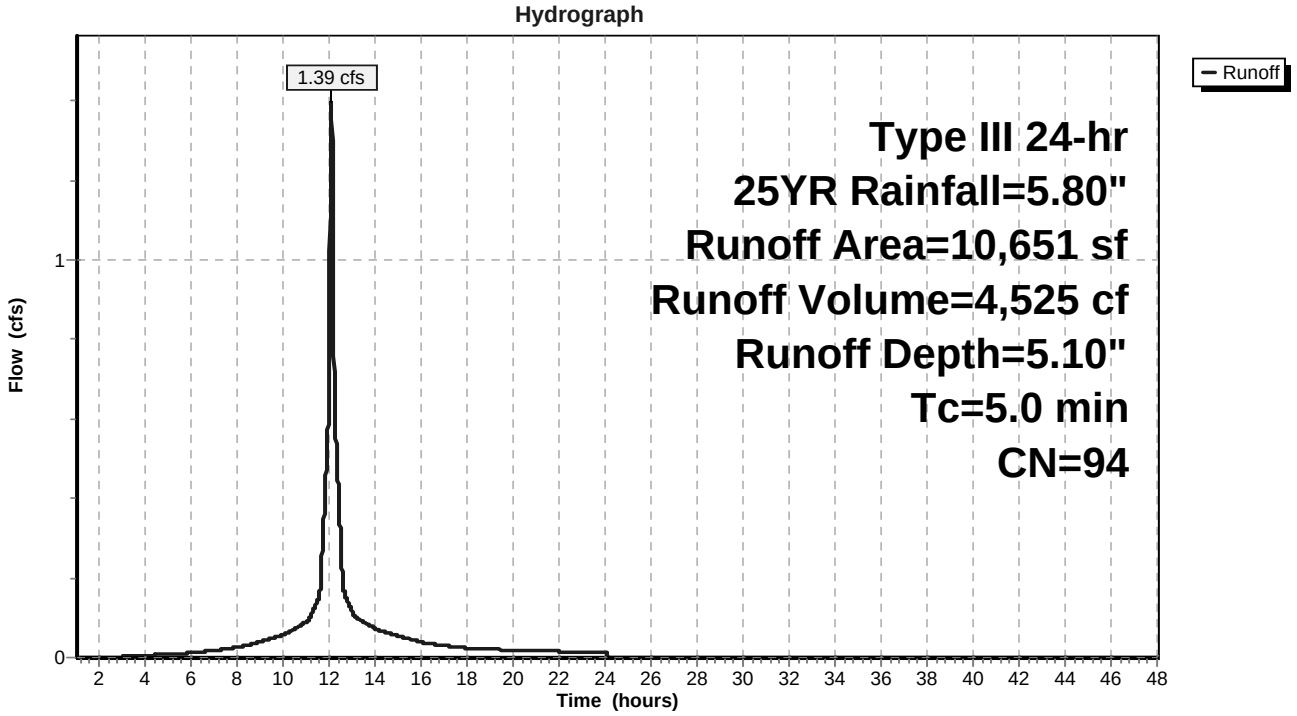
Runoff = 1.39 cfs @ 12.07 hrs, Volume= 4,525 cf, Depth= 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
8,444	98	Paved roads w/curbs & sewers, HSG D
2,207	80	>75% Grass cover, Good, HSG D
10,651	94	Weighted Average
2,207		20.72% Pervious Area
8,444		79.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, a-b**

Subcatchment 2S: Watershed 2S



Summary for Subcatchment 3S: Watershed 3S

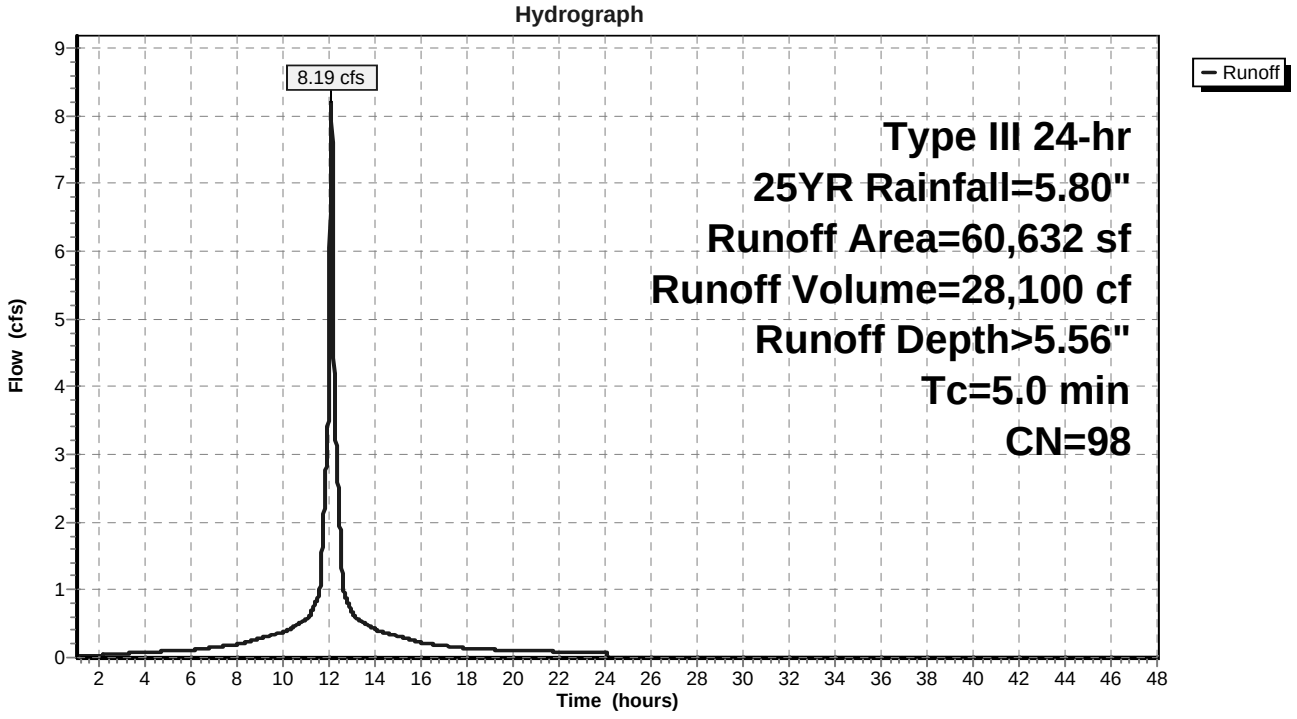
Runoff = 8.19 cfs @ 12.07 hrs, Volume= 28,100 cf, Depth> 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR Rainfall=5.80"

Area (sf)	CN	Description
2,241	98	Paved parking, HSG D
55,570	98	Roofs, HSG D
687	80	>75% Grass cover, Good, HSG D
2,134	96	Gravel surface, HSG D
60,632	98	Weighted Average
2,821		4.65% Pervious Area
57,811		95.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Path**

Subcatchment 3S: Watershed 3S

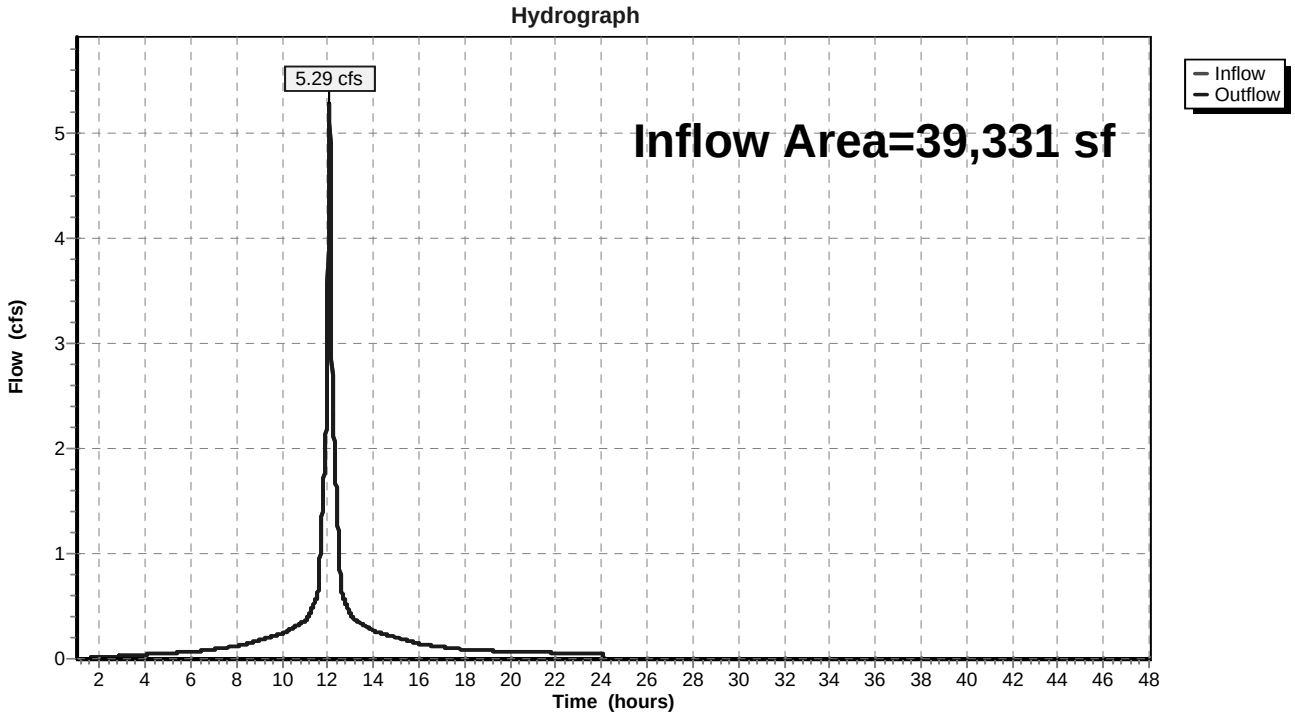


Summary for Reach 1R: POI1

Inflow Area = 39,331 sf, 95.27% Impervious, Inflow Depth = 5.44" for 25YR event
Inflow = 5.29 cfs @ 12.07 hrs, Volume= 17,845 cf
Outflow = 5.29 cfs @ 12.07 hrs, Volume= 17,845 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 3

Reach 1R: POI1

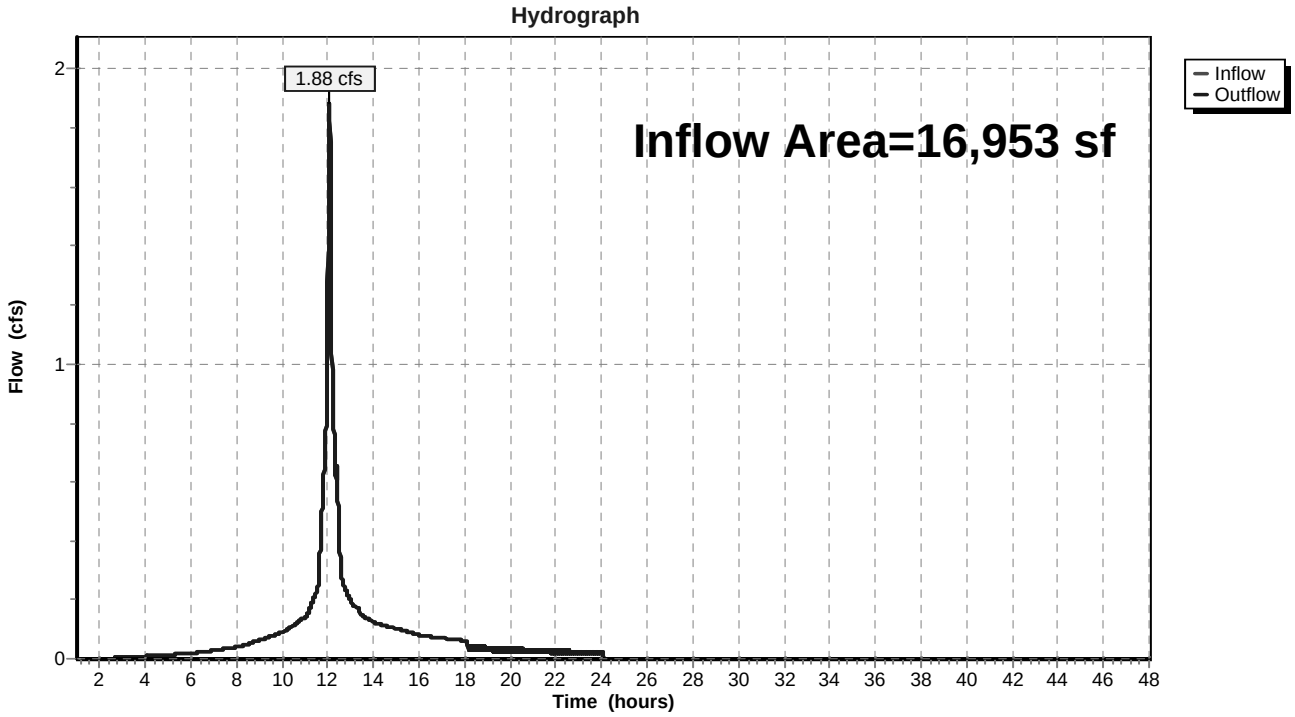


Summary for Reach 2R: POI2

Inflow Area = 16,953 sf, 76.05% Impervious, Inflow Depth = 5.05" for 25YR event
Inflow = 1.88 cfs @ 12.07 hrs, Volume= 7,141 cf
Outflow = 1.88 cfs @ 12.07 hrs, Volume= 7,141 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 3

Reach 2R: POI2

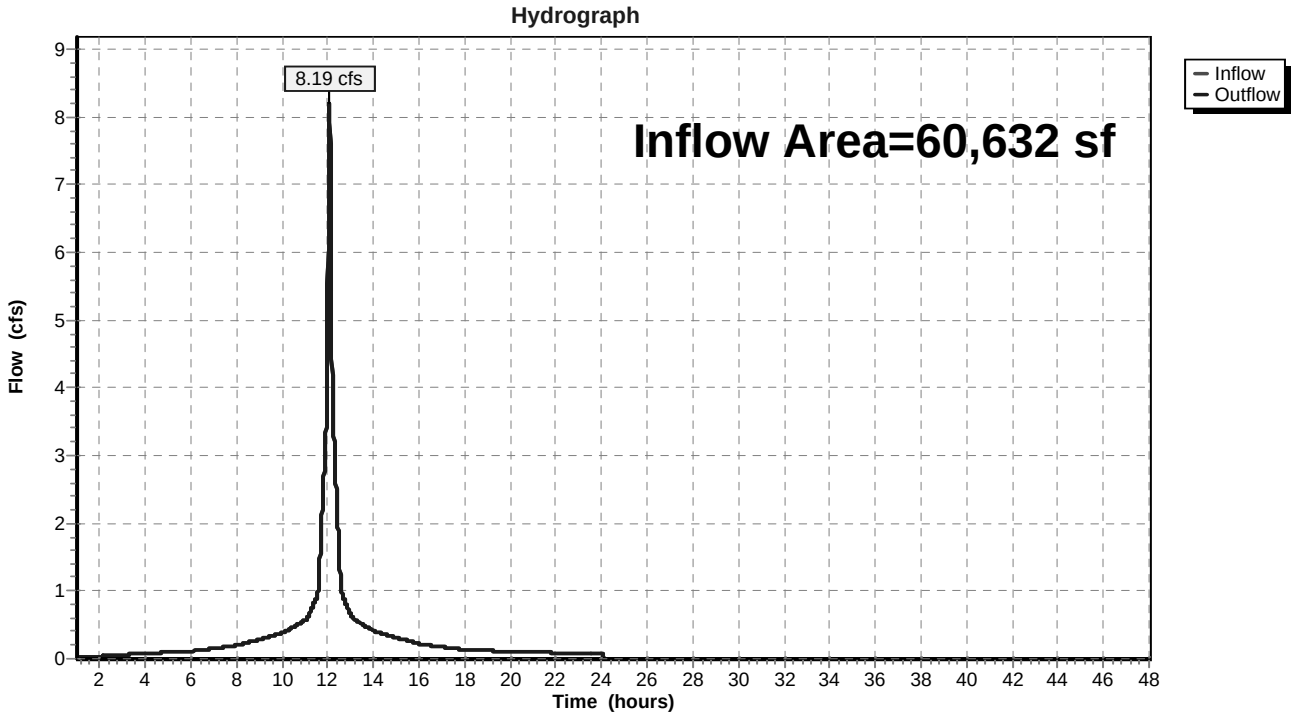


Summary for Reach 3R: POI3

Inflow Area = 60,632 sf, 95.35% Impervious, Inflow Depth > 5.56" for 25YR event
Inflow = 8.19 cfs @ 12.07 hrs, Volume= 28,100 cf
Outflow = 8.19 cfs @ 12.07 hrs, Volume= 28,100 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 3

Reach 3R: POI3



Summary for Pond FP1: FocalPoint 20sf

Inflow Area = 2,899 sf, 42.15% Impervious, Inflow Depth = 4.43" for 25YR event
Inflow = 0.35 cfs @ 12.07 hrs, Volume= 1,071 cf
Outflow = 0.35 cfs @ 12.08 hrs, Volume= 1,071 cf, Atten= 0%, Lag= 0.3 min
Primary = 0.05 cfs @ 11.62 hrs, Volume= 788 cf
Secondary = 0.30 cfs @ 12.08 hrs, Volume= 283 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 46.84' @ 12.08 hrs Surf.Area= 20 sf Storage= 52 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 3.3 min (795.0 - 791.7)

Volume	Invert	Avail.Storage	Storage Description
#1	43.75'	0 cf	**4.00'W x 5.00'L x 2.25'H FocalPoint** 45 cf Overall x 0.0% Voids
#2	46.00'	67 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		67 cf	Total Available Storage

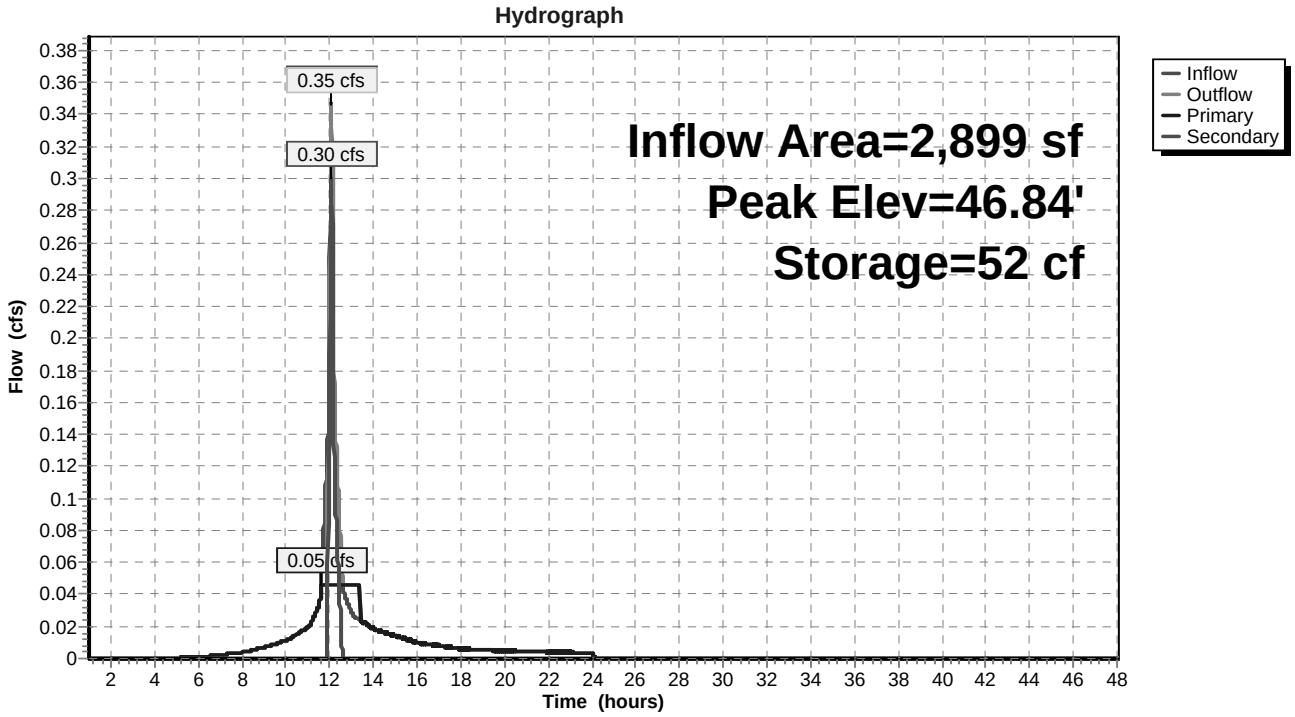
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
46.00	20	0	0
46.50	75	24	24
47.00	96	43	67

Device	Routing	Invert	Outlet Devices
#1	Primary	43.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	46.75'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 11.62 hrs HW=46.00' TW=39.57' (Dynamic Tailwater)
↑—**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Secondary OutFlow Max=0.30 cfs @ 12.08 hrs HW=46.84' TW=40.88' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Weir Controls 0.30 cfs @ 1.01 fps)

Pond FP1: FocalPoint 20sf



Summary for Pond P1: Cultec Chamber

Inflow Area = 2,899 sf, 42.15% Impervious, Inflow Depth = 4.43" for 25YR event
Inflow = 0.35 cfs @ 12.08 hrs, Volume= 1,071 cf
Outflow = 0.11 cfs @ 12.38 hrs, Volume= 1,071 cf, Atten= 68%, Lag= 18.3 min
Primary = 0.03 cfs @ 11.58 hrs, Volume= 984 cf
Secondary = 0.08 cfs @ 12.38 hrs, Volume= 87 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 42.73' @ 12.38 hrs Surf.Area= 139 sf Storage= 305 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 68.9 min (863.9 - 795.0)

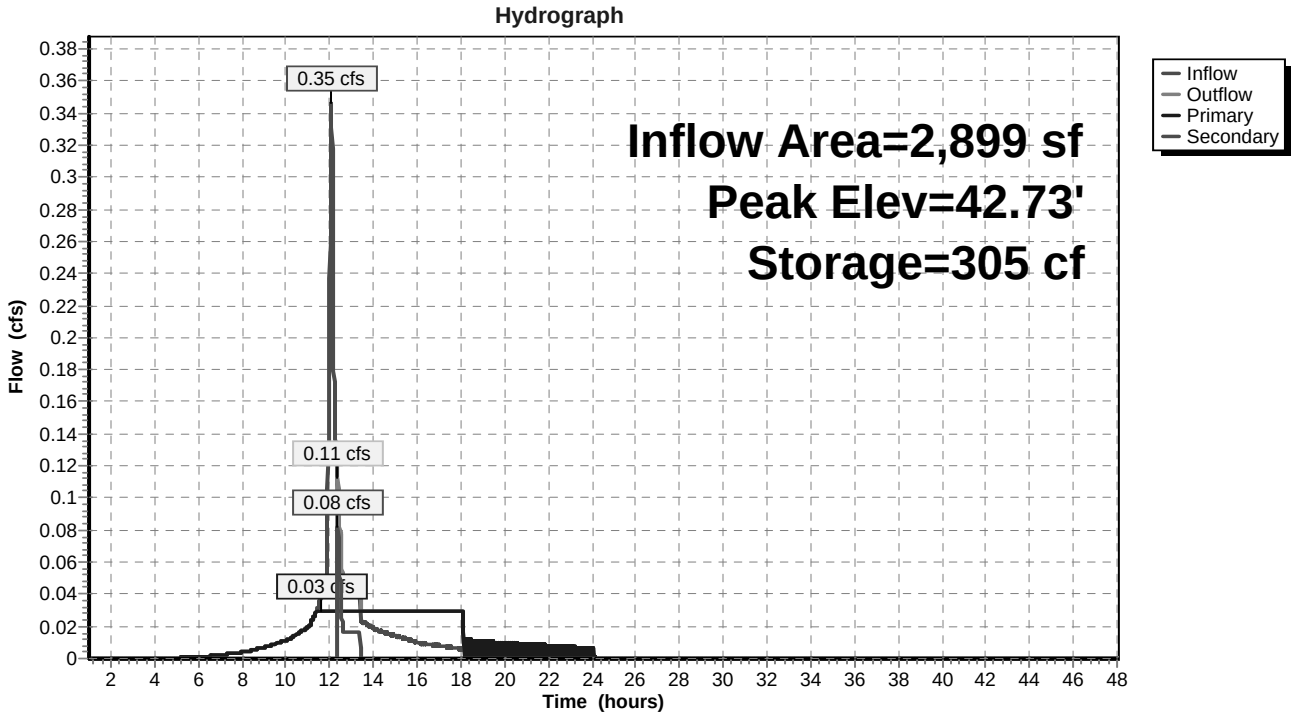
Volume	Invert	Avail.Storage	Storage Description
#1	39.50'	114 cf	**4.83'W x 7.20'L x 3.54'H Prismatoid** x 4 492 cf Overall - 209 cf Embedded = 284 cf x 40.0% Voids
#2	40.00'	209 cf	**Cultec R-330XLHD** x 4 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		322 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	39.50'	**0.03 cfs Exfiltration at all elevations**
#2	Secondary	42.70'	**6.0' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.03 cfs @ 11.58 hrs HW=39.54' TW=0.00' (Dynamic Tailwater)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Secondary OutFlow Max=0.08 cfs @ 12.38 hrs HW=42.73' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.08 cfs @ 0.47 fps)

Pond P1: Cultec Chamber



Summary for Pond P2: Cultec Chamber

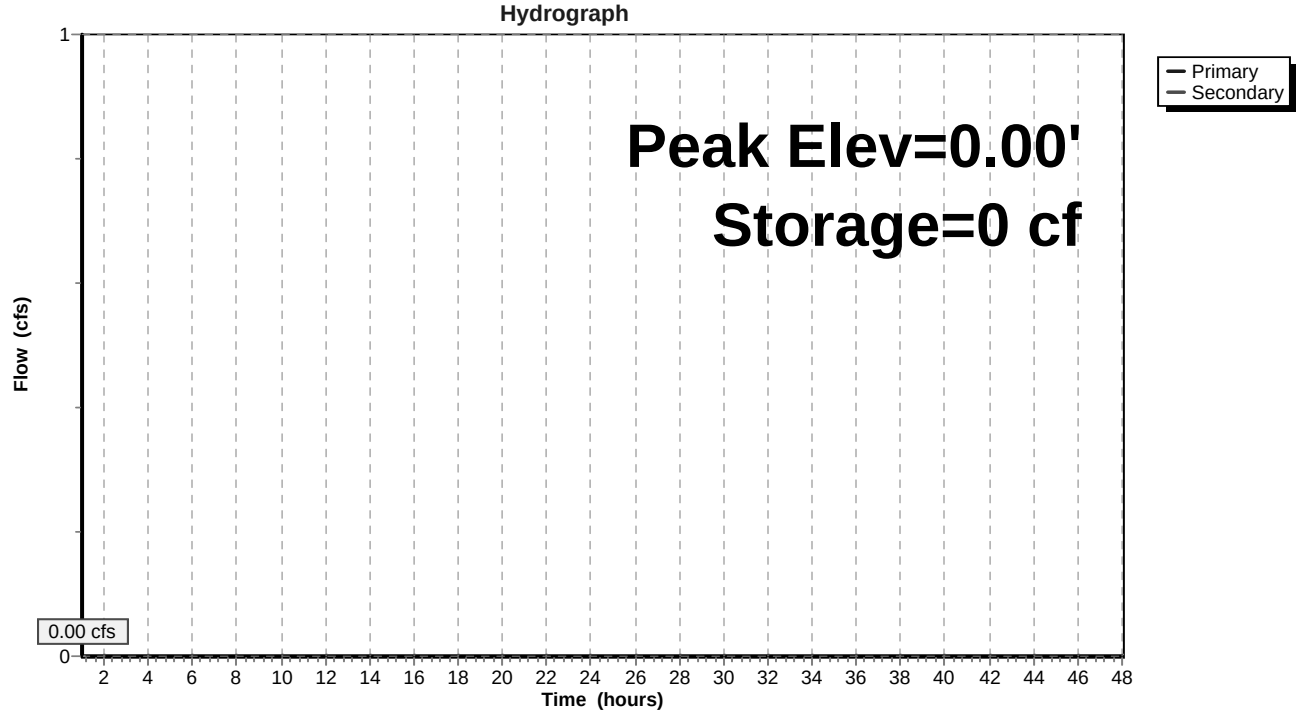
Volume	Invert	Avail.Storage	Storage Description
#1	37.50'	28 cf	**4.83'W x 7.20'L x 3.54'H Prismatoid** 123 cf Overall - 52 cf Embedded = 71 cf x 40.0% Voids
#2	38.00'	52 cf	**Cultec R-330XLHD** Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		81 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	37.50'	**0.03 cfs Exfiltration at all elevations**
#2	Secondary	40.80'	**6.0' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)
└**1=Exfiltration** (Passes 0.00 cfs of 0.03 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P2: Cultec Chamber



Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Watershed 1S Runoff Area=39,331 sf 95.27% Impervious Runoff Depth=2.76"
Tc=5.0 min CN=97 Runoff=2.77 cfs 9,038 cf

Subcatchment 2AS: FocalPoint Area Runoff Area=2,899 sf 42.15% Impervious Runoff Depth=1.91"
Tc=5.0 min CN=88 Runoff=0.15 cfs 461 cf

Subcatchment 2BS: (new Subcat) Runoff Area=3,403 sf 94.80% Impervious Runoff Depth=2.76"
Tc=5.0 min CN=97 Runoff=0.24 cfs 782 cf

Subcatchment 2S: Watershed 2S Runoff Area=10,651 sf 79.28% Impervious Runoff Depth=2.45"
Tc=5.0 min CN=94 Runoff=0.70 cfs 2,172 cf

Subcatchment 3S: Watershed 3S Runoff Area=60,632 sf 95.35% Impervious Runoff Depth=2.87"
Tc=5.0 min CN=98 Runoff=4.34 cfs 14,490 cf

Reach 1R: POI1 Inflow=2.77 cfs 9,038 cf
Outflow=2.77 cfs 9,038 cf

Reach 2R: POI2 Inflow=0.97 cfs 3,415 cf
Outflow=0.97 cfs 3,415 cf

Reach 3R: POI3 Inflow=4.34 cfs 14,490 cf
Outflow=4.34 cfs 14,490 cf

Pond FP1: FocalPoint 20sf Peak Elev=46.79' Storage=47 cf Inflow=0.15 cfs 461 cf
Primary=0.05 cfs 431 cf Secondary=0.08 cfs 31 cf Outflow=0.12 cfs 461 cf

Pond P1: Cultec Chamber Peak Elev=40.58' Storage=98 cf Inflow=0.12 cfs 461 cf
Primary=0.03 cfs 462 cf Secondary=0.00 cfs 0 cf Outflow=0.03 cfs 462 cf

Pond P2: Cultec Chamber Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf

Total Runoff Area = 116,916 sf Runoff Volume = 26,943 cf Average Runoff Depth = 2.77"
7.48% Pervious = 8,741 sf 92.52% Impervious = 108,175 sf

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Watershed 1S Runoff Area=39,331 sf 95.27% Impervious Runoff Depth=4.25"
Tc=5.0 min CN=97 Runoff=4.17 cfs 13,925 cf

Subcatchment 2AS: FocalPoint Area Runoff Area=2,899 sf 42.15% Impervious Runoff Depth=3.29"
Tc=5.0 min CN=88 Runoff=0.26 cfs 795 cf

Subcatchment 2BS: (new Subcat) Runoff Area=3,403 sf 94.80% Impervious Runoff Depth=4.25"
Tc=5.0 min CN=97 Runoff=0.36 cfs 1,205 cf

Subcatchment 2S: Watershed 2S Runoff Area=10,651 sf 79.28% Impervious Runoff Depth=3.91"
Tc=5.0 min CN=94 Runoff=1.09 cfs 3,474 cf

Subcatchment 3S: Watershed 3S Runoff Area=60,632 sf 95.35% Impervious Runoff Depth>4.36"
Tc=5.0 min CN=98 Runoff=6.48 cfs 22,049 cf

Reach 1R: POI1 Inflow=4.17 cfs 13,925 cf
Outflow=4.17 cfs 13,925 cf

Reach 2R: POI2 Inflow=1.48 cfs 5,474 cf
Outflow=1.48 cfs 5,474 cf

Reach 3R: POI3 Inflow=6.48 cfs 22,049 cf
Outflow=6.48 cfs 22,049 cf

Pond FP1: FocalPoint 20sf Peak Elev=46.83' Storage=50 cf Inflow=0.26 cfs 795 cf
Primary=0.05 cfs 631 cf Secondary=0.21 cfs 164 cf Outflow=0.26 cfs 795 cf

Pond P1: Cultec Chamber Peak Elev=41.99' Storage=253 cf Inflow=0.26 cfs 795 cf
Primary=0.03 cfs 795 cf Secondary=0.00 cfs 0 cf Outflow=0.03 cfs 795 cf

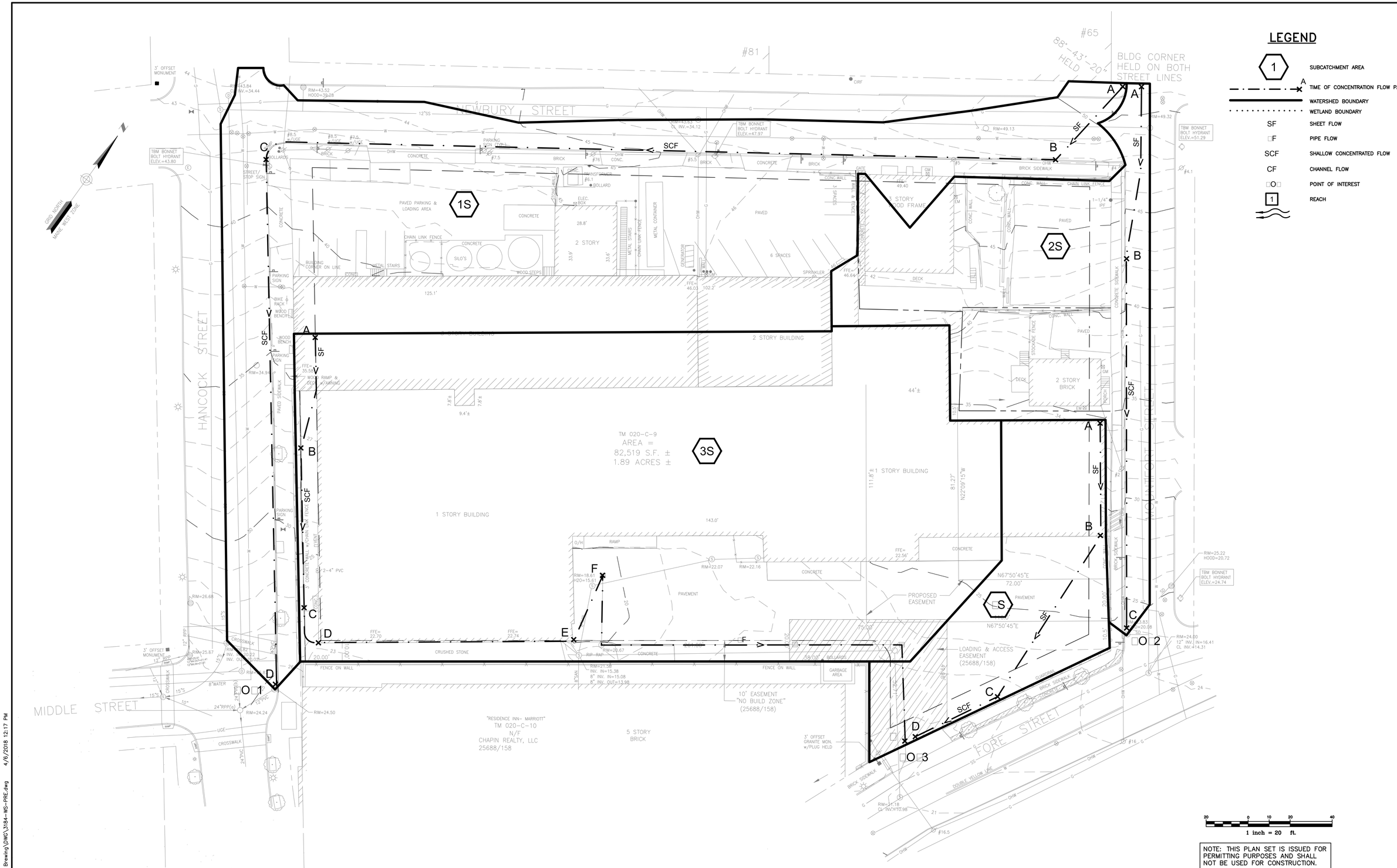
Pond P2: Cultec Chamber Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf

Total Runoff Area = 116,916 sf Runoff Volume = 41,448 cf Average Runoff Depth = 4.25"
7.48% Pervious = 8,741 sf 92.52% Impervious = 108,175 sf

ATTACHMENT F

PRE/POST WATERSHED MAP

PRE-DEVELOPMENT



Rev.	Date	Revision
–	–	–

Issued For	Date	By
–	–	–

Design: CEH	Draft:	Date: MAR 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184-WS-PRE.dwg		

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Drawing Name: **Predevelopment Watershed Map**

Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME

Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. *WS1*

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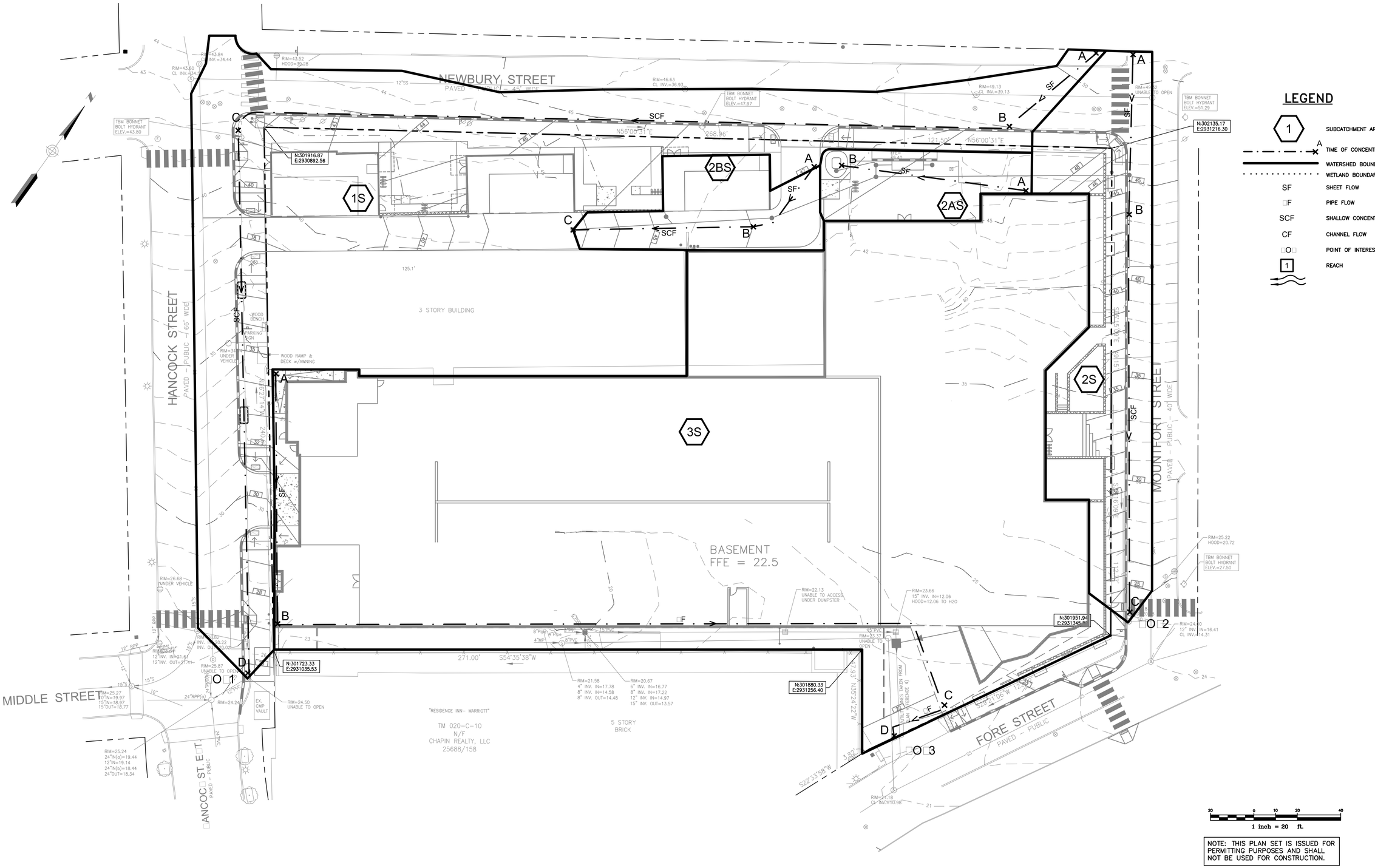
POST DEVELOPMENT



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Rev.	Date	Revision
3	7/3/18	REVISED PER CITY STAFF COMMENTS
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft: LAN	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184-WS-POST.dwg		

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Drawing Name: **Postdevelopment Watershed Map**

Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME

Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. **WS2**

EROSION AND SEDIMENTATION CONTROL
BASIC STANDARDS

1.1 Overview

This Exhibit demonstrates the Applicant has made adequate provision for controlling erosion and sedimentation.

1.2 Introduction

Gorrill Palmer has been retained by 86 Newbury Street, LLC. to prepare an Erosion and Sedimentation Control Report for the construction of a proposed six story multi-use building and parking structure. The development will consist of demolishing three existing buildings and the construction of a six story multi-use building and associated parking structure at 86 Newbury Street in Portland, Maine, currently the Shipyard Brewery. The parcel is bounded by Newbury, Fore, Mountfort, and Hancock Streets. The proposed development includes construction of one building with the following uses:

- Office
- Hotel
- Parking Structure
- Lab/Industrial
- Retail Space
- Residential

Figure 1 is a map showing the project location. 86 Newbury Street, LLC. is currently seeking a Maine Construction General Permit from the Maine Department of Environmental Protection (MDEP). Gorrill Palmer has prepared an Erosion and Sedimentation Control Plan for the proposed development. This narrative contains the general erosion and sedimentation control measures, which are appropriate for the construction of the project.

1.3 Narrative

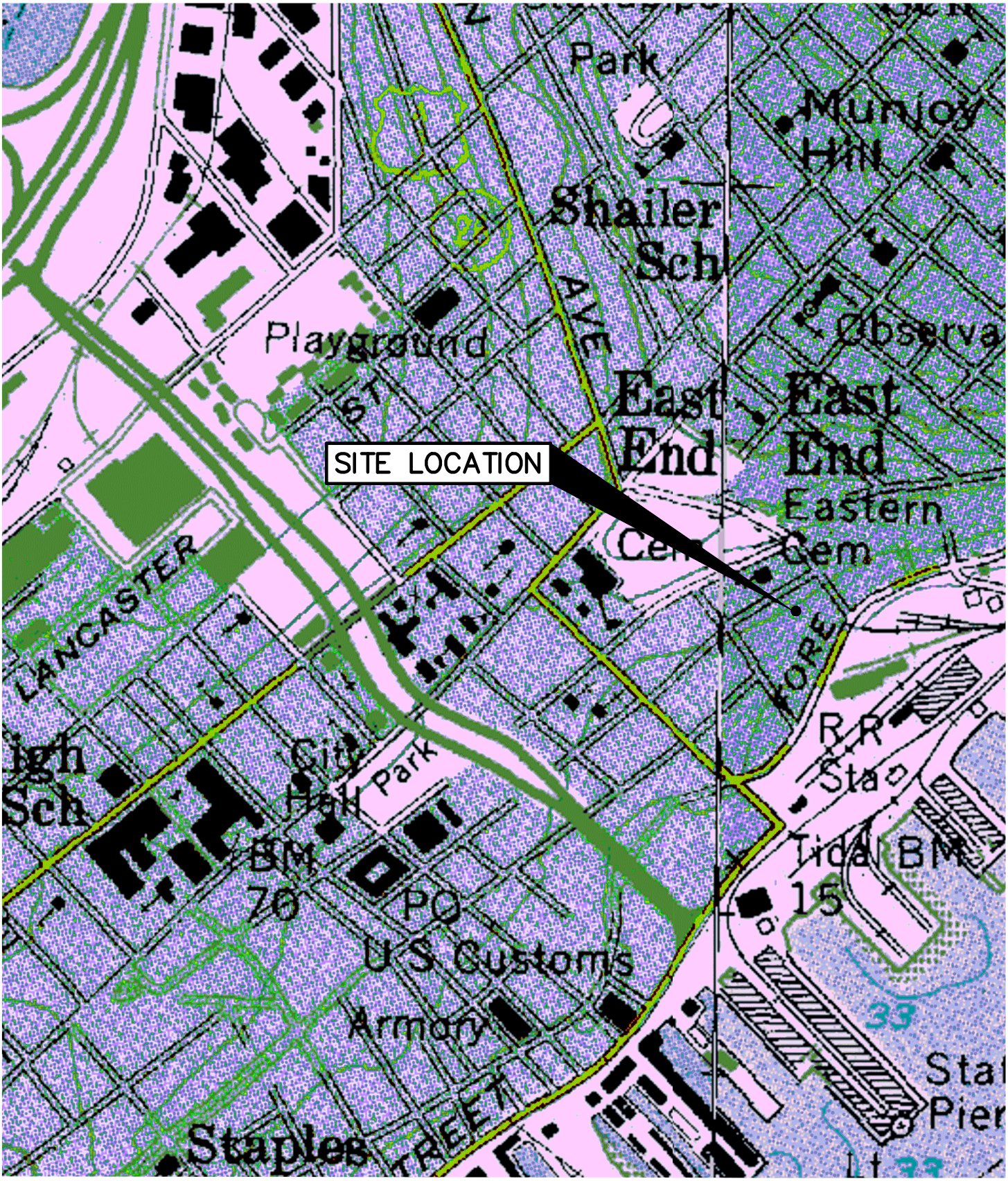
1.3.1 Existing Conditions and Soil Types

The site is approximately 2.1 acres in size and is currently developed with the Shipyard Brewery, two apartment buildings and parking areas. The total developed area is approximately 2.1 acres. Abutting land uses include:

- North –Residential (single family homes)
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East — Residential (townhouses)

Topography in the area of the proposed construction generally slopes in the westerly direction with slopes in the range of 3% to 7%.

The Medium Intensity Soil Survey for Cumberland County as prepared by the Natural Resources Conservation Service was utilized in identifying the on-site soils. The soil report for this vicinity follows this page. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. The higher values are



U.S.G.S. Location Map

Shipyard Brewing Company - Portland, Maine

U.S.G.S. Portland East/West, Maine -7.5 Minute Series (Topographic)

Design: BMG	Date: MARCH 2017
Draft: CG	Job No.: 3184
Checked: LSA	Scale: None
File Name: 3184-LOCATION.dwg	

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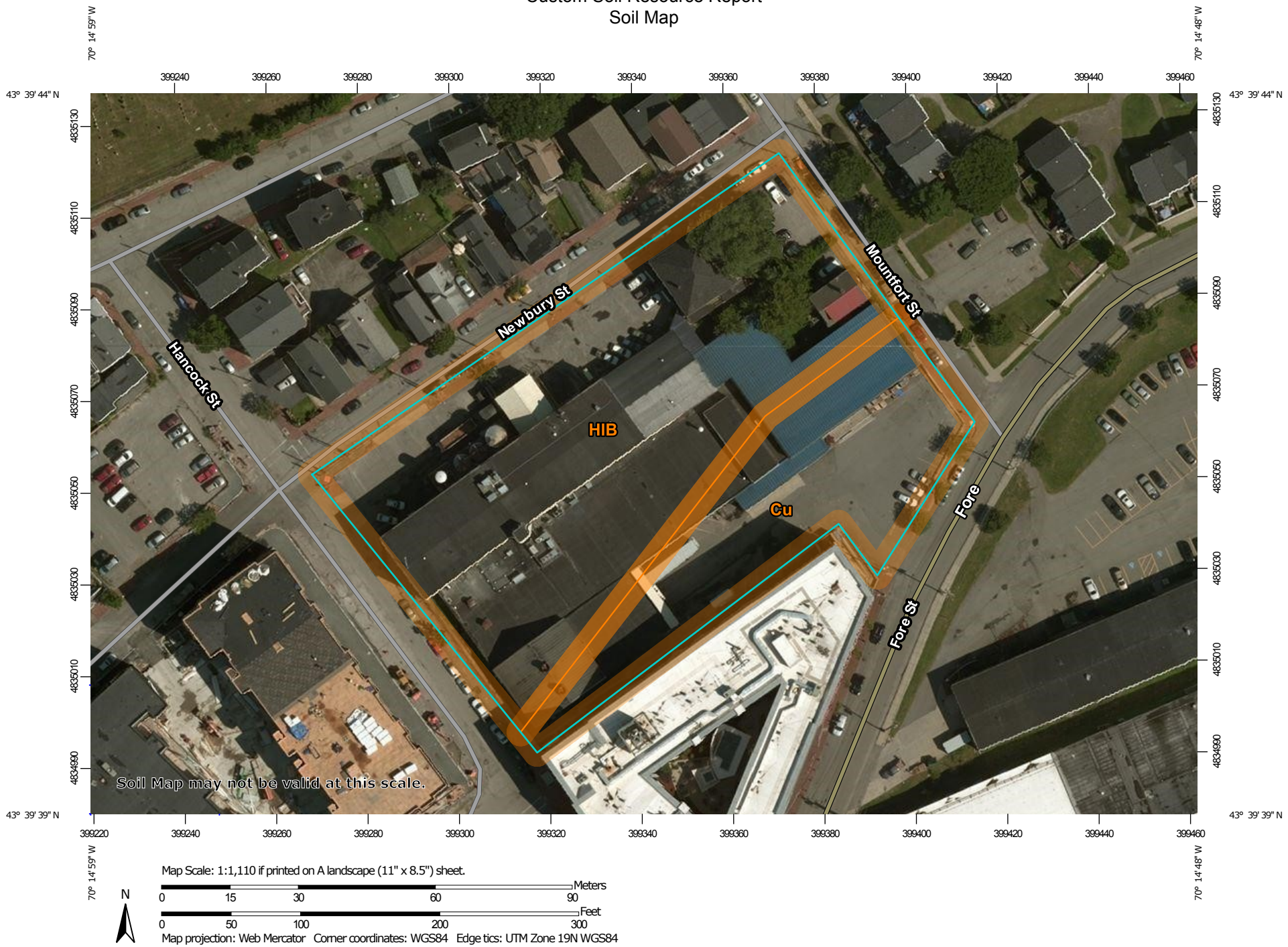
Figure 1

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,110 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 12, Sep 15, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2013—Aug 11, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Cu	Cut and fill land	0.7	28.9%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	1.7	71.1%
Totals for Area of Interest		**2.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

indicative of the more erodible soils. The following table lists the soils found on site and their K values:

K VALUE		
Type	Subsurface	Substratum
Hinckley	0.17	0.17
Cut and Fill Land	NA	NA

The Hinckley soils have low susceptibility to erosion.

1.3.2 Existing Erosion Problems

Gorrill Palmer is not aware of any existing erosion problems onsite.

1.3.3 Critical Areas

Gorrill Palmer is not aware of any critical areas onsite.

1.3.4 Protected Natural Resources

The site does not contain any wetlands. Based upon the FEMA maps, the site is not located within a Zone A 100-year flood plain.

1.3.5 Erosion Control Measures and Site Stabilization

The primary emphasis of the erosion/sedimentation control plan, which will be implemented for this project, is as follows:

- Development of a careful construction sequence.
- Rapid revegetation of denuded areas to minimize the period of soil exposure.
- Rapid stabilization of drainage paths to avoid rill and gully erosion.
- The use of on-site measures to capture sediment (hay bales/ stone check dams/silt fence, etc.)

The following temporary and permanent erosion and sediment control devices will be implemented as part of the site development. These devices shall be installed as indicated on the plans or as described within this report. For further reference, see the latest edition of the Maine Erosion and Sediment Control BMPS.

A. Dewatering

Water from construction trench dewatering shall pass first through a filter bag or secondary containment structure (e.g. hay bale lined pool) prior to discharge. The discharge site shall be selected to avoid flooding, icing, and sediment discharges to a

protected resource. In no case shall the filter bag or containment structure be located within 50 feet of a protected natural resource.

B. Inspection and Monitoring

Maintenance measures shall be applied as needed during the entire construction season. After each rainfall, snow storm or period of thawing and runoff, the site contractor shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function. Following the temporary and/or final seeding and mulching, the contractor shall in the spring inspect and repair any damages and/or unestablished spots. Established vegetative cover means a minimum of 90% of areas vegetated with vigorous growth.

The following standards must be met during construction

(a) **Inspection and corrective action.** Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event (rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including standards and conditions in the permit, shall conduct the inspections.

(b) **Maintenance.** If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

(c) **Documentation.** Keep a log (report) summarizing the inspections and any corrective action taken. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicles access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

The log must be made accessible to MDEP and City of Portland staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

C. Temporary Erosion Control Measures

The following measures are planned as temporary erosion/sedimentation control measures during construction:

1. A crushed stone-stabilized construction entrance shall be placed at the approved drive off Fore Streets and Newbury Streets.

2. Siltation fence or wood waste compost berms shall be installed downstream of any disturbed areas to trap runoff- borne sediments until grass areas are revegetated. The silt fence and/or wood waste compost berms shall be installed per the details provided in this package and inspected at least once a week and before and immediately after a storm event of 0.5 inches or greater, and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence or berm line. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam. Wood waste compost berms are not to be used adjacent to wetland areas that are not to be disturbed.

3. Straw or hay mulch including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and October 15th on slopes of less then 15 percent shall be anchored by applying water; mulch placed on slopes of equal to or steeper than 15 percent shall be covered by a fabric netting and anchored with staples in accordance with manufacturer's recommendation. Fabric netting and staples shall be used on disturbed areas within 50' of lakes, streams, and wetlands regardless of the upstream slope. Mulch placed between October 15th and April 15th on slopes equal to or steeper than 8 percent shall be covered with a fabric netting and anchored with staples in accordance with the manufacturer's recommendations. Slopes steeper than 3:1 and equal to or flatter than 2:1, which are to be revegetated, shall receive curlex blankets by American Excelsior or equal. Slopes steeper than 2:1 shall receive riprap as noted on the plans. The mulch application rate for both temporary and permanent seeding is 75 lbs per 1000 sf as identified in Attachment A of this section. Mulch shall not be placed over snow.

4. Temporary stockpiles of stumps, grubbings, or common excavation will be protected as follows:

a) Temporary stockpiles shall not be located within 50 feet of any wetlands which will not be disturbed and shall be located away from drainage swales.

b) Stockpiles shall be stabilized within 7 days by either temporarily seeding the stockpile by a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch, such as hay, straw, or erosion control mix.

c) Stockpiles shall be surrounded by sedimentation barrier at the time of formation.

5. All denuded areas that are within 50 feet of an undisturbed wetland, which have been rough graded and are not located within a building pad, parking area, or access drive subbase area, shall receive mulch or erosion control mesh fabric within 48 hours of initial disturbance of soil. All areas within 100 feet of an

undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. In other areas, the time period may be extended to 7 days.

6. For work, which is conducted between October 15th and April 15th of any calendar year, all denuded areas, shall be covered with hay mulch or erosion control mix, applied at twice the normal application rate and anchored with a fabric netting. The time period for applying mulch shall be limited to 2 days for all areas.

7. Hancock Street, Newbury Street, Mountfort Street, and Fore Street shall be swept to control mud and dust as necessary. Additional stone shall be added to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

8. During grubbing operations stone check dams shall be installed at any evident concentrated flow discharge points and as directed on the Erosion Control Plans.

9. Silt fencing with a minimum stake spacing of 6 feet shall be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence shall be anchored.

10. Wood waste compost/bark berms may be used in lieu of siltation fencing. Berms shall be removed and spread in a layer not to exceed 3" thick once upstream areas are completed and a 90% catch of vegetation is attained.

11. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or approved sediment bags (such as Silt Sack). Installation details are provided in the plan set. The barriers shall be inspected after each rainfall and repairs made as necessary. Sediment shall be removed and the barrier restored to its original dimensions when the sediment has accumulated to ½ the design depth of the barrier. The barrier shall be removed when the tributary drainage area has been stabilized.

12. Water and/or calcium chloride shall be furnished and applied in accordance with MDOT specifications – Section 637 – Dust Control.

13. Loam and seed is intended to serve, as the primary permanent revegetative measure for all denuded areas not provided with other erosion control measures, such as riprap. Application rates are provided in Attachment A of this section. Seeding shall not occur over snow.

D. Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, mulched, and seeded. Fabric

netting, anchored with staples, shall be placed over the mulch in areas as noted in **Temporary Erosion Control Measures** paragraph 3 of this report. All areas within 50 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. Native topsoil shall be stockpiled and reused for final restoration when it is of sufficient quality.

2. All storm drain pipe outlets shall have riprap aprons at their outlet to protect the outlet and receiving channel from scour and deterioration. Installation details are provided in the plan set. The aprons shall be installed and stabilized to the extent practicable prior to directing runoff to the tributary pipe or culvert.

3. Catch basins shall be provided with sediment sumps and inlet hoods (the Snout) for all outlet pipes that are 18" in diameter or less.

1.4 Implementation Schedule

The following construction sequence shall be required to insure the effectiveness of the erosion and sedimentation control measures are optimized:

It is anticipated that construction of the project will commence in Fall of 2018 and be completed by Fall of 2019.

Note: For all grading activities, the contractor shall exercise extreme caution not to overexpose the site, this shall be accomplished by limiting the disturbed area.

1. Install stabilized construction entrance along Newbury Street and Fore Street.
2. Install perimeter silt fence and/or wood waste berms prior to commencement of demolition.
3. Perform demolition of existing site elements.
4. Foundation preparation area shall be excavated for installation of the building foundations. Building work will be on going through the remainder of the project.
5. Commence installation of drainage appartenances.
6. Commence earthwork and grading to subgrade.
7. Commence earthwork for Subsurface Chambers.
8. Commence installation of water and sewer lines.
9. Continue earthwork and grading to subgrade as necessary for construction.
10. Complete installation of underground utilities to within 5' of the buildings.
11. Install light pole foundations and light poles.
12. Complete remaining earthwork operations.

13. Complete installation of drainage appurtenances.

14. Install sub-base and base gravel within walkways, and drives.

15. Install brick sidewalk.

16. Install base course paving for drives and concrete surfaces.

17. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.

18. Install surface course paving for drives. Stripe per plan.

19. Once the site is stabilized and a 90% catch of vegetation has been obtained, remove all temporary erosion control measures.

20. Touch up loam and seed.

    Note: All denuded areas not subject to final paving, riprap, or gravel shall be revegetated.

Prior to construction of the project, the contractor shall submit to the owner a schedule for the completion of the work, which will satisfy the following criteria:

1. The above construction sequence should generally be completed in the specified order; however, several separate items may be constructed simultaneously. Work must also be scheduled or phased to reduce the extent of the exposed areas as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.

2. The work shall be conducted in sections which shall:

   a) Limit the amount of exposed area to those areas in which work is expected to be undertaken during the proceeding 30 days.

   b) Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event; or temporarily stabilized within 48 hours of initial disturbance of soil for areas within 50 feet of an undisturbed wetland and 7 days for all other areas. Areas within 50 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window.

   c) Incorporate planned inlets and drainage system as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.

1.5 Erosion, Sedimentation and Stabilization Control Plan

The Erosion Control information is included in the plan set.

1.6 Details and Specifications

The Erosion Control details and specifications are included in the plan set.

1.7 Winter Stabilization Plan

The winter construction period is from November 1 through April 15. If the construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15 then the site needs to be protected with over-winter stabilization. An area considered open is any area not stabilized with pavement; vegetation, mulching, erosion control mats, riprap or gravel base on a road.

Winter excavation and earthwork shall be completed such that any area left exposed can be controlled by the contractor. Limit the exposed area to those areas in which work is expected to be under taken during the proceeding 15 days and that can be mulched in one day prior to any snow event.

All areas shall be considered to be denuded until the subbase gravel is installed in roadway/parking areas or the areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch rate shall be a minimum of 150 lbs./1,000 s.f. (3 tons/acre) and shall be properly anchored.

The contractor shall install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions. Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized, in order to minimize areas without erosion control protection.

1. Soil Stockpiles

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or at 150 lbs/1,000 s.f. (3 tons per acre) or with a four-inch layer of woodwaste erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpile shall not be placed (even covered with hay or straw) within 50 feet from any natural resources.

2. Natural Resource Protection

Any areas within 50 feet from any natural resources, if not stabilized with a minimum of 75% mature vegetation catch, shall be mulched by December 1 and anchored with plastic netting or protected with erosion control mats. During winter construction, a double line of sediment barriers (i.e. silt fence backed with hay bales or erosion control mix) shall be placed between any natural resource and the disturbed area. Projects crossing the natural resource shall be protected a minimum distance of 50 feet on either side from the resource. Existing projects not stabilized by December 1 shall be protected with the second line of sediment barrier to ensure functionality during the spring thaw and rains.

3. Sediment Barriers

During frozen conditions, sediment barriers shall consist of woodwaste filter berms as frozen soil prevents the proper installation of hay bales and sediment silt fences.

4. Mulching

An area shall be considered denuded until areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched with straw or hay at a rate of 150 lb. per 1,000 square feet (3 tons/acre) and adequately anchored that ground surface is not visible though the mulch.

Between the dates of November 1 and April 15, all mulch shall be anchored by peg line, mulch netting, asphalt emulsion chemical, or wood cellulose fiber. When ground surface is not visible through the mulch then cover is sufficient. After November 1st, mulch and anchoring of all bare soil shall occur at the end of each final grading workday.

5. Mulching on Slopes and Ditches

Slopes shall not be left exposed for any extended time of work suspension unless fully mulched and anchored with peg and netting or with erosion control blankets. Mulching shall be applied at a rate of 230 lbs/1,000 s.f. on all slopes greater than 8%.

Mulch netting shall be used to anchor mulch in all drainage ways with a slope greater than 3% for slopes exposed to direct winds and for all other slopes greater that 8%. Erosion control blankets shall be used in lieu of mulch in all drainage ways with slopes greater than 8%. Erosion control mix can be used to substitute erosion control blankets on all slopes except ditches.

6. Seeding

Between the dates of October 15 and April 1st, loam or seed will not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched. Dormant seeding may be selected to be placed prior to the placement of mulch and fabric netting anchored with staples. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs/1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

Standards for Timely Stabilization of Construction Sites During Winter

1. Standard for the timely stabilization of ditches and channels -- The applicant shall construct and stabilize all stone-lined ditches and channels on the site by November 15. The applicant shall construct and stabilize all grass-lined ditches and channels on the site by September 1. If

the applicant fails to stabilize a ditch or channel to be grass-lined by September 1, then the applicant will take one of the following actions to stabilize the ditch for late fall and winter.

Install a sod lining in the ditch -- The applicant shall line the ditch with properly installed sod by October 1. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.

Install a stone lining in the ditch --The applicant shall line the ditch with stone riprap by November 15. The applicant shall hire a registered professional engineer to determine the stone size and lining thickness needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the applicant shall regrade the ditch prior to placing the stone lining so to prevent the stone lining from reducing the ditch's cross-sectional area.

2. Standard for the timely stabilization of disturbed slopes -- The applicant shall construct and stabilize stone-covered slopes by November 15. The applicant shall seed and mulch all slopes to be vegetated by September 1. The department shall consider any area having a grade greater than 15% to be a slope. If the applicant fails to stabilize any slope to be vegetated by September 1, then the applicant shall take one of the following actions to stabilize the slope for late fall and winter.

Stabilize the soil with temporary vegetation and erosion control mats -- By September 1 the applicant shall seed the disturbed slope with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control mats over the mulched slope. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed slope by November 1, then the applicant shall cover the slope with a layer of woodwaste compost as described in item iii of this standard or with stone riprap as described in item iv of this standard.

Stabilize the slope with sod -- The applicant shall stabilize the disturbed slope with properly installed sod by September 1. Proper installation includes the applicant pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The applicant shall not use late-season sod installation to stabilize slopes having a grade greater than 33% (3H:1V).

Stabilize the slope with woodwaste compost -- The applicant shall place a six-inch layer of woodwaste compost on the slope by November 15. Prior to placing the woodwaste compost, the applicant shall remove any snow accumulation on the disturbed slope. The applicant shall not use woodwaste compost to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.

Stabilize the slope with stone riprap -- The applicant shall place a layer of stone riprap on the slope by November 15. The applicant shall hire a registered professional engineer to determine the stone size needed for stability and to design a filter layer for underneath the riprap.

3. Standard for the timely stabilization of disturbed soils -- By September 15 the applicant shall seed and mulch all disturbed soils on areas having a slope less than 15%. If the applicant fails

to stabilize these soils by this date, then the applicant shall take one of the following actions to stabilize the soil for late fall and winter.

Stabilize the soil with temporary vegetation -- By September 1 the applicant shall seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1000 square feet, and anchor the mulch with plastic netting. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed soil before November 1, then the applicant shall mulch the area for over-winter protection as described below.

Stabilize the soil with sod -- The applicant shall stabilize the disturbed soil with properly installed sod by September 15. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

Stabilize the soil with mulch -- By November 15 the applicant shall mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, the applicant shall remove any snow accumulation on the disturbed area. Immediately after applying the mulch, the applicant will anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

1.8 Maintenance of facilities

The stormwater facilities will be maintained by the Applicant, 86 Newbury Street, LLC or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report.

Long-term operation/maintenance for the stormwater facilities must comply with Chapter 32 of the City of Portland Code of Ordinances. An excerpt for the annual report requirements is provided below:

> *The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.*

Snow Storage:
Plowed snow stored on-site shall not be placed over the FocalPoint filter system. Snow shall be removed from the site by a private commercial waste hauler.

Inspection and Maintenance Frequency and Corrective Measures:
The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:
Inspect catch basins 2 times per year (preferably in Spring and Fall) to observe that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12" from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. At a minimum, remove floating debris and hydrocarbons at the time of the inspection.

Vegetated Areas:
Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

Ditches, Swales, and other Open Stormwater Channels:
Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel's bottom or sideslopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

Roadways and Parking Surfaces: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

Inlet/Outlet Control Structures:
Inspect structures and piping 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris within the structure.

Stormdrain Outlets:
Inspect outlets 2 times per year (preferably in Spring and Fall) to ensure that the outlets are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the outlet and within the conduit Repair any erosion damage at the stormdrain outlet.

Subsurface Detention Chambers:
Inspect chambers per manufacturer's recommendation. At a minimum, inspect chambers two times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove sediment from isolator row when depth of sediment reaches three inches.

FocalPoint System:
A five year maintenance and inspection contract shall be obtained with a professional with knowledge of erosion and stormwater control including experience with the FocalPoint system. The contract shall be renewed before its expiration. At a minimum the system shall be inspected every six months. Remove sediment and provide maintenance as required based upon the inspection.

Post-Construction Stormwater Management Plan

As part of the Stormwater Permit, the applicant is required to meet the standards in Section 5 of the City of Portland Technical Manual for Stormwater Management. The General Standard in item IV. Submission Requirements states that a project must submit a Post-Construction Stormwater Inspection & Maintenance Plan per Maine DEP Chapter 500 Appendix B with reporting requirements per Chapter 32 of City of Portland Code of Ordinances, and a Stormwater Maintenance Agreement. The management plan shall comply to Chapter 32 of City of Portland Code of Ordinances as follows:

(a) The owner or operator of a BMP shall hire a qualifies post-construction stormwater inspector to at least annually, inspect the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning, and maintenance requirements of the approved post-construction stormwater management plan.
(b) If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide record of the deficiency and corrective action(s) to the department of public works ("DPW") in the annual report.
(c) The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.
(d) Any person(s) required to file an annual certification under this section shall include with the annual certification a filing fee established by DPW to pay the administrative and technical costs of review of the annual certification.
(e) In order to determine compliance with this article and with the post-construction stormwater management plan, DPW may enter upon property at reasonable hours with the consent of the owner, occupant, or agent to inspect the BMPs.

Housekeeping

The following procedures are hereby established as a minimum for compliance with this section. For further information on the procedures listed below, refer to MDEP Chapter 500 rules – Appendix C.

Spill Prevention:
Appropriate spill prevention, containment, and response planning/implementation shall be used to prevent pollutants from being discharged from materials on site.

Groundwater Protection:
During construction, hazardous materials with the potential to contaminate groundwater shall not be stored or handled in areas of the site which drain to an infiltration area.

Fugitive Sediment and Dust:
Appropriate measures shall be taken to ensure that activities do not result in noticeable erosion of the soils and water and/or calcium chloride shall be used to ensure that activities do not result in fugitive dust emissions during or after construction.

Debris and Other Materials:
Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

Trench or Foundation De-watering:
Water collected through the process of trenching and/or de-watering must be removed from the ponded area, and must be spread through natural wooded buffers or other areas that are specifically designed to collect the maximum amount of sediment possible.

Non-stormwater Discharges:
Identify and prevent contamination by non-stormwater discharges.

Conclusion

The Applicant has provided temporary and permanent erosion control measures as well as specifying a sequence of construction as measures to minimize erosion and sedimentation.

Attachments

Attachment A - Seeding Plan

Attachment B - Inspection Report

Attachment C - Maintenance Log

ATTACHMENT A

SEEDING PLAN

SEEDING PLAN

Project: Shipyard Redevelopment

Site Location: 86 Newbury Street, Portland, Maine

☐ Permanent Seeding ☒ Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _____# / acres, OR 138 # /M Sq. Ft.
3. Fertilize with _____ pounds of _____ N-P-K/ac. OR 13.8 pounds of 10-10-10 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:

   50% Winter Rye

   50% Annual Rye

6. Mulching instructions: Apply at the rate of _____per acre, OR 75 pounds per M. Sq. Ft.

	Amount	Unit # Tons. Etc.
7. TOTAL LIME	138	#/1000 sq. ft.
8. TOTAL FERTILIZER	13.8	#/1000 sq. ft.
9. TOTAL SEED	1.03	#/1000 sq. ft.
10. TOTAL MULCH	75	#/1000 sq. ft.
11. TOTAL other materials, seeds, etc.		
12. REMARKS		

Spring seeding is recommended; however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

SEEDING PLAN

Project: Shipyard Redevelopment

Site Location: 86 Newbury Street, Portland, ME

☒ Permanent Seeding ☐ Temporary Seeding

1. Instruction on preparation of soil: Prepare a good seed bed for planting method used.
2. Apply lime as follows: _____# / acres, OR 138 # /M Sq. Ft.
3. Fertilize with _____ pounds of _____ N-P-K/ac. OR 18.4 pounds of 10-20-20 N-P-K/M Sq. Ft.
4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.
5. Seed with the following mixture:

   40% Creeping Red Fescue

   30% Charger II Perennial Ryegrass

   20% KenBlue Kentucky Bluegrass

   10% Tiffany Chewings Fescue
6. Mulching instructions: Apply at the rate of _____per acre, OR 75 pounds per M. Sq. Ft.

	Amount	Unit # Tons. Etc.
7. TOTAL LIME	138	#/1000 sq. ft.
8. TOTAL FERTILIZER	18.4	#/1000 sq. ft.
9. TOTAL SEED	1.03	#/1000 sq. ft.
10. TOTAL MULCH	75	#/1000 sq. ft.
11. TOTAL other materials, seeds, etc.		
12. REMARKS		

Spring seeding is recommended, however, late summer (prior to September 1) seeding can be made. Permanent seeding should be made prior to August 5 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

ATTACHMENT B

INSPECTION REPORT

STORMWATER POLLUTION PREVENTION PLAN

INSPECTION REPORT

PROJECT INFORMATION

Project Name: Shipyard Redevelopment

Address: 86 Newbury Street
Portland, Maine

CONTRACTOR/SUBCONTRACTOR INFORMATION

Inspector Name: _____

Firm: _____

Title: _____

Qualifications: _____

INSPECTION SUMMARY

Date of Inspection: _____

Major Observations: _____

_____

_____

_____

THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

_____

_____

_____

_____

_____

ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

_____

_____

REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN
(MUST BE IMPLEMENTED WITHIN 7 DAYS OF INSPECTION):

_____

_____

_____

_____

CERTIFICATION STATEMENT:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____
Signature

_____
Typed Name

_____
Title

_____
Date

ATTACHMENT C

MAINTENANCE LOG

STORMWATER INSPECTION LOG
86 NEWBURY STREET

Inspection and Maintenance Frequency and Corrective Measures:
The following areas, facilities, and measures will be inspected and identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:
Inspect catch basins 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free to debris. Remove any obstructions to flow: remove floating debris at the time of the inspection.

Inlet/Outlet Control Structures:
Inspect structures and piping 2 times per year (Preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris within the structure.

Subsurface detention chambers:
Inspect chambers per manufacturer's recommendation. At a minimum inspect chambers 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove sediment from Isolator row when depth of sediment reaches 3 inches.

Vegetated Areas:
Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

FocalPoint Units:
Maintenance shall be performed at least 2 times per year (preferably in Spring and Fall). At a minimum, the maintenance shall consist of the following:
1. FocalPoint Unit Inspection
2. Foreign debris, silt, mulch & trash removal
3. Filter media evaluation and recharge as necessary

<u>Post-Construction Stormwater Management Plan</u>

As part of the Stormwater Permit, the applicant is required to meet the standards in Section 5 of the City of Portland Technical Manual for Stormwater Management. The General Standard in item IV. Submission Requirements states that a project must submit a Post-Construction Stormwater Inspection & Maintenance Plan per Maine DEP Chapter 500 Appendix B with reporting requirements per Chapter 32 of City of Portland Code of Ordinances, and a Stormwater Maintenance Agreement. The management plan shall comply to Chapter 32 of City of Portland Code of Ordinances as follows:

(a) The owner or operator of a BMP shall hire a qualified post-construction stormwater inspector to at least annually, inspect the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and pones, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.

(b) If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide record of the deficiency and corrective action(s) to the Homeowner's Association in an annual report.

(c) The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to the DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

(d) Any persons required to file an annual certification under this section shall include with the annual certification a filing fee established by DPW to pay the administrative and technical costs of review of the annual certification.

(e) In order to determine compliance with this article and with the post-construction stormwater management plan, DPW may enter upon property at reasonable hours with the consent of the owner, occupant or agent to inspect the BMPs

Shipyard

Maintenance Log

Personnel:				
Date:				
Structure	**Condition**	**Depth of Sediment**	**Inspection Comments**	**Maintenance Required**
Ex. CB1				
Ex. CB2				
Ex. CB3				
OCS1				
OCS2				
Access Structure				
		Condition	**Inspection Comments**	**Maintenance Required**
FocalPoint				
Cultec Chambers				

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division

Date: 4/10/18

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 86 Newbury Street

Chart Block Lot Number: Map 20, Block C: 1, 2, 5, 9, 15

Proposed Use: Mixed-use office/hotel/commercial/residential
Previous Use: Commercial/residential
Existing Sanitary Flows: <500 est. GPD
Existing Process Flows: 100,000 GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
Existing 15" main in Hancock, 12" in Newbury and 12" in Mountfort Streets

Site Category		
	Commercial *(see part 4 below)*	X
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	
	Other *(specify)*	

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Caitlin Cameron Phone: 874-8901
Owner/Developer Name: 86 Newbury Street, LLC, attn: David Bateman
Owner/Developer Address: 470 Fore Street, Portland, ME 04101
Phone: 772-2992 Fax: E-mail: david@batemanpartnersllc.com
Engineering Consultant Name: Gorrill Palmer, attn: Lucas Anthony
Engineering Consultant Address: 707 Sable Oaks Drive, Suite 30, South Portland, ME 04106
Phone: 772-2515 Fax: 772-2520 E-mail: lanthony@gorrillpalmer.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 7,203 average, 12,966 peak GPD
Peaking Factor/ Peak Times: 8am to 11am
Specify the source of design guidelines: *(i.e.* X *"Handbook of Subsurface Wastewater Disposal in Maine,"* __ *"Plumbers and Pipe Fitters Calculation Manual,"* __ *Portland Water District Records, Other (specify)* _____

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: n/a

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: n/a GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

See attached calculations

GORRILL PALMER

JOB	Shipyard Redevelopment			
SHEET NO.	1	OF	1	
CALCULATED BY	CEH	DATE	4/10/2018	
CHECKED BY	LSA	DATE	4/10/2018	
SCALE	None			

Task: Compute Proposed Design Flow for Shipyard Redevelopment based on Tables 4A and 4C of the Maine Subsurface Wastewater Disposal Rules for comparison to the Existing Flow.
Facility Information (retail, number of units) provided by Archetype

Assumptions:

1 employee per	200	sf office	1 employee per	1000	sf laboratory/fullfillment
1 employee per	400	sf specialty retail	1 employee per	10	rooms of hotel

Proposed Use:

Office	60,000	SF
Fulfillment	40,000	SF
Laboratory	60,000	SF
Hotel	105	rooms
Specialty Retail	4,000	SF
Apartments	9	two bedrooms units

Wastewater Flow Per Use:

Office - place of employment with no showers	12	gpd/employee		
Laboratory/Fulfillment - place of employment with no showers	12	gpd/employee		
Hotel/Motel with Kitchen	60	gpd per bedroom	12	gpd per employee
Speciality Retail - place of employment with no showers	12	gpd/employee		
2 bedrooms or less	180	gpd/dwelling unit		

Calculations: See Below

Conclusion: The proposed Peak Design Flow is **12,966** gallons/day

Water Use Calculations Based on Facility Usage

Office

Number of employees	300		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**3,600**	**gallons/day**	

Fulfillment

Number of employees	40		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**480**	**gallons/day**	

Laboratory

Number of employees	60		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**720**	**gallons/day**	

Hotel

Number of Rooms	105		
Flow Rate	60	gpd/bedroom	Per Table 4C
Number of employees	11		
Flow Rate	12	gpd/employee	
Subtotal	**6,426**	**gallons/day**	

Specialty Retail

Number of Employees	10		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**120**	**gallons/day**	

2 Bedrooms Units

Number of Units	9		
Flow Rate	180	gpd/unit	Per Table 4A
Subtotal	**1,620**	**gallons/day**	

Total Design Flow **12,966** **gallons/day**

Christi Holmes

From: Cough, Jamie <Jamie.Cough@cmpco.com>
Sent: Friday, March 16, 2018 8:49 AM
To: Christi Holmes
Subject: Ability to Serve - Shipyard Redevelopment CMP Process Outline for Three Phase and CT rated services
Attachments: Easement_Information_Worksheet.doc; Standard Easement Sample.pdf; January 2018 EDET.xlsx

Christi Holmes
Design Engineer
Gorrill Palmer
707 Sable Oaks Drive, Suite 30
South Portland, ME 04106
Sent via email to: cholmes@gorrillpalmer.com

RE: CMP Ability to Serve Letter for the Shipyard Brewery Site Development

Dear Ms. Holmes:

CMP has the ability to serve the proposed project in accordance with our CMP Handbook (web link below). We can provide you the desired pad or pole mounted transformers per your request and city approval, in accordance with our CMP Standards Handbook. If you have any questions on the process, or need help in completion of the documents, please contact me.

Project Description:
Description of Development Site

The site encompasses Tax Map 20, lots C001, C002, C005, C009 and C015 and is approximately 2 acres in size. The site is bounded by Newbury, Mountfort, Fore, and Hancock Streets.

The site's current uses include the Shipyard Brewery and two multi-unit residential buildings. Abutting land uses include:

- North –Residential (single family homes)
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East – Residential (townhouses)

Project Description

The proposed development includes the following:

- Three-story, 277 space parking garage
- 2,500 sf retail/tasting room (existing Shipyard retail/tasting to remain)
- 132 room hotel
- 60,000 sf specialty pharmacy and fulfillment
- 60,000 sf office

Existing overhead electric is located on Newbury, Mountfort and Fore Streets. The Shipyard Brewery is currently served by a pad mount transformer.

Here is our typical three phase process for getting your service installed. If you have any questions, please let me know.

Service Milestones for Three Phase Services and CT Rated Single Phase Services

- Call 1-800-565-3181 to establish a new account (if needed) and an SAP work order. Please provide both of these to me.
- Submit Load information. Please complete this CMP spreadsheet using load information
- Submit the easement information worksheet. Please complete this CMP form and either email or fax back to us.
- Submit any electronic drawings (PDF (preferred) or DWG files) of the site layout and proposed electrical connections if you have them.
- Preliminary meetings with CMP Advisor and Engineer to determine details of job (I will need to schedule with your electrician/contractor-please let me know who this is)
- Field planner design appointment to cost out job and develop CMP Invoice.
- Submit invoice for payment.
- Easements signed and payment received.
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer delivery, return of completed paperwork, and other jobs in the system that may be ahead of yours. In addition, contact with the other utilities, including telephone and cable, should be commenced as soon as practical. They may have additional work or charges in addition to the CMP work required to bring your project on line.

Please complete the attached forms (specific instructions are on each form) and email them back to me at your earliest convenience.

For your convenience, here is a link to the CMP Website which contains our Handbook with details on most service requirements:

CMP Handbook of Standard Requirements

Your deposit amount will be based on an estimated two month bill, calculated from your completed load sheet.

Please be advised that if you plan to install solar/wind/hydro generation, you must complete an application under the MPUC mandated Chapter 324 Interconnection Standards. If you go to http://www.cmpco.com/YourAccount/puc324.html and follow the instructions for the Small Generator Interconnection Procedures, CMP can do this work in parallel to your service request that will be handled by me. If you project is under 660 KW You will be able to have a Customer Net Energy Billing contract. Information concerning Chapter 313 (Customer Net Energy Billing) can be accessed thru the Chapter 324 website or by clicking here: Net Energy Billing .

If you have any questions, please contact me.

Attachments:

Excel Load Sheet
Easement Worksheet and Sample Standard Easement

Regards,

Jamie

Jamie Cough
Energy Services Advisor
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207-842-2367 office
207-458-0382 cell
207-626-4082 fax

==========

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==========

March 15, 2018

Christi Holmes
Gorrill Palmer
707 Sable Oaks Drive, Suite 30
South Portland, ME 04106

Re: Shipyard Redevelopment, Newbury Street, Portland

Dear Ms. Holmes:

Thank you for your interest in using natural gas for the above referenced project.

This is to confirm that natural gas can be made available from our distribution system to serve your proposed project.

Any improvements to the existing distribution system necessary to provide this service, as well as the design of the gas system in the project itself will be established as the overall design and scope of your project progresses. Please provide gas load requirements in order for the evaluation to be completed.

If you have any further questions or require additional information, please contact Scott Carpenter directly at (207) 541-2543 or at carpenterc@unitil.com.

Sincerely,
Kelly Fowler
Business Development Executive
Unitil Corporation
(o) 207-541-2505 (f) 207-541-2565

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

March 15, 2018

Jay Arnold
Portland Water District
225 Douglas Street
Portland, Maine 04104

Re: Proposed Shipyard Brewing Redevelopment
Newbury Street, Portland
Letter of Ability to Serve

Dear Jay,

86 Newbury Street, LLC has retained Gorrill Palmer to prepare plans and permit applications for the proposed Shipyard Brewing Redevelopment at 86 Newbury Street. The plans and proforma for the above referenced project have changed since we met last year. The project includes construction of a parking garage, office, hotel and specialty pharmacy and fulfillment facility. A portion of the Shipyard building is proposed to remain. Preliminary sketches are enclosed for your review. We are requesting an ability to serve letter from the District.

Description of Development Site

The site encompasses Tax Map 20, lots C001, C002, C005, C009 and C015 and is approximately 2 acres in size. The site is bounded by Newbury, Mountfort, Fore, and Hancock Streets.

The site's current uses include the Shipyard Brewery and two multi-unit residential buildings. Abutting land uses include:

- North –Residential (single family homes)
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East — Residential (townhouses)

Project Description

The proposed development includes the following:

- Three-story, 277 space parking garage
- 2,500 sf retail/tasting room (existing Shipyard retail/tasting to remain)
- 132 room hotel
- 60,000 sf specialty pharmacy and fulfillment
- 60,000 sf office

Existing water mains are located in Newbury, Mountfort, Fore and Hancock Streets. Existing fire hydrants are located near the northwest corner of the parcel at the intersection of Hancock Street and Newbury Street, north of the parcel on Newbury Street, and the southeast corner at the intersection of

Mountfort Street and Fore Street. It is unknown at this time where the proposed development will be served, but likely will be served from two locations –Hancock and Mountfort Streets.

Anticipated Flows

The anticipated wastewater generation for the development was computed using the Maine Subsurface Waste Water Disposal Rules Table 4C. Based on the publication, *Water Supply and Pollution Control, Third Edition*, by Clark, Viessman and Hammer, Chapter 4, Section 5; the peak daily use can be considered to about 180% of the average daily use. The table below is a summary of the wastewater generation that is anticipated for the development vs the existing Shipyard usage.

Anticipated Wastewater Generation		
	Average Daily Wastewater Generation (gpd)	Peak Daily Wastewater Generation (gpd)
Proposed Development	6,929	12,473

The Water/Wastewater Generation Calculation sheet is attached to this letter.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Portland Water District to serve the project. In addition, we are interested in receiving:

- An estimate for any work the Water District would perform within the right-of-way.
- Information as to any easements that the District may require on-site.
- Any results of hydrant tests in the vicinity of the site.
- Any other information that you believe would be useful as this project proceeds.

Please contact me if you have any questions relative to this matter at 772-2515 or at cholmes@gorrillpalmer.com.

Sincerely,

Gorrill Palmer

Christi Holmes

Christi Holmes
Design Engineer

Enclosure

LA/ceh/U:\3184_Shipyard Brewing\H Utilities\PWD.doc

GORRILL PALMER	JOB	Shipyard Redevelopment		
	SHEET NO.	1	OF	1
	CALCULATED BY	CEH	DATE	3/14/2018
	CHECKED BY	LSA	DATE	3/15/2018
	SCALE	None		

Task: Compute Proposed Design Flow for Shipyard Redevelopment based on Table 4C of the Maine Subsurface Wastewater Disposal Rules for comparison to the Existing Flow.

Assumptions: Facility Information (retail, number of units) provided by Archetype
Table 4C of the Maine Subsurface Wastewater Disposal Rules

1 employee per	200	sf office	1 employee per	1000	sf laboratory/fullfillment
1 employee per	400	sf specialty retail	1 employee per	10	rooms of hotel

Proposed Use:

Office	60,000	SF
Fulfillment	30,000	SF
Laboratory	30,000	SF
Hotel	132	rooms
Specialty Retail	2,500	SF

Wastewater Flow Per Use:

Office - place of employment with no showers	12	gpd/employee		
Laboratory/Fulfillment - place of employment with no showers	12	gpd/employee		
Hotel/Motel with Kitchen	60	gpd per bedroom	12	gpd per employee
Speciality Retail - place of employment with no showers	12	gpd/employee		

Calculations: See Below

Conclusion: The proposed Peak Design Flow is **12,473** gallons/day

Water Use Calculations Based on Facility Usage

Office

Number of employees	300		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**3,600**	**gallons/day**	

Fulfillment

Number of employees	30		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**360**	**gallons/day**	

Laboratory

Number of employees	30		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**360**	**gallons/day**	

Hotel

Number of Rooms	132		
Flow Rate	60	gpd/bedroom	Per Table 4C
Number of employees	13		
Flow Rate	12	gpd/employee	
Subtotal	**8,078**	**gallons/day**	

Specialty Retail

Number of Employees	6		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**75**	**gallons/day**	

Total Design Flow **12,473** **gallons/day**

5 Davis Farm Rd
Portland, ME 04103
207- 878-0831 office
207-745-9363 cell
207- 797-1098 fax

April 16, 2018

To Whom It May Concern:

My name is Patrick Morrison and I am the engineer for the Westbrook area. This letter is to inform that Consolidated Communications has the capacity and willingness to serve the proposed redevelopment at Newbury ST in Portland, ME. Consolidated Communications currently has aerial copper facilities feeding the existing Shipyard Brewery at the site. We have fiber optics cable in the nearby area on Fore St. Please do not hesitate to contact me with any questions.

Sincerely,

Patrick Morrison

Consolidated Communications Outside Plant Engineer

207-878-0831 or 207-745-9363

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

March 15, 2018

Scott Derrig
Fairpoint Communications
5 Davis Farm Rd
Portland, ME 04103

Re: Proposed Shipyard Brewing Redevelopment
86 Newbury Street, Portland
Letter of Ability to Serve

Dear Scott:

The plans and proforma for the above referenced project have changed and we are requesting an updated ability to serve indication. The project includes construction of a parking garage, office, hotel and specialty pharmacy and fulfillment facility. A portion of the Shipyard building is proposed to remain. Preliminary sketches are enclosed for your review.

Description of Development Site

The site encompasses Tax Map 20, lots C001, C002, C005, C009 and C015 and is approximately 2 acres in size. The site is bounded by Newbury, Mountfort, Fore, and Hancock Streets.

The site's current uses include the Shipyard Brewery and two multi-unit residential buildings. Abutting land uses include:

- North –Residential (single family homes)
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East — Residential (townhouses)

Project Description

The proposed development includes the following:

- Three-story, 277 space parking garage
- 2,500 sf retail/tasting room (existing Shipyard retail/tasting to remain)
- 132 room hotel
- 60,000 sf specialty pharmacy and fulfillment
- 60,000 sf office

Existing overhead service is located on Newbury, Mountfort and Fore Streets. It appears that the Shipyard Brewery is currently served by a pad mount transformer, and overhead service on the Newbury Street side of the building. It is unknown at this time where the proposed development will be served.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Fairpoint to serve the project. An email is sufficient and may be sent to cholmes@gorrillpalmer.com We will invite you to attend a utility coordination meeting as the project progresses.

If you require additional information, please contact me at 772-2515.

Sincerely,

Gorrill Palmer

Christi Holmes

Christi Holmes
Design Engineer

Enclosure

CEH/U:\3184_Shipyard Brewing\H Utilities\Fairpoint.doc

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

March 15, 2018

Mark Pelletier
Spectrum
118 Johnson Road
Portland, ME 04102

Re: Proposed Shipyard Brewing Redevelopment
86 Newbury Street, Portland
Letter of Ability to Serve

Dear Mark:

The plans and proforma for the above referenced project have changed and we are requesting an updated ability to serve indication. The project includes construction of a parking garage, office, hotel and specialty pharmacy and fulfillment facility. A portion of the Shipyard building is proposed to remain. Preliminary sketches are enclosed for your review.

Description of Development Site

The site encompasses Tax Map 20, lots C001, C002, C005, C009 and C015 and is approximately 2 acres in size. The site is bounded by Newbury, Mountfort, Fore, and Hancock Streets.

The site's current uses include the Shipyard Brewery and two multi-unit residential buildings. Abutting land uses include:

- North –Residential (single family homes)
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East — Residential (townhouses)

Project Description

The proposed development includes the following:

- Three-story, 277 space parking garage
- 2,500 sf retail/tasting room (existing Shipyard retail/tasting to remain)
- 132 room hotel
- 60,000 sf specialty pharmacy and fulfillment
- 60,000 sf office

Existing overhead service is located on Newbury, Mountfort and Fore Streets. It appears that the Shipyard Brewery is currently served by a pad mount transformer, and overhead service on the Newbury Street side of the building. It is unknown at this time where the proposed development will be served.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Spectrum to serve the project. An email is sufficient and may be sent to cholmes@gorrillpalmer.com We will invite you to attend a utility coordination meeting as the project progresses.

For additional information, please contact me at 772-2515.

Sincerely,

Gorrill Palmer

Christi Holmes

Christi Holmes
Design Engineer

Enclosure

CEH/U:\3184_Shipyard Brewing\H Utilities/Spectrum.doc

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

June 15, 2018

Robert Bartels
AMAP MEANS
Portland Water District
225 Douglas Street
Portland, Maine 04104

Re: Proposed Shipyard Brewing Redevelopment
Newbury Street, Portland
Letter of Ability to Serve

Dear Robert,

86 Newbury Street, LLC has retained Gorrill Palmer to prepare plans and permit applications for the proposed Shipyard Brewing Redevelopment at 86 Newbury Street. The plans and proforma for the above referenced project have changed since we met last year. The project includes construction of a parking garage, office, hotel, specialty pharmacy and fulfillment facility, and residential units with retail in three separate buildings. A portion of the Shipyard building is proposed to remain. Preliminary sketches are enclosed for your review. We are requesting an ability to serve letter from the District.

Description of Development Site

The site encompasses Tax Map 20, lots C001, C002, C005, C009 and C015 and is approximately two acres in size. The site is bounded by Newbury, Mountfort, Fore, and Hancock Streets.

The site's current uses include the Shipyard Brewery and two multi-unit residential buildings. Abutting land uses include:

- North –Residential (single family homes)
- West – Residential (condominiums)
- South – Commercial (Marriott Residence Inn)
- East — Residential (townhouses)

Project Description

The proposed development includes the following:

- Four-level, 380 space parking garage
- 2,500 sf tasting room with 2,700 sf retail (existing Shipyard retail/tasting to remain)
- 9,590 sf brewery
- 105 room hotel
- 60,000 sf specialty pharmacy and fulfillment
- 107,171 sf office
- Three detached buildings, with retail or storage on the first floors, and a total of 10 residential units above

Existing water mains are located in Newbury (8"), Mountfort (12"), Fore (12") and Hancock (8") Streets. A 4" stub was installed in Hancock Street near the existing retail/tasting room. This location is expected to

serve the retail/tasting room and the brewery. Service for the three detached retail/residential buildings along Newbury Street is proposed to be served from Newbury Street as shown on the attached plans. The residential units are anticipated to be owned. Service for the office/garage/pharmacy/hotel will be served from two locations – Hancock and Mountfort Streets. Existing fire hydrants are located near the northwest corner of the parcel at the intersection of Hancock Street and Newbury Street, north of the parcel on Newbury Street, and the southeast corner at the intersection of Mountfort Street and Fore Street.

Anticipated Flows

The anticipated wastewater generation for the development was computed using the Maine Subsurface Waste Water Disposal Rules Table 4C. Based on the publication, *Water Supply and Pollution Control, Third Edition*, by Clark, Viessman and Hammer, Chapter 4, Section 5; the peak daily use can be considered to about 180% of the average daily use. The table below is a summary of the wastewater generation that is anticipated for the development vs the existing Shipyard usage.

Anticipated Wastewater Generation		
	Average Daily Wastewater Generation (gpd)	Peak Daily Wastewater Generation (gpd)
Proposed Development	8,912	16,041

The Water/Wastewater Generation Calculation sheet is attached to this letter.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Portland Water District to serve the project. In addition, we are interested in receiving:

- An estimate for any work the Water District would perform within the right-of-way.
- Information as to any easements that the District may require on-site.
- Any results of hydrant tests in the vicinity of the site.
- Any other information that you believe would be useful as this project proceeds.

Please contact me with any questions, or to set up a meeting. I can be reached at 772-2515 or at cholmes@gorrillpalmer.com

Sincerely,

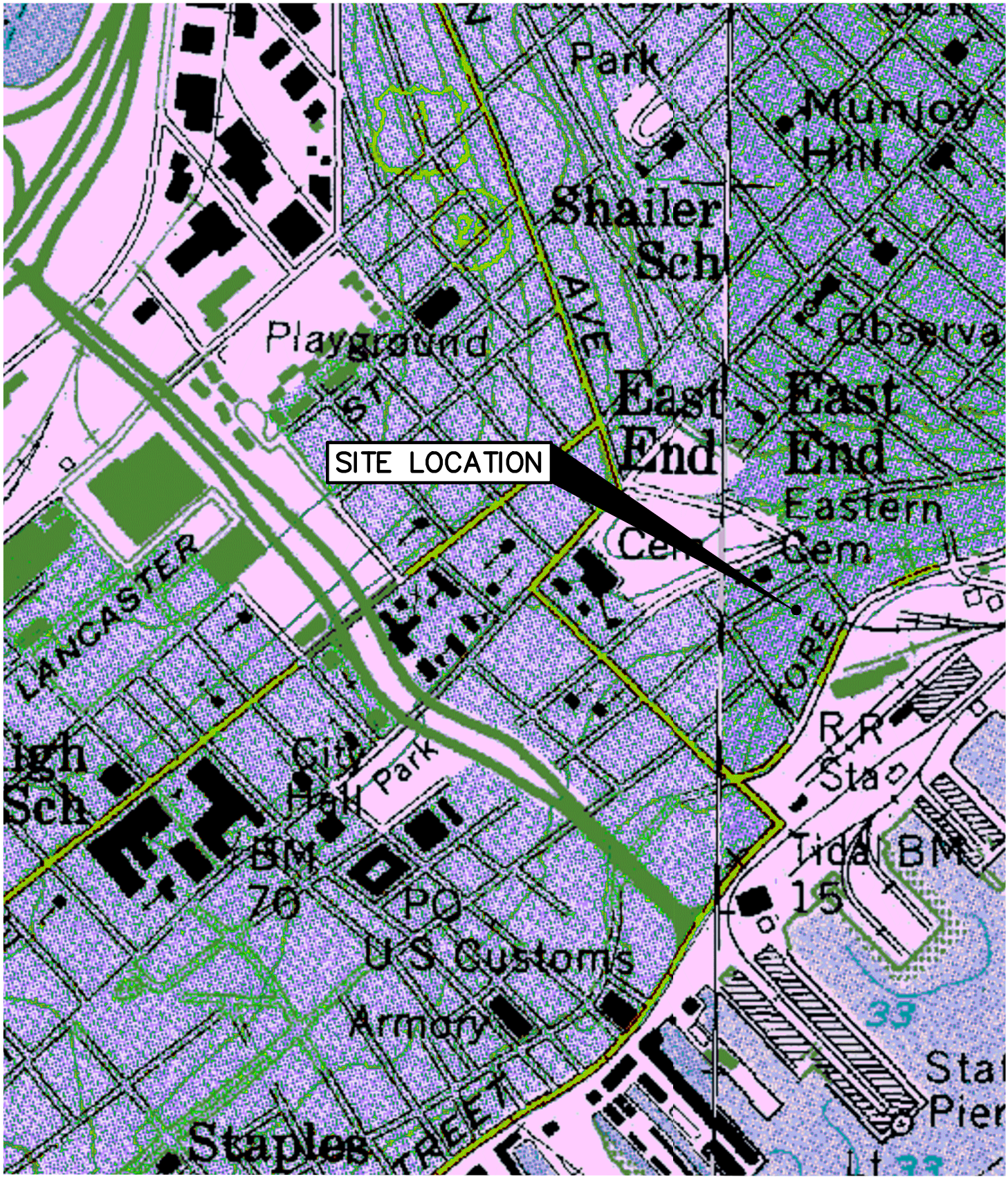
Gorrill Palmer

Christi Holmes

Christi Holmes
Design Engineer

Enclosure

LA/ceh/U:\3184_Shipyard Brewing\H Utilities\PWD.doc



U.S.G.S. Location Map

Shipyard Brewing Company - Portland, Maine

U.S.G.S. Portland East/West, Maine -7.5 Minute Series (Topographic)

Design: BMG	Date: MARCH 2017
Draft: CG	Job No.: 3184
Checked: LSA	Scale: None
File Name: 3184-LOCATION.dwg	

GORRILL PALMER

Relationships. Responsiveness. Results.
www.gorrillpalmer.com
207.772.2515

Figure 1

JOB	Shipyard Redevelopment			
SHEET NO.	1	OF	1	
CALCULATED BY	CEH	DATE	6/4/2018	
CHECKED BY	LSA	DATE	6/4/2018	
SCALE	None			

Task: Compute Proposed Design Flow for Shipyard Redevelopment based on Tables 4A and 4C of the Maine Subsurface Wastewater Disposal Rules for comparison to the Existing Flow.
Facility Information (retail, number of units) provided by Archetype

Assumptions:

1 employee per	200	sf office	1 employee per	1000	sf laboratory/fullfillment
1 employee per	400	sf specialty retail	1 employee per	10	rooms of hotel
1 seat per	100	sf bar/tavern	1 employee per	2000	sf brewery
1 employee per	1000	sf bar/tavern			

Proposed Use:

Office	107,171	SF
Fulfillment	34,808	SF
Laboratory	24,190	SF
Hotel	105	rooms
Specialty Retail	3,798	SF
Apartments	10	two bedrooms units
Tasting Room/Bar	2,500	SF
Brewery	9,590	SF

Wastewater Flow Per Use:

Office - place of employment with no showers	12	gpd/employee		
Laboratory/Fulfillment - place of employment with no showers	12	gpd/employee		
Hotel/Motel with Kitchen	60	gpd per bedroom	12	gpd per employee
Speciality Retail - place of employment with no showers	12	gpd/employee		
Two bedrooms or less	180	gpd/dwelling unit		
Bar/Tavern w/ limited food	15	gpd/seat	12	gpd/employee
Brewery	100	gpd	12	gpd/employee

Calculations: See Below

Conclusion: The proposed Peak Design Flow is **16,041** gallons/day

Water Use Calculations Based on Facility Usage

Office

Number of employees	536		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**6,430**	**gallons/day**	

Fulfillment

Number of employees	35		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**418**	**gallons/day**	

Laboratory

Number of employees	24		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**290**	**gallons/day**	

Hotel

Number of Rooms	105		
Flow Rate	60	gpd/bedroom	Per Table 4C
Number of employees	11		
Flow Rate	12	gpd/employee	
Subtotal	**6,426**	**gallons/day**	

Specialty Retail

Number of Employees	9		
Flow Rate	12	gpd/employee	Per Table 4C
Subtotal	**114**	**gallons/day**	

Two Bedrooms Units

Number of Units	10		
Flow Rate	180	gpd/unit	Per Table 4A
Subtotal	**1,800**	**gallons/day**	

Bar/Tavern

Number of Seats	25		
Flow Rate	15	gpd/seat	Per Table 4C
Number of Employees	3		
Flow Rate	12	gpd/employee	
Subtotal	**405**	**gallons/day**	

Brewery

Flow Rate (base)	100	gpd	
Number of Employees	5		
Flow Rate	12	gpd/employee	
Subtotal	**158**	**gallons/day**	

Total Design Flow **16,041** **gallons/day**

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

April 3, 2017

Christi Holmes
Gorrill and Palmer
707 Sable Oaks Drive, Suite 30
South Portland, ME 04106

Via email: cholmes@gorrillpalmer.com

Re: Rare and exemplary botanical features in proximity to: Project 3184, Shipyard Brewing Redevelopment, Portland, Maine

Dear Ms. Holmes:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received March 31, 2017 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. Based on the information in our files and the landscape context of this project, there is a low probability that rare or significant botanical features occur at this project location.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Don Cameron | Ecologist | Maine Natural Areas Program
207-287-8041 | don.s.cameron@maine.gov

PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

April 8, 2017

Christi Holmes
Gorrill Palmer
P.O. Box 1237, 15 Shaker Road
Gray, ME 04039

RE: Information Request - Shipyard Brewing Company redevelopment, Portland

Dear Christi:

Per your request received March 31, 2017, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *Shipyard Brewing Company redevelopment Project* in Portland.

Our Department has not mapped any Essential or Significant Wildlife Habitats or fisheries habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats

Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (*M. lucifugus*, State Endangered); northern long-eared bat (*M. septentrionalis*, State Endangered); and eastern small-footed bat (*M. leibii*, State Threatened). The five remaining bat species are listed as Special Concern: big brown bat (*Eptesicus fuscus*); red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), and tri-colored bat (*Perimyotis subflavus*). It is possible that some of these bat species could occupy the structure(s) in the project review area. Unless there is a threat to human health and safety, we recommend that construction or demolition work on bat-occupied portions of the structure not occur between June 1 and August 15, when young bats are still unable to fly and would likely die without parental care. For more information on preventing conflicts with bats, we recommend following the "Preventing Conflicts" guidelines found here[1].

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

1"Living with Wildlife: Bats." Maine Department of Inland Fisheries and Wildlife. https://www1.maine.gov/ifw/wildlife/human/lww_information/bats.html

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

John Perry
Environmental Review Coordinator

Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Portland, Shipyard Brewing Company redevelopment(Version 1)

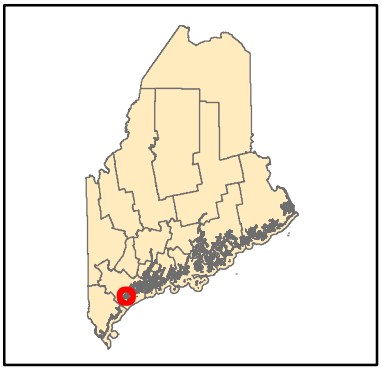
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 4/4/2017

- Shorebird Areas
- Tidal Waterfowl/Wading Bird
- ETSc Environmental Review Polygons



MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

RECEIVED
APR 26 2017

PAUL R. LEPAGE
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

April 24, 2017

Ms. Christi Holmes
Design Engineer
Gorrill Palmer
77 Sable Oaks Drive, Suite 30
South Portland, ME 04106

Project: MHPC #0430-17 86 Newbury Street LLC; Map 20; Lots C001, 002, 005, 009, 015
Proposed Shipyard Brewing Redevelopment

Town: Portland, ME

Dear Ms. Holmes:

In response to your recent request, I have reviewed the information received April 5, 2017 to initiate consultation on the above referenced project in accordance with the City of Portland's regulations.

The proposed project area is not only sensitive to historic archaeology but located near the National Register Listed Abyssinian Meeting House. The project is located near the adjacent India Street Historic District which is a local historic district. The two buildings that are proposed to be demolished as part of the project are the William Mundy House and the William Mundy Block. Information at our office includes historic photographs of the buildings from the 1924 Portland tax records and architectural survey forms from 2003 that have details of deed research completed at that time. At this time, additional information is needed on these two buildings in order for our office to make a determination of eligibility for the National Register of Historic Places. If possible, please provide our office with a detailed history of these two buildings including information on the various tenants of both buildings since their construction, where they worked and their ethnicity, as well as additional information on William Mundy and who he was in Portland's history. Please include interior photos of each building.

The block within which the proposed project is to occur has witnessed a long period of development that spans the 18th through 21st centuries. The earliest 18th-century occupation consisted of residences on Fore Street that overlooked Portland harbor and had access to a private wharf (see 1770s map). Subsequent development by the mid-19th century consisted of dwellings and shops on all street faces (1851, 1857 maps). The fact that the Abyssinian Meeting House is directly across the street from the project area suggests that the ethnic makeup of the neighborhood at that time may have included African Americans, the homes of which are archaeologically undocumented in Portland. In time industrial development occurred in the south and central portion of the block in the form of a sugar refinery (1871 map). Other commercial and industrial buildings followed, such that by the mid-20th century the block had been largely transformed to industrial production (machine shops among others). This trend has continued to the present with only a few domestic residences remaining on Newbury and Mountfort Streets.

Such a progression of development is frequently assumed to have destroyed evidence of earlier occupation that would be of archaeological significance. It is often the case, however, that the history of occupation is surprisingly well preserved in the form of archaeological remains, even under existing buildings and in areas that have escaped deep excavation for cellars. Due to this fact much of the proposed project area maintains the potential to contain significant domestic and industrial archaeological resources associated with Euro-American and African American occupation in the form of foundations, cellars, trash pits, privies and deposits resulting from specific activities.

A Phase I Archaeological Reconnaissance Survey, therefore, is recommended for the proposed project area. This survey should consist of documentary and map research and assessment of existing structures to document the site's land use history and potential for preservation of intact archaeological resources. This work should be accompanied by Phase I shovel testing of available yard spaces where such testing is deemed to be warranted.

If the findings of the Phase I survey result in a recommendation for further investigation at the Phase II level, it is suspected that much of that investigation will consist of monitoring construction-associated excavation in close cooperation with the site contractor. The purpose of the monitoring is to identify and document archaeological resources before they are removed. This approach will save time, but will require that archaeologists be given time to document any findings.

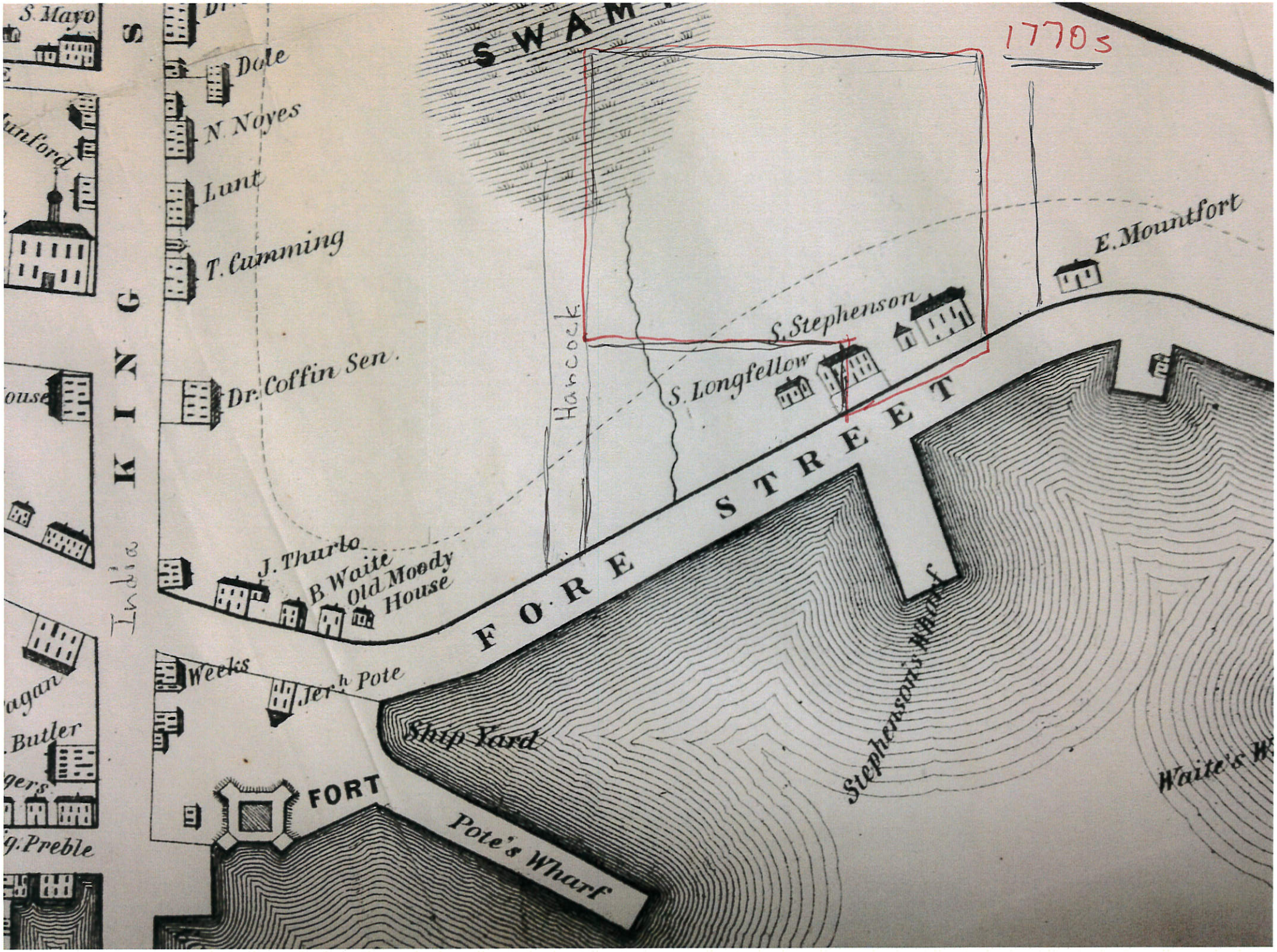
Once this information is received, we will forward a response regarding the results of our evaluation. Please contact Megan Hopkin at (207) 287-2992 or megan.m.hopkin@maine.gov if you have any questions regarding this request.

Sincerely,

Kirk F. Mohney

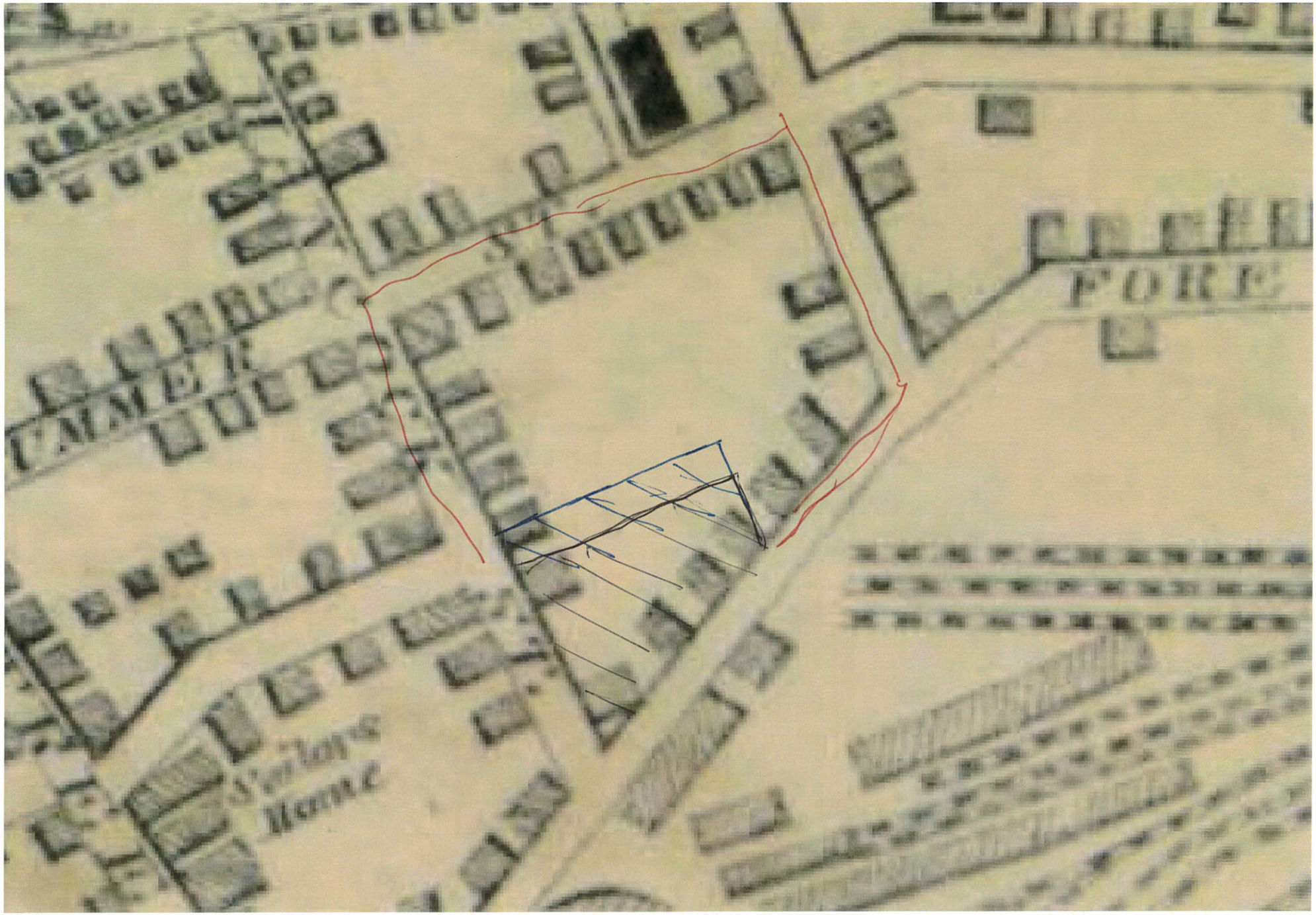
Kirk F. Mohney
State Historic Preservation Officer

Enc.


1770s
S. Mayo
Dole
N. Noyes
Lunt
T. Cumming
Dr. Coffin Sen.
J. Thurlo
B. Waite
Old Moody House
Weeks
Jer.h Pote
Ship Yard
FORT
Pote's Wharf
Hancock
S. Stephenson
S. Longfellow
E. Mountfort
FORE STREET
Stephenson's Wharf
KING
India
Butler
Preble

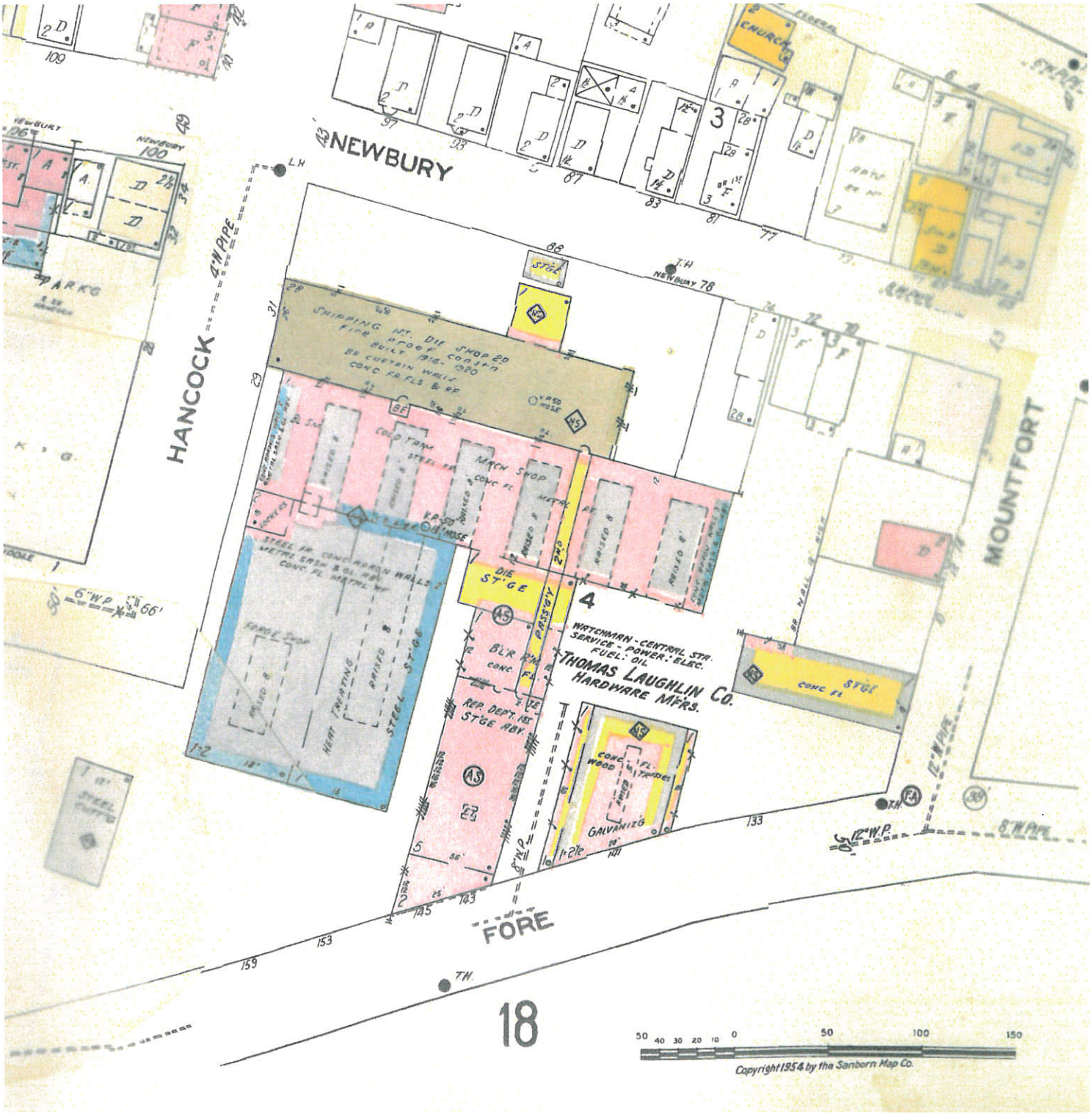
1851
METERY
Armenian St
HANCOCK
ST.
MONTFORT
ST.
ADAMS
ST
ST
A & S L R R Co

1857



B.S.
J. Cummer
B.S. Wilber
B.S. Switzer
P. Johnson
O'Neil
E.P. Talbot
J.S. Miller
Eagle Sugar Refinery
Refinery
B. Swett
Bradbury
Mrs. Fickett
J. Howe
HANCOCK
McCarthy
Mrs. Tomes
Mrs. Howe

1956


NEWBURY
HANCOCK
MOUNTFORT
FORE
4" W. PIPE
6" W.P.
12" W.P.
8" W.P.
SHIPPING MT. DIE SHOP 2S FIRE PROOF CONST'N BUILT 1918-1920 BR CURTAIN WALLS CONC FR FLS & RF
MACH SHOP
DIE ST'GE
PASSEY
WATCHMAN - CENTRAL STR. SERVICE - POWER - ELEC. FUEL - OIL
THOMAS LAUGHLIN CO. HARDWARE MFRS.
CONC FL ST'GE
REP. DEPT. 1ST ST'GE ABV.
GALVANIZG
CHURCH
PARKG
18
50 40 30 20 10 0 50 100 150
Copyright 1954 by the Sanborn Map Co.

SURVEY MAP NAME _____

MHPC USE ONLY
1023
INVENTORY NO.

MAINE HISTORIC PRESERVATION COMMISSION
Historic Building/Structure Survey Form

1. PROPERTY NAME (HISTORIC): William Mundy Block
2. PROPERTY NAME (OTHER): _____
3. STREET ADDRESS: 70-72 Newbury Street
4. TOWN: Portland
5. COUNTY: Cumberland
6. DATE RECORDED: July 2001
7. SURVEYOR: Martha Deppe
8. OWNER NAME: _____
ADDRESS: _____
9. PRIMARY USE (PRESENT):
___ SINGLE FAMILY
✓ MULTI-FAMILY
___ INDUSTRY
___ TRANSPORTATION
___ RECREATION/CULTURE
___ OTHER _____
___ AGRICULTURE
___ GOVERNMENTAL
___ RELIGIOUS
___ DEFENSE
___ UNKNOWN
___ COMMERCIAL/TRADE
___ EDUCATION
___ HOTEL
___ SUMMER COTTAGE/CAMP
___ FUNERARY
___ HEALTH CARE
___ LANDSCAPE
___ SOCIAL
10. CONDITION: ✓ GOOD ___ FAIR ___ POOR ___ DESTROYED, DATE ___/___/___

ARCHITECTURAL DATA

11. PRIMARY STYLISTIC CATEGORY:
___ COLONIAL
___ FEDERAL
___ GREEK REVIVAL
___ GOTHIC REVIVAL
✓ ITALIANATE
___ SECOND EMPIRE
___ STICK STYLE
___ QUEEN ANNE
___ SHINGLE STYLE
___ R. ROMANESQUE
___ ROMANESQUE
___ HIGH VIC. GOTHIC
___ NEO-CLASSICAL REV.
___ RENAISSANCE REV.
___ 19TH/20TH C. REVIVAL
___ ARTS & CRAFTS
___ BUNGALOW
OTHER _____
___ FOUR SQUARE
___ ART DECO
___ INTERNATIONAL
___ RANCH
___ VERNACULAR

12. OTHER STYLISTIC CATEGORY:
___ COLONIAL
___ FEDERAL
___ GREEK REVIVAL
___ GOTHIC REVIVAL
___ ITALIANATE
___ SECOND EMPIRE
___ STICK STYLE
___ QUEEN ANNE
___ SHINGLE STYLE
___ R. ROMANESQUE
___ ROMANESQUE
___ HIGH VIC. GOTHIC
___ NEO-CLASSICAL REV.
___ RENAISSANCE REV.
___ 19TH/20TH C. REVIVAL
___ ARTS & CRAFTS
___ BUNGALOW
OTHER Colonial Revival
___ FOUR SQUARE
___ ART DECO
___ INTERNATIONAL
___ RANCH
___ VERNACULAR

13. HEIGHT:
___ 1 STORY ___ 1½ STORY ___ 2 STORY ___ 2½ STORY ✓ 3 STORY ___ 4 STORY
___ 5 STORY ___ OVER 5 (___)

14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR):
___ 1 BAY ___ 2 BAY ___ 3 BAY ___ 4 BAY ___ 5 BAY ✓ MORE THAN 5 (6)

15. APPENDAGES:
___ SIDE ELL ✓ REAR ELL ___ FRONT TOWER ___ ADDED STORIES ___ SHED
___ DORMERS ✓ PORCH ___ CUPOLA ✓ BAY WINDOW

PHOTOGRAPH:

16. PORCH: ATTACHED ✓ ENGAGED ___ ONE STORY ___ MORE THAN ONE ✓ FULL WIDTH ✓
LESS THAN FULL WIDTH ___ WRAPAROUND ___ SLEEP PORCH ___ OTHER PORCH ___

17. PLAN:
___ HALL AND PARLOR ___ 1/2 CAPE ___ CENTRAL HALL ___ SIDE HALL
___ BACK HALL ___ IRREGULAR OTHER ___

18. PRIMARY STRUCTURAL SYSTEM:
___ TIMBER FRAME ___ BRACED FRAME ___ BRICK ___ STONE ___ BALLOON FRAME
___ CONCRETE ___ STEEL ___ LOG ___ PLANK WALL ___ PLATFORM FRAME
✓ FRAME CONSTRUCTION - TYPE UNKNOWN ___ OTHER ___

19. CHIMNEY PLACEMENT:
✓ INTERIOR ___ INTERIOR FRONT/REAR ___ CENTER ___ INTERIOR END ___ EXTERIOR
OTHER ___

20. ROOF CONFIGURATION:
___ GABLE SIDE ___ GABLE FRONT ✓ HIP ___ MANSARD ___ FLAT
___ GAMBREL ___ PARAPET GABLE ___ SHED ___ CROSS ___ GABLE
___ COMPOUND OTHER ___

21. ROOF MATERIAL: WOOD ___ METAL ___ TILE ___ SLATE ___ ASPHALT ___ ASBESTOS ___

22. EXTERIOR WALL MATERIALS:
✓ CLAPBOARD ___ BRICK ___ FLUSH SHEATHING ___ WOOD SHINGLE ___ STONE
___ LOG ___ PRESSED METAL ___ CONCRETE ___ STUCCO ___ ASPHALT
___ GRANITE ___ ASBESTOS ___ TERRA COTTA ___ BOARD AND BATTEN ___ ALUMINUM/VINYL
___ OTHER ___

23. FOUNDATION MATERIAL:
___ FIELDSTONE ✓ BRICK ___ WOOD ___ CONCRETE ___ GRANITE ___ ORNAMENTAL CONC. BLOCK
OTHER ___

24. OUTBUILDINGS/FEATURES:
___ CARRIAGE HOUSE ___ FENCE OR WALL ___ CEMETERY ___ BARN (CONNECTED)
___ BARN (DETACHED) ___ FORMAL GARDEN ___ LANDSCAPE/PLANT MAT. ___ ARCHAEOLOGICAL SITE
___ GARAGE OTHER ___

HISTORICAL DATA

25. DOCUMENTED DATE OF CONSTRUCTION: 1893 26. ESTIMATED DATE OF CONSTRUCTION: ___

27. DATE MAJOR ADDITIONS/ALTERATIONS: ___

28. ARCHITECT: ___ 29. CONTRACTOR: ___

30. ORIGINAL OWNER: William Mundy

31. SUBSEQUENT SIGNIFICANT OWNER: ___ DATES: ___

32. CULTURAL/ETHNIC AFFILIATION:
___ ENGLISH ___ FRENCH ACADIAN ___ NATIVE AMERICAN ___ SCOTTISH ___ FRENCH CANADIAN
___ EAST EUROPEAN ___ IRISH OTHER ___

33. HISTORIC CONTEXT(S):
___ COMMERCE ___ INDUSTRY ___ TRANSPORTATION ___ AGRICULTURE ___ MILITARY
___ RELIGION ___ CIVIC AFFAIRS ___ RECREATION ___ HABITATION ___ EDUCATION
___ ART, LIT, SCIENCE ___ SOCIAL

34. COMMENTS/SOURCES: GPL marker - 1882 Rierdan, Allen - P Morgan Est Area 3332 - 2 bldgs. 1914 map 72 Newbury 3332 - 1 bldg, Max W. Simmons owner; Valuations 1893 Mundy, William [Mundy, Mary Jane] land & W. Bld S. Side Newbury St # 68 to 72 Area - 3332 Value 500 [additions & corrections in pencil] 1894 Mundy, Mary Jane land & W. Bldg S side Newbury St. # 68 to 72 Area 3332 400 to 2000 Et to Warren Coffey] CCR 611/158 (2/21/1894) Abstract of will of Wm Mundy - all real estate to wife Mary S. Mundy. 615/246 (7/5/1894) Mary S. Mundy → Warren Coffey

35. HISTORICAL DRAWINGS EXIST: ___ YES ___ NO LOCATION: ___

ENVIRONMENTAL DATA

36. SITE INTEGRITY: ORIGINAL ___ MOVED DATE MOVED ___
37. SETTING: ___ RURAL/UNDISTURBED ___ RURAL/BUILT UP ___ SMALL TOWN ___ URBAN ___ SUBURBAN
38. QUADRANGLE MAP USED: ___ QUADRANGLE #: ___
39. UTM NORTHING: ___ 40. UTM EASTING: ___
41. FACADE DIRECTION (CIRCLE ONE): N S E W NE NW SE SW

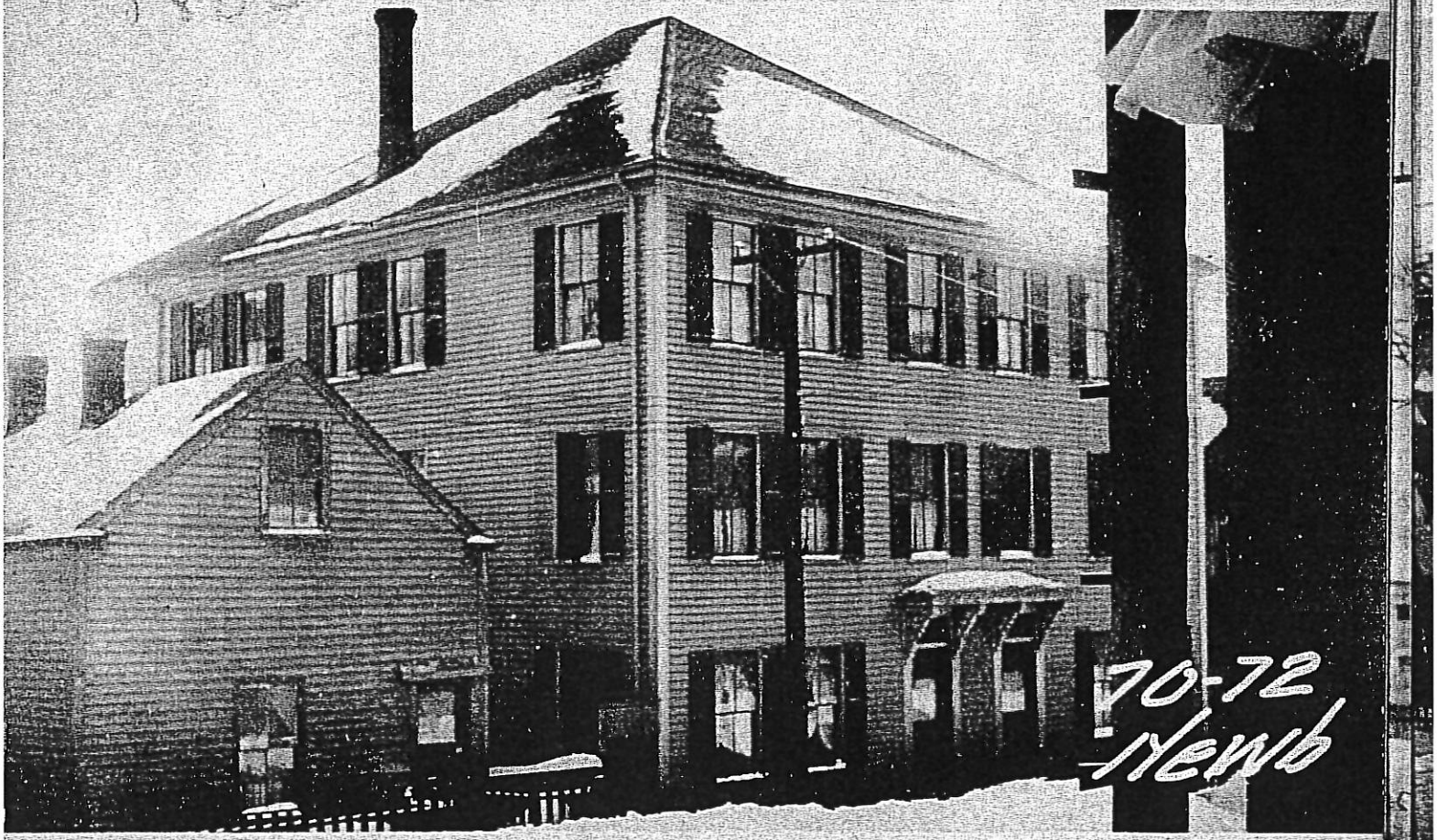
MHPC USE ONLY

DATE ENTERED IN INVENTORY: 11/24/04 PHOTO FILE #: Cabot binder
NR STATUS: L ___ HD ___ E ___ NE ___ ND X REVIEWER CAM
DATA SOURCE: ✓ HPF ___ CLG ___ R&C ___ STAFF ___ STATE SURVEY OTHER ___ LEVEL OF SURVEY: ___ R X I

FORM K:\KIRK\ARCH-SVY.FRM\HBSSFSVY.MAS

Area	Multiplier	Coefficient
3332	121	4031

Year	Unit	Coefficient	Land Value
19 .	3,108	4031	3225



Surveyed by Walter Arnold

APR 26 1924

(Remarks on other Side)

MHPC USE ONLY

1023

INVENTORY NO.

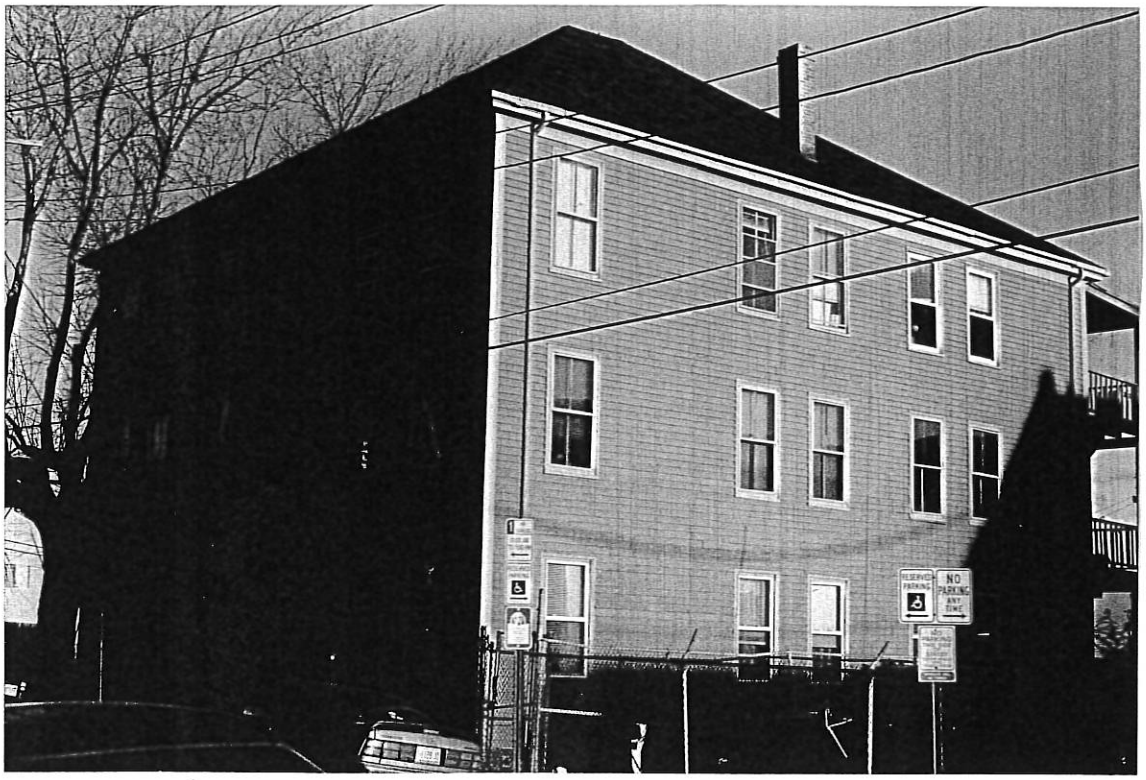
MAINE HISTORIC PRESERVATION COMMISSION
Historic Building/Structure Survey Form
Continuation Sheet

PROPERTY NAME: William Mundy Block

TOWN: PORTLAND COUNTY: Cumberland

SURVEYOR: Martha DuPrez DATE: July 2001

DATA FIELD # (From Survey Form): _____



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Bateman Investments, LLC

470 Fore Street, Suite 400
Portland, ME 04101

March 6, 2018

86 Newbury Street, LLC
470 Fore Street, Suite 400
Portland, ME 04101

RE: Signatory Authority

To Whom It May Concern:

This letter is to confirm that Bateman Investments, LLC is a member of 86 Newbury Street, LLC. 86 Newbury Street, LLC consists of two members, Bateman Investments, LLC and Shipyard Brewery Company, LLC (the property owner).

This letter further confirms that David H. Bateman, as member of Bateman Investments, LLC, has the authority to sign and submit this application on behalf of 86 Newbury Street, LLC to the City of Portland, Maine.

Signed,

Nathan Bateman
Manager
Bateman Investments, LLC

Doc#: 19878 Bk:34818 Pg: 188

Quitclaim Deed with Covenant

Shipyard Brewing Company, Limited Liability Company, a Maine Limited Liability Company with a place of business at 86 Newbury Street, Portland, County of Cumberland, State of Maine, for consideration paid, grants to **86 Newbury Street, LLC,** a Maine Limited Liability Company with a place of business at 86 Newbury Street, Portland, County of Cumberland, State of Maine, with **Quitclaim Covenants**, certain real property together with any improvements thereon, situated in the City of Portland, Cumberland County and State of Maine, more particularly described on Exhibit A attached hereto and made a part hereof.

MAINE REAL ESTATE TAX PAID

In Witness Whereof, Shipyard Brewing Company, Limited Liability Company has caused this instrument to be executed by Fred M. Forsley, its Member, thereunto duly authorized, this 10th day of April, 2018.

Shipyard Brewing Company,
Limited Liability Company

By: _____
Fred M. Forsley, its Member

State of Maine
Cumberland, ss.

April 10th, 2018

Personally appeared the above-named **Fred M. Forsley** in his capacity as Member, duly authorized, of **Shipyard Brewing Company, Limited Liability Company,** and acknowledged the foregoing instrument as his free act and deed, in said capacity, and the free act and deed of **Shipyard Brewing Company, Limited Liability Company.** Before me,

_____
Notary Public/Attorney-at-Law
Print Name: Adam P. Moses
Exp: 9/29/2023

Exhibit A

Parcel One - 86 Newbury Street, Portland, Maine

A certain lot or parcel of land, with buildings thereon, situated in the block bounded by the Southerly side of Middle Street, Easterly side of Hancock Street, Southerly side of Newbury Street, Westerly side of Mountfort Street, Northerly side of Fore Street in the City of Portland, County of Cumberland and State of Maine, being bounded and described as follows:

Beginning at a point on the Southerly side of said Middle Street, marking the Northeasterly corner of land conveyed to Micucci Brothers, Inc. by deed recorded in the Cumberland County Registry of Deeds in Book 11090, Page 193;

Thence, by the Southerly side of said Middle Street, N 63° 31' 00" E a distance of 222.36 feet to a point marking the intersection of the southerly side of said Middle Street and the Easterly side of said Hancock Street;

Thence, by the Easterly side of said Hancock Street, N 23° 20' W a distance of 276.62 feet to a point marking the intersection of the Easterly side of said Hancock Street and the southerly side of said Newbury Street;

Thence, by the Southerly side of said Newbury Street, N 69° 07' 25" E a distance of 268.96 feet to a point marking the northwesterly corner of land conveyed to David McCain by deed recorded in said Registry in Book 4680, Page 313;

Thence, by the Westerly line of said McCain land S 23° 54' 35" E a distance of 66.00 feet to McCain's southwesterly corner;

Thence, by the southerly line of said McCain N 69° 09' 10" E a distance of 49.00 feet to the Northwesterly corner of land conveyed to Charles W. & Susan Ann Cherwinski by deed recorded in said Registry in Book 5069, Page 278;

Thence, by the westerly line of said Cherwinski S 20° 17' 25" E a distance of 47.30 feet to Cherwinski's Southwesterly corner;

Thence, by the Southerly line of said Cherwinski N 67° 50' 45° E a distance of 72.00 feet to a point marking the Westerly side of said Mountfort Street;

Thence, by the Westerly side of said Mountfort Street S 22° 09' 15" E a distance of 112.77 feet to a point marking the intersection of the Westerly side of said Mountfort Street and the Northerly side of said Fore Street;

Thence, by the Northerly side of said Fore Street on the following courses:

S 42° 28' 00" W a distance of 122.92 feet to an angle point;
S 35° 40' 50" W a distance of 327.64 feet to an angle point;

S 41° 54' 00" W a distance of 83.68 feet to a point of curvature;

Thence, by a curve to the right, whose radius is 384.90 feet, an arc distance of 86.10 feet to a point marking a compound curve;

Thence, continuing by said compound curve to the right, whose radius is 341.90 feet, an arc distance of 97.07 feet to a point of tangency;

Thence, S 70° 59' 00" W a distance of 40.66 feet to a point marking the southeasterly corner of land conveyed to Guy Centafante by deed recorded in said Registry in Book 2127, Page 98, said point being located N 70° 59' 00" E a distance of 51.75 feet from the intersection of the easterly side of said India Street and the northerly side of said Fore Street;

Thence, by land of said Centafante on the following courses:

N 27° 56' 30" W a distance of 75.83 feet to a point;

N 57° 47' 00" E a distance of 39.00 feet to a point;

N 33° 35' 00" W a distance of 46.29 feet to land of said Micucci Brothers, Inc.

Thence, N 57° 47' 00" E a distance of 77.95 feet to a point;

Thence, N 35° 35' 32" W a distance of 99.90 feet to the point of beginning containing 4.02 acres, more or less.

Bearings are based on Magnetic North 1955.

The property is conveyed subject to the following:

1. Agreement described in a deed from The Portland Historical Society to American Hoist & Derrick Company dated August 5, 1955, recorded in the Cumberland County Registry of Deeds in Book 2253, Page 85.

2. Possible rights or claims of the stockholders of The Marine Liquidating Corporation and/or their heirs and assigns in and to that certain portion of the real estate described on Exhibit A which was originally acquired by the entity then known as The Thomas Laughlin Company by deeds of Robert Seeley, dated September 14, 1906, recorded in the Cumberland County Registry of Deeds in Book 791, Page 275 and John M. Burke dated June 21, 1907 and recorded in said Registry of Deeds in Book 805, Page 252.

3. Rights and easements granted to Central Maine Power Company and New England Telephone and Telegraph Company be deed of American Hoist & Derrick Co. dated August 29, 1966 and recorded in the Cumberland County Registry of Deeds in Book 2978, Page 29.

4. Terms and conditions of a State of Maine Department of Environmental Protection Order dated December 18, 1990 and recorded in the Cumberland County Registry of Deeds in Book 9936, Page 205.

5. Declaration of Restrictive Covenant by Amdura Corporation dated as of March 9, 1992 and recorded in the Cumberland County Registry of Deeds in Book 9973, Page 122.

Subject to the following:

1. Conveyance to the City of Portland described in the Quitclaim Deed with Covenant dated July 19, 2006 recorded at Book 24191, Page 210 of the Cumberland County Registry of Deeds.

2. Quitclaim Deed dated September 29, 2006 to Ocean Gateway Garage, LLC recorded at Book 24419, Page 111 of the Cumberland County Registry of Deeds.

3. Rights referenced in the Quitclaim Deed with Covenant dated December 14, 2007 to Chapin Realty, LLC recorded at Book 25688, Page 158 of the Cumberland County Registry of Deeds.

Meaning and Intending to convey the property referenced in the Quitclaim Deed with Covenant given by Longfellow, Inc. to Shipyard Brewing Company, Limited Liability Company recorded on November 9, 1995 at Book 12206, Page 170.

Parcel Two - 12-14 Mountford Street, Portland, Maine

A certain lot or parcel of land, with the building thereon, situated on the westerly side of Mountfort Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a stake on said westerly side of Mountfort Street at the southeasterly corner of the lot of land conveyed by The Thomas Laughlin Company to Carmina Spizuocco by deed dated August 11, 1927 and recorded in the Cumberland County Registry of Deeds in Book 1273, Page 269; thence southerly by said westerly side of Mountfort Street forty-nine and fifteen hundredths (49.15) feet to a spike in a fence; thence westerly at right angles to said Mountfort Street seventy-two (72) feet to other land now or formerly of said The Thomas Laughlin Company; thence northerly by land now or formerly of said Company

forty-nine and fifteen hundredths (49.15) feet to land conveyed by said Company to Gaetana Bruni by deed dated August 11, 1927; thence easterly by land now or formerly of said Spizuocco about seventy and four tenths (70.4) feet to said westerly side of Mountfort Street and the point of beginning.

Meaning and Intending to convey the property referenced in the Warranty Deed given by Ashleigh, Inc. to Fred Forsley dated September 22, 2005 and recorded in the Cumberland County Registry of Deeds at Book 23197, Page 64.

Exhibit A - Continued

Parcel Three - 70-72 Newbury Street

A certain lot or parcel of land with the buildings thereon, situated on the southeasterly side of Newbury Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the southeasterly side line of said Newbury Street at the most westerly corner of a lot of land conveyed to Mary J. Mundy by Samuel Sweetsir, et al by deed dated December 7, 1875, and recorded in the Cumberland County Registry of Deeds in Book 428, Page 320; thence running southeastwardly by said Mundy land and by land formerly of William Mundy, sixty-six (66) feet, more or less, to land now or formerly of William McSweeney; thence southwestwardly by said McSweeney land forty-nine (49) feet, more or less, to land now or formerly of Emeline S. Dutton; thence northwestwardly by said Dutton land sixty-six (66) feet, more or less, to said Newbury Street; thence northeastwardly by said Newbury Street, forty-nine (49) feet and six (6) inches, more or less, to the place of beginning.

Parcel Four - 70-72 Newbury Street

A certain lot or parcel of land with any buildings thereon situated on the southeasterly side of Newbury Street, in Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the southeasterly side line of said Newbury Street at the northerly corner of land formerly of Mrs. Wilson, and later of Joseph J. Bruni, which point is about seventy-two (72) feet from the intersection of said line of Newbury Street with the southwesterly line of Mountfort Street; thence running northeastwardly by said line of Newbury Street twenty (20) feet and four (4) inches; thence southeastwardly parallel with the northeasterly side line of land of Joseph J. Bruni to land formerly of Mrs. Hannah Roberts; thence southwestwardly by said Roberts land twenty (20) feet, more or less, to said land of Joseph J. Bruni; thence northwestwardly by said land of Joseph J. Bruni seventy-two (72) feet, more or less, to the point of beginning.

Being a strip of land twenty (20) feet and four (4) inches wide extending across the southwesterly end of land conveyed to Carmela Spizzuoco and Sabato Spizzuoco, by deed of Fannie Jacobson dated February 4, 1925 and recorded in the Cumberland County Registry of Deeds in Book 1192, Page 220.

Parcel Five - 70-72 Newbury Street

A certain lot or parcel of land with any buildings thereon situated in Portland, County of Cumberland and State of Maine and being in the rear of the westerly side of Mountfort Street, and in the rear of a certain lot or parcel of land conveyed by The Thomas Laughlin Company to Carmela Spizzuoco, and bounded and described as follows:

Beginning at a point in a line of a fence extending northerly to Newbury Street, said point being determined by measuring forty-eight and six-tenths (48.6) feet on a line at right angles to Newbury Street from a stake at a post set in the ground sixty-two and five-tenths (62.5) feet southerly of Newbury Street (sic) and at the southwesterly corner of said lot of land conveyed to said Spizzuoco; thence westerly on a course at right angles to Mountfort Street about twenty-one and eight-tenths (21.8) feet to a stake set in the ground at land of Bruni; thence northerly by land of said Bruni nine and eight-tenths (9.8) feet to a point; thence easterly on a line parallel with first described line about twenty-one and eight-tenths (21.8) feet to said fence extending northerly to Newbury Street; thence southerly nine and eight-tenths (9.8) feet to the point of beginning.

Parcel Six - 70-72 Newbury Street

A certain lot or parcel of land with the buildings and improvements thereon, situated on the southerly side of Newbury Street and the westerly side of Mountfort Street, in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point marking the intersection of the southerly side of said Newbury Street and the westerly side of said Mountfort Street; thence by the westerly side of said Mountfort Street South 22° 09' 15" East, a distance of 62.50 feet to a point marking the northeasterly corner of land conveyed to Charles W. and Susan Ann Cherwinski by deed recorded in the Cumberland County Registry of Deeds in Book 5069, Page 278; thence, by the northerly line of said Cherwinski land South 67° 50' 45" West, a distance of 48.60 feet to a point marking land conveyed to David McCain by deed recorded in said Registry of Deeds in Book 4680, Page 313; thence by the easterly line of said McCain land on the following courses: North 23° 34' 05" West, a distance of 9.80 feet to a point; South 67° 50' 45" West, a distance of 1.57 feet to a point; North 23° 28' 30" West, a distance of 53.87 feet to a point marking the southerly side of said Newbury Street; thence by the southerly side of said Newbury Street North 69° 07' 25" East, a distance of 51.67 feet to the point of beginning.

Above courses are magnetic 1985.

Together with all rights and easements appurtenant to said premises. The premises conveyed herein are subject to the matters set forth in a Quitclaim Deed with Covenant dated September 4, 2003, from McCain General Partnership to 70-72 Newbury Street Associates, LLC recorded in said Registry in Book 20130, Page 281.

Meaning and Intending to convey the same premises conveyed by 70-72 Newbury Street Associates, LLC to 70-72 Newbury St., LLC by Quitclaim Deed without Covenant dated March 30, 2007 and recorded in the Cumberland County Registry of Deeds at Book 24966, Page 65.

Received
Recorded Register of Deeds
May 03,2018 03:21:28P
Cumberland County
Nancy A. Lane

Cumberland County Register of Deeds Current datetime: 4/5/2018 1:24:22 PM

DETAILS REPORT

**Note: Report is Sorted in Ascending Order by Office, Recorded Date, Document Number

Doc#	File Date	Rec Time	Type Desc.
76174	12/14/2007	4:10PM	DEED

# of Pgs.	Book/Page	Doc. Status
11	25688/158	Verified/Certified

Town
PORTLAND

Grantor	Grantee	Street	Property Description
SHIPYARD BREWING CO LLC	CHAPIN REALTY LLC		

References

Book/Vlm/Page	Description	Recorded year
S/25903/232	MUNICIPAL MISCELLANEOUS	2008

FINAL 12-13-07

SHORT FORM QUITCLAIM DEED WITH COVENANT

Shipyard Brewing Company Limited Liability Company, a Maine limited liability company with a mailing address of 86 Newbury Street, Portland, Maine, FOR CONSIDERATION PAID, grants to Chapin Realty LLC, a Delaware limited liability company, with a mailing address of 10 Morgan Drive, Lebanon, NH 03766, with Quitclaim Covenant, certain real property together with any improvements thereon, situated in the City of Portland, Cumberland County, and the State of Maine, more particularly shown as Lot 5 on the Plan entitled "Subdivision Plan on Fore Street, Portland, Maine, Made For Norwich Partners LLC," (the "Plan") by Owen Haskell, Inc., dated November 20, 2007, to be recorded herewith, as said Lot 5 is further described on Exhibit A, attached hereto and made a part hereof (the "Property").

MAINE REAL ESTATE TAX PAID

The Property is conveyed subject to and with the benefit of the following:

1. No Build Zone 10' Easement.

a. The Grantor hereby grants to the Grantee, subject to the terms and provisions hereof, the right to use the area labeled "No Build Zone 10' Easement," as shown on the Plan, and as more particularly described on Exhibit B-1 and further shown on the Easement Plan attached as Exhibit B-2, a copy of which is attached hereto and incorporated herein, together with the right to install, maintain, replace, and repair subsurface structures or other subsurface improvements to be located by Grantee within such No Build Zone 10' Easement to serve the Property, (subject however to Grantor's right to install, maintain, replace and repair subsurface utility lines within the No Build 10' Easement) as well as the right on a temporary basis during any period of construction to use the No Build Zone 10' Easement for purposes of laying down materials or staging and to cross or occupy the No Build Zone 10' Easement with workers, vehicles and equipment in connection with any construction, maintenance and/or repair activities on the Property or the improvements to be constructed thereon.

b. Grantor covenants and agrees that Grantor shall not place or maintain on or about the No Build Zone 10' Easement, any structure, material, equipment, building, debris, or vehicles. Notwithstanding the foregoing, the Grantor reserves the right to install, maintain, replace and repair underground utility lines in the No Build Zone 10' Easement and the Grantor further reserves the right to and shall be allowed to temporarily use the No Build Zone 10' Easement area during any construction or maintenance activities of Grantor on its retained lands. Further, both the Grantor and Grantee shall have the right, but not the obligation, to install landscaping, including placement of surface materials such as brick, granite, or other stone materials, in that portion of the No Build Zone 10' Easement that abuts the northerly sideline of the Property.

c. Grantor hereby reserves all its rights in and interest to the portion of the No Build Zone 10' Easement that abuts the easterly boundary of the Property (the "Grantor's Access Easement") for its use as a passage for its vehicles and pedestrians as well as for the replacement of underground utilities and for building construction and maintenance activities, and for no other purposes. Grantor hereby covenants and agrees that the Grantor's use of the Grantor's

Access Easement shall not block (other than temporarily during periods of construction and maintenance) or otherwise interfere with the Grantee's use and enjoyment of the No Build Zone 10' Easement.

2. Loading and Access Easement.

a. The Grantor hereby grants to the Grantee, subject to the terms and provisions hereof, the right to use the area labeled "Loading and Access Easement" on the Plan, and as more particularly shown and described on Exhibit C-1 and as further shown on the Easement Plan attached as Exhibit C-2, for the passage of vehicles (including, without limitation, trucks) and for the delivery and unloading of goods to the Property. The Grantor hereby grants to the Grantee the right to park its delivery vehicles for a reasonable period of time during the unloading of goods to the Property. Grantor reserves the right to use said Loading and Access Easement area for all uses, provided that the same does not unreasonably interfere with the Grantee's use of said Loading and Access Easement area for the purposes defined herein. In particular, Grantor reserves the right to place buildings in the air space above the Loading and Access Easement area so long as 14' of clearance (measured from the pavement) for vehicles is maintained in the Loading and Access Easement area and so long as no buildings or overhangs are placed within or in the air space above the No Build Zone 10' Easement area. Provided, the Grantor shall be permitted to place one or more steel support beams within the Loading and Access Easement (exclusive of the No Build Zone 10' Easement area) in an area to be agreed upon between the Grantor and the Grantee as long as same does not interfere with or prohibit the construction and operation of the Hotel or other structures to be constructed by the Grantee on the Property. If the Grantor elects to relocate the Loading and Access Easement in accordance herewith, Grantor shall provide Grantee, at its sole cost and expense, (i) a new plan that depicts the relocated Loading and Access Easement, which plan shall be subject to Grantee's approval, which approval shall be provided so long as Grantee is accorded reasonable alternative access therein, and (ii) an endorsement to Grantee's title policy insuring the relocated Loading and Access Easement if located on Grantor's land, it being the Grantor's responsibility to secure all consents that may be required to issue said endorsement.

3. The easements and covenants expressly set forth herein are for the benefit of and appurtenant to the Property conveyed to Grantee by this Deed and shall run with the land of both the Grantor and the Grantee. Unless an easement is expressly described herein, no rights or easements are implied or are intended to be reserved, conveyed or created, by "dedication", "estoppel" or any other similar theory, to benefit either the Property or Lot 6 on the Plan by virtue of any notation on or reference to the Plan.

4. All construction conducted by or on behalf of the Grantee within the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement shall be conducted in accordance with all applicable laws, regulations, by-laws, orders, permits and approvals of all public authorities having jurisdiction. Any Grantee, or its agents, employees or contractors, entering such the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement shall maintain statutory worker's compensation insurance and liability insurance (with completed operations and contractual liability endorsements) with a combined single limit of not less than One Million Dollars covering the Grantor and Grantor's mortgagee, and their successors and

assigns, against all claims, suits, obligations, liabilities and damages, including reasonable attorneys' fees, based upon or arising out of actual or alleged personal injuries or property damage resulting from or occurring in the course of, on, or about and otherwise relating to the use of the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement granted herein. Any Grantee, or its agents, employees or contractors, prior to entering the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement, will upon request deliver to the Grantor and Grantor's mortgagee, and their successors or assigns a Certificate of Insurance providing such insurance is in full force and effect and all premiums have been paid.

5. Grantee shall save Grantor, Grantor's trustees, members, principals, beneficiaries, partners, officers, directors, employees, and agents harmless and indemnified against injury, loss or damage to any persons or property on or about the Loading and Access Easement area as a result of a claim or liability arising from the negligence or willful misconduct of Grantee, its employees, agents or contractors.)

(SIGNATURE PAGES FOLLOW)

IN WITNESS WHEREOF, Shipyard Brewing Company Limited Liability Company has caused this instrument to be executed by Fred Forsley, its President thereunto, duly authorized, this fourteenth day of December, 2007.

Witness:

By:_____
Name: Nathan H. Smith

Shipyard Brewing Company Limited Liability Company:

By:_____
Name: Fred Forsley
Its: President

CONTINUED ON NEXT PAGE

ACCEPTANCE OF GRANTEE

Grantee hereby accepts the conveyance of the Property and agrees to the covenants, conditions and agreements set forth herein.

CHAPIN REALTY, LLC
BY: NORWICH PARTNERS OF PORTLAND, LLC

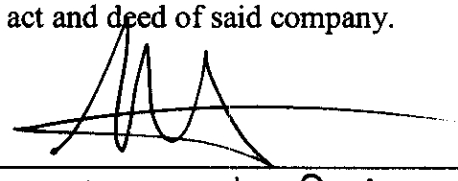
By: _____
Its: David Leatherwood
Managing Member

CONTINUED ON NEXT PAGE

State of Maine
County of Cumberland, ss. December 14, 2007

PERSONALLY APPEARED the above named Fred Forsley, President of Shipyard Brewing Company Limited Liability Company as aforesaid, and acknowledges the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said company.

Before me,



Nathan H. Smith

Attorney at Law/ ~~Notary Public~~

EXHIBIT A

A certain parcel of land situated on the northeasterly side of Hancock Street and the northwesterly side of Fore Street in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northeasterly sideline of Hancock Street at its intersection with the southeasterly sideline of Middle Street as shown on a plan entitled "Subdivision Plan on Fore Street, Portland, Maine Made for Norwich Partners LLC" dated November 20, 2007 by Owen Haskell, Inc.;

Thence N 36° 26' 28" W along said sideline of Hancock Street a distance of 36.00 feet;

Thence N 54° 36' 24" E a distance of 271.00 feet;

Thence S 35° 23' 36" E a distance of 47.81 feet to the northwesterly sideline of Fore Street;

Thence S 22° 34' 01" W along said sideline a distance of 266.58 feet to the northeasterly sideline of Hancock Street Extension;

Thence westerly along said sideline and along a curve concave to the right having a radius of 15.00 feet an arc distance of 28.51 feet, said curve having a chord which bears S 77° 00' 30" W a distance of 24.41 feet;

Thence N 48° 33' 01" W along said sideline a distance of 91.29 feet;

Thence northwesterly along said sideline and along a curve concave to the right having a radius of 273.00 feet an arc distance of 55.15 feet to the southeasterly sideline of said Middle Street, said curve having a chord which bears N 42° 45' 45" W a distance of 55.06 feet;

Thence N 50° 24' 52" E along said sideline a distance of 6.06 feet to the Point of Beginning, containing 34,069 square feet, more or less.

File: 2006-262-01R-WCS

EXHIBIT B-1

No Build Zone 10' Easement

A certain parcel of land situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point which bears N 22° 34' 01" E and a distance of 266.58 feet from the northeasterly sideline of Proposed Hancock Street Extension as shown on a plan entitled "Subdivision Plan on Fore Street, Portland, Maine made for Norwich Partners LLC" dated November 20, 2007 by Owen Haskell, Inc.;

Thence N 35° 23' 36" W a distance of 47.81 feet;

Thence S 54° 36' 24" W a distance of 251.00 feet;

Thence N 35° 23' 36" W a distance of 10.00 feet;

Thence N 54° 36' 24" E a distance of 261.00 feet;

Thence S 35° 23' 36" E a distance of 52.60 feet to the northwesterly sideline of said Fore Street;

Thence S 29° 22' 06" W along said sideline a distance of 7.48 feet;

Thence S 22° 34' 01" W a long said sideline a distance of 3.82 feet to the point of beginning.

File: 2006-262-03R-JWS

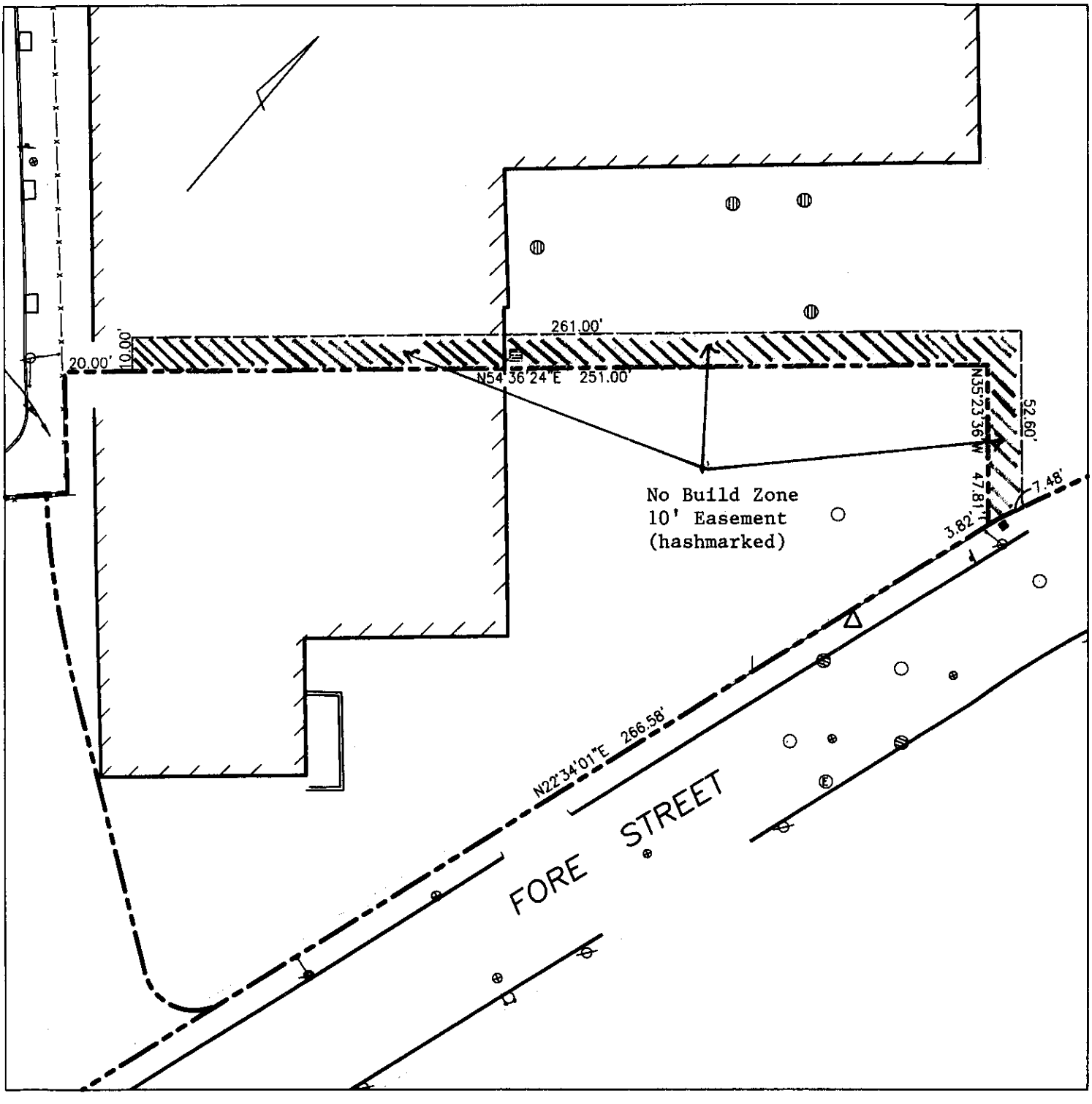


EXHIBIT B-2

NO BUILD ZONE

OWEN HASKELL, INC. 16 CASCO STREET, PORTLAND, ME 04101 (207)774-0424 PROFESSIONAL LAND SURVEYORS	Drwn By RWC Trace By RWC	Date DEC., 13, 2007	2006-262 P 2006-262 P
	Check By JWS Book No. FILE	Scale 1" = 40'	Drwg. No. 2

EXHIBIT C-1

Loading and Access Easement

A certain parcel of land situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point which bears N 22° 34' 01" E and a distance of 266.58 feet from the northeasterly sideline of Proposed Hancock Street Extension as shown on a plan entitled "Subdivision Plan on Fore Street, Portland, Maine made for Norwich Partners LLC" dated January 7, 2007 by Owen Haskell, Inc.;

Thence N 35° 23' 36" W a distance of 47.81 feet;

Thence S 54° 36' 24" W a distance of 38.00 feet;

Thence N 35° 23' 36" W a distance of 20.00 feet;

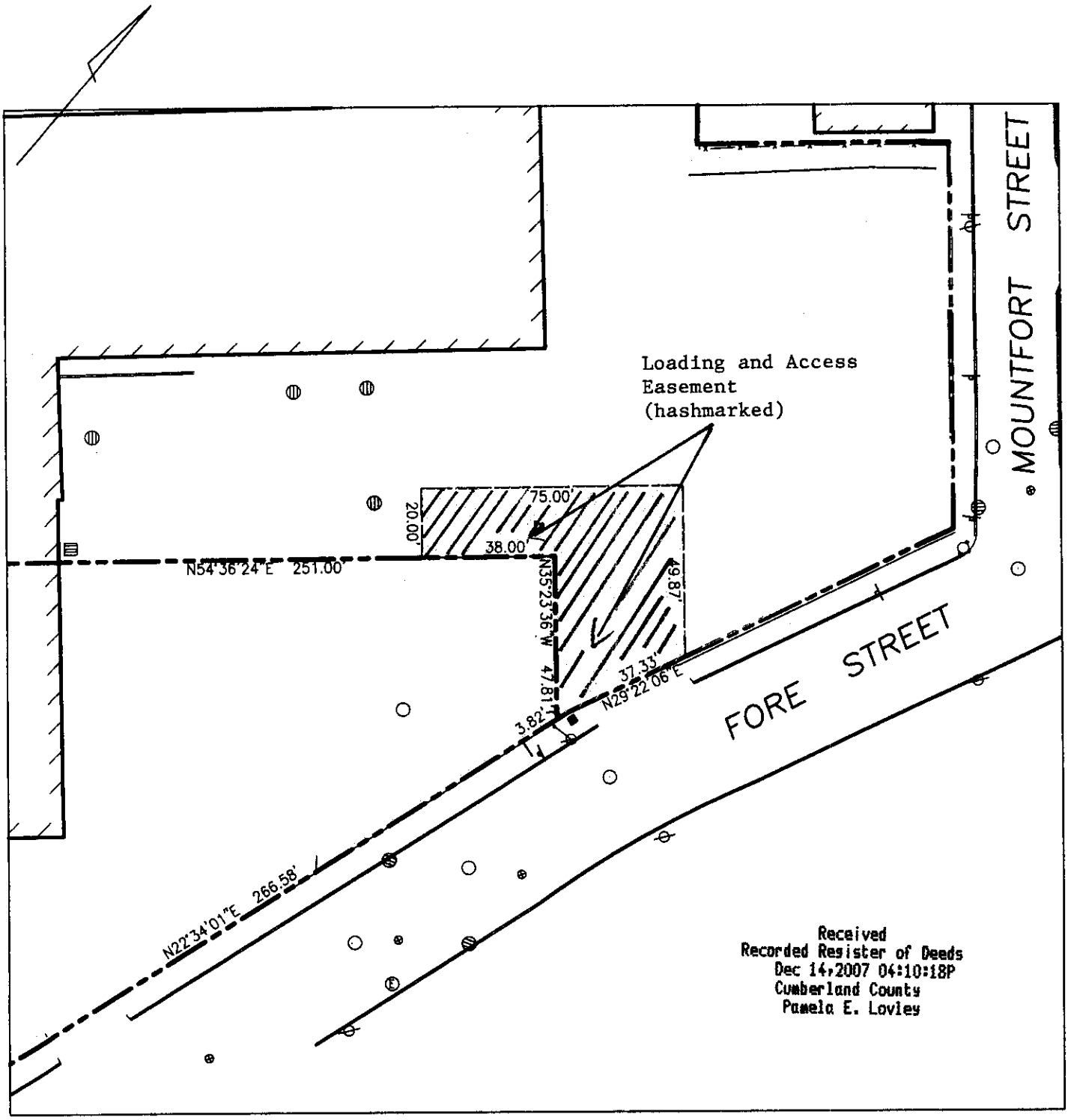
Thence N 54° 36' 24" E a distance of 75.00 feet;

Thence S 35° 23' 36" E a distance of 49.87 feet to the northwesterly sideline of said Fore Street;

Thence S 29° 22' 06" W along said sideline a distance of 37.33 feet;

Thence S 22° 34' 01" W a long said sideline a distance of 3.82 feet to the point of beginning.

File: 2006-262-01R-WCS

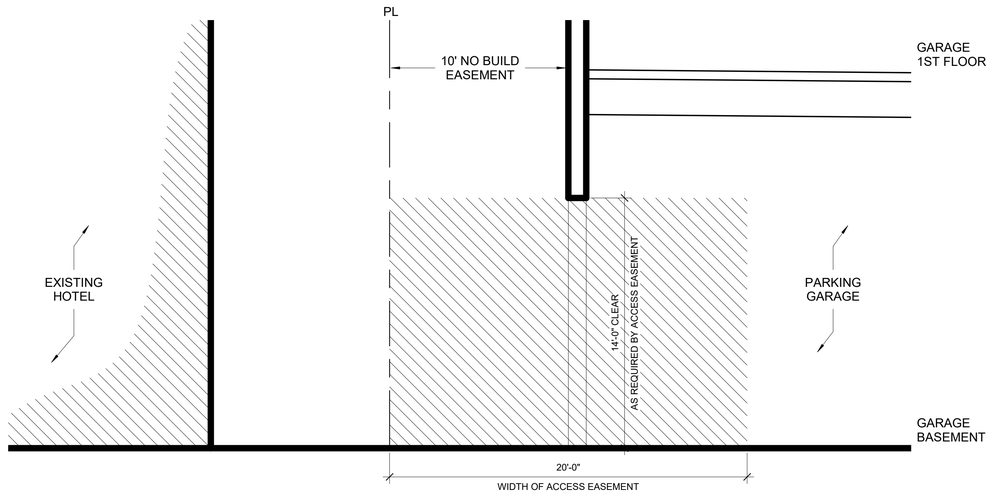


Received
Recorded Register of Deeds
Dec 14,2007 04:10:18P
Cumberland County
Pamela E. Lovley

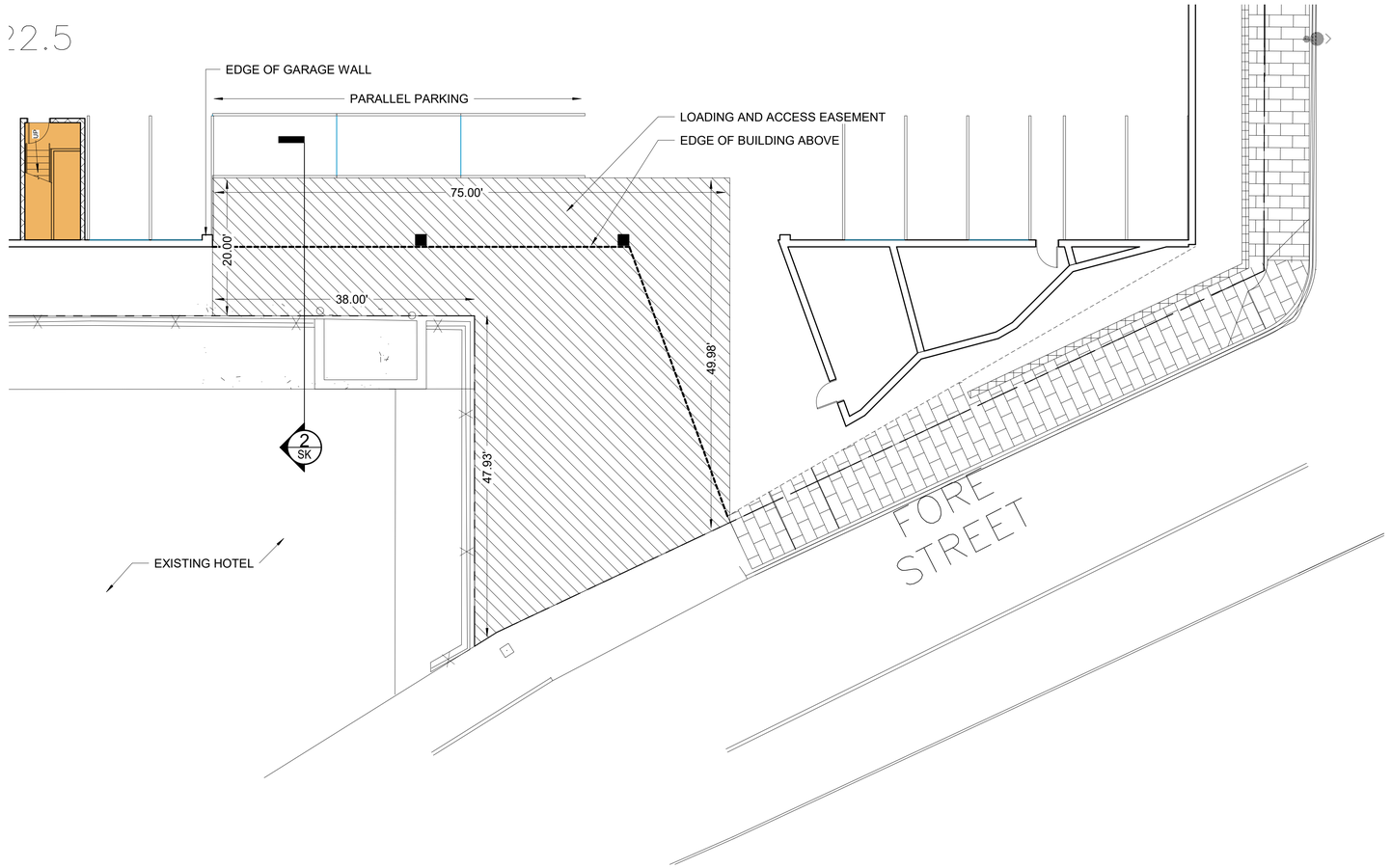
EXHIBIT C-2

LOADING AND ACCESS EASEMENT

OWEN HASKELL, INC. 16 CASCO STREET, PORTLAND, ME 04101 (207)774-0424 PROFESSIONAL LAND SURVEYORS	Drwn By	RWC	Date DEC. 12, 2007	2006-262 P 2006-262 P
	Trace By	RWC		
	Check By	JWS	Scale 1" = 40'	Drwg. No. 1
	Book No.	FILE		



2 | SECTION THROUGH ACCESS EASEMENT
1/4" = 1'-0"



1 | ENLARGED PLAN OF ACCESS EASEMENT
1" = 10'-0"

Prepared For: Owner

Consultant:

Architect: ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT
Address
City, State

Revisions:

Scale: As indicated

Date: JULY 2018

ACCESS EASEMENT

SK

CODE SUMMARY PER NFPA 1 AND FIRE DEPT STANDARDS

In accordance with instructions in the City's Level III Site Plan Review packet, please find enclosed the drawings necessary for your review of the proposed redevelopment of the Shipyard Brewing site. As part of the building design, the architect will retain a third-party Fire Protection Engineer to review NFPA 101. We have listed each item in your checklist below, followed by our response.

1. Name, address, telephone number of applicant.

86 Newbury Street, LLC
Attn: David Bateman
470 Fore Street, Suite 400
Portland, ME 04101
207-772-2992

2. Name, address, telephone number of architect.

Archetype PA
Attn: David Lloyd
48 Union Wharf
Portland, ME 04101
207-772-6022

3. Proposed uses of the structures (NFPA and IBC Classification)

Building	IBC Code	NFPA Code	Sprinkler
Office	(B) Business	(B) Business	13
Specialty Pharmacy/Fulfillment	(B) Business	(B) Business	13
Retail	(M)Mercantile/(A)Assembly	(M) / (A)	13
Hotel	(R1) Hotel	Hotel	13

4. Square footage of all structures (total and per story)

Building	Footprint Area (SF)
Basement	53,422 SF
1st Floor	68,051 SF
2nd Floor	73,987 SF
3rd Floor	62,192 SF
4th Floor	60,301 SF
5th Floor	39,698 SF
6th Floor	37,432 SF

5. Elevation of all Structures

The maximum building height varies between 45'-0", 65'-0" and 77'-0", with the first-floor finish elevation of approximately 22.58 NGVD 1929. Architectural building elevations accompany this letter and they show the various locations of door openings, etc. around the building perimeter.

6. Proposed Fire Protection of all Structures

The proposed building will have a sprinkler system with additional protection per code. Fire flows and requirements for system storage or booster pumping are subject to the fire system design which will be performed prior to the request for a building permit.

7. Hydrant Locations

There are numerous hydrants located nearby, including those located at the 3 intersections that form the edges of the site. In addition, there is a hydrant mid-block on Newbury street on the same side of the street as the project. There are at least 4 hydrants within 50 feet of the site and others within 500 feet of the site located within nearby streets.

8. Water Main Size and Location

The Portland Water District (PWD) has existing water mains nearby including an 8" main in Newbury Street that the District indicated will likely be replaced during the project due to its age. Within Hancock Street there is an existing 4" water main, that does not appear to directly feed any existing hydrants. There are also water mains within Hancock, Newbury Mountfort and Fore Street. It is anticipated that the proposed sprinkler system will connect to a minimum 8" water main.

9. Access to all Structures (2 sides min)

The proposed building will be accessible on 3 sides from public streets. On the south, or Fore Street side of the property an existing narrow alley will remain between the new building and existing Residence Inn.

10. Code Summary per NFPA 1 and Technical Standards

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access: The project site occupies the block defined by Fore, Mountfort, Newbury and Hancock Streets, all of which are public City Streets with the following widths.

Street	Width (curb to curb)
Fore Street	33 feet
Mountfort Street	23 feet
Newbury Street	30 feet
Hancock Street	42 feet

The building has a small amount of frontage along Fore Street, and as noted above an existing alley approximately 20 feet wide will exist between the adjacent Residence Inn and the proposed building.

City of Portland Technical Standards

3.3.3 - As of September 16, 2010 all new construction of one and two-family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)

Response to 3.3.3 – not applicable

3.4.1. Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response to 3.4.1 – not applicable

3.4.2. Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response to 3.4.2 – as depicted on the plans and as noted above the structure can be accessed fully on 3 sides along Mountfort, Newbury and Hancock Streets and can be partially accessed from Fore Street.

3.4.3. Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- Building Height.
- Building Occupancy.
- Construction Type.
- Impediments to the Structures.
- Safety Features Provided.

Response to 3.4.3 - The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along the public streets for emergency vehicles.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response to 3.4.4 – Fire Dept. access roads consisting of Public streets will be located within 50' of exterior doors.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response to 3.4.5 – Access to the site from both Fore Street will provide approximately 14 feet of clearance height for ambulance access.

3.4.6. Elevators shall be sized to accommodate an 80 x 24 inch stretcher.

Response to 3.4.6 – Elevators will be a minimum of 80 x 24 inches.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response to 3.4.7 - The applicant will work with the city's Public Services Division to assign street addresses and numbering to meet City Standards.

ZONING ANALYSIS Relevant Zone(s) IS-FBC (UN & UT subdistricts)

All Projects:

	Required	Proposed
Lot Size	none	2.15 ac
Area Per Dwelling Unit	none	tbd
Minimum Street Frontage	30 ft	122.92 ft
Front Yard Minimum	none	
Front Yard Maximum	5 ft (UN)	22 ft
Rear Yard	10 ft min.	10 ft
Yard Right	5 ft min. (UN)	n/a
Yard Left	5 ft min. (UN)	n/a
Side Street Setback	none	none
Step Back	10 ft after 45' ht	15 ft (UT)
Maximum Lot Coverage	90%	<90%
Minimum Lot Coverage	none	none
Maximum Height	45 ft (UN)	40 ft
Open Space	none	none
Maximum Impervious Area	none	none
Pavement Setback	none	none
Floor Area Ratio	none	none
Off Street Parking Spaces	323	360
Loading Bays	none	1
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density			
Height			
Setback Reduction			
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

Neighborhood Meeting Certification

I, Lucas Anthony of Gorrill Palmer, hereby certify that a neighborhood meeting was held on May 15, 2018 at the Residence Inn on Fore Street at 5:30pm.

I also certify that on Friday, May 4, 2018, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1000 feet of a proposed industrial subdivision or industrial zone change.

Signed,

Lucas Anthony, Agent of Applicant

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

May 1, 2018

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a Level III Site Plan and Subdivision Application located at Shipyard Brewing, 86 Newbury Street.

Meeting Location: Residence Inn, 145 Fore Street
Meeting Date: Tuesday, May 15, 2018
Meeting Time: 5:30pm-7:00 pm

(The City code requires that property owners within 500 feet (1000 feet for proposed industrial subdivisions and industrial zone changes) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.)

If you have any questions, please call (207) 772-2515.

Sincerely,

Lucas Anthony, Agent for Applicant

Note:
Under Section 14-32(C) and 14-524(a)d of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within 30 days of submitting a preliminary application or 21 days of submitting a final site plan application, if a preliminary plans were not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street Portland, ME 04101 or by email: to bab@portlandmaine.gov

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

NEIGHBORHOOD MEETING NOTES

Project: Shipyard Redevelopment

Client: 87 Newbury Street, LLC

GP Project No: 3184

Date/Location of Meeting: May 15, 2018; 5:00 pm at the Marriot Residence Inn on Fore Street

Development Team: Nathan Bateman -86 Newbury Street, LLC
David Lloyd, Mike Coyne - Archetype Architects
Lucas Anthony, Emily Tynes, Chris DiMatteo – Gorrill Palmer

Attendees: see attached sign in sheet

Distribution: City of Portland, Development Team, File

Presentation

Nathan Bateman started the meeting, introduced the team and gave an overview of the project. David Lloyd began the discussion stating that he would discuss the project and take questions after he was finished. David gave an overview of the site and its existing conditions and which buildings were to remain and which were to be demolished. David presented the overall floor plan and described the various uses proposed for the project; office, brewery and hotel with parking garage. David showed elevations views of the proposed architecture from Street Level on Hancock, Newbury, Montfort and Fore Street, describing glass façade along Montfort transitioning to brick curtain wall on Newbury and Hancock. David discussed the proposed green area on Newbury Street across from the Abyssinian Church and mentioned that the project would be presented to the Historic Preservation Board tomorrow night. David mentioned that Historic Preservation Staff had expressed the preference for additional residential uses along Newbury Street rather than additional open space / green area. David finished his presentation and opened the discussion up for questions.

Lucas Anthony and Chris DiMatteo took notes.

Questions

Please note that the following summary of questions and answers are abridged and were not recorded verbatim and aim to concisely represent the general intent of the questions, answers, and discussion that took place at the meeting.

Q: Why is the building 6 stories?
A: (David) It's allowed per code and needed to provide the space requested by the office tenant.

Q: Will the building be higher than the adjacent Residence Inn?

A: (David/Mike) The building will be 65 feet tall overall, and approximately 45 feet above Newbury Street. A bonus story is being proposed as allowed by code, a "green roof" is being provided to obtain the bonus story.

Q: What is the construction timeline?
A: (Nathan) The buildout is expected to take 21 months and they would like to start in August of 2018.

Q: Will the entire site be demolished at one time? Has the EPA been notified?
A: (Nathan) Yes, the building will be demolished in July. The site is subject to a VRAP (Voluntary Response Action Program) due to soil contamination at the site. Waste from demolition and excess soil will be disposed offsite. The first phase of demolition will start in July and take 1-2 months.

Q: How do trucks access the site during construction?
A: (Nathan): Trucks will access the site from Fore Street. Construction will happen in continuous phases with the parking garage the first phase after demolition. The City, as part of Site Plan Approval, reviews a Construction Management Plan prepared by the General Contractor, Allied Cook Construction.

Q: Is the hotel on top of the garage?
A: (David) Yes

Q: How high above the Residence Inn is the building?
A: (David) 1 story approximately but depends on where you are on the site. Proposed hotel is 2 stories above the Shipyard building.

Q: How will the impact to nearby retailers be mitigated? Parking during construction of nearby projects has been an impact to business.
A: (Nathan) The Construction Management Plan will designate parking for construction employees and the City will approve it.

Q: Will there be Public Parking in the garage?
A: (Nathan) Parking during the day will be for the office tenant, and nights and weekends the garage may be open to public parking, up to 60%. A 100% of the required parking is provided on-site.

Q: Will residents view from Newbury Street be blocked?
A:(David) The building on Newbury Street will be 4 stories tall, so yes.

Q: Will the project impact on-street parking? Noted that it is difficult for residents, especially in the summer months.
A: (Nathan) The project is closing a number of existing driveways with the intent to add on-street parking.

Q: What are the hours of Construction?
A: (David) 6 days a week from 7am to 5pm.

Q: Where are the entrances to the parking garage?
A: (David) On Fore Street for the lower level and on Hancock Street for the upper levels.

Q: Where are people coming from to get to the site?
A: (Emily) Not fully clear yet, we are performing the traffic study presently. Anticipated to add 160 AM peak and 170 PM peak trip ends.

Q: Is the traffic from the WEX building considered in the traffic study?
A: (David) Yes, that will be taken into account in the Traffic Study.

Q: The City should be responsible for the traffic problems.
A: (Nathan) The City is aware of the growth in the area and studying it, potentially via an area-wide Traffic Movement Permit.

Q: How is the City addressing the traffic from the recent projects nearby and the construction traffic over the past few years of growth?
A: (David) The City is looking at the growth and studying the traffic on an area wide scale.

Q: Where can I present my concerns on traffic?
A: (David) At the Planning Board.

Q: Are the residential units rentals or sales?
A: (Nathan) Rentals and they are replacing the existing residential units on-site.

Q: Is the parking garage for the project only?
A: (Nathan) Generally yes, we don't anticipate any extra parking.

Q: Do the residential buildings have parking?
A: (Nathan) Yes, under the building.

Q: Is the parking on the Shipyard property along Newbury Street going away?
A: (Nathan/David) Yes, with residential units getting parking spaces under the buildings.

Q: What else is happening on Newbury Street?
A: (David) Green Space will be provided in front of the proposed building and will be open to the general public with benches, landscaping, etc.

Q: Will the Shipyard Tasting Room remain?
A: (Nathan) Yes, it will remain and occupy additional retail space along Hancock as well. It will also be renovated and provided with a new Accessible Ramp to the lower level.

Q: Where will Shipyard Trucks enter the site?
A: (David) On Fore Street, not on Newbury.

Q: What is the construction sequence? Staging area should be on Fore Street away from Newbury Street.
A: (David) Allied Cook Construction will prepare a document outlining the process that will be available for public review.

Q: Will overhead power lines on Newbury remain? Would like to request underground.
A: (David) The power lines will remain overhead on Newbury Street.

Q: Will there be new overhead lines on Hancock?
A: (Nathan) No.

Q: Will there be a new building on top of the Shipyard Building?
A: (David) No

Q: Are there any Historic Properties?
A: (Nathan) No, we can legally demo the existing buildings. Newbury Street is not in the Historic District, but are within a 100 feet of the national registered Abyssinian Church.

Q: Will there be a parapet to block the rooftop mechanical equipment and other appurtenances?
A: (David) Not sure yet but will work with the City on architecture and design.
Q: What is the maximum height of the rooftop mechanical equipment?
A: (David) Not sure yet, but the City does allow overruns for stairs and elevators and rooftop mechanical equipment.

Q: Can you use traction elevators to reduce the overrun height? What will be the view?
A: (David) Not sure on equipment yet but elevators are generally in the middle of the building and the rooftop portion is not likely to be visible. Elevator shaft is dictated by building code.

Q: Relative to the bonus floor, where is the green roof?
A: (David) This is in design but will occupy at least 50% of the roof. The floor is required to be further setback from the façade by 15 feet.

Q: Can you add more parking on site?
A: (David) No.

Q: How big is the office, and do you have a tenant?
A: (David) Approximately 100k square feet and yes, a tenant is in place.

Q: Are the power lines on Newbury coming down?
A: (David) No

Q: Will there be beer taps in the hotel rooms?
A: (David) No

Q: Is there a Planning Board hearing scheduled?
A: (David) Not at this time.

Q: Is the pharmacy use a dispensary?
A: (Nathan) No, it's a mail order pharmacy.

Q: Will there be day parking for the Tasting Room?
A: (Nathan) It's not clear yet, but possibly.

Q: Is the hotel a chain?
A: (Nathan) Yes. Shipyard will offer food and beverages within the hotel.

Q: How many bedrooms are the residential units?
A: (Nathan) It will be a mix of 1 and 2-bedroom units, with a number of them priced at 80% of the Adjusted Median Income.

Q: How will the Shipyard building be renovated? Will the mural stay?
A: (Nathan) Popping out openings and allowing more light in, and the mural will stay.

Q: How can I get more information and a schedule?
A: (David) Check the City website in the coming weeks.

The meeting adjourned.

The above questions and answers were interpreted and recorded from handwritten notes. Please note and relay any discrepancies or disputed information in the neighborhood meeting notes to our office so that they can be reviewed, revised, and resubmitted as necessary.

Shipyard Redevelopment
Portland, ME
JN 3184

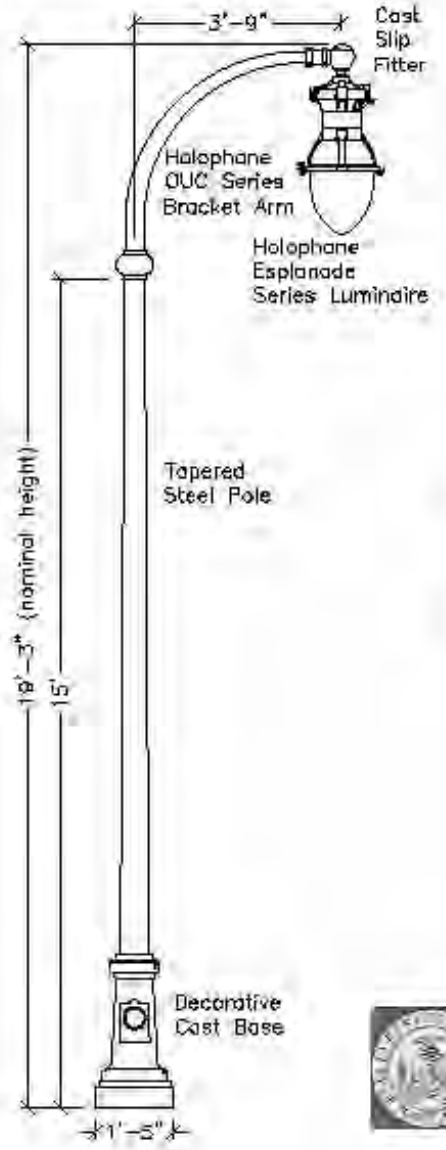
Neighborhood Meeting
Sign-In Sheet
5/15/18 @ 5:30PM
Page 1

Name:	Address:	Tel #:	Email:
Frank Reali	321 Capisic	318-8567	
Eugene Fetterolf	15 Middle St. Apt. B-204	799-0696	
Lucy Casey 740 Broadway LLC	15 Middle St	653.5807	
Mark Morin	69 Newbury	450-0735 899.2694	Bismark182@aol.
Liv Chase	52 Federal St.		livchase@yahoo.com
Ann + Christopher Sheldon	113 Newbury #401	207.835.0573	Answer@aol.com csheldon_8@yahoo.com
Melodie Cook	113 Newbury #402	207-780-8781	melodiesmail@earthlink.net
Erin Gilmann Tom Heckel	22 Hancock Unit 4303	617-852-0216	ErinGilm@gmail.com
Brent Adler	48 Hancock	2075187038	BrentAdler@gmail

Shipyard Redevelopment
Portland, ME
JN 3184

Neighborhood Meeting
Sign-In Sheet
5/15/18 @ 5:30PM

Name:	Address:	Tel #:	Email:
MIKE CURRAN	22 HANCOCK ST	207 747 9639	MWCURRAN @GMAIL.COM
Casey Pentic	58 Fore St.		
Josie Crimmins	113 Newbury #310	207 5775746	Scrimmins53@yahoo.com



LUMINAIRE
Holophane Lighting model ESU175MH12A4-R
Luminaire shall be furnished and installed by The Central Maine Power Company under the municipal lease agreement for street lighting.
Luminaire shall be manufacturer's standard black color.

LAMP
Holophane Lighting model S-M175/U 64471
Vertical mounted, 175 watt mogul base clear metal halide lamp.

BRACKET ARM
Holophane Lighting model OUC 6063-T8
Aluminum crossarm with a post-top fitting for a 3-1/2" by 8" tenon.
Bracket arm shall be manufacturer's standard black color.

SLIP FITTER
Holophane Lighting model BHLF200-SCA/AS (Boston Harbor Series)
2-3/8" O.D. with swivel cast fitter.
Slip fitter shall be manufacturer's standard black color.

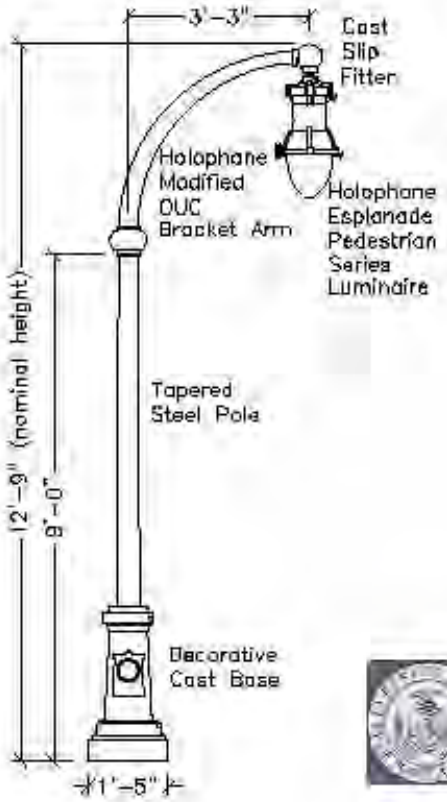
LIGHTING POLE
Tapered steel pole shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts.
Lighting pole shall be manufacturer's standard black color.

DECORATIVE POLE BASE
Holophane Lighting model Cambridge Series
Decorative clamshell cast aluminum base.
Hardware shall be stainless steel.
Decorative pole base shall be manufacturer's standard black color.

APPLICATION
Street/Sidewalk lighting for two-way streets with parking on one sides, or one-way streets.
Suggested layout:
80-100 ft on center (one side only)
150-200 ft on center (staggered pattern both sides)

City of Portland, Maine
Street & Sidewalk Lighting
WATERFRONT COMMERCIAL DISTRICT
Medium Scale Lighting Pole
08/25/09

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION X	**FIGURE:**
REVISED:	**EASTERN WATERFRONT DISTRICT MEDIUM SCALE LIGHTING POLE**		**X-5C**



LUMINAIRE
Holophane Lighting model ESP70MH12A5-R
Luminaire shall be furnished and installed by The Central Maine Power Company under the municipal lease agreement for street lighting.
Luminaire shall be manufacturer's standard black color.

LAMP
Holophane Lighting model S-MP70/MED Vertical mounted, 70 watt mogul base clear metal halide lamp.

BRACKET ARM
Holophane Lighting model OUC(modified) 6063-T6 Aluminum crossarm with a post-top fitting for a 3-1/2" by 8" tenon.
Bracket arm shall be manufacturer's standard black color.

SLIP FITTER
Holophane Lighting model BHLF200-SCA/AS (Boston Harbor Series)
2-3/8" O.D. with swivel cast fitter.
Slip fitter shall be manufacturer's standard black color.

LIGHTING POLE
Tapered steel pole shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts.
Lighting pole shall be manufacturer's standard black color.

DECORATIVE POLE BASE
Holophane Lighting model Cambridge Series Decorative clamshell cast aluminum base.
Hardware shall be stainless steel.
Decorative pole base shall be manufacturer's standard black color.

APPLICATION
Sidewalk lighting or small area lighting.
Suggested layout:
60-80 ft on center (one side only)
100-175 ft on center (staggered pattern both sides)

City of Portland, Maine
Street & Sidewalk Lighting
WATERFRONT COMMERCIAL DISTRICT
Small Scale Lighting Pole
09/25/07

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION X	**FIGURE:**
REVISED:	**EASTERN WATERFRONT DISTRICT SMALL SCALE LIGHTING POLE**		**X-5D**

Surface washers · asymmetrical light distribution

Post construction: One piece extruded aluminum, $\frac{1}{8}$" wall thickness internally welded to a die-cast base plate cover.

Enclosure: One piece die-cast aluminum housing connected to the post/pole by a two piece, die-cast aluminum knuckle. The knuckle has infinite adjustability from 0° to 90° and is secured by one stainless steel fastener. Fully gasketed using a one piece molded high temperature silicone gasket and provided with a pure anodized matte aluminum reflector. Molded $\frac{1}{4}$" thick etched tempered glass secured by a one piece die-cast aluminum frame secured to the housing with four stainless steel captive fasteners. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Electrical: 15.6W LED luminaire, 18 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.

Anchor base: Pole Mount; Mounts to #79818 anchorage kit (supplied).

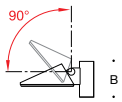
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

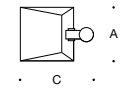
CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 35.5 lbs.

Luminaire Lumens: 1754

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:





Pole mounted · asymetrical

	Lamp	A	B	C	Anchorage
99868	15.6W LED	10 1/4	98 1/2	12 1/2	**79818**

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com
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McGraw-Edison

DESCRIPTION

The TopTier™ parking garage, canopy and low-bay luminaire is an innovative solution that delivers an unparalleled combination of performance and visual comfort. The patented WaveStream™ optical technology blocks the line of sight from the LED light sources to the observer, while extracting the maximum amount of light on task. This approach results in a high level of uniformity and vertical footcandles that enhances safety in the application environment. The TopTier luminaire is UL/cUL listed for wet locations, IP66 and 3G vibration rated.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction
One-piece, low copper die-cast aluminum housing provides a clean and symmetric housing. Formed aluminum top is sloped to prevent bird nesting. Metal electrical tray allows for easy electrical access for field servicing.

Optics
Unique optical distributions are accomplished using various combinations of reflective backing plates and WaveStream optical technology. The optical Waveguide is manufactured using precision injection molded acrylic. The optics contain features that form a repeatable and redundant pattern to direct light in a precisely prescribed distribution. The drive lane distribution is specifically designed for locations with one direction of travel to optimally direct light in the same direction of travel for maximum glare control. For additional glare control and visual comfort with the Wide distribution, specify the SG option which adds a Solite® glass lens that works in combination with the Waveguide lens and reflective backing plate.

Offered standard in 4000K (+/- 275K) CCT, optional 3000K, 5000K and 6000K. Minimum 70 CRI. Optional uplight feature provides a dedicated light engine (17W) to maintain consistent output across fixtures and reduces cave effect. Nominal uplight output is 800 lumens and ranges from 10%-30% total light output depending on the lumen package.

Electrical
LED driver(s) are mounted to metal electrical tray for optimal thermal performance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming driver(s), specify 5LTD for Fifth Light DALI driver(s). Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. Greater than 90% lumen maintenance expected at 60,000 hours, based off LM-80 test data and TM-21. Suitable for ambient temperature applications from -40°C (-40°F) to 40°C (104°F). For 50°C (122°F) applications, specify the HA high ambient option. IP66 rated against the ingress of dust and water.

Mounting
Standard fixture mounts to a square or octagonal 4" surface or recessed j-box via heavy-gauge quick mount bracket. Optional mounting methods include trunnion mount and wall mount. With the addition of a field supplied wet location j-box, the luminaire can be pendant mounted using the factory supplied decorative pendant mount kit or a suitable field supplied pendant.

Finish
Housing finished in white super durable TGIC polyester powder coat paint with 2.5 mil nominal thickness for superior protection against fade and wear. Optional colors include black, bronze, grey, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

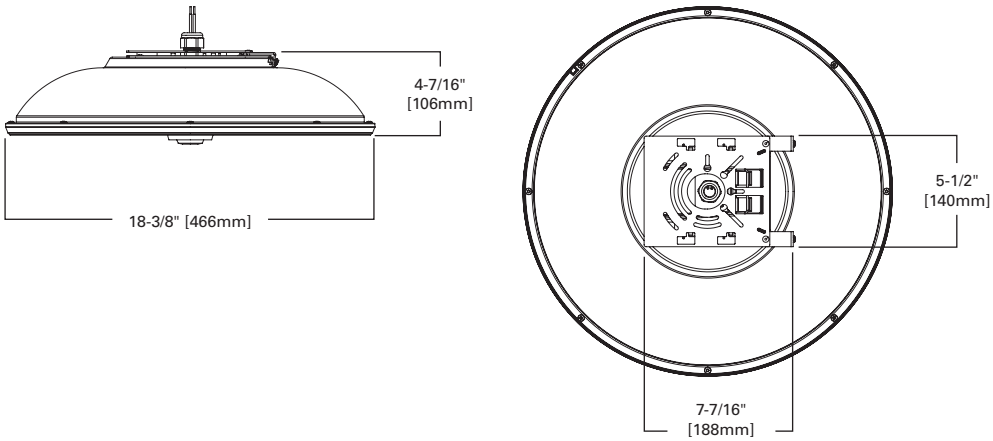
TT TOPTIER LED

Solid State LED

PARKING GARAGE/ CANOPY/ LOW-BAY LUMINAIRE

DIMENSIONS

SURFACE OR PENDANT MOUNT



powered by fifthlight technology

CERTIFICATION DATA

UL/cUL Wet Location Listed
3G Vibration Rated
LM79 / LM80 Compliant
IP66 Rated
ISO 9001
DesignLights Consortium™ Qualified*

ENERGY DATA

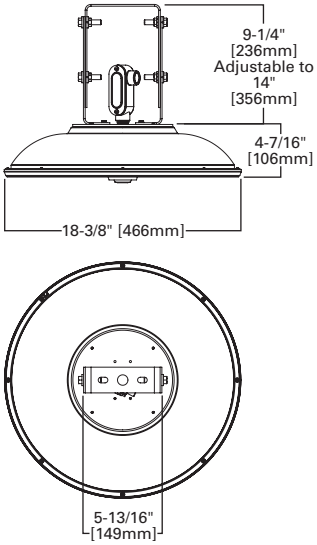
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

SHIPPING DATA

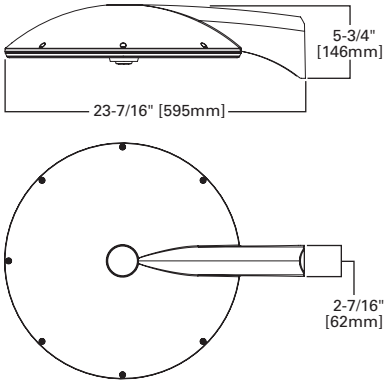
Approximate Net Weight:
16 lbs. (7.2 kgs.)

ADDITIONAL MOUNTING OPTIONS

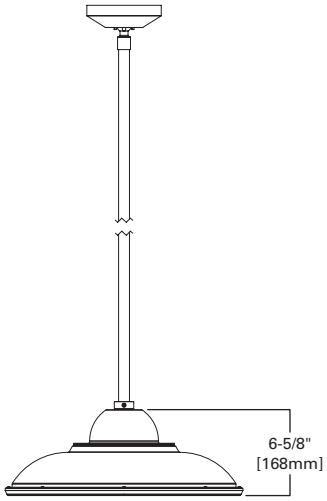
TRUNNION MOUNT



WALL MOUNT

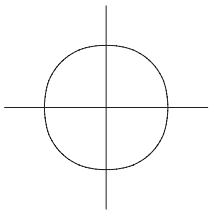


DECORATIVE PENDANT MOUNT

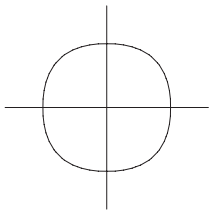


OPTICAL DISTRIBUTIONS

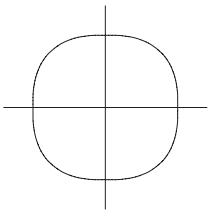
CQ (Concentrated)



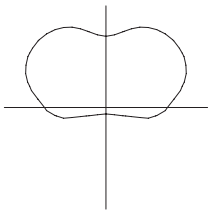
MQ (Medium)



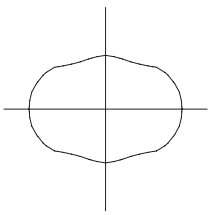
WQ (Wide)



DL (Drive Lane)



RW (Rectangular Wide)



LUMEN MAINTENANCE

Ambient Temperature	Lumen Maintenance				
	25,000 Hours	50,000 Hours	60,000 Hours TM-21 Rating	100,000 Hours	Theoretical L70 (Hours) Per TM-21 Data
C1 Lumen Package					
25°C	> 96%	> 95%	> 95%	> 93%	> 500,000
40°C	> 96%	> 94%	> 94%	> 93%	> 500,000
50°C	> 95%	> 94%	> 93%	> 93%	> 400,000
C2 Lumen Package					
25°C	> 96%	> 95%	> 95%	> 93%	> 500,000
40°C	> 95%	> 94%	> 93%	> 91%	> 500,000
50°C	> 95%	> 93%	> 92%	> 90%	> 400,000
C3 Lumen Package					
25°C	> 96%	> 93%	> 93%	> 89%	> 300,000
40°C	> 95%	> 91%	> 90%	> 85%	> 240,000
50°C	> 95%	> 90%	> 89%	> 83%	> 200,000
C4 Lumen Package					
25°C	> 96%	> 95%	> 95%	> 93%	> 500,000
40°C	> 95%	> 92%	> 92%	> 88%	> 300,000
50°C	> 94%	> 91%	> 90%	> 85%	> 250,000
C5 Lumen Package					
25°C	> 96%	> 93%	> 92%	> 88%	> 300,000
40°C	> 94%	> 90%	> 89%	> 83%	> 200,000
C6 Lumen Package					
25°C	> 95%	> 92%	> 90%	> 86%	> 250,000
40°C	> 95%	> 92%	> 91%	> 86%	> 250,000

POWER AND LUMENS

Lumen Package			**C1**	**C2**	**C3**	**C4**	**C5**	**C6**
Power (Wattage)			28	34	45	58	77	108
Current @ 120V (A)			0.26	0.31	0.41	0.52	0.69	0.95
Current @ 277V (A)			0.13	0.14	0.19	0.24	0.30	0.41
3000K CCT	Lumens	CQ Concentrated	3,293	3,997	5,256	5,486	7,107	9,084
	Lumens per Watt		118	118	117	95	92	84
	BUG Rating		B1-U0-G1	B2-U0-G1	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1
	Lumens	MQ Medium	3,357	4,074	5,357	5,591	7,243	9,259
	Lumens per Watt		120	120	119	96	94	86
	BUG Rating		B2-U0-G1	B2-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2
	Lumens	WQ Wide	3,101	3,764	4,949	5,165	6,691	8,554
	Lumens per Watt		111	111	110	89	87	79
	BUG Rating		B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3
	Lumens	RW Rectangular Wide	2,726	3,308	4,350	4,540	5,882	7,519
	Lumens per Watt		97	97	97	78	76	70
	BUG Rating		B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3
	Lumens	DL Drive Lane / Type 4	2,440	2,938	4,152	--	--	--
	Lumens per Watt		73	71	62	--	--	--
	BUG Rating		B1-U0-G2	B1-U0-G2	B2-U0-G3	--	--	--
4000K CCT	Lumens	CQ Concentrated	3,848	4,670	6,141	7,273	9,423	12,046
	Lumens per Watt		137	137	136	126	123	111
	BUG Rating		B2-U0-G1	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G2
	Lumens	MQ Medium	3,922	4,760	6,259	7,413	9,604	12,277
	Lumens per Watt		140	140	139	128	125	114
	BUG Rating		B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens	WQ Wide	3,623	4,397	5,782	6,848	8,872	11,342
	Lumens per Watt		129	129	128	118	115	105
	BUG Rating		B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B4-U0-G3
	Lumens	RW Rectangular Wide	3,185	3,865	5,082	6,019	7,799	9,969
	Lumens per Watt		114	114	113	104	101	92
	BUG Rating		B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens	DL Drive Lane / Type 4	3,235	3,895	5,506	--	--	--
	Lumens per Watt		98	95	83	--	--	--
	BUG Rating		B1-U0-G2	B1-U0-G2	B2-U0-G3	--	--	--
5000K CCT	Lumens	CQ Concentrated	3,645	4,424	5,817	7,204	9,334	11,932
	Lumens per Watt		130	130	130	124	121	110
	BUG Rating		B1-U0-G1	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G2
	Lumens	MQ Medium	3,716	4,509	5,929	7,343	9,513	12,161
	Lumens per Watt		133	133	132	127	124	113
	BUG Rating		B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens	WQ Wide	3,433	4,166	5,478	6,783	8,788	11,235
	Lumens per Watt		123	123	122	117	114	104
	BUG Rating		B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens	RW Rectangular Wide	3,017	3,662	4,815	5,962	7,725	9,875
	Lumens per Watt		108	108	107	103	100	91
	BUG Rating		B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens	DL Drive Lane / Type 4	3,205	3,858	5,454	--	--	--
	Lumens per Watt		96	93	82	--	--	--
	BUG Rating		B1-U0-G2	B1-U0-G2	B2-U0-G3	--	--	--

NOTE: Nominal data with 70 CRI for 4000K and 5000K, 80 CRI for 3000K. Wattage values not valid for drive lane optic. For configurations that include the drive lane optic, glass, uplight or occupancy sensor options refer to the specific IES files for wattage, BUG rating and lumen output data.

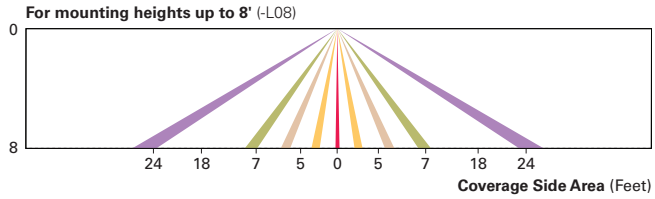
CONTROL OPTIONS

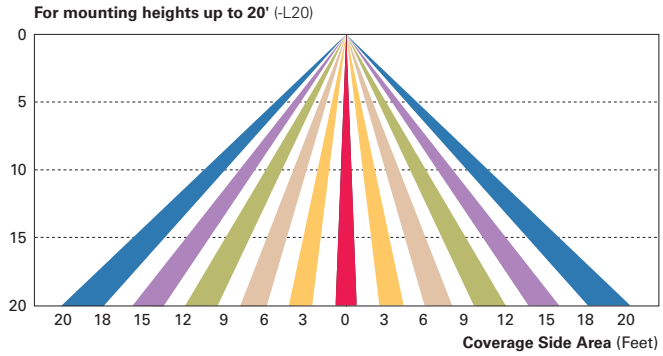
0-10V
This fixture is offered standard with 0-10V dimming driver(s). External 0-10V dimming wire leads are provided for use with a lighting control panel or other control methods except when PER7, 5LTD, MS/DIM or LWR is specified.

Dimming Occupancy Sensor (MS/DIM-LXX)
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes.

These occupancy sensors include an integral photocell that can be activated with the FSIR-100 accessory for “dusk-to-dawn” control or daylight harvesting. The factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters.

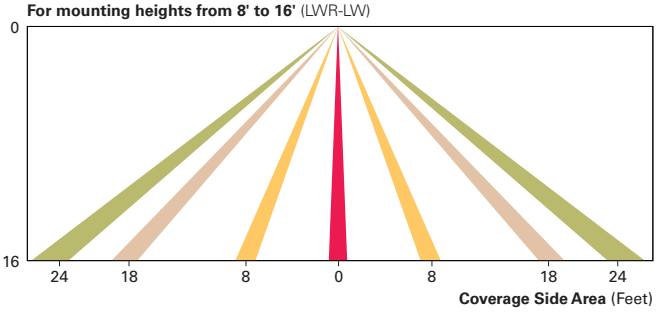
A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 8’-40’.

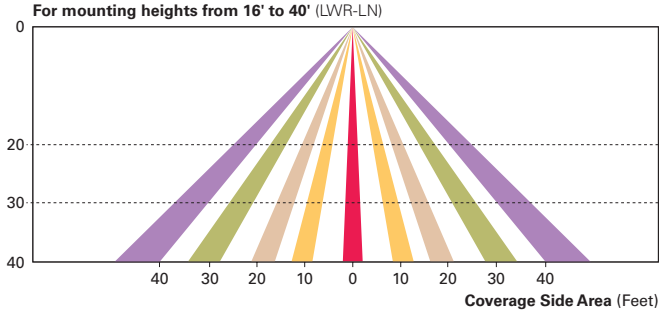




LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)
The LumaWatt Pro system is a peer-to-peer wireless network of luminaire-integral sensors for any sized project. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication. The end-user can securely create and manage sensor profiles with browser-based management software. The software will automatically broadcast to the sensors via wireless gateways for zone-based and individual luminaire control. The LumaWatt Pro software provides smart building solutions by utilizing the sensor to provide easy-to-use dashboard and analytic capabilities such as improved energy savings, traffic flow analysis, building management software integration and more.

For additional details, refer to the LumaWatt Pro product guides.





ORDERING INFORMATION

Sample Number: TT-C2-LED-E1-WQ-AP

Product Family	Lumen Package	Lamp Type	Voltage	Distribution	Mounting	Color
TT=TopTier [1]	**C1**=Nominal 3,500 Lumens **C2**=Nominal 4,500 Lumens **C3**=Nominal 6,000 Lumens **C4**=Nominal 7,500 Lumens **C5**=Nominal 9,500 Lumens **C6**=Nominal 12,000 Lumens	**LED**=Solid State Light Emitting Diodes	**E1**=Electrical (120-277V) **347**=347V **480**=480V [2]	**CQ**=Concentrated **MQ**=Medium **WQ**=Wide **RW**=Rectangular Wide **DL**=Drive Lane / Type 4 [3]	**[BLANK]**=Surface or Pendant Mount **TMB**=Trunnion Mount with Connection Box **WM**=Wall Mount **DPM**=Decorative Pendant Mount [4]	**[BLANK]**=White **AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic

Options (Add as Suffix)	**Accessories** (Order Separately)
8030=80 CRI / 3000K **7060**=70 CRI / 6000K **7050**=70 CRI / 5000K **UPL**=Uplight [5, 6] **30L**=30" Wire Leads [7] **HA**=50°C High Ambient [8] **CG**=Clear Glass [9] **SG**=Solite® Glass [10] **TR**=Tamper Resistant Hardware **X**=Driver Surge Protection Only **5LTD**=Fifth Light DALI Drivers [7, 11] **IBP**=Integral Battery Pack [12] **ICP**=Integral Cold Weather Battery Pack [12] **MS/DIM-L08**=Dimming Occupancy Sensor (<9' Mounting) [13, 14] **MS/DIM-L20**=Dimming Occupancy Sensor (9' - 20' Mounting) [13, 14] **LWR-LW**=LumaWatt Wireless Sensor, Wide Lens 8' - 16' Mounting Height [14, 15] **LWR-LN**=LumaWatt Wireless Sensor, Narrow Lens 16' - 40' Mounting Height [14, 15]	**FSIR-100**=Wireless Configuration Tool for Occupancy Sensor **MA1252**= Replacement 10kV Circuit Module **TT/WG**=Wire Guard **TT/BG-XX**=Bird Guard [16, 17] **DPMS36-XX**=36" Pendant Mount Stem [16] **DPMS48-XX**=48" Pendant Mount Stem [16] **DPMS96-XX**=96" Pendant Mount Stem [16]

NOTES:
1. DesignLights Consortium™ Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
3. C1-C3 lumen packages only.
4. Order stem kit accessory.
5. Extended lead times apply.
6. Additional 17W. Provides 800 nominal lumens. Available in 3000K and 4000K with the C1-C4 lumen packages at a 25°C maximum ambient temperature. Not available with 347, 480, TMB, WM, HA, 5LTD, IBP or ICP.
7. Not available with TMB or DPM mounting.
8. HA not available with C5 and C6 lumen packages or 5LTD, IBP and ICP options.
9. Not available with CQ.
10. Standard with CQ, option available with WQ only.
11. Replace E1 with specific voltage (120, 208, 240, 277V available). Not available with C6 lumen package, HA, IBP, ICP or sensor options. Multiply published IES file by .95 when used with the C5 lumen package.
12. Replace E1 with specific voltage (120V and 277V available). 0°C minimum with IBP, -20°C minimum with ICP, 25°C maximum ambient temperature. Not available with WM, DPM, 5LTD or HA.
13. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
14. Includes integral photocell.
15. LumaWatt wireless sensors are factory installed only requiring network components in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information.
16. Specify color in place of XX.
17. Designed for use with pendant mounting only.

Shaper™
shaperlighting.com

DESCRIPTION

674 Luminous Wall Sconce features horizontal trim bars with a vertical fin detail and is ADA compliant. Design options, such as perforated metal, colored acrylic, and different trim bar configurations are available.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Material
Painted solid aluminum with a matte white acrylic diffuser with a regressed aluminum perf shield. Wet location lamp and ballast housing with 1/8" clear acrylic diffuser.

Finish
Premium TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear.
Standard: Aluminum Paint (ALP).
Premium: Black Paint (BK), Bronze Metallic Paint (BM), Dark Platinum Paint (DP), Gold Metallic Paint (GM), Graphite Metallic Paint (GRM), Grey Paint (GY), White Paint or Custom Color (CC).

Optics
Refer to www.shaperlighting.com for complete photometrics.

Ballast
Integral electronic HPF multi-volt 120/277V (347V Canada), thermally protected with end-of-life circuitry to accommodate the specified lamp wattage.

Lamp/Socket
31": Two (2) 14W T5 linear miniature bi-pin fluorescent lamps.
43": Two (2) 21W T5 linear miniature bi-pin fluorescent lamps.
55": Two (2) 28W T5 linear miniature bi-pin fluorescent lamps.
Fluorescent socket injection molded plastic. Lamps furnished by others.

LED
31" L3:2000 nominal lumens at max 19W
43" L4:3000 nominal lumens at max 28W
55" L5:4000 nominal lumens at max 37W

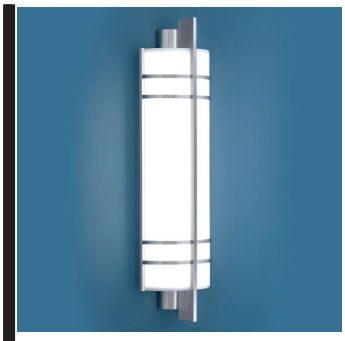
Long-life LED system coupled with electrical driver to deliver optimal performance. Electronic drivers are available for 120-277 applications.A 0-10V dimming control is available (Standard) on all models.

Installation
Supplied with a mounting back for a standard 4" J-box or stucco ring.

Options
Modified Length - Contact factory, Alternative Trim Bars or Perf Accent Design - Contact factory, Green Glass Acrylic (GGA).

Labels
U.L. and C.U.L. listed for wet location. ADA compliant.

Modifications
Shaper's skilled craftspeople with their depth of experience offer the designer the flexibility to modify standard exterior wall luminaires for project specific solutions. Contact the factory regarding scale options, unique finishes, mounting, additional materials/colors, or decorative detailing.



674-WP SERIES

Exterior Wall Luminaire
Luminous Sconce

ARRA

Shaper Lighting certifies that its products satisfy the requirements of Section 1605 of the American Recovery and Reinvestment Act (also known as the ARRA Buy American provision).

AMERICAN DISABILITIES ACT (ADA)

Shaper offers a large selection of ADA interior and exterior wall luminaires. ADA requires all fixtures below 68" to have a maximum projection of 4".

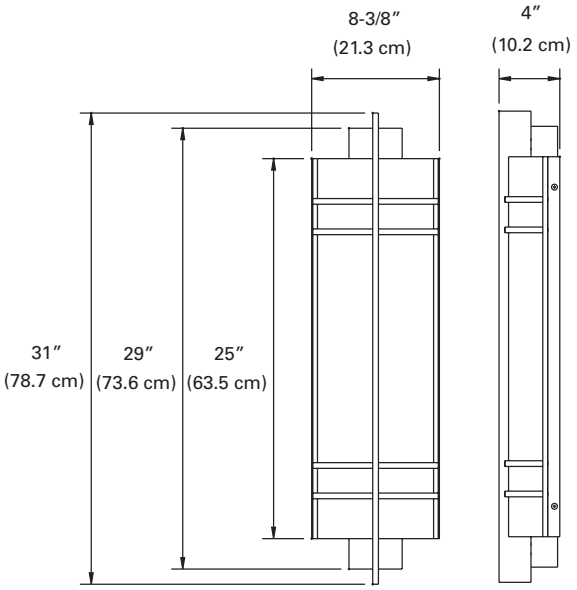
ORDERING INFORMATION

Sample Number: 674-55-WP-T5/2/28-277V-ALP

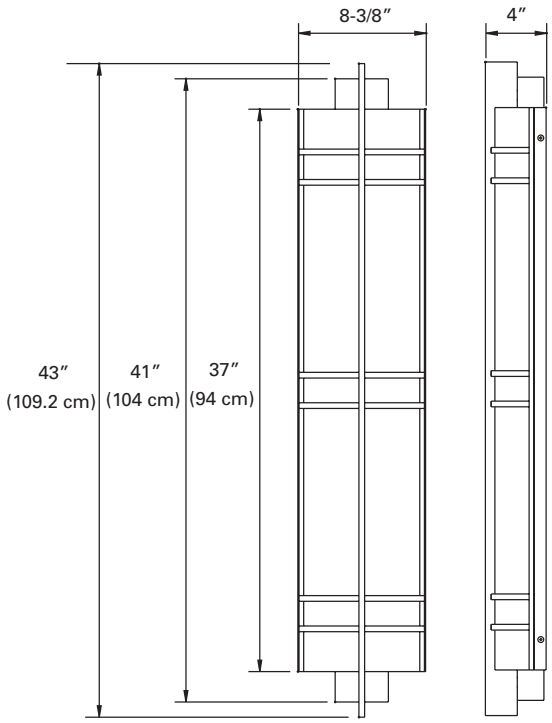
Series	Size	MountingType	Lamp	Voltage	Finish [4]	Options
674 = Luminous Wall Sconce	31" 43" 55"	**WP** = Exterior Wall	T5/2/14 [1] T5/2/21 [2] T5/2/28 [3] **LED** L3/827 [1] L4/827 [2] L5/827 [3] L3/830 [1] L4/830 [2] L5/830 [3] L3/835 [1] L4/835 [2] L5/835 [3] L3/840 [1] L4/840 [2] L5/840 [3]	120V 277V 347V [5]	**Standard** **ALP** = Aluminum Paint **Premium** **BK** = Black **BM** = Bronze Metallic Paint **CC** = Custom Color **DP** = Dark Platinum Paint **GM** = Gold Metallic Paint **GRM** = Graphite Metallic Paint **GY** = Grey **WH** = White	**GGA** =Green Glass Acrylic

[1] Available in 31".
[2] Available in 43".
[3] Available in 55".
[4] Premium TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear.
[5] For T5 lamping only

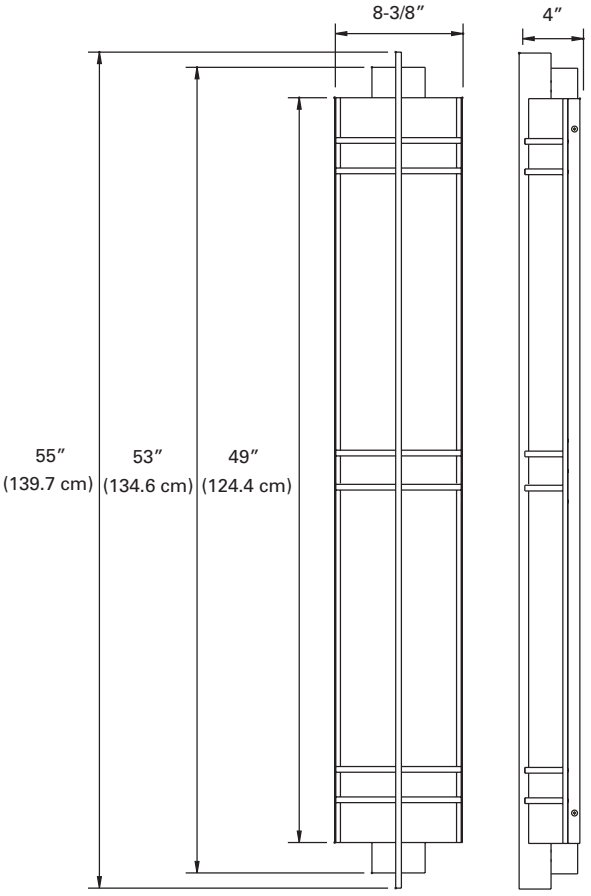
MOUNTING TYPE



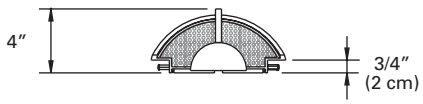
674-31-WP STANDARD



674-43-WP STANDARD



674-55-WP STANDARD



DESCRIPTION

The Halo Surface Mount LED Downlight (SMD) is an ultra-low profile surface mounting luminaire with a modern look and high performance. SMD6-DM (6" with spring clips) is designed for new installation into drywall, without any additional housing or junction box needed. Suitable for residential or commercial installations. Ideal for general areas, closets, storage areas, attics and basements. Compliant with NFPA® 70, NEC® Section 410.16 (A)(3) and 410.16 (C)(5).

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

HOUSING
- Non-electrically conductive polycarbonate frame.
- High impact diffuse polystyrene lens provides shielding to the light guide with no pixilation
- Stamped aluminum housing provides thermal cooling achieving L70 at 50,000 hours in IC and non-IC applications

GASKETS
- Closed cell gasket achieves restrictive airflow and wet location requirements without additional caulking

OPTICS
- Precision acrylic light guide organizes source flux into wide distribution with 1.2 – 1.4 spacing criteria useful for general area illumination

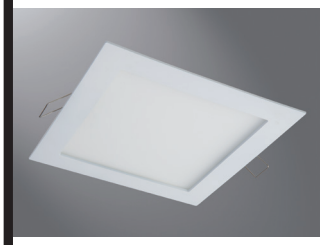
LED
- Mid power led array provide a uniform source with high efficiency and long life.
- Available in 90 CRI minimum, R9 greater than 50 and color accuracy within 3 SDCM provide color accuracy and uniformity

DRIVER
- Integral 120V 50/60Hz constant current driver provides noise free operation.
- Continuous, flicker-free dimming from 100% to 5% with select leading or trailing edge 120V phase cut dimmers.
- Dimming to 5% is best assured using dimmers with low end trim adjustment. Consult dimmer manufacturer for compatibility and conditions of use. (Note some dimmers require a neutral in the wallbox.)
- Inline electrical quick connect (provided) provides mains connections.

MOUNTING/RETENTION
- The SMD-DM with Spring Clips requires no housing or junction box.
- The integral enclosure may be used in direct contact with insulation including spray foam insulation.
- Installer must cut template out of drywall, and install into the aperture with the clips compressed.
- When released, the spring clips will rest on to the back side of the drywall.
- Installer must ensure secure fit and wiring. This includes all applicable national and local electrical and building codes

COMPLIANCE
- cULus listed / certified for use with Halo housings, classified for use with other's housings, see instruction sheet for conditions of acceptability.
- Wet and Damp Location listed, airtight per ASTM-E283
- Suitable for use in closets, compliant with NFPA® 70, NEC® Section 410.16 (A)(3) and 410.16 (C)(5)
- EMI/RFI emissions per FCC 47CFR Part 15B
- Contains no mercury or lead and RoHS compliant.
- Photometric testing in accordance with IES LM-79-08
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11.
- Can be used for State of California Title 24 high efficacy luminaire compliance, reference the California Energy Commission Title 20 Appliance Efficiency Database for current listings.
- Can be used for International Energy Conservation Coe (IECC) and Washington State Energy Code high efficiency luminaire compliance

WARRANTY
- Five year limited warranty, consult website for details. www.eaton.com/lighting/legal



SMD6-DM Series

6 Inch Round and Square Direct Mount

SMD6R-DM
SMD6S-DM

6" Surface Mount Downlight

Direct Mount into non-accessable ceiling

ORDERING INFORMATION

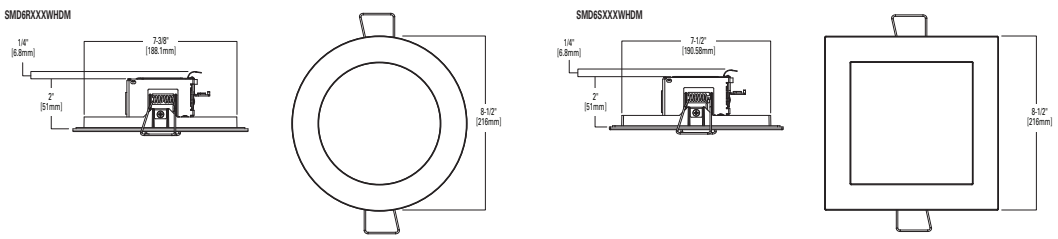
SAMPLE NUMBER: SMD6R6930WHDM=6" Round Surface Mount Downlight, 90CRI, 3000K, Direct Mount

Models	Lumens	CRI / CCT	Finish	Mouting
SMD6R= 6" Round Surface Mount Downlight, 120V **SMD6S**= 6" Square Surface Mount Downlight, 120V	**6**=600 lumen series	**927**=90CRI, 2700K **930**=90CRI, 3000K **935**=90CRI, 3500K **940**=90CRI, 4000K **950**=90CRI, 5000K	**WH**=White	**DM**=Direct Mount

ENERGY DATA

	Round	Square
Lumens (5000K models)	788	815
Input Power	9.62 W	9.9 W
Input Current	0.0811 A	0.085 A
Efficiency	82 lm/W	82 lm/W
THD	13.9	14.7
Input Voltage	120V	
Frequency	50/60 Hz	
CRI	90 CRI	
Power Factor	0.99	
T Ambient	-30 - +40°C	
Sound Rating	Class A	

DIMENSIONS



90 CRI nominal CCT 2700K 3000K 3500K 4000K 5000K

ENERGY STAR

Can be used for IECC International Energy Conservation Code High Efficacy Compliance

Efficiency Standards T24 California Title 24 Residential and Non-Residential Compliant

RoHS

Shadowlight

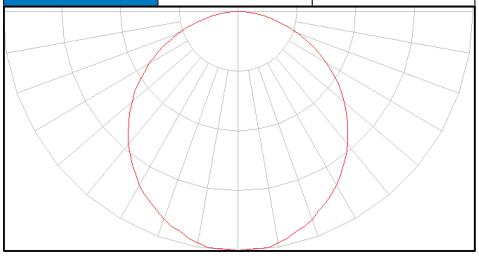
airlite

Refer to ENERGY STAR® Qualified Products List.
Can be used to comply with California Title 24 High Efficacy requirements.
Certified to California Appliance Efficiency Database under JA8.

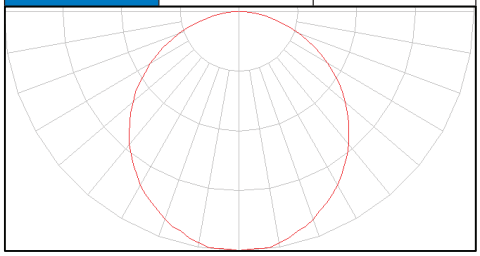
EATON
Powering Business Worldwide

PHOTOMETRIC DATA

SMD6R6927WHDM		
Luminaire lumens		750
Input watts		9.4
LER (LPW)		80
Spacing Criteria	0-180	1.26
	90-270	1.26
	Diagonal	1.38
Beam angle (degrees)		112
Field angle (degrees)		162
Max. Candela		264
Zonal lumen	Lumens	% Lumens
0-30	204	27.2%
0-40	334	44.5%
0-60	590	78.6%
0-90	750	100.00%



SMD6S6927WHDM		
Luminaire lumens		750
Input watts		10.0
LER (LPW)		75
Spacing Criteria	0-180	1.24
	90-270	1.24
	Diagonal	1.36
Beam angle (degrees)		112
Field angle (degrees)		162
Max. Candela		271
Zonal lumen	Lumens	% Lumens
0-30	207	27.6%
0-40	337	44.9%
0-60	590	78.6%
0-90	750	100.00%

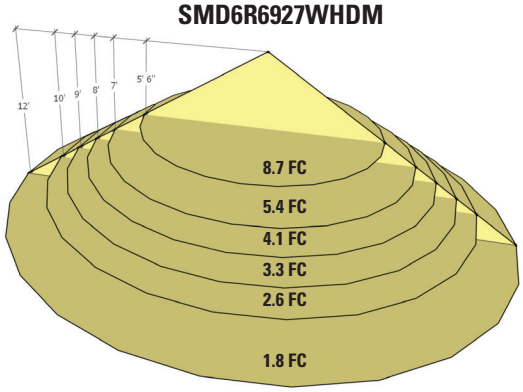


Cat. No.	CRI	CCT	Lumens	Power (W)	LPW
SMD6R6927WHDM	93	2700	754	9.6	78.5
SMD6R6930WHDM	92	3000	758	9.6	78.7
SMD6R6935WHDM	95	3500	740	9.6	77.0
SMD6R6940WHDM	94	4000	792	9.8	80.5
SMD6R6950WHDM	92	5000	788	9.6	81.9
SMD6S6927WHDM	92	2700	750	10.0	75.0
SMD6S6930WHDM	92	3000	790	9.9	79.8
SMD6S6935WHDM	93	3500	740	10.0	74.0
SMD6S6940WHDM	92	4000	760	10.3	73.8
SMD6S6950WHDM	90	5000	815	9.9	82.3

Foot-candle Values at Nadir 0 degree Aiming Angle			
DD (FT)	SMD6R6927WHDM (FC)	SMD6S6927WHDM (FC)	DIA (FT)
5.5	8.7	9.0	16.3
7	5.4	5.5	20.9
8	4.1	4.2	23.8
9	3.3	3.3	26.8
10	2.6	2.7	29.7
12	1.8	1.9	35.7

DD = distance down to illuminated work plane
FC = initial foot-candles at nadir
DIA = diameter

SMD6R6927WHDM



Multiplier Table					
CCT Option	2700K	3000K	3500K	4000K	5000K
CCT Multipiler	1.00	1.014	1.042	1.083	1.083

Powering Business Worldwide

Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

Specifications and dimensions subject to change without notice.

McGraw-Edison

DESCRIPTION

The Impact Elite family of wall luminaires is the ideal complement to site design. Incorporating modular LightSquares technology, the Impact Elite luminaire provides outstanding uniformity and energy-conscious illumination. Combined with a rugged construction, the Impact Elite luminaire is the ideal facade and security luminaire for zones surrounding schools, office complexes, apartments and recreational facilities. UL/cUL listed for wet locations.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Heavy-wall, die-cast aluminum housing and removable hinged door frame for precise tolerance control and repeatability. Hinged door inset for clean mating with housing surface and secured via two captive fasteners. Optional tamper-resistant Torx™ head fasteners offer vandal resistant access to the electrical chamber.

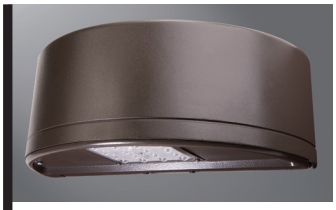
Optics
Choice of 10 patented, high-efficiency AccuLED Optics™ distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optics technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K, 5000K and 5700K CCT.

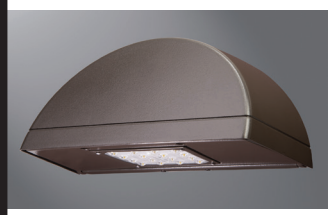
Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less than 20% harmonic distortion, and are suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightSquares feature an IP66 enclosure rating and maintain greater than 90% lumen maintenance at 60,000 hours per IESNA TM-21. Emergency egress options for -20°C ambient environments and occupancy sensor available.

Mounting
Gasketed and zinc plated rigid steel mounting attachment fits directly to 4" j-box or wall with the Impact Elite "Hook-N-Lock" mechanism for quick installation. Secured with two captive corrosion resistant black oxide coated allen head set screws concealed but accessible from bottom of fixture.

Finish
Cast components finished in a five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.





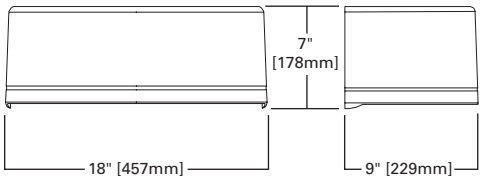
ISC/ISS/IST/ISW
IMPACT ELITE LED

1 LightSquare
Solid State LED

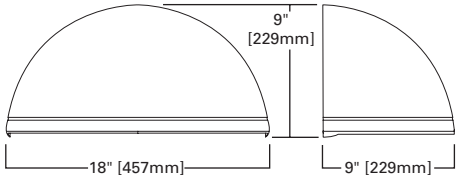
WALL MOUNT LUMINAIRE

DIMENSIONS

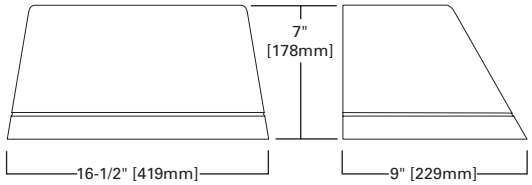
Cylinder



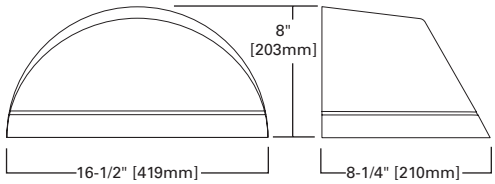
Quarter Sphere



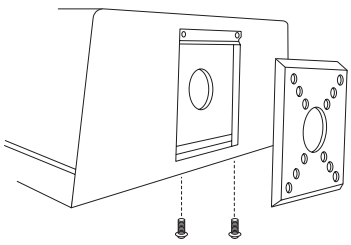
Trapezoid



Wedge



HOOK-N-LOCK MOUNTING



CERTIFICATION DATA
UL/cUL Listed
LM79 / LM80 Compliant
IP66 LightSquare
DesignLights Consortium® Qualified*
ISO 9001

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA
Approximate Net Weight:
18 lbs. (8 kgs.)

*www.designlights.org

Powering Business Worldwide

POWER AND LUMENS

1 LightSquare (AF)		**Cylinder (ISC) and Quarter Sphere (ISS)**						**Trapezoid (IST) and Wedge (ISW)**					
Drive Current (mA)		350	450	600	800	1000	1200	350	450	600	800	1000	1200
Power (Watts)	120-277V	20.3	25.5	33.4	43.9	55.1	66.2	20.3	25.5	33.4	43.9	55.1	66.2
Current (A)	120V	0.17	0.22	0.29	0.38	0.48	0.56	0.17	0.22	0.29	0.38	0.48	0.56
	277V	0.09	0.10	0.13	0.17	0.21	0.25	0.09	0.10	0.13	0.17	0.21	0.25
Power (Watts)	347V or 480V	23.3	28.7	36.6	49.5	60.7	70.1	23.3	28.7	36.6	49.5	60.7	70.1
Current (A)	347V	0.07	0.08	0.11	0.15	0.18	0.21	0.07	0.08	0.11	0.15	0.18	0.21
	480V	0.05	0.06	0.08	0.11	0.13	0.16	0.05	0.06	0.08	0.11	0.13	0.16
Optics													
T2	Lumens	2,336	2,934	3,827	4,791	5,663	6,444	2,498	3,136	4,091	5,122	6,054	6,889
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
T3	Lumens	2,385	2,994	3,906	4,889	5,779	6,577	2,504	3,144	4,101	5,133	6,068	6,905
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
T4FT	Lumens	2,360	2,963	3,866	4,839	5,720	6,509	2,530	3,177	4,145	5,188	6,133	6,979
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
T4W	Lumens	2,386	2,996	3,908	4,892	5,783	6,581	2,500	3,139	4,095	5,126	6,059	6,895
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SL2	Lumens	2,257	2,834	3,697	4,628	5,470	6,225	2,413	3,030	3,953	4,948	5,849	6,656
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SL3	Lumens	2,220	2,787	3,636	4,552	5,380	6,122	2,365	2,970	3,874	4,849	5,732	6,523
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SL4	Lumens	2,110	2,649	3,456	4,326	5,113	5,818	2,234	2,805	3,660	4,581	5,415	6,162
	BUG Rating	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B0-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
SLL/SLR	Lumens	1,990	2,498	3,259	4,080	4,823	5,488	2,154	2,705	3,529	4,418	5,222	5,942
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2	B1-U1-G2
RW	Lumens	2,380	2,988	3,898	4,880	5,768	6,564	2,465	3,095	4,037	5,054	5,974	6,798
	BUG Rating	B2-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0	B3-U1-G1	B3-U1-G1	B3-U1-G1	B3-U1-G1	B3-U1-G1	B3-U1-G1

LUMEN MAINTENANCE

Current	**Ambient Temperature**	**25000 Hours***	**50000 Hours***	**60000 Hours***	**100000 Hours***	**Theoretical L70 (Hours)***
Up to 1.2A	Up to 40°C	>95%	>91%	>90%	>83%	20,4000

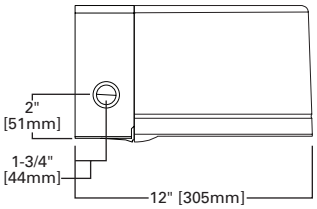
*Data calculated based on TM-21 calculator.

LUMEN MULTIPLIER

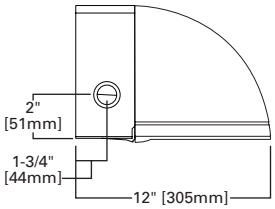
Ambient Temperature	**Lumen Multiplier**
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99

THRUWAY BACK BOX

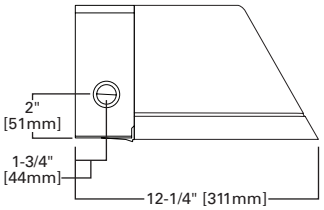
Cylinder



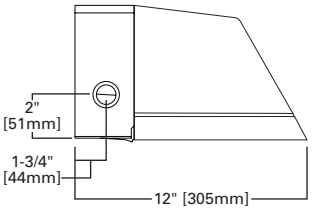
Quarter Sphere



Trapezoid



Wedge



ORDERING INFORMATION

Sample Number: ISC-AF-1200-LED-E1-T3-BZ

Product Family [1]	Light Engine	Drive Current	Lamp Type	Voltage	Distribution	Color
ISC=Impact Elite LED Small Cylinder **ISS**=Impact Elite LED Small Quarter Sphere **IST**=Impact Elite LED Small Trapezoid **ISW**=Impact Elite LED Small Wedge	**AF**=(1) LightSquare	**350**=Drive Current Factory Set to 350mA **450**=Drive Current Factory Set to 450mA **600**=Drive Current Factory Set to 600mA **800**=Drive Current Factory Set to 800mA **1000**=Drive Current Factory Set to 1000mA **1200**=Drive Current Factory Set to 1200mA [2]	**LED**=Solid State Light Emitting Diodes	**E1**=Electronic (120-277V) **347**=347V [2] **480**=480V [2, 3]	**T2**=Type II **T3**=Type III **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Accessories** (Order Separately) [17]
7030=70 CRI / 3000K CCT [4] **7050**=70 CRI / 5000K CCT [4] **7060**=70 CRI / 5700K CCT [4] **8030**=80 CRI / 3000K CCT [4] **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [2, 5, 6] **P**=Button Type Photocontrol (Available in 120, 208, 240 or 277V. Must Specify Voltage) [2, 6] **HA**=50°C High Ambient [7] **AHD145**=After Hours Dim, 5 Hours, 50% [8] **AHD245**=After Hours Dim, 6 Hours, 50% [8] **AHD255**=After Hours Dim, 7 Hours, 50% [8] **AHD355**=After Hours Dim, 8 Hours, 50% [8] **MS/DIM-LXX**=Motion Sensor for Dimming Operation [9, 10, 11] **LWR-LW**=LumaWatt Pro Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [6, 11, 12] **LWR-LN**=LumaWatt Pro Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [6, 11, 12] **BBB**=Battery Pack with Back Box (Specify 120V or 277V) [13] **CWB**=Cold Weather Battery Pack with Back Box (Specify 120V or 277V) [14] **LCF**=LightSquare Trim Plate Matches Housing Finish **HSS**=Factory Installed House Side Shield [15] **ULG**=Uplight Glow [5, 6] **TR**=Tamper Resistant Hardware **X**=Driver Surge Protection (6kV) Only [16]	**MA1253**=10kV Circuit Module Replacement **MA1254-XX**=Thruway Back Box - Impact Elite Trapezoid **MA1255-XX**=Thruway Back Box - Impact Elite Cylinder **MA1256-XX**=Thruway Back Box - Impact Elite Quarter Sphere **MA1257-XX**=Thruway Back Box - Impact Elite Wedge **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor

NOTES:
1. Standard 4000K CCT and greater than 70 CRI.
2. Not available with ULG option.
3. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
4. Exentended lead times apply.
5. Not available with ISS or ISW.
6. Not available with LWR-XX or MS/DIM-LXX.
7. Suitable for 50°C provided no options other than motion sensor are included and driver output set to 1.A or less.
8. Requires the use of P photocontrol or the PER7 photocontrol receptacle with photocontrol accessory. Not available with 350mA drive current. See After Hours Dim supplemental guide for additional information.
9. Specify lens in place of XX. Round to next highest option based on mounting height. Available options are 08, 20 and 40W.
10. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
11. Includes integral photocell.
12. LumaWatt Pro wireless sensors are factory installed and requiring network components in appropriate quantities. See www.eaton.com/lighting for LumaWatt Pro application information.
13. LED standard integral battery pack is rated for minimum operating temperature 32°F (0°C). Operates downlight for 90-minutes.
14. LED cold weather integral battery pack is rated for minimum operating temperature -4°F (-20°C). Operates downlight for 90-minutes.
15. Only for use with SL2, SL3 and SL4 distributions. The LightSquare trim plate is painted black when the HSS option is selected.
16. Removes additional surge module.
17. Specify color in place of XX.

Date: November 17, 2014
Customer:
Project:
Location:
Glass Types:

Performance Data Comparison*

	ID#	Product Description	Notes	Thickness (in.) [f]	Transmittance (%)			Reflectance %			U-factor (U-value)		SC	SHGC	LSG
					Visible	Solar	UV	Visible (out)	Visible (in)	Solar (out)	Win.	Sum.			
Outboard:	5439	1/4" PPG Solarban® 70XL Low-E #2	a	0.946	64	25	6	12	13	52	0.24	0.21	0.31	0.27	2.37
Air Space:	9	1/2" Spacer, 90% Argon-Filled													
Inboard:	5012	1/4" Clear	a												
Outboard:	5284	1/4" PPG Solarban® 60 on Clear Low-E #2	a	0.946	70	34	18	11	12	28	0.24	0.22	0.44	0.39	1.79
Air Space:	9	1/2" Spacer, 90% Argon-Filled													
Inboard:	5012	1/4" Clear	a												

***Vertically Glazed Center Of Glass (COG) Results Calculated Using LBNL Window 6.3 Software.**

Notes: a) NFRC certified spectral data file
b) Data generated by Oldcastle BuildingEnvelope®
c) Average solar data
d) Simulated with LBNL Optics 6.0
e) Vendor supplied spectral data file
f) Please reference ASTM C1036 and C1172 for allowable glass thickness variations

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Manufacturing

Land Use Code (LUC) 140

68,588 sf

ITE Weekday Peak Parking Demand Rate = 1.02 vehicles per 1,000 sf

70 parked vehicles

Time	Weekday Suburban	
	Percent of Peak Period*	Parked Vehicles
12:00-4:00 AM	-	-
5:00 AM	-	-
6:00 AM	-	-
7:00 AM	0.55	39
8:00 AM	0.69	48
9:00 AM	0.74	52
10:00 AM	0.75	53
11:00 AM	0.75	53
12:00 PM	0.73	51
1:00 PM	0.97	68
2:00 PM	1.00	70
3:00 PM	0.95	67
4:00 PM	0.77	54
5:00 PM	0.62	43
6:00 PM	-	-
7:00 PM	-	-
8:00 PM	-	-
9:00 PM	-	-
10:00 PM	-	-
11:00 PM	-	-

*Time-of-day distribution is not available for LUC 140, so the distribution for LUC 130 - Industrial Park was used.

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Low/Mid-Rise Apartment

Land Use Code (LUC) 221

10 units

ITE Weekday Peak Parking Demand Rate = 1.23 vehicles per Unit

12 parked vehicles

Time	Weekday Suburban	
	Percent of Peak Period	Parked Vehicles
12:00-4:00 AM	1.00	12
5:00 AM	0.96	12
6:00 AM	0.92	11
7:00 AM	0.74	9
8:00 AM	0.64	8
9:00 AM*	0.44	5
10:00 AM*	0.44	5
11:00 AM*	0.44	5
12:00 PM*	0.44	5
1:00 PM*	0.44	5
2:00 PM*	0.44	5
3:00 PM*	0.44	5
4:00 PM	0.44	5
5:00 PM	0.59	7
6:00 PM	0.69	8
7:00 PM	0.66	8
8:00 PM	0.75	9
9:00 PM	0.77	9
10:00 PM	0.92	11
11:00 PM	0.94	11

*Assumed

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Hotel

Land Use Code (LUC) 310

105 Rooms

ITE Weekday Peak Parking Demand Rate = 0.89 vehicles per occupied room

93 parked vehicles

Time	Weekday Suburban	
	Percent of Peak Period	Parked Vehicles
12:00-4:00 AM	-	-
5:00 AM	-	-
6:00 AM	1.00	93
7:00 AM	0.96	89
8:00 AM	0.90	84
9:00 AM	0.87	81
10:00 AM	0.82	76
11:00 AM	0.77	72
12:00 PM	0.77	72
1:00 PM	0.75	70
2:00 PM	0.73	68
3:00 PM	0.70	65
4:00 PM	0.71	66
5:00 PM	0.70	65
6:00 PM	0.74	69
7:00 PM	0.75	70
8:00 PM	0.79	73
9:00 PM	0.85	79
10:00 PM	0.87	81
11:00 PM	0.97	90

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Office Building

Land Use Code (LUC) 701

107,171 sf

ITE Weekday Peak Parking Demand Rate = 2.84 vehicles per 1,000 sf

304 parked vehicles

Time	Weekday Suburban	
	Percent of Peak Period	Parked Vehicles
12:00-4:00 AM	-	-
5:00 AM	-	-
6:00 AM	-	-
7:00 AM	0.59	179
8:00 AM	0.79	240
9:00 AM	0.95	289
10:00 AM	1.00	304
11:00 AM	0.98	298
12:00 PM	0.90	274
1:00 PM	0.77	234
2:00 PM	0.84	255
3:00 PM	0.81	246
4:00 PM	0.72	219
5:00 PM	0.46	140
6:00 PM	0.25	76
7:00 PM	-	-
8:00 PM	-	-
9:00 PM	-	-
10:00 PM	-	-
11:00 PM	-	-

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Specialty Retail (First Floor)

Land Use Code (LUC) 814

2,700 sf

ITE Weekday Peak Parking Demand Rate = 2.55 vehicles per 1,000 sf

7 parked vehicles

Time	Non-December Non-Friday Weekday	
	Percent of Peak Period	Parked Vehicles
12:00-4:00 AM	-	-
5:00 AM	-	-
6:00 AM	-	-
7:00 AM	0.05	0
8:00 AM	0.18	1
9:00 AM	0.38	3
10:00 AM	0.68	5
11:00 AM	0.91	6
12:00 PM	1.00	7
1:00 PM	0.97	7
2:00 PM	0.95	7
3:00 PM	0.88	6
4:00 PM	0.78	5
5:00 PM	0.62	4
6:00 PM	0.64	4
7:00 PM	0.77	5
8:00 PM	0.70	5
9:00 PM	0.42	3
10:00 PM	-	-
11:00 PM	-	-

*Information not available for LUC 814. Parking generation and distribution was based on LUC 820 - Shopping Center.

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Specialty Retail (Second Floor)

Land Use Code (LUC) 814

1,098 sf

ITE Weekday Peak Parking Demand Rate = 2.55 vehicles per 1,000 sf

3 parked vehicles

Time	Non-December Non-Friday Weekday	
	Percent of Peak Period	Parked Vehicles
12:00-4:00 AM	-	-
5:00 AM	-	-
6:00 AM	-	-
7:00 AM	0.05	0
8:00 AM	0.18	1
9:00 AM	0.38	1
10:00 AM	0.68	2
11:00 AM	0.91	3
12:00 PM	1.00	3
1:00 PM	0.97	3
2:00 PM	0.95	3
3:00 PM	0.88	3
4:00 PM	0.78	2
5:00 PM	0.62	2
6:00 PM	0.64	2
7:00 PM	0.77	2
8:00 PM	0.70	2
9:00 PM	0.42	1
10:00 PM	-	-
11:00 PM	-	-

*Information not available for LUC 814. Parking generation and distribution was based on LUC 820 - Shopping Center.

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	6/20/2018	South Portland, Maine 04106

Drinking Place

Land Use Code (LUC) 936

2,500 sf

ITE Weekday Peak Parking Demand Rate = 10.60 vehicles per 1,000 sf

27 parked vehicles

Time	Non-December Non-Friday Weekday	
	Percent of Peak Period	Parked Vehicles
12:00-4:00 AM	-	-
5:00 AM	-	-
6:00 AM	-	-
7:00 AM	-	-
8:00 AM	-	-
9:00 AM	-	-
10:00 AM	-	-
11:00 AM	0.20	5
12:00 PM	0.51	14
1:00 PM	0.56	15
2:00 PM	0.40	11
3:00 PM	0.27	7
4:00 PM	0.27	7
5:00 PM	0.39	11
6:00 PM	0.71	19
7:00 PM	1.00	27
8:00 PM	0.97	26
9:00 PM	-	-
10:00 PM	-	-
11:00 PM	-	-

*Information not available for LUC 936. Parking generation and distribution was based on LUC 931 - Quality Restaurant

JN:	3184		Gorrill Palme
Project Description	Shipyard Redevelopment		707 Sable Oaks Drive
Project Location:	Portland, ME		Suite 30
Date:	6/20/2018		South Portland, Maine 0410

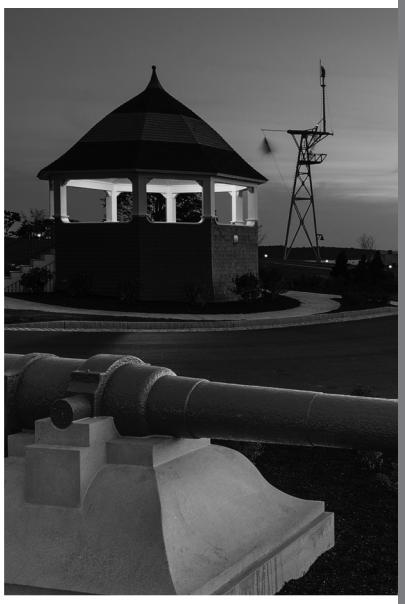
Garage Shared Parking Generation

Time	Manufacturing	Hotel	Office	First Floor Retail	Drinking Place	Total	Shared Use Reduction (6%)		Other Modes Reduction (10% for Hotel and 15% for Others)	
							Reduction	Subtotal	Reduction	Total
6:00 AM	-	93	-	-	-	93	6	87	9	78
7:00 AM	39	89	179	0	-	307	18	289	39	250
8:00 AM	48	84	240	1	-	373	22	351	49	302
9:00 AM	52	81	289	3	-	425	26	399	57	342
10:00 AM	53	76	304	5	-	438	26	412	58	354
11:00 AM	53	72	298	6	5	434	26	408	58	350
12:00 PM	51	72	274	7	14	418	25	393	56	337
1:00 PM	68	70	234	7	15	394	24	370	53	317
2:00 PM	70	68	255	7	11	411	25	386	54	332
3:00 PM	67	65	246	6	7	391	23	368	52	316
4:00 PM	54	66	219	5	7	351	21	330	46	284
5:00 PM	43	65	140	4	11	263	16	247	34	213
6:00 PM	-	69	76	4	19	168	10	158	20	138
7:00 PM	-	70	-	5	27	102	6	96	12	84
8:00 PM	-	73	-	5	26	104	6	98	11	87
9:00 PM	-	79	-	3	-	82	5	77	7	70
10:00 PM	-	81	-	-	-	81	5	76	8	68
11:00 PM	-	90	-	-	-	90	5	85	8	77

Note: Assumes all garage spaces are available to all garage users.

Residential Units have separate parking. Retail below residential units is assumed to park off-site

Relationships.
Responsiveness.
Results.



Traffic Permit Application Request for Scoping Meeting Shipyard Brewing Redevelopment Portland, Maine

PREPARED FOR:

86 Newbury Street, LLC
470 Fore Street
Portland, Maine 04101

June 2018

SUBMITTED BY:

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
So. Portland, ME 04106
207.772.2515

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

June 11, 2018

Ms. Barbara Barhydt
City of Portland Planning Division
389 Congress Street, 4th Floor
Portland, Maine 04101

RE: Application for Traffic Movement Permit
Shipyard Brewing Redevelopment
Portland, Maine

Dear Barbara,

Gorrill Palmer (GP) has been retained by Bateman Partners, LLC to prepare this Traffic Movement Permit Application for the proposed redevelopment of the Shipyard Brewing site located on the block bounded by Fore Street, Hancock Street, Newbury Street, and Mountfort Street in Portland, Maine.

We have attached the following information in support of this application:

- Sections 1-6
- Signed application form
- Notice of intent to file
- List of abutters

The $1,500 application fee was submitted prior to the submission of this application.

Please contact our office with any questions regarding this application.

Sincerely,
Gorrill Palmer

Randy Dunton, PE, PTOE
Project Manager

Copy: David Bateman, Bateman Partners, LLC
Robert vanLuling, MaineDOT Region 1 Traffic Engineer

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE 12/99
ID#_____

Total Fees:_____
Date Received: _____

****

PERMIT APPLICATION – TRAFFIC
TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. §704-A

Please type or print:

This application is for (check all that apply): Traffic 100-200 PCE's ☐
Traffic 200 + PCE's ☒

Name of Applicant: 86 Newbury Street, LLC, Attn: Mr. David Bateman

Address: **470 Fore Street, Suite 400, Portland, ME 04101** Telephone: _____

Name of local contact or agent: **Randy Dunton – Gorrill Palmer**

Address: **707 Sable Oaks Drive, South Portland, ME 04106** Telephone: **(207) 772-2515**

Name and type of development: The development consists of a 68,588 sf of manufacturing (online-order pharmacy and fulfillment space and brewery), a 105 room hotel, 107,171 sf of office space, 3,798 sf of retail, a 2,500 sf tasting room, and 10 apartment units.

Location of development including road, street, or nearest route number: **The site is located on the block bounded by Fore Street, Hancock Street, Newbury Street, and Mountfort Street.**

City/~~Town~~/~~Plantation~~: **Portland** County: Cumberland Tax Maps: **F10NE, G10SE**

~~Lots:~~ **020 C009, 020 C002, 020 C005, 020 C015, 020 C001**

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? **No**

Was this development started prior to obtaining a traffic permit? **No**

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30-A, chapter 187)? Yes_____ No_____

Is this project located within a compact area of an urban compact municipality? Yes X No_____

Is this development or any portion of the site currently subject to state or municipal enforcement action? **None Known**

Existing DEP or MDOT permit number (if applicable): Delegated review is to the City

Name(s) DOT staff person(s) contacted concerning this application None

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applicants: _____

N/A

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE 12/99
ID#_____

Total Fees:_____
Date Received: _____

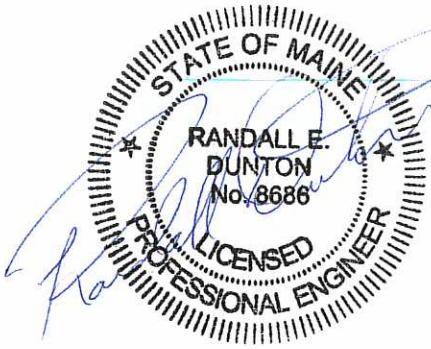
CERTIFICATION

This person responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the applicant for traffic approval is complete and accurate to the best of his/her knowledge.

Signature: Randall E. Dunton Re/Cert/Lic No.:_____

Name (print): **Randall E. Dunton** Engineer: **Maine PE # 8686**

Date: June 11, 2018 Other: _____



If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Randall E. Dunton 4/18/18

Signature of applicant Date

FOR
86 NEWBURY STREET, LLC

Form C 7/97

NOTICE OF INTENT TO FILE

Please take notice that:

Bateman Partners, LLC
470 Fore Street, Suite 400
Portland, ME 04101

is intending to file a MaineDOT Traffic Pesrmit application with the City of Portland (Delegated Review Authority) pursuant to the provisions of 23 M.R.S.A. §704 – A on or about June 8, 2018.

This application is for:

The redevelopment of the Shipyard Brewing site in Portland, Maine. The proposed development is to include 68,588 sf of online-order pharmacy and fulfillment space, a 105 room hotel, 107,171 sf of office space, 3,798 sf of retail space, a 2,500 sf tasting room, a 9,590 sf brewery, and 10 apartment units. The proposed project also includes a multi-level parking garage with approximately 380 spaces. The project is forecast to generate 265 and 288 AM and PM weekday peak hour of the generator trip ends respectively. The project is expected to open in 2019.

At the following location:

The site is located at the existing Shipyard Brewing site, located on the block bounded by Fore Street, Hancock Street, Newbury Street, and Mountfort Street.

A request for a public hearing must be received by the City, in writing no later than 20 days after the application is found by the department to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Transportation's office in Scarborough (Region 1) during normal working hours. A copy of the application may also be seen at the municipal offices in Portland, Maine.

Written public comments may be sent to the following address: Attention Barbara Barhydt, Planning Division, 389 Congress Street, Portland, Maine 04101.

Randall Dunton, P.E., PTOE
Gorrill-Palmer Consulting Engineers, Inc.

June 11, 2018

Section 1
Site and Traffic Information

1.A. Site Description and Site Plan

The site is located on the block bounded by Fore Street, Newbury Street, Mountfort Street, and Hancock Street in Portland, Maine. The site is identified on City Tax Maps F10NE and G10SE, Lots 020 C009, 020 C002, 020 C005, 020 C015, and 020 C001. The proposed site plan is included in Attachment 1A.

1.B. Existing and Proposed Site Uses

The existing site has one full movement access on Hancock Street, one full movement access on Fore Street, one full movement access on Mountfort Street, and three full movement accesses on Newbury Street. The existing site has the following land uses:

- Manufacturing (brewing, bottling, storage, loading, and a mechanical/boiler room): 63,045 sf
- Office: 6,082 sf
- Apartment: 9 dwelling units
- Retail: 1,250 sf
- Tasting Room: 1,250 sf

The redevelopment is proposed to include a multi-level parking garage with approximately 380 spaces and the following land uses:

- Manufacturing (online-order pharmacy, brewery): 68,588 sf
- Hotel: 105 rooms
- Office: 107,171 sf
- Retail: 3,798 sf
- Tasting Room: 2,500 sf
- Apartments: 10 dwelling units

The site is proposed to be accessed via four site accesses, two less than the current site. The first floor of the proposed parking garage will be accessed through an existing access on Fore Street, and the upper levels of the garage are proposed to be accessed via one new full movement entrance on Hancock Street. The parking for the proposed residential units will be accessed using a new entrance-only access on Hancock Street to

the north of the proposed Hancock Street garage access, and a new exit-only access on Newbury Street.

1.C. Site and Vicinity Boundaries

The site is bordered by Newbury Street to the northwest, Mountfort Street to the northeast, Hancock Street to the southwest, Fore Street to the southeast, and the Residence Inn Marriott to the South. A site location map showing the development location is included in Attachment 1B.

1.D. Proposed Uses in the Vicinity of the Proposed Development

Approved projects that have been constructed but are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment traffic volumes for this project. Based on conversations with Portland City Staff, there are several projects in the vicinity of the site that should be considered. The trip generation for the following projects will need to be included in background traffic for this project:

- 167 Fore Street: Ocean Gateway Addition
- 158 Fore Street: AC Hotel
- 62 India Street: India Newbury Residential
- 20 Thames Street: Residential
- 50 India Street: cPort Credit Union
- 221 Congress Street: Residential
- 58 Fore Street: Mixed-Use
- 0 Hancock Street: WEX
- 203 Fore Street: Portland II Hotel
- 56 Hampshire Street: Verdante at Lincoln Park

The trip generation for these projects will be included in the Traffic Impact Study, to be completed after the scoping meeting is held.

1.E. Trip Generation

The trip generation for the site was calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation*, Seventh Edition. More recent editions of

ITE are available, however, the Seventh Edition is the most recent edition accepted by MaineDOT. The trip generation for the proposed site has been based on the following uses and sizes:

- Manufacturing (online-order pharmacy, mechanical/boiler room): 68,588 sf
- Hotel: 105 rooms
- Office: 107,171 sf
- Retail: 3,798 sf
- Tasting Room: 2,500 sf
- Apartments: 10 dwelling units

The following summarizes the ITE Land Use Codes (LUCs) used to calculate the trip generation for the proposed site:

- LUC 140 – Manufacturing
- LUC 220 – Apartment
- LUC 310 – Hotel
- LUC 710 – General Office Building
- LUC 814 – Specialty Retail
- LUC 936 – Drinking Place

The trip generation calculations are included in Attachment 1C. The following table summarizes the ITE trip generation for the proposed site:

ITE Trip Generation Summary

Building Use	Size	ITE Trip Generation				
		AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Office	107,171 sf	198	198	190	190	52
Specialty Retail	3,797 sf	3	26	10	19	25
Drinking Place	2,500 sf	---	---	28	39	41
Hotel	105 rooms	59	55	62	64	76
Manufacturing	68,588 sf	50	53	51	51	19
Apartment	10 Units	5	6	6	7	5
Site Total		**315**	**338**	**347**	**370**	**218**

As shown in the table, the site is forecast to generate 338 trip ends during the AM peak hour of the generator and 370 trip ends during the PM peak hour of the generator. A trip end is a trip into or out of the site, thus a round trip is equal to two trip ends.

Shared Use Reduction

Since the project is a mixed use development with complementary uses, a shared use reduction can be applied to the site trip generation. GP has used the National Cooperative Highway Research Program (NCHRP) 684 Internal Capture Estimation Tool to estimate the traffic that will visit more than one destination without leaving the site. The NCHRP 684 spreadsheet uses the ITE forecast trip generation for each type of land use (office, retail, restaurant, residential, hotel, and other) and estimates the trips that will travel between two uses without leaving the site. This yields an internal trip capture percentage, which is the percentage of trip ends that will travel between two uses. For the purpose of this evaluation, GP classified the tasting room (drinking place) as a restaurant. The following tables summarize the AM and PM peak hour internal trip capture percentages for the proposed site:

AM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	178	20	3%	5%	5	1	6
Retail	2	1	50%	0%	1	0	1
Restaurant	0	0	0%	0%	0	0	0
Residential	1	4	0%	0%	0	0	0
Hotel	35	24	0%	21%	0	5	5
Other	38	12	N/A	N/A	0	0	0
Total	**254**	**61**	**2%**	**10%**	**6**	**6**	**12**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

AM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	178	20	5%	20%	9	4	13
Retail	13	13	38%	31%	5	4	9
Restaurant	0	0	0%	0%	0	0	0
Residential	2	4	0%	0%	0	0	0
Hotel	30	25	0%	24%	0	6	6
Other	37	16	N/A	N/A	0	0	0
Total	**260**	**78**	**5%**	**18%**	**14**	**14**	**28**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	29	161	0%	0%	0	0	0
Retail	5	5	60%	40%	3	2	5
Restaurant	18	10	11%	50%	2	5	7
Residential	4	2	50%	0%	2	0	2
Hotel	34	28	3%	4%	1	1	2
Other	18	33	N/A	N/A	0	0	0
Total	**108**	**239**	**7%**	**3%**	**8**	**8**	**16**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	29	161	0%	1%	0	2	2
Retail	10	9	70%	56%	7	5	12
Restaurant	27	12	22%	58%	6	7	13
Residential	4	3	75%	67%	3	2	5
Hotel	38	26	3%	4%	1	1	2
Other	26	25	N/A	N/A	0	0	0
Total	**134**	**236**	**13%**	**7%**	**17**	**17**	**34**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

The NCHRP 684 spreadsheet does not have information for the Saturday peak hour of the generator. To estimate a reduction for a Saturday, the AM and PM trip capture percentages were averaged and applied to the Saturday peak hour of the generator. This resulted in a Saturday internal trip capture of approximately 6% of total trips which results in a reduction of 14 trip ends (7 entering and 7 exiting).

The following table summarizes the reduced trip generation for the proposed site due to shared use trips:

Reduced Trip Generation Summary

Building Use	Trip Generation				
	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
ITE Total	315	338	347	370	218
Shared Use Reduction	-12	-28	-16	-34	-14
Reduced Site Total	**303**	**310**	**331**	**336**	**204**

As shown in the table, the proposed site with the shared use reduction is forecast to generate 310 trip ends and 336 trip ends during the AM and PM peak hours of the generator respectively.

Other Modes of Transportation Reduction

Since the site is located in an urban environment, it is expected that a portion of site traffic will use alternative modes of transportation to get to and from the site. These other modes could include options such as transit, biking, or walking. A trip generation reduction due to other modes of transportation has been applied to the proposed site trip generation with the shared use reduction. The other modes reduction has been evaluated separately for the non-residential site uses and the proposed hotel.

Residential: The other modes reduction for residential land uses is based on information from the 2009-2013 American Community Survey (ACS) Five-Year Estimate by Census Tract for the City of Portland. Rick Harbison, Planner and GIS Specialist for the Greater Portland Council of Governments, used this data to create maps (attached) that show the estimated percentage of workers living in each Portland Census Tract that use each mode of transportation to travel to work. The site is located on the southeast corner of Census Tract 5, which is a predominantly commercial area. Census Tracts 2 and 3 border the site, so the reduction was calculated by dividing the estimated number of people walking, bicycling, and taking the bus to work in the three Census Tracts by the estimated total number of working people in the same three Census Tracts. This calculation yields a reduction of 35.8%. This methodology was approved by the City as part of the nearby 58 Fore Street redevelopment project.

Non-Residential: The other modes reduction for non-residential land uses was based on 2010 Consensus Transportation Planning Products (CTPP) means of transportation to work data for Census Tract 5, where the site is located. This data indicates that the ratio of cars to workers is 85% in the area (calculations attached), indicating that approximately 15% of employees use modes of transportation other than a car to commute to work. A reduction of 15% was applied to the non-residential uses. It should be noted that the methodology used to calculate this reduction was approved by the City of Portland as part of the nearby 58 Fore Street redevelopment project.

Hotel: There is limited data available for hotels, so a conservative reduction of 10% was used for the hotel trip generation. It should be noted that this hotel other modes reduction was approved by the City of Portland as part of the nearby 58 Fore Street redevelopment project.

The following table summarizes the other modes of transportation reduction for the site trip generation:

Other Modes of Transportation Reduction Summary

Trip Generation	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Site Trip Generation					
Residential Trip Gen	5	6	4	2	4
Non-Residential Trip Gen	244	255	267	272	129
Hotel Trip Gen	54	49	60	62	71
Subtotal	**303**	**310**	**331**	**336**	**204**
Other Modes Reduction					
Residential Reduction	2	2	1	1	1
Non-Residential Reduction	37	38	40	41	19
Hotel Reduction	5	5	6	6	7
Total Reduction	**44**	**45**	**47**	**48**	**27**
Reduced Trip Generation	**259**	**265**	**284**	**288**	**177**

As shown in the table, the forecast trip generation for the proposed site, including the shared use reduction and the other modes reduction, is 265 trip ends during the AM peak hour of the generator and 288 trip ends during the PM peak hour of the generator.

Trip Generation Credit

When determining the need for a MaineDOT Traffic Movement Permit (TMP), MaineDOT allows a trip generation credit to be taken for on-site uses that have been operational within the last 10 years. All of the existing land uses on the site are eligible for credit. The trip generation credit for the existing site has been calculated using ITE *Trip Generation*, Seventh Edition. The following LUCs were used to calculate the trip generation for the existing site:

- LUC 140 – Manufacturing
- LUC 220 – Apartment
- LUC 710 – General Office Building
- LUC 814 – Specialty Retail
- LUC 936 – Drinking Place

The following table summarizes the ITE trip generation for the existing site:

ITE Trip Generation Summary

Building Use	Size	ITE Trip Generation				
		AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Manufacturing	63,045 sf	46	49	47	47	18
Office	6,082 sf	20	20	19	19	5
Apartment	9 Units	5	5	6	6	5
Specialty Retail	1,250 sf	1	9	3	6	8
Drinking Place	1,250 sf	---	---	14	19	21
Site Total		**72**	**83**	**89**	**97**	**57**

As shown in the table, the existing site is estimated to generate 83 trip ends during the AM peak hour of the generator and 97 trip ends during the PM peak hour of the generator.

Shared Use Reduction – Existing Site

Consistent with the proposed trip generation calculations, the existing site is a mixed use development with complementary uses and therefore a shared use reduction can be applied to the overall site trip generation. The same NCHRP 684 spreadsheets as those used for the proposed site were used to calculate the shared use reduction for the existing site. The following tables summarize the AM and PM peak hour internal trip capture percentages for the existing site. Detailed calculations are attached.

AM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	18	2	0%	0%	0	0	0
Retail	1	0	0%	0%	0	0	0
Restaurant	0	0	0%	0%	0	0	0
Residential	1	4	0%	0%	0	0	0
Other	35	11	N/A	N/A	0	0	0
Total	**55**	**17**	**0%**	**0%**	**0**	**0**	**0**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

AM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	18	2	6%	50%	1	1	2
Retail	5	4	20%	25%	1	1	2
Restaurant	2	3	0%	0%	0	0	0
Residential	0	0	0%	0%	0	0	0
Other	34	15	N/A	N/A	0	0	0
Total	**59**	**24**	**3%**	**8%**	**2**	**2**	**4**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	3	16	0%	0%	0	0	0
Retail	1	2	0%	50%	0	1	1
Restaurant	9	5	11%	20%	1	1	2
Residential	4	2	25%	0%	1	0	1
Other	16	31	N/A	N/A	0	0	0
Total	**33**	**56**	**6%**	**4%**	**2**	**2**	**4**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

PM Peak Hour Generator NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	3	16	0%	0%	0	0	0
Retail	3	3	33%	67%	1	2	3
Restaurant	13	6	8%	33%	1	2	3
Residential	4	2	50%	0%	2	0	2
Other	24	23	N/A	N/A	0	0	0
Total	**47**	**50**	**9%**	**8%**	**4**	**4**	**8**

*These values are taken directly from the NCHRP spreadsheets (Attachment 1C), which may not match exact calculations due to rounding in the spreadsheet.

The NCHRP 684 spreadsheet does not have information for the Saturday peak hour of the generator. To estimate a reduction for a Saturday, the AM and PM trip capture percentages were averaged and applied to the Saturday peak hour of the generator. This resulted in a Saturday internal trip capture of approximately 4% of total trips which results in a reduction of 2 trip ends (1 entering and 1 exiting).

The following table summarizes the reduced trip generation for the existing site:

Reduced Trip Generation Summary

Building Use	Trip Generation				
	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
ITE Total	**72**	**83**	**89**	**97**	**57**
Shared Use Reduction	0	-4	-4	-8	-2
Site Total	**72**	**79**	**85**	**89**	**55**

As shown in the table, the existing site is estimated to generate 79 trip ends during the AM peak hour of the generator and 89 trip ends during the PM peak hour of the generator including the shared use reduction.

Other Modes of Transportation Reduction – Existing Site

Since the site is located in an urban environment, it is expected that a portion of site traffic will use alternative modes of transportation. Consistent with the proposed site trip generation calculations, a trip generation reduction due to other modes of transportation has been applied to existing site trip generation (including the shared use reduction). The other modes reduction has been calculated for residential and non-residential uses.

Residential: The same 35.8% reduction that was applied to residential land uses for the proposed site was used.

Non-Residential: The same 15% reduction that was applied to non-residential land uses for the proposed site was used.

The following table summarizes the other modes of transportation reduction for the site:

Other Modes of Transportation Reduction Summary

Trip Generation	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Site Trip Generation					
Residential	5	5	5	4	5
Non-Residential	67	74	80	85	50
Site Total	**72**	**79**	**85**	**89**	**55**
Other Modes Reduction					
Residential Reduction	2	2	2	1	2
Non-residential Reduction	10	11	12	13	7
Total Reduction	**12**	**13**	**14**	**14**	**9**
Reduced Trip Generation	**60**	**66**	**71**	**75**	**46**

As shown in the table, the existing site is estimated to generate 66 trip ends and 75 trip ends during the AM and PM peak hours of the generator respectively. This trip generation represents the trip generation credit for the site.

Net Site Trip Generation

The net site trip generation is calculated by subtracting the credit for the existing site from the trip generation for the proposed site. The following table summarizes the net trip generation for the site:

Net Site Trip Generation Summary

Trip Generation	AM Adj St	AM Gen	PM Adj St	PM Gen	Sat Gen
Proposed	259	265	284	288	177
Existing	-60	-66	-71	-75	-46
Net Trip Generation	**199**	**199**	**213**	**213**	**131**

As shown in the table, the site is forecast to generate a net increase of 199 trip ends during the AM peak hour of the generator and 213 trip ends during the PM peak hour of the generator. A trip end is defined as a trip into or out of the site, thus a round trip is equal to two trip ends. The site is forecast to generate over 99 trip ends during a peak hour, so a MaineDOT Traffic Movement Permit is required. Additionally, since the site is forecast to generate greater than 199 trip ends during a peak hour, Section 7 (Traffic Impact Study) is required. A Traffic Impact Study will be completed and submitted after the Scoping Meeting is held.

1.F. Trip Distribution

Based on ITE's *Trip Generation*, the NCHRP 684 Internal Capture, and the other modes of transportation reduction, the following trip distribution is anticipated for the site:

- AM Peak Hour Adjacent Street: 165 in / 34 out
- AM Peak Hour Generator: 162 in / 37 out
- PM Peak Hour Adjacent Street: 59 in / 154 out
- PM Peak Hour Generator: 66 in / 147 out
- Saturday Peak Hour Generator: 69 in / 62 out

1.G. Trip Composition and Assignment

It is assumed that all trips are primary in nature and made for the sole purpose of going to and from the site. This is likely a conservative assumption, since specialty retail and drinking places typically generate pass-by trips, where someone visits the site on their way to or from another destination.

The trip assignment has been based on the location of the site driveways, existing traffic patterns identified from a combination of AADT values provided in MaineDOT's MapViewer tool and turning movement counts completed at the intersections of Fore Street with Hancock Street and Fore Street with Mountfort Street. To refine the trip assignment for the TMP application and the Traffic Impact Study, it is recommended that turning movement counts are collected at the intersections of Hancock Street with Middle Street, Hancock Street with Newbury Street, and Mountfort Street with Newbury Street.

The preliminary AM and PM Trip Assignment is shown on the Figure 2 in Attachment 1B.

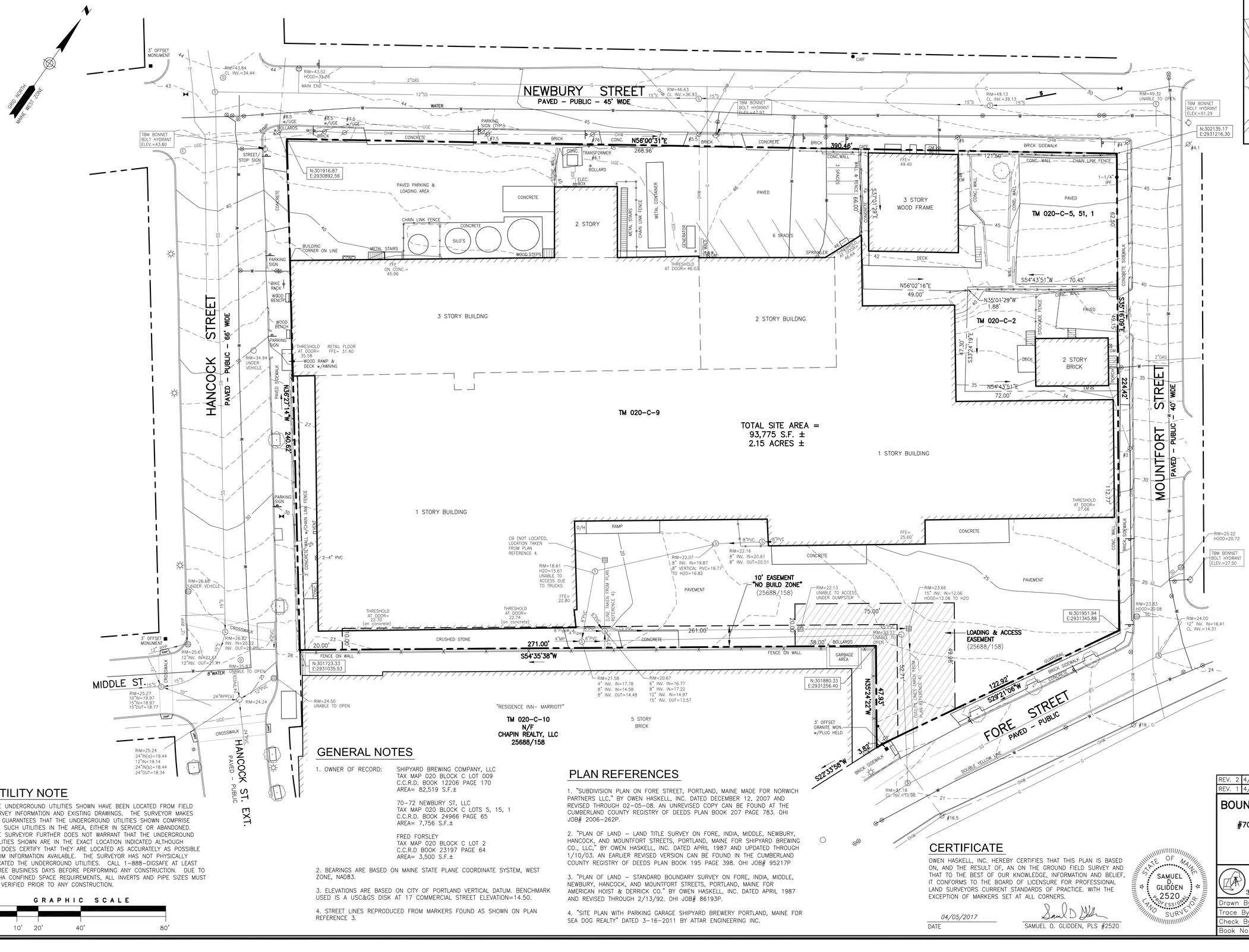
1.H. Attachments

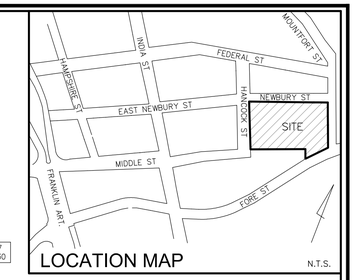
Attachment 1A – Site Survey, Proposed Site Plan
Attachment 1B – Site Location Map, Trip Assignment Diagrams
Attachment 1C – Trip Generation Calculations

Attachment 1A

Site Survey

Proposed Site Plan





LOCATION MAP N.T.S.

LEGEND

●	IRON PIPE OR ROD FOUND
■	MONUMENT FOUND
⌀	UTILITY POLE
○	MANHOLE
⊠ EM/GM	ELECTRIC/GAS METER
	SIGN
	CATCH BASIN
	GAS VALVE
	HYDRANT
	WATER VALVE OR SHUTOFF
	LIGHT POLE
	BOLLARD
	DECIDUOUS TREE
	GUARDRAIL
	FENCE
	CURB
OHW	OVERHEAD WIRES
UGE	UNDERGROUND ELECTRIC
W	WATER LINE
G	GAS LINE
SD	STORM DRAIN
SS	SANITARY SEWER
35	1' CONTOUR
IPF/IRF	IRON PIPE OR ROD FOUND
INV.	INVERT
FFE	FINISHED FLOOR ELEVATION
CONC.	CONCRETE
N/F	NOW OR FORMERLY
000/000	DEED BOOK AND PAGE

CITY CONTROL

CITY CONTROL POINTS USED:

3022 – 3'O/S MONUMENT
AT HANCOCK/THAMES

N:301388.62
E:2931424.18

3000 – 3' O/S MONUMENT
AT HANCOCK/FORE

N:301536.15
E:2931222.69

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

GRAPHIC SCALE
0 10' 20' 40' 80'

GENERAL NOTES

1. OWNER OF RECORD: SHIPYARD BREWING COMPANY, LLC
TAX MAP 020 BLOCK C LOT 009
C.C.R.D. BOOK 12206 PAGE 170
AREA= 82,519 S.F.±

70-72 NEWBURY ST, LLC
TAX MAP 020 BLOCK C LOTS 5, 15, 1
C.C.R.D. BOOK 24966 PAGE 65
AREA= 7,756 S.F.±

FRED FORSLEY
TAX MAP 020 BLOCK C LOT 2
C.C.R.D BOOK 23197 PAGE 64
AREA= 3,500 S.F.±

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83.

3. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM. BENCHMARK USED IS A USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

4. STREET LINES REPRODUCED FROM MARKERS FOUND AS SHOWN ON PLAN REFERENCE 3.

PLAN REFERENCES

1. "SUBDIVISION PLAN ON FORE STREET, PORTLAND, MAINE MADE FOR NORWICH PARTNERS LLC," BY OWEN HASKELL, INC. DATED DECEMBER 12, 2007 AND REVISED THROUGH 02-05-08. AN UNREVISED COPY CAN BE FOUND AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 207 PAGE 783. OHI JOB# 2006-262P.

2. "PLAN OF LAND – LAND TITLE SURVEY ON FORE, INDIA, MIDDLE, NEWBURY, HANCOCK, AND MOUNTFORT STREETS, PORTLAND, MAINE FOR SHIPYARD BREWING CO., LLC," BY OWEN HASKELL, INC. DATED APRIL 1987 AND UPDATED THROUGH 1/10/03. AN EARLIER REVISED VERSION CAN BE FOUND IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 195 PAGE 398. OHI JOB# 95217P

3. "PLAN OF LAND – STANDARD BOUNDARY SURVEY ON FORE, INDIA, MIDDLE, NEWBURY, HANCOCK, AND MOUNTFORT STREETS, PORTLAND, MAINE FOR AMERICAN HOIST & DERRICK CO." BY OWEN HASKELL, INC. DATED APRIL 1987 AND REVISED THROUGH 2/13/92. OHI JOB# 86193P.

4. "SITE PLAN WITH PARKING GARAGE SHIPYARD BREWERY PORTLAND, MAINE FOR SEA DOG REALTY" DATED 3-16-2011 BY ATTAR ENGINEERING INC.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE. WITH THE EXCEPTION OF MARKERS SET AT ALL CORNERS.

04/05/2017
DATE

SAMUEL D. GLIDDEN, PLS #2520

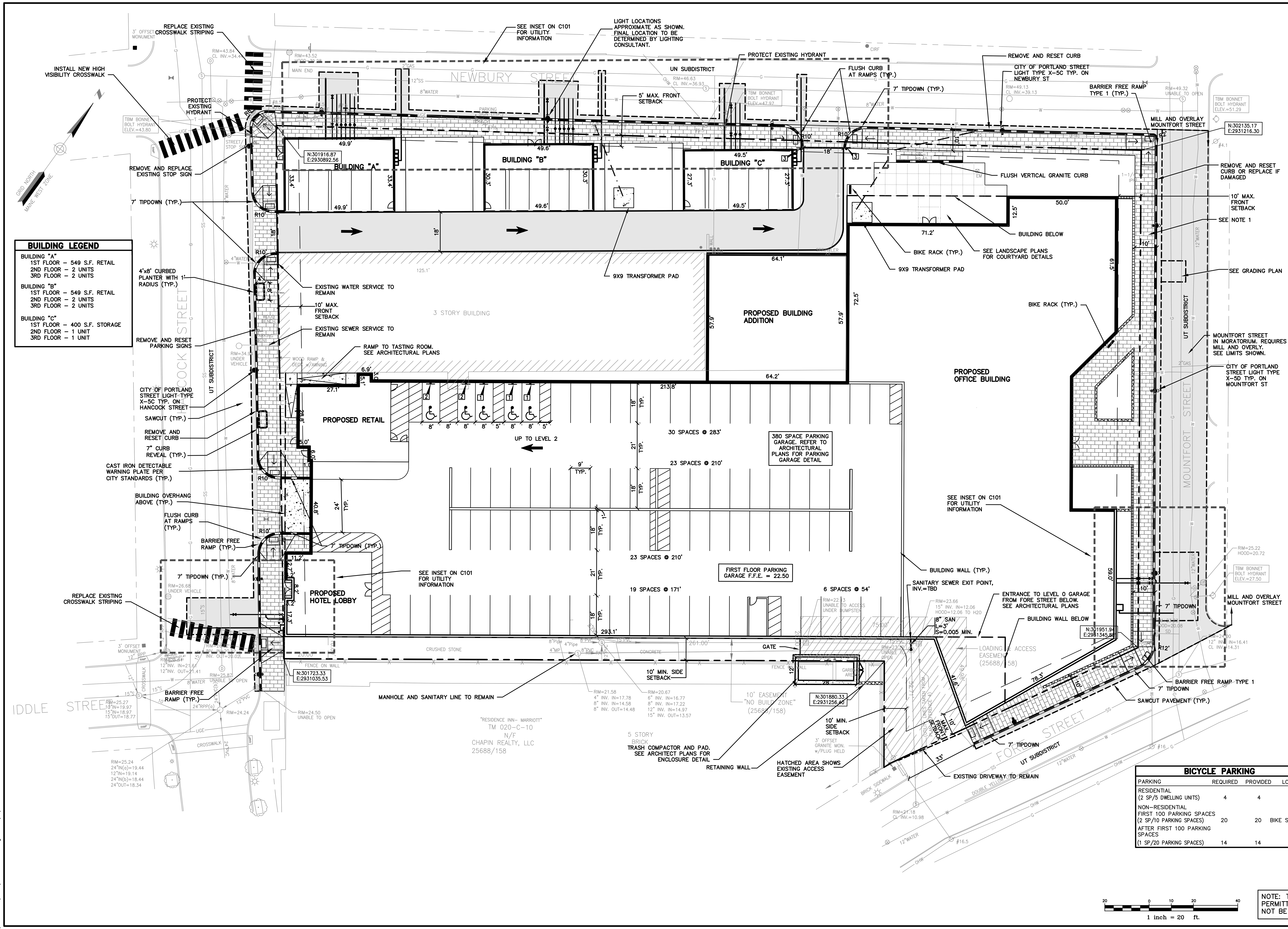
STATE OF MAINE · SAMUEL D GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

REV.		
REV. 2	4/5/17	FLOOR ELEVATIONS, UPDATE BENCHMARK
REV. 1	4/3/17	MISC. PLAN REVISIONS

BOUNDARY & TOPOGRAPHIC SURVEY
AT
#70–72 NEWBURY STREET, PORTLAND, MAINE
MADE FOR
BATEMAN PARTNERS, LLC
470 FORE STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424

Drawn By SDG	Date	Job No.
Trace By JLW	FEBRUARY 14, 2017	2017-010P
Check By JWS	Scale	Drwg. No.
Book No. 1155	1" = 20'	1



BUILDING LEGEND

BUILDING "A"
- 1ST FLOOR – 549 S.F. RETAIL
- 2ND FLOOR – 2 UNITS
- 3RD FLOOR – 2 UNITS

BUILDING "B"
- 1ST FLOOR – 549 S.F. RETAIL
- 2ND FLOOR – 2 UNITS
- 3RD FLOOR – 2 UNITS

BUILDING "C"
- 1ST FLOOR – 400 S.F. STORAGE
- 2ND FLOOR – 1 UNIT
- 3RD FLOOR – 1 UNIT

SITE DATA

ZONE: INDIA STREET FORM BASED CODE

SITE AREA 93,775 S.F. = 2.15 ACRES

BUILDING AREA:	
RETAIL 1	549 S.F.
RETAIL 2	549 S.F.
RETAIL 3	2,700 S.F.
TASTING	2,500 S.F.
BREWERY	9,590 S.F.
OFFICE	107,171 S.F.
PHARMACY	24,190 S.F.
TECH. FULLFILLMENT	34,808 S.F.
HOTEL (105 ROOM)	72,797 S.F.
RESIDENTIAL (10 UNITS)	9,060 S.F.

PARKING	REQUIRED	PROVIDED
HOTEL (1 SP/4 GUEST ROOMS)	27	27
OFFICE (1 SP/400 SF)	268	271
PHARMACY (1 SP/1000 SF)	25	25
TECH. FULLFILLMENT (1 SP/1000 SF)	35	35
BREWERY (1 SP/1000 SF)	10	10
TASTING ROOM (1 SP/200 SF 2,000 SF EXEMPT)	3	12
RETAIL 1 (1 SP/200 SF 2,000 SF EXEMPT)	0	0
RETAIL 2 (1 SP/200 SF 2,000 SF EXEMPT)	0	0
RETAIL 3 (1 SP/200 SF 2,000 SF EXEMPT)	4	0
TOTAL GARAGE PARKING	372	380
BARRIER FREE	8	13
RESIDENTIAL (1 SP/UNIT AFTER 3 UNITS)	7	12 BELOW UNITS

SPACE AND BULK STANDARDS

ZONE: INDIA STREET FORM BASED CODE –UN –NEWBURY STREET	REQUIRED	PROVIDED
BUILDING SETBACKS		
FRONT (MAX.)	5 FT.	>5 FT.
SIDE (MIN.)	5 FT.	>5 FT.
REAR (MIN.)	10 FT.	>10 FT.
MIN. BUILDING HEIGHT	25 FT. (2 STORIES)	45 FT.
MAX. BUILDING HEIGHT	45 FT. (4 STORIES)	45 FT.
MAX. LOT COVERAGE	90%.	<90%

SPACE AND BULK STANDARDS

ZONE: INDIA STREET FORM BASED CODE– UT –HANCOCK, FORE & MOUNTFORT STREETS	REQUIRED	PROVIDED
BUILDING SETBACKS		
FRONT (MAX.)	10 FT.	10 FT.
SIDE (MIN.)	10 FT.	>10 FT.
REAR (MIN.)	10 FT.	>10 FT.
STEPBACK (ADJACENT TO UN ZONE)	35 FT. MIN. AFTER 45' HEIGHT	35 FT.
MIN. BUILDING HEIGHT	3 STORIES	65 FT.
MAX. BUILDING HEIGHT	65 FT. (6 STORIES)	65 FT.
MAX. LOT COVERAGE	90%.	<90%.

PAVEMENT/LANDSCAPE LEGEND

- BITUMINOUS CONCRETE
- PORTLAND CEMENT CONCRETE
- BRICK

SEE LANDSCAPE PLAN FOR PLANTING DETAIL

CURBING LEGEND

- VERTICAL GRANITE CURB

STRIPING LEGEND

SIGNAGE, STRIPING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REGARDING SIZE, INSTALLATION, LOCATION & REFLECTIVITY.

12"SL – 12" WIDTH STOP LINE

SIGN LEGEND

R7-8 12"x 18"	R7-8 12"x 18"	R5-1 30"x 30"
1	2	3

NOTES:
1. EXISTING BRICK SIDEWALK SHALL BE RESTORED TO NEW CONDITION WHERE DISTURBED BY CONSTRUCTION.

BICYCLE PARKING

PARKING	REQUIRED	PROVIDED	LOCATION
RESIDENTIAL (2 SP/5 DWELLING UNITS)	4	4	GARAGE
NON-RESIDENTIAL FIRST 100 PARKING SPACES (2 SP/10 PARKING SPACES)	20	20	BIKE STORAGE ROOM
AFTER FIRST 100 PARKING SPACES (1 SP/20 PARKING SPACES)	14	14	ON SITE

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — ANTHONY LUCAS — 6750 — LICENSED PROFESSIONAL ENGINEER — 6/8/18

U:\3184_Shipyard Brewing\Z – CAD\DWG\3184-SP_L1.dwg 6/8/2018 2:50 PM

Rev.	Date	Revision
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft: CG	Date: APR 2018	
Checked: LSA	Scale: 1"=20'	Job No.: 3184	
File Name: 3184-SP_L1.dwg			

This plan shall not be modified without written permission from Gorrill Palmer (GP). Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to GP.

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207.772.2515

Drawing Name: SITE AND UTILITY PLAN– FIRST FLOOR

Project: Shipyard Redevelopment, Newbury Street, Portland, ME

Client: 86 Newbury Street, LLC, 470 Fore Street, Portland, ME 04101

Drawing No. C100

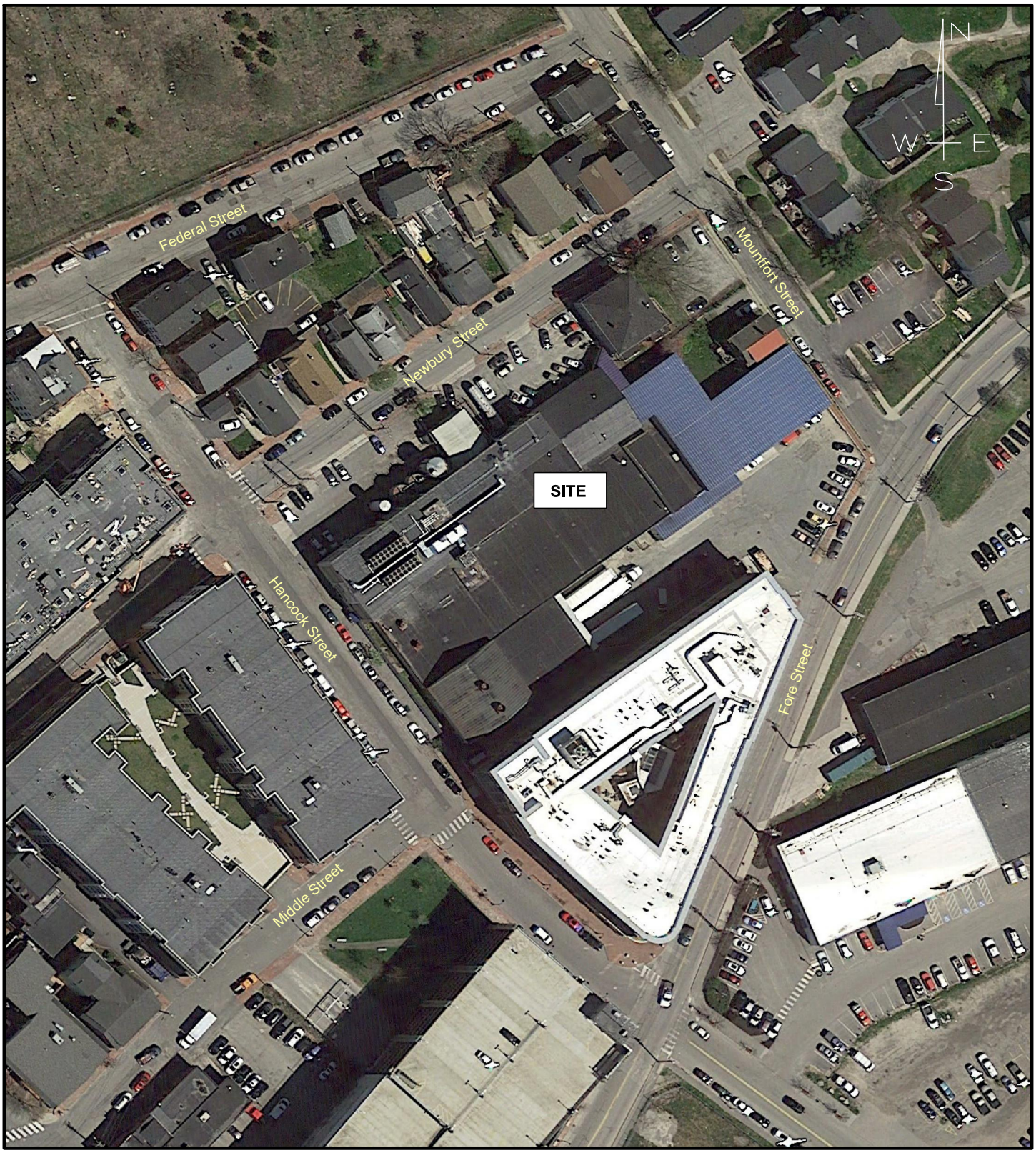
Attachment 1B

Site Location Map

Trip Assignment Diagram

Location Map

Figure No. 1



SHIPYARD REDEVELOPMENT
PORTLAND, MAINE

Design:	JP	Scale:	NONE
Draft:		Date:	JUNE 2018
Checked:	ET	File Name:	3184-TRAFF.dwg

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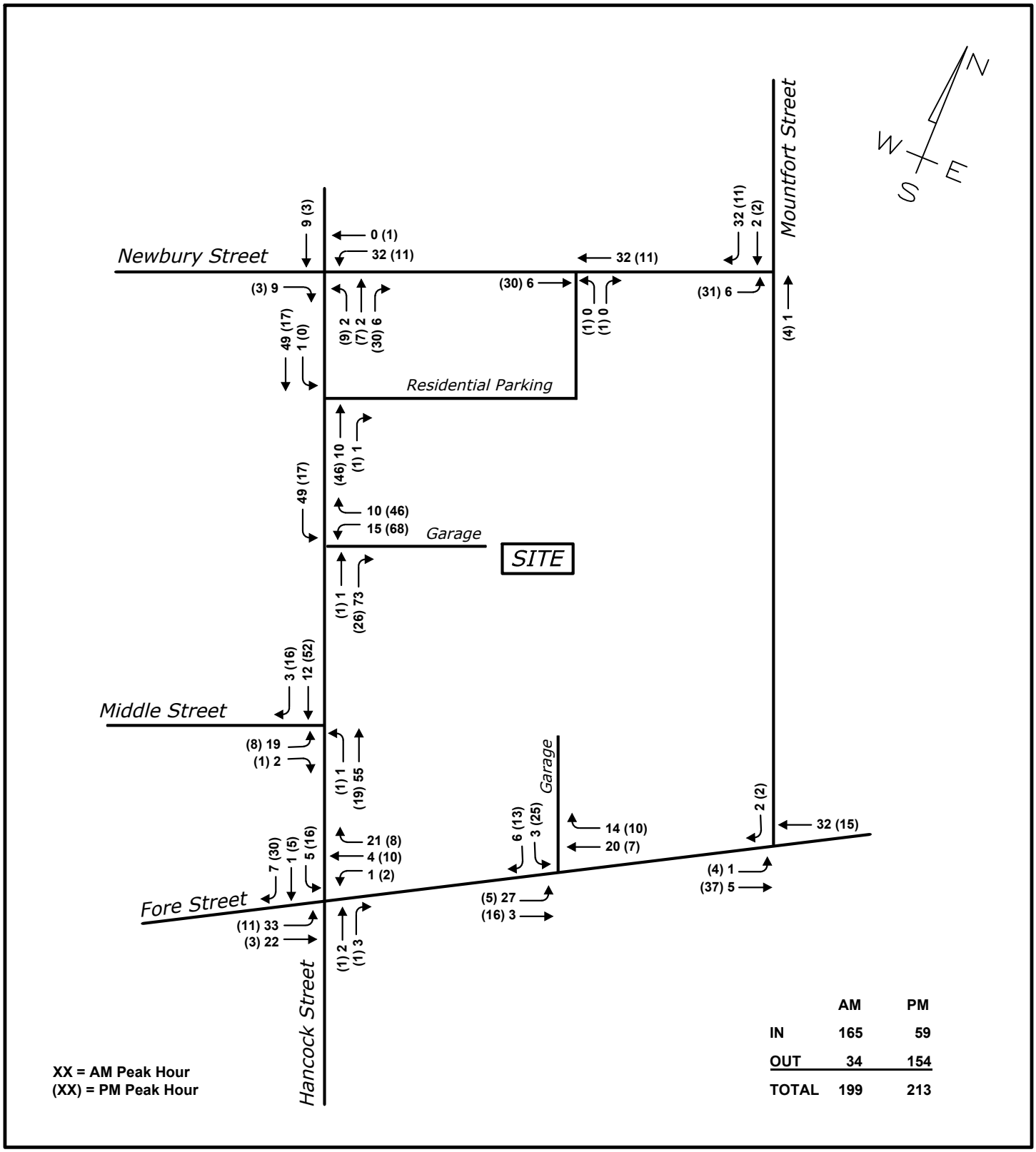
Trip Assignment

Figure No. 2



	AM	PM
IN	165	59
OUT	34	154
TOTAL	199	213

SHIPYARD REDEVELOPMENT
PORTLAND, MAINE

Design: JP
Draft:
Checked: ET

Scale: NONE
Date: JUNE 2018
File Name: 3184-TRAFF.dwg

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Attachment 1C

Trip Generation Calculations

NCHRP 684 Spreadsheets

Other Modes Reduction Calculations

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Existing) Manufacturing
Land Use Code (LUC) 140

Gross Floor Area 63,045

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split *		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	T = 3.82 (X)	241	62		50%	50%	121	120
AM Peak Adjacent Street	T = 0.73 (X)	46	50		75%	25%	35	11
PM Peak Adjacent Street	T = 0.74 (X)	47	54		35%	65%	16	31
AM Peak Hour of Generator	T = 0.78 (X)	49	50		70%	30%	34	15
PM Peak Hour of Generator	T = 0.75 (X)	47	50		50%	50%	24	23
Saturday	T = 1.49 (X)	94	2		50%	50%	47	47
Saturday Peak Hour of Gen.	T = 0.28 (X)	18	2	**	50%	50%	9	9

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Existing) General Office Building
Land Use Code (LUC) 710

Square Feet 6,082

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution		R^2
				IN	OUT	IN	OUT	
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	154	78	50%	50%	77	77	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**20**	**217**	**90%**	**10%**	**18**	**2**	**0.83**
PM Peak Hour	T = 1.12 (X) + 78.81	86	235	15%	85%	13	73	0.82
Saturday	T = 2.14 (X) + 18.47	31	17	50%	50%	16	15	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	4	10	55%	45%	2	2	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution		R^2
				IN	OUT	IN	OUT	
Weekday	T = 11.01 (X)	67	78	50%	50%	34	33	---
AM Peak Hour	T = 1.55 (X)	9	217	90%	10%	8	1	---
PM Peak Hour	T = 1.49 (X)	9	235	15%	85%	1	8	---
Saturday	T = 2.37 (X)	14	17	50%	50%	7	7	---
Saturday Peak Hour of Gen.	T = 0.41 (X)	2	10	50%	50%	1	1	---

* Percentages rounded to nearest 5%

PM Peak Hour:	**T = 1.49/1.55 (AM Peak)**	**19**	**15%**	**85%**	**3**	**16**	**---**
SAT Peak Hour:	**T = 0.41/1.55 (AM Peak)**	**5**	**50%**	**50%**	**3**	**2**	**---**

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Existing) Apartment
Land Use Code (LUC) 220

Dwelling Units: 9

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Sample Size		Directional Split *		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	T = 6.72 (X)	60	86		50%	50%	30	30
AM Peak Hour of Adj. Street Traffic	T = 0.51 (X)	5	78		20%	80%	1	4
PM Peak Hour of Adj. Street Traffic	T = 0.62 (X)	6	90		65%	35%	4	2
AM Peak Hour of Generator	T = 0.55 (X)	5	81		30%	70%	2	3
PM Peak Hour of Generator	T = 0.67 (X)	6	83		60%	40%	4	2
Saturday	T = 6.39 (X)	58	15		50%	50%	29	29
Saturday Peak Hour of Gen.	T = 0.52 (X)	5	14	**	50%	50%	3	2

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Existing) Specialty Retail Center
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 1,250

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution	
				IN	OUT	IN	OUT
Weekday	T = 44.32 (X)	55	4	50%	50%	28	27
Peak Hour of Adjacent Street Traffic 7-9 AM**	T = 0.74 (X)	1	N/A	60%	40%	1	0
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.71 (X)	3	5	45%	55%	1	2
AM Peak Hour of Generator	T = 6.84 (X)	9	4	50%	50%	5	4
PM Peak Hour of Generator	T = 5.02 (X)	6	3	55%	45%	3	3
Saturday	T = 42.04 (X)	53	3	50%	50%	27	26
Saturday Peak Hour of Gen.***	T = 6.63 (X)	8	3	50%	50%	4	4

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center and applied to 814 PM rate.

***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

* Percentages rounded to nearest 5%

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Existing) Drinking Place
Land Use Code (LUC) 936

Square Feet 1,250

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split **		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	---	---	---		---	---	---	---
PM Peak Hour of Adj. St.	T = 11.34 (X)	14	12		65%	35%	9	5
PM Peak Hour of Gen.	T = 15.49 (X)	19	8		70%	30%	13	6
Saturday	---	---	---		---	---	---	---
Sat. Peak Hour of Generator	T = 16.48 (X)*	21	---	***	65%	35%	14	7

*Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 932 - High-Turnover (Sit-Down) Restaurant

** Percentages rounded to nearest 5%

***Directional split for this peak hour assumed based on other peak hours for this land use and the directional split for LUC 932 - High-Turnover (Sit-Down) Restaurant during Saturday Peak Hour of the Generator

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Existing Site Trip Generation

Time Period	Manufacturing	General Office Building	Apartment	Specialty Retail	Drinking Place	**Total Site Trip Ends**	Manufacturing IN	Manufacturing OUT	General Office Building IN	General Office Building OUT	Apartment IN	Apartment OUT	Specialty Retail IN	Specialty Retail OUT	Drinking Place IN	Drinking Place OUT	**Total Site IN**	**Total Site OUT**
AM Peak Adjacent Street	46	20	5	1	---	**72**	35	11	18	2	1	4	1	0	---	---	55	17
PM Peak Adjacent Street	47	19	6	3	14	**89**	16	31	3	16	4	2	1	2	9	5	33	56
AM Peak Hour of Generator	49	20	5	9	---	**83**	34	15	18	2	2	3	5	4	---	---	59	24
PM Peak Hour of Generator	47	19	6	6	19	**97**	24	23	3	16	4	2	3	3	13	6	47	50
Saturday Peak Hour of Gen.	18	5	5	8	21	**57**	9	9	3	2	3	2	4	4	14	7	33	24

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/2/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	107,171	sf	198	178	20
Retail	814	2,700	sf	3	2	1
Restaurant	936	2,500	sf	0		
Cinema/Entertainment				0		
Residential	220	10	units	5	1	4
Hotel	310	105	rooms	59	35	24
All Other Land Uses[2]	140	68,588	sf	50	38	12
Total				315	254	61

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	5	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	315	254	61
Internal Capture Percentage	4%	2%	10%
External Vehicle-Trips[3]	303	248	55
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	3%	5%
Retail	50%	0%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	0%	21%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	178	178	1.00	20	20
Retail	1.00	2	2	1.00	1	1
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	1	1	1.00	4	4
Hotel	1.00	35	35	1.00	24	24

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	13	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	18	3	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	7		0	0	0	0
Restaurant	25	0		0	0	1
Cinema/Entertainment	0	0	0		0	0
Residential	5	0	0	0		0
Hotel	5	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	5	173	178	173	0	0
Retail	1	1	2	1	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	1	1	1	0	0
Hotel	0	35	35	35	0	0
All Other Land Uses[3]	0	38	38	38	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	1	19	20	19	0	0
Retail	0	1	1	1	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	4	4	4	0	0
Hotel	5	19	24	19	0	0
All Other Land Uses[3]	0	12	12	12	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/2/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	107,171	sf	190	29	161
Retail	814	3,798	sf	10	5	5
Restaurant	936	2,500	sf	28	18	10
Cinema/Entertainment				0	0	0
Residential	220	10	units	6	4	2
Hotel	310	105	rooms	62	34	28
All Other Land Uses[2]	140	68,588	sf	51	18	33
Total				347	108	239

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	3		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	1	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	347	108	239
Internal Capture Percentage	5%	7%	3%
External Vehicle-Trips[3]	331	100	231
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	60%	40%
Restaurant	11%	50%
Cinema/Entertainment	N/A	N/A
Residential	50%	0%
Hotel	3%	4%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	29	29	1.00	161	161
Retail	1.00	5	5	1.00	5	5
Restaurant	1.00	18	18	1.00	10	10
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	4	4	1.00	2	2
Hotel	1.00	34	34	1.00	28	28

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		32	6	0	3	0
Retail	0		1	0	1	0
Restaurant	0	4		1	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	4	19	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	9		5	0	2	6
Restaurant	9	3		0	1	24
Cinema/Entertainment	2	0	1		0	0
Residential	17	1	3	0		4
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	29	29	29	0	0
Retail	3	2	5	2	0	0
Restaurant	2	16	18	16	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	2	4	2	0	0
Hotel	1	33	34	33	0	0
All Other Land Uses[3]	0	18	18	18	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	161	161	161	0	0
Retail	2	3	5	3	0	0
Restaurant	5	5	10	5	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	1	27	28	27	0	0
All Other Land Uses[3]	0	33	33	33	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/2/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed AM Generator Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	107,171	sf	198	178	20
Retail	814	2,700	sf	26	13	13
Restaurant	936	2,500	sf	0	0	0
Cinema/Entertainment				0	0	0
Residential	220	10	units	6	2	4
Hotel	310	105	rooms	55	30	25
All Other Land Uses[2]	140	68,588	sf	53	37	16
Total				338	260	78

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	0	0	0	0
Retail	4		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	5	1	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	338	260	78
Internal Capture Percentage	8%	5%	18%
External Vehicle-Trips[3]	310	246	64
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	5%	20%
Retail	38%	31%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	0%	24%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	178	178	1.00	20	20
Retail	1.00	13	13	1.00	13	13
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	2	2	1.00	4	4
Hotel	1.00	30	30	1.00	25	25

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	13	0	0	0
Retail	4		2	0	2	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	19	4	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	0	0	0	0
Retail	7		0	0	0	0
Restaurant	25	1		0	0	1
Cinema/Entertainment	0	0	0		0	0
Residential	5	2	0	0		0
Hotel	5	1	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	9	169	178	169	0	0
Retail	5	8	13	8	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	30	30	30	0	0
All Other Land Uses[3]	0	37	37	37	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	4	16	20	16	0	0
Retail	4	9	13	9	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	4	4	4	0	0
Hotel	6	19	25	19	0	0
All Other Land Uses[3]	0	16	16	16	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Portland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	4/2/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Proposed PM Generator Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	107,171	sf	190	29	161
Retail	814	2,700	sf	19	10	9
Restaurant	936	2,500	sf	39	27	12
Cinema/Entertainment				0	0	0
Residential	220	10	units	7	4	3
Hotel	310	105	rooms	64	38	26
All Other Land Uses[2]	140	68,588	sf	51	26	25
Total				370	134	236

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	0		3	0	2	0
Restaurant	0	5		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	1	0		0
Hotel	0	0	1	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	370	134	236
Internal Capture Percentage	9%	13%	7%
External Vehicle-Trips[3]	336	117	219
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	1%
Retail	70%	56%
Restaurant	22%	58%
Cinema/Entertainment	N/A	N/A
Residential	75%	67%
Hotel	3%	4%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	29	29	1.00	161	161
Retail	1.00	10	10	1.00	9	9
Restaurant	1.00	27	27	1.00	12	12
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	4	4	1.00	3	3
Hotel	1.00	38	38	1.00	26	26

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		32	6	0	3	0
Retail	0		3	0	2	0
Restaurant	0	5		1	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	1	0		0
Hotel	0	4	18	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	9		8	0	2	6
Restaurant	9	5		0	1	27
Cinema/Entertainment	2	0	1		0	0
Residential	17	1	4	0		5
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	29	29	29	0	0
Retail	7	3	10	3	0	0
Restaurant	6	21	27	21	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	1	4	1	0	0
Hotel	1	37	38	37	0	0
All Other Land Uses[3]	0	26	26	26	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	2	159	161	159	0	0
Retail	5	4	9	4	0	0
Restaurant	7	5	12	5	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	1	3	1	0	0
Hotel	1	25	26	25	0	0
All Other Land Uses[3]	0	25	25	25	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

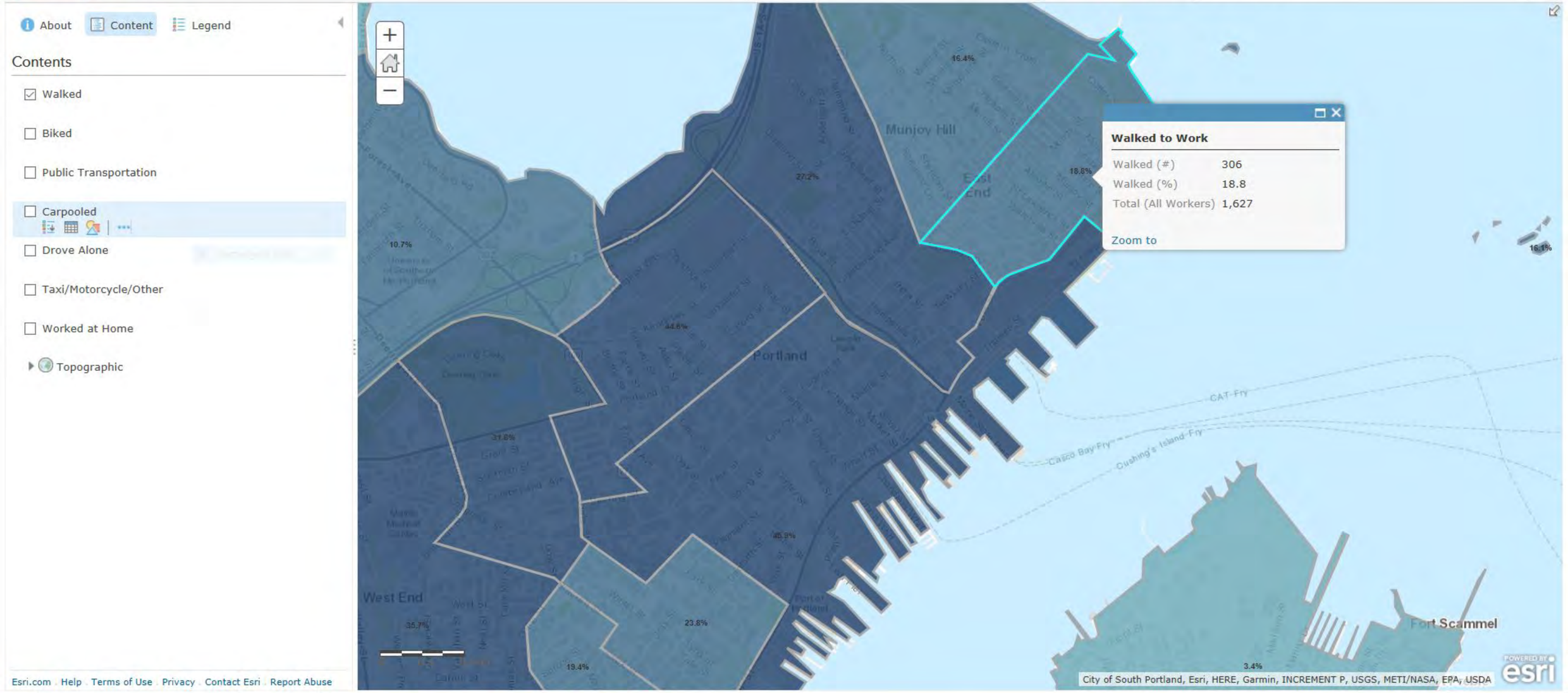
JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Existing Site Trip Generation After Shared Use Reduction

Time Period	Manufacturing	General Office Building	Apartment	Specialty Retail	Drinking Place	**Total Site Trip Ends**	Manufacturing		General Office Building		Apartment		Specialty Retail		Drinking Place		**Total Site**	
							IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**
AM Peak Adjacent Street	46	20	5	1	---	**72**	35	11	18	2	1	4	1	0	---	---	**55**	**17**
PM Peak Adjacent Street	47	19	5	2	12	**85**	16	31	3	16	3	2	1	1	8	4	**31**	**54**
AM Peak Hour of Generator	49	18	5	7	---	**79**	34	15	17	1	2	3	4	3	---	---	**57**	**22**
PM Peak Hour of Generator	47	19	4	3	16	**89**	24	23	3	16	2	2	2	1	12	4	**43**	**46**
*Saturday Peak Hour of Gen.	18	5	5	7	20	**55**	9	9	3	2	3	2	3	4	14	6	**32**	**23**

* - NCHRP does not provide shared use reduction information for the Saturday Peak Hour of the Gen. so the average reduction of the other peak hours (4%) was used.



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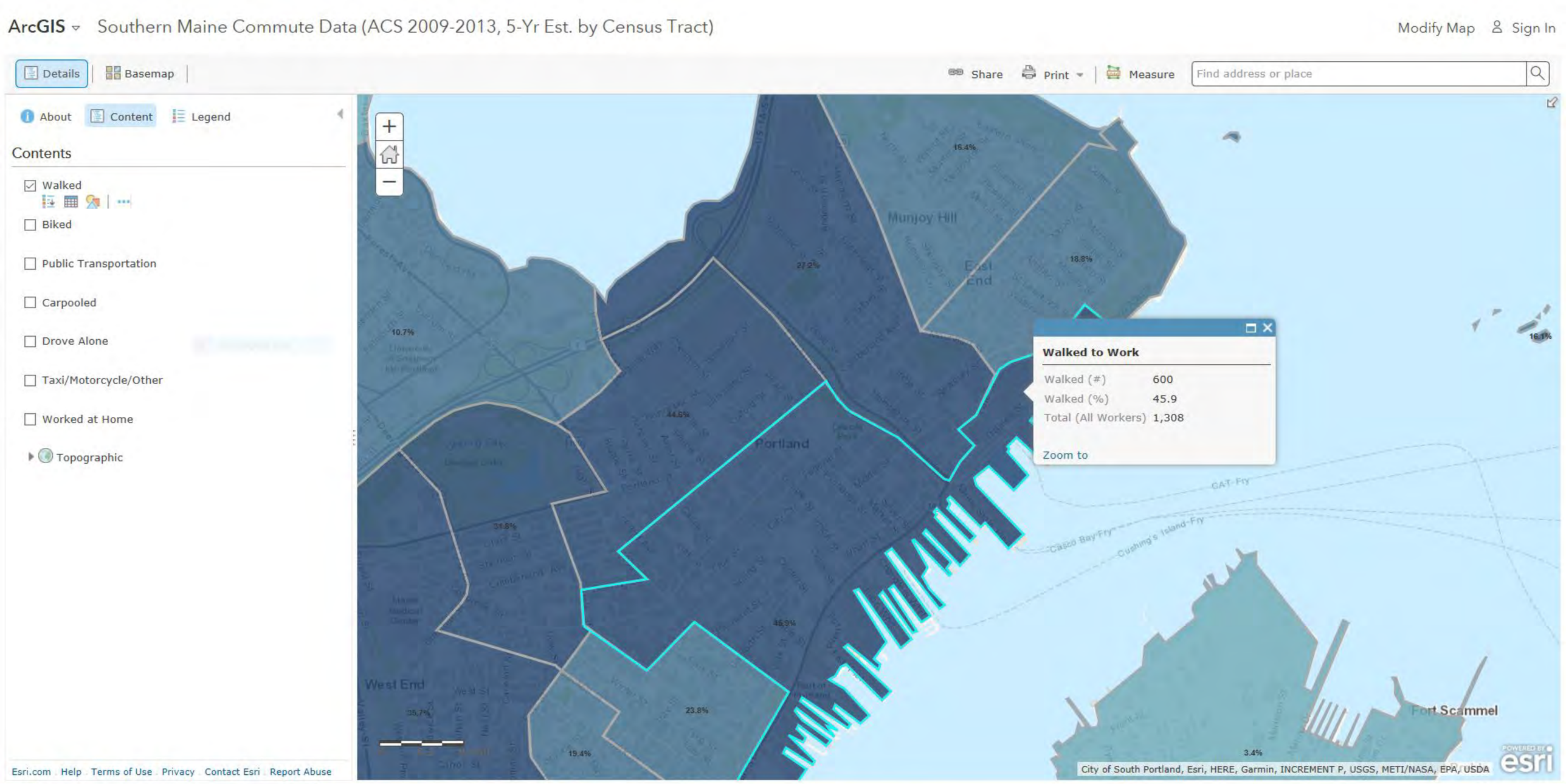
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Munjoy Hill
East End
Portland
West End
Fort Scammel
16.4%
18.8%
27.2%
10.7%
44.5%
31.8%
46.9%
23.8%
19.4%
35.7%
16.1%
3.4%
Walked to Work
Walked (#) 600
Walked (%) 45.9
Total (All Workers) 1,308
Zoom to
City of South Portland, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA
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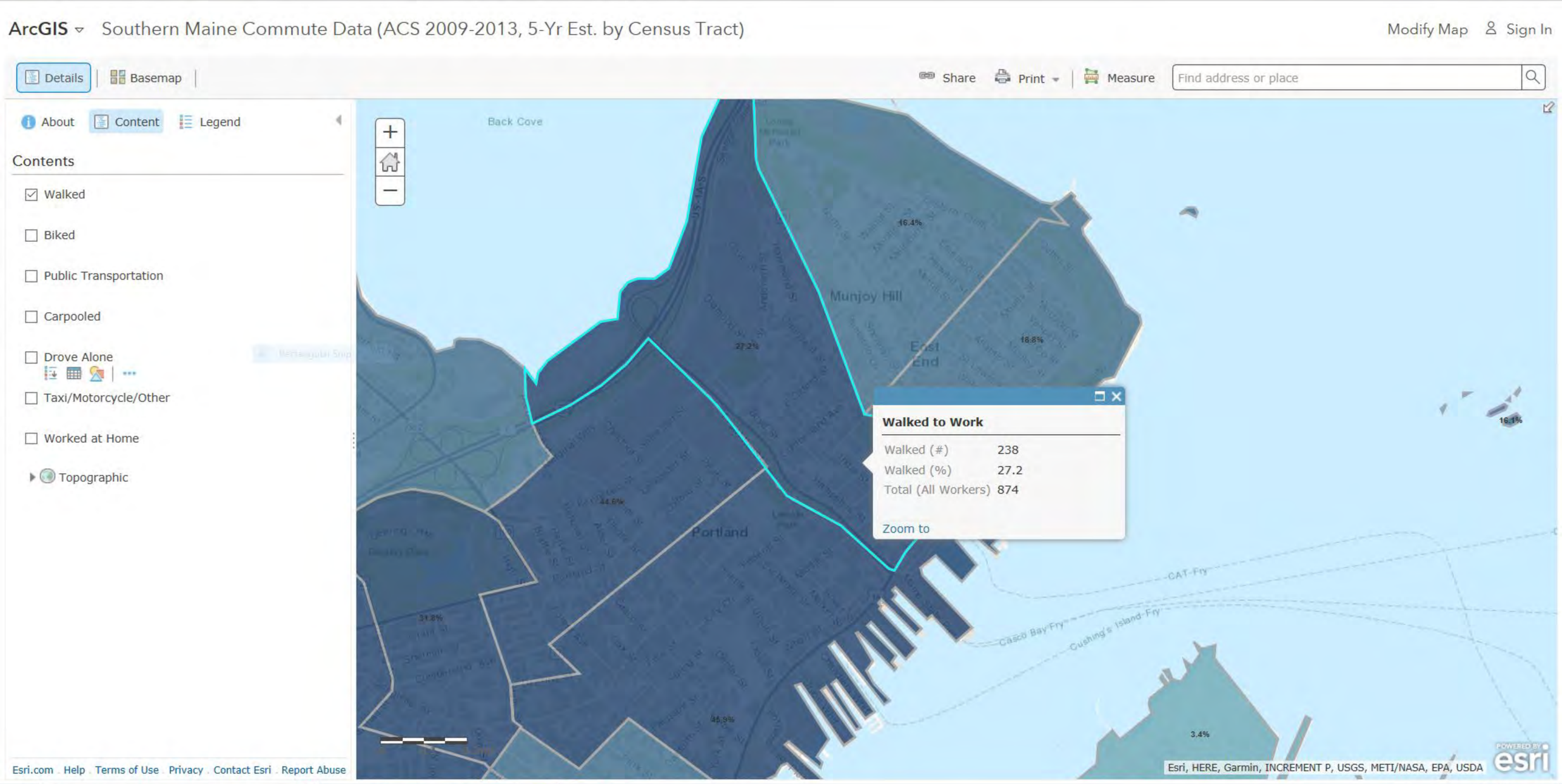
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Content
Legend
Contents
Walked
Biked
Public Transportation
Carpooled
Drove Alone
Taxi/Motorcycle/Other
Worked at Home
Topographic
Back Cove
Munjoy Hill
East End
Portland
16.4%
18.8%
27.2%
44.6%
31.8%
46.9%
16.1%
3.4%
Walked to Work
Walked (#) 238
Walked (%) 27.2
Total (All Workers) 874
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CAT Fry
Casco Bay Fry
Cushing's Island Fry
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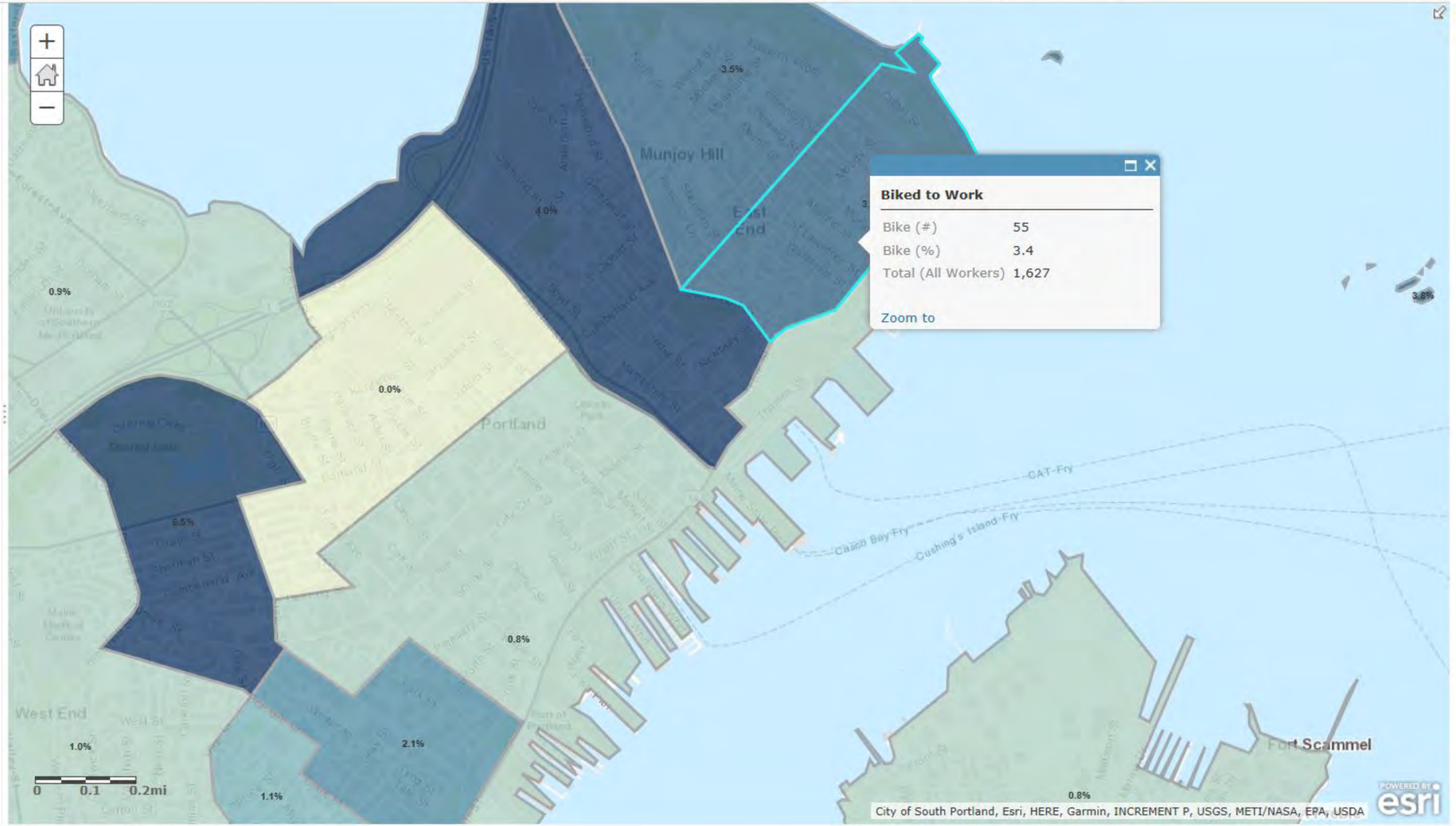

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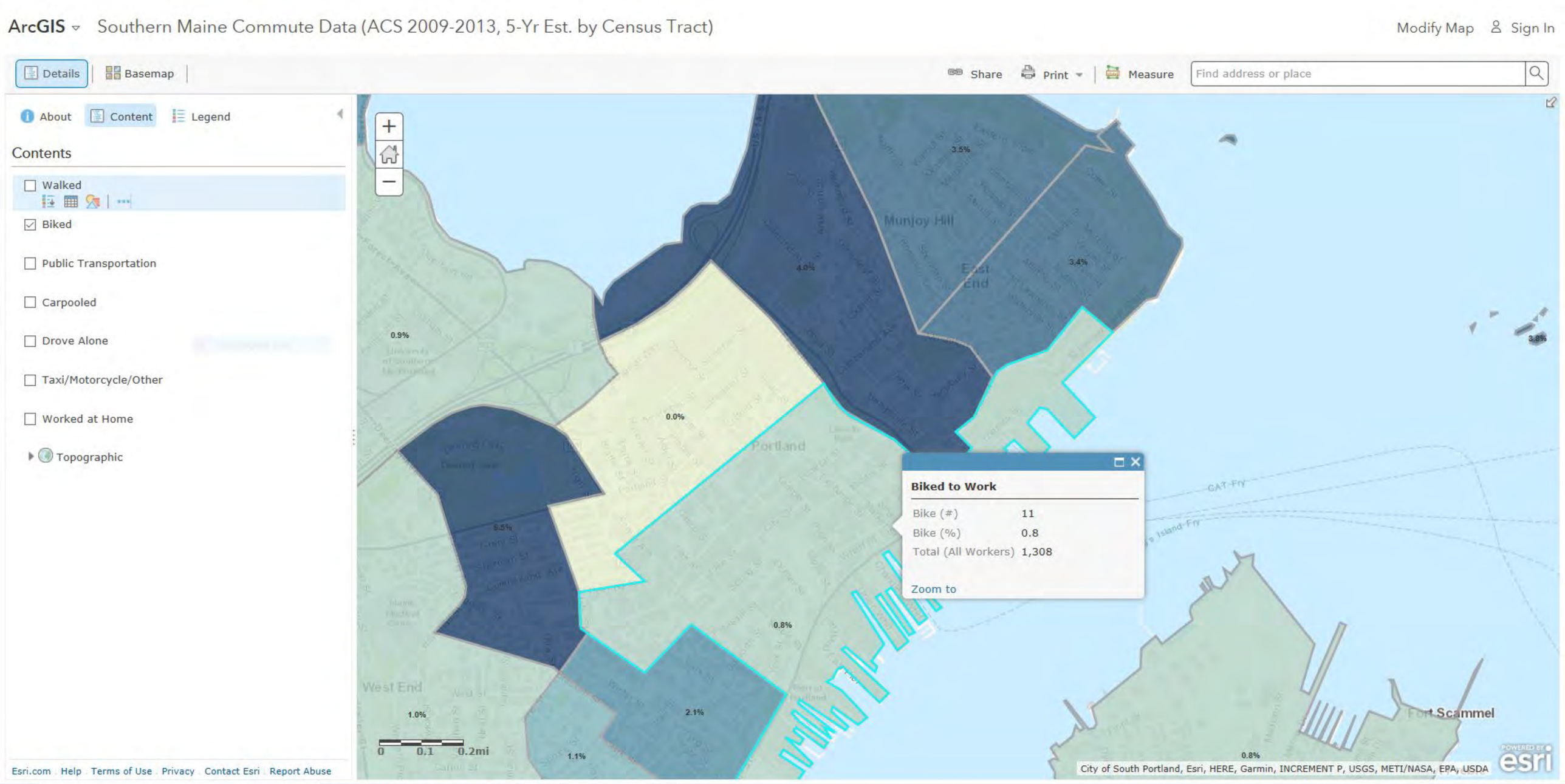
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Content
Legend
Contents
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Biked
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Worked at Home
Topographic
Munjoy Hill
East End
Portland
West End
Fort Scammel
3.5%
4.0%
3.4%
0.9%
0.0%
6.5%
0.8%
1.0%
2.1%
1.1%
3.8%
0.8%
Biked to Work
Bike (#) 11
Bike (%) 0.8
Total (All Workers) 1,308
Zoom to
0 0.1 0.2mi
City of South Portland, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA
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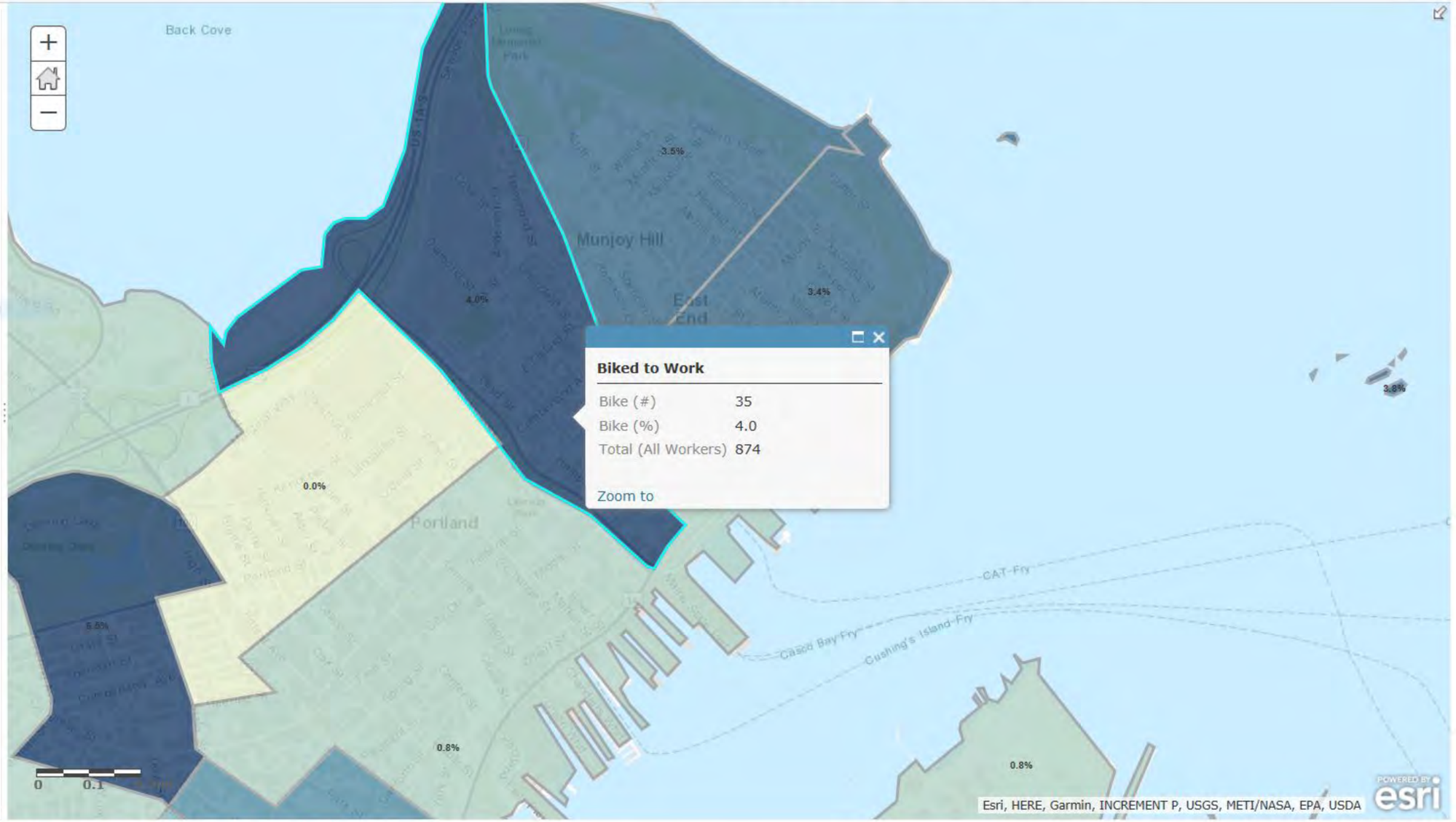
- [ ] Drove Alone
- [ ] Taxi/Motorcycle/Other
- [ ] Worked at Home
- [ ] Topographic



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- [ ] Drove Alone
- [ ] Taxi/Motorcycle/Other
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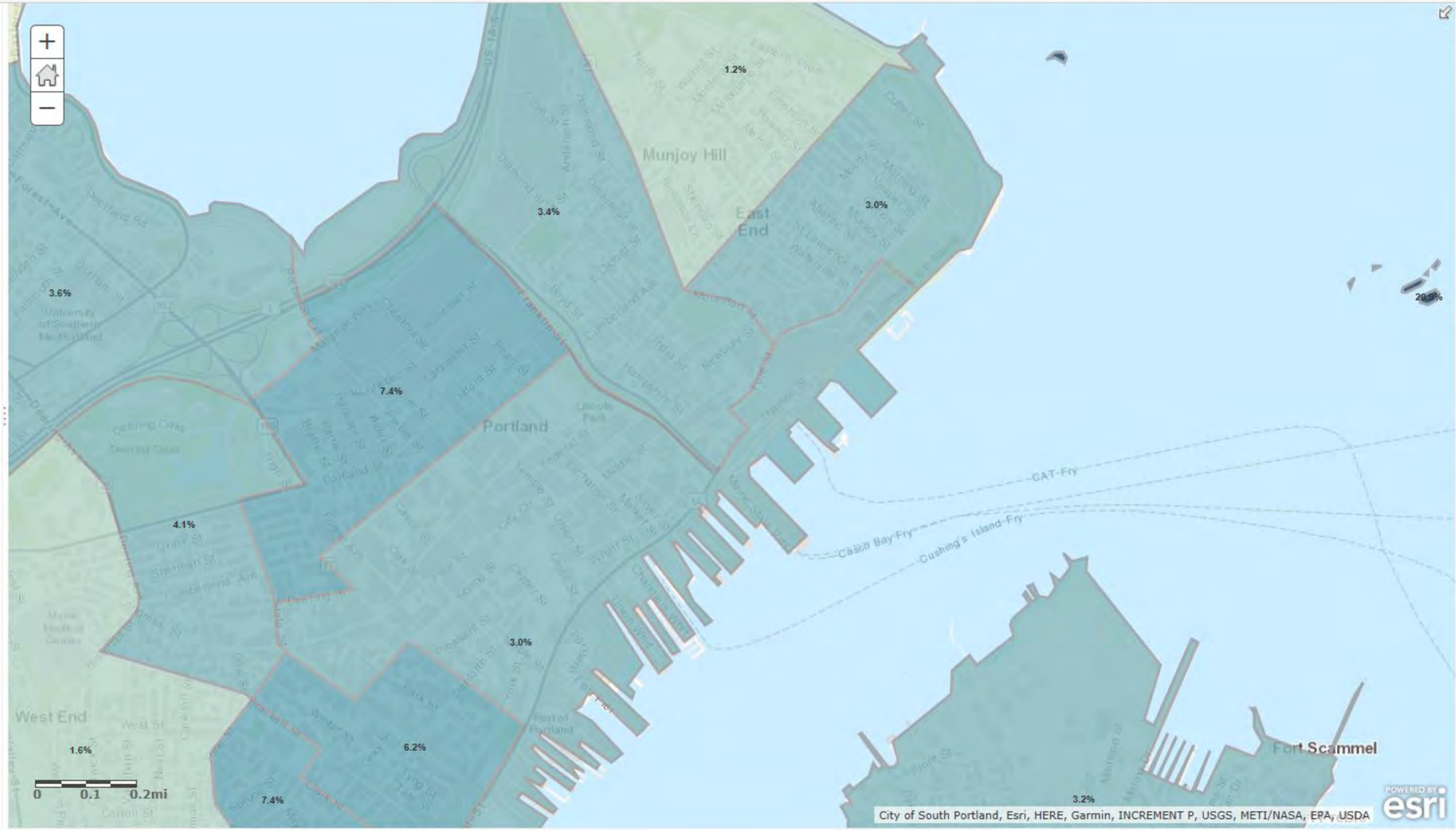

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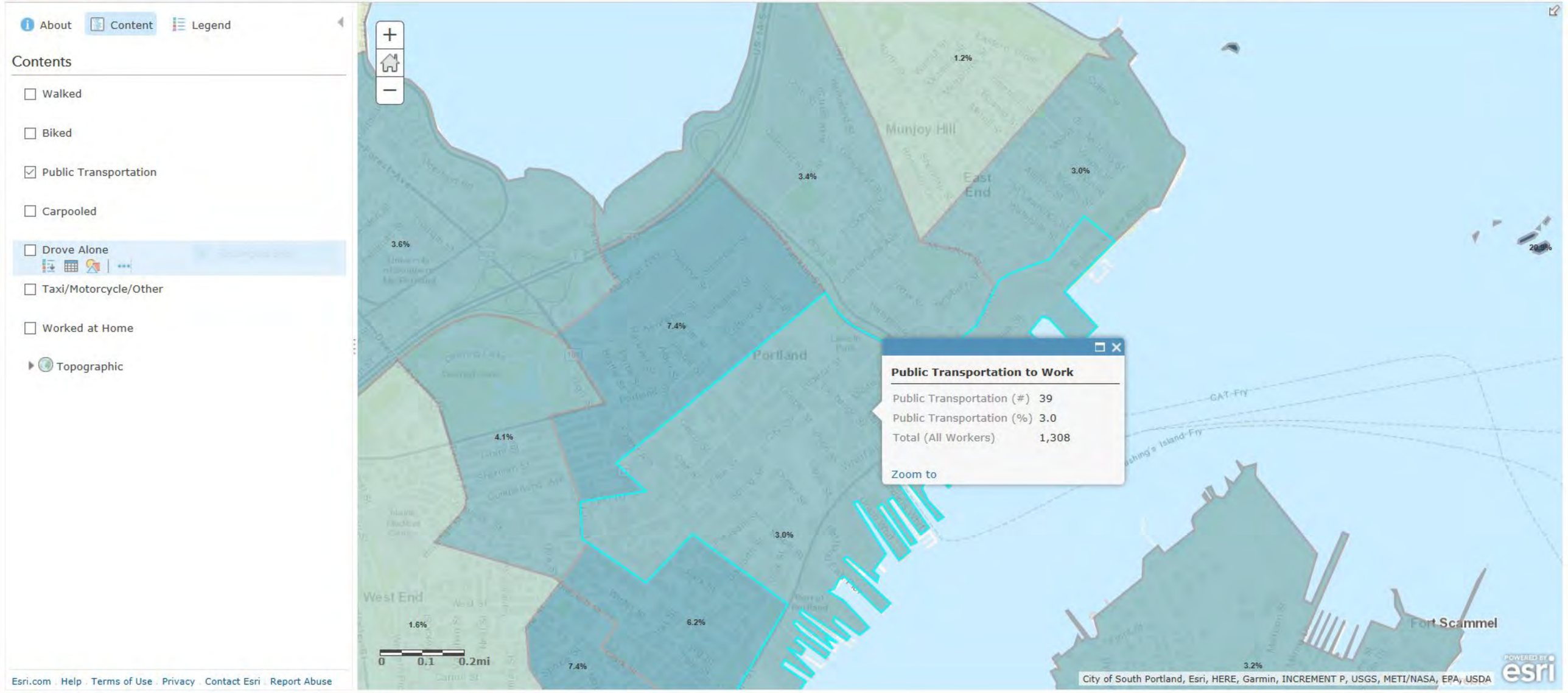

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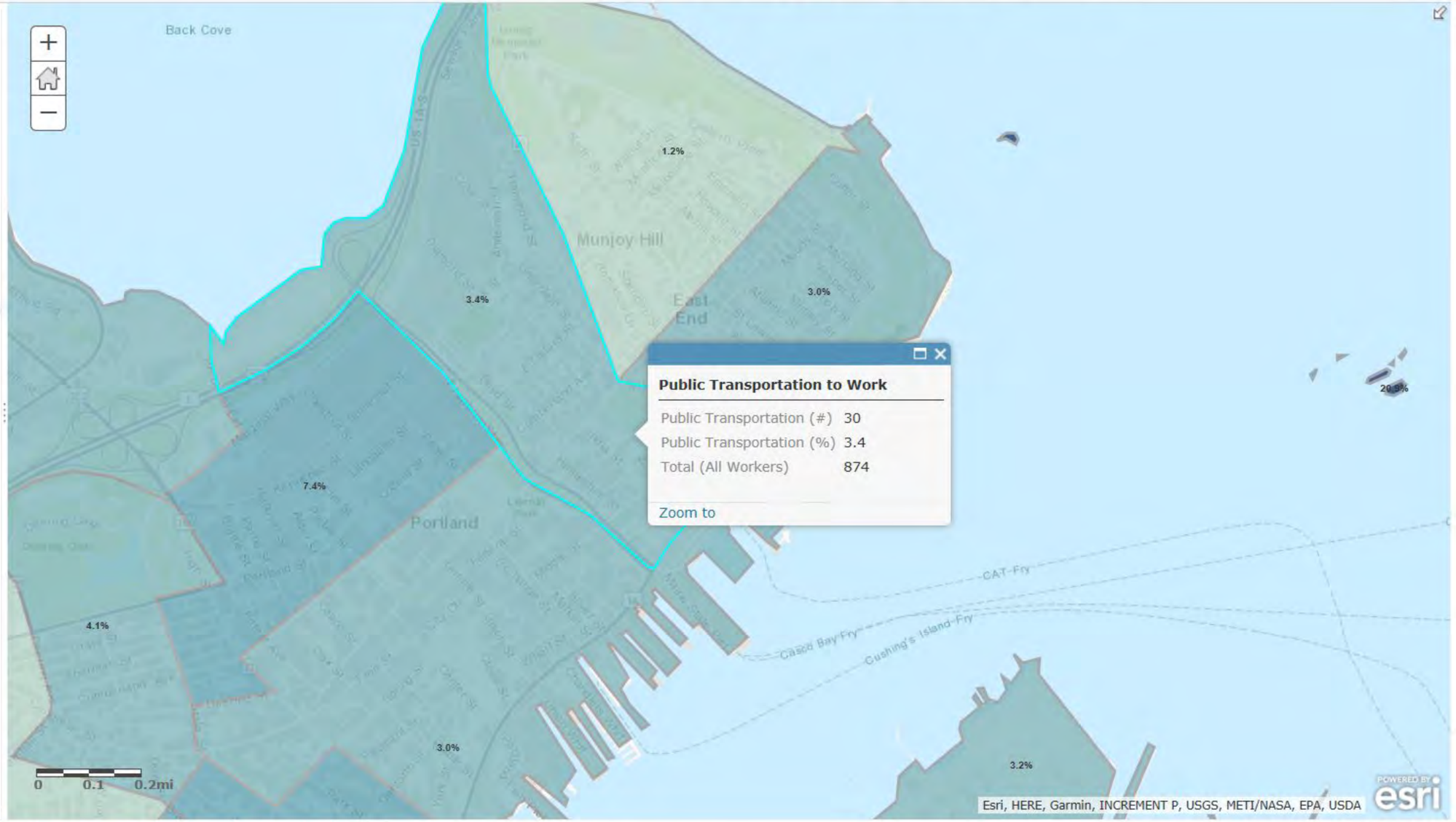

Public Transportation to Work

Public Transportation (#)	30
Public Transportation (%)	3.4
Total (All Workers)	874

Zoom to

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Emily Tynes

From: Christine Grimando <cdg@portlandmaine.gov> on behalf of Christine Grimando
Sent: Thursday, December 1, 2016 2:44 PM
To: Randy Dunton
Cc: Tom Errico; Jeremiah Bartlett; David Senus; Mary McCrann; Emily Tynes; Bruce Hyman; Kevin Costello; Jeff Levine; Stuart O'Brien
Subject: Re: Trip Distribution - 58 Fore Street Project

Randy,

In the course of reviewing the TMP application materials for the other modes reductions, we've concluded that the 35.8% reduction discussed at the scoping meetings is appropriate to account for residential uses, and 10% for hotel use, but that trips for other, non-residential uses warrant a separate approach. For those work and non-work trips to the site, we propose an assumption of an 18% reduction based on 2010 CTPP data (http://ctpp.transportation.org/Pages/5-Year-Data.aspx) for Tract 3, which includes the eastern waterfront and downtown, and shows a drive to work alone rate of 78% and a total ratio of cars to workers of 82% when carpooling is accounted for.

If you have another way to calculate these reductions, we are open to discussing alternatives, as well. However, we would like to make sure the work and non-work trips reflect the fact that those workers and other visitors will be coming from a broad commuter/market area and therefore these trips are likely to have a lower reduction than home-based trips.

As Tom Errico's prior comments reflect, we expect to see these reductions linked to and supported by the robustness of the TDM plan.

Christine

Christine Grimando, AICP
Senior Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

A202105 - Means of Transportation (18) (Workers 16 years and over)

Current date: 4/4/2018 10:13:02 AM (Eastern Daylight Time)

Measures: Workers 16 and Over

WORKPLACE		Census Tract 3, Cumberland County, Maine
Means of Transportation 18	Output	
Total, means of transportation	Estimate	17,470
	Margin of Error	783
Car, truck, or van -- Drove alone	Estimate	13,640
	Margin of Error	788
Car, truck, or van -- In a 2-person carpool	Estimate	1,245
	Margin of Error	233
Car, truck, or van -- In a 3-person carpool	Estimate	80
	Margin of Error	59
Car, truck, or van -- In a 4-person carpool	Estimate	60
	Margin of Error	51
Car, truck, or van -- In a 5-or-6-person carpool	Estimate	15
	Margin of Error	19
Car, truck, or van -- In a 7-or-more-person carpool	Estimate	30
	Margin of Error	37
Bus or trolley bus	Estimate	280
	Margin of Error	99
Streetcar or trolley car	Estimate	0
	Margin of Error	119
Subway or elevated	Estimate	0
	Margin of Error	119
Railroad	Estimate	4
	Margin of Error	2
Ferryboat	Estimate	60
	Margin of Error	36
Bicycle	Estimate	280
	Margin of Error	119
Walked	Estimate	1,570
	Margin of Error	260
Taxicab	Estimate	15
	Margin of Error	20
Motorcycle	Estimate	15
	Margin of Error	22

A202105 - Means of Transportation (18) (Workers 16 years and over)

Current date: 4/4/2018 10:13:02 AM (Eastern Daylight Time)

Measures: Workers 16 and Over

WORKPLACE		Census Tract 5, Cumberland County, Maine
Means of Transportation 18	Output	
Total, means of transportation	Estimate	2,195
	Margin of Error	331
Car, truck, or van -- Drove alone	Estimate	1,800
	Margin of Error	284
Car, truck, or van -- In a 2-person carpool	Estimate	125
	Margin of Error	55
Car, truck, or van -- In a 3-person carpool	Estimate	0
	Margin of Error	119
Car, truck, or van -- In a 4-person carpool	Estimate	10
	Margin of Error	14
Car, truck, or van -- In a 5-or-6-person carpool	Estimate	10
	Margin of Error	18
Car, truck, or van -- In a 7-or-more-person carpool	Estimate	0
	Margin of Error	119
Bus or trolley bus	Estimate	25
	Margin of Error	44
Streetcar or trolley car	Estimate	0
	Margin of Error	119
Subway or elevated	Estimate	0
	Margin of Error	119
Railroad	Estimate	0
	Margin of Error	119
Ferryboat	Estimate	15
	Margin of Error	21
Bicycle	Estimate	4
	Margin of Error	18
Walked	Estimate	135
	Margin of Error	91
Taxicab	Estimate	0
	Margin of Error	119
Motorcycle	Estimate	0
	Margin of Error	119

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Non-Residential	15.0%
Residential	35.8%

Total Existing Site Trip Generation After Shared Use Reduction and Multimodal Reductior

Time Period	Manufacturing	General Office Building	Apartment	Specialty Retail	Drinking Place	**Total Site Trip Ends**	Manufacturing IN	Manufacturing OUT	General Office Building IN	General Office Building OUT	Apartment IN	Apartment OUT	Specialty Retail IN	Specialty Retail OUT	Drinking Place IN	Drinking Place OUT	**Total Site IN**	**Total Site OUT**
AM Peak Adjacent Street	39	17	3	1	---	**60**	30	9	15	2	1	2	1	0	---	---	**47**	**13**
PM Peak Adjacent Street	40	16	3	2	10	**71**	14	26	3	13	2	1	1	1	7	3	**27**	**44**
AM Peak Hour of Generator	42	15	3	6	---	**66**	29	13	14	1	1	2	3	3	---	---	**47**	**19**
PM Peak Hour of Generator	40	16	3	3	12	**75**	20	20	3	13	1	2	1	2	10	2	**35**	**40**
Saturday Peak Hour of Gen.	15	4	3	6	17	**46**	8	7	3	1	2	1	3	3	12	5	**28**	**18**

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Proposed) Apartment
Land Use Code (LUC) 220

Dwelling Units: 10

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Sample Size		Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT
Weekday	T = 6.72 (X)	67	86		50%	50%	34	33
AM Peak Hour of Adj. Street Traffic	T = 0.51 (X)	5	78		20%	80%	1	4
PM Peak Hour of Adj. Street Traffic	T = 0.62 (X)	6	90		65%	35%	4	2
AM Peak Hour of Generator	T = 0.55 (X)	6	81		30%	70%	2	4
PM Peak Hour of Generator	T = 0.67 (X)	7	83		60%	40%	4	3
Saturday	T = 6.39 (X)	64	15		50%	50%	32	32
Saturday Peak Hour of Gen.	T = 0.52 (X)	5	14	**	50%	50%	3	2

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Proposed) Hotel
Land Use Code (LUC) 310

Rooms: 105

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution	
				IN	OUT	IN	OUT
Weekday	T = 8.17 (X)	858	10	50%	50%	429	429
AM Peak Hour of Adj. Street Traffic	T = 0.56 (X)	59	20	60%	40%	35	24
PM Peak Hour of Adj. Street Traffic	T = 0.59 (X)	62	25	55%	45%	34	28
AM Peak Hour of Generator	T = 0.52 (X)	55	32	55%	45%	30	25
PM Peak Hour of Generator	T = 0.61 (X)	64	35	60%	40%	38	26
Saturday	T = 8.19 (X)	860	8	50%	50%	430	430
Saturday Peak Hour of Gen.	T = 0.72 (X)	76	9	55%	45%	42	34

* Percentages rounded to nearest 5%

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Proposed) General Office Building
Land Use Code (LUC) 710

Square Feet 107,171

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	1407	78	50%	50%	704	703	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**198**	**217**	**90%**	**10%**	**178**	**20**	**0.83**
PM Peak Hour	T = 1.12 (X) + 78.81	199	235	15%	85%	30	169	0.82
Saturday	T = 2.14 (X) + 18.47	248	17	50%	50%	124	124	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	39	10	55%	45%	21	18	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 11.01 (X)	1180	78	50%	50%	590	590	---
AM Peak Hour	T = 1.55 (X)	166	217	90%	10%	149	17	---
PM Peak Hour	T = 1.49 (X)	160	235	15%	85%	24	136	---
Saturday	T = 2.37 (X)	254	17	50%	50%	127	127	---
Saturday Peak Hour of Gen.	T = 0.41 (X)	44	10	50%	50%	22	22	---

* Percentages rounded to nearest 5%

PM Peak Hour:	**T = 1.49/1.55 (AM Peak)**	**190**	**15%**	**85%**	**29**	**161**	**---**
SAT Peak Hour:	**T = 0.41/1.55 (AM Peak)**	**52**	**50%**	**50%**	**26**	**26**	**---**

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Proposed) Manufacturing
Land Use Code (LUC) 140

Gross Floor Area 68,588

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split *		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	T = 3.82 (X)	262	62		50%	50%	131	131
AM Peak Adjacent Street	T = 0.73 (X)	50	50		75%	25%	38	12
PM Peak Adjacent Street	T = 0.74 (X)	51	54		35%	65%	18	33
AM Peak Hour of Generator	T = 0.78 (X)	53	50		70%	30%	37	16
PM Peak Hour of Generator	T = 0.75 (X)	51	50		50%	50%	26	25
Saturday	T = 1.49 (X)	102	2		50%	50%	51	51
Saturday Peak Hour of Gen.	T = 0.28 (X)	19	2	**	50%	50%	10	9

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

(Proposed) Specialty Retail Center
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 3,798

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distributio	
				IN	OUT	IN	OUT
Weekday	T = 44.32 (X)	168	4	50%	50%	84	84
Peak Hour of Adjacent Street Traffic 7-9 AM**	T = 0.74 (X)	3	N/A	60%	40%	2	1
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.71 (X)	10	5	45%	55%	5	5
AM Peak Hour of Generator	T = 6.84 (X)	26	4	50%	50%	13	13
PM Peak Hour of Generator	T = 5.02 (X)	19	3	55%	45%	10	9
Saturday	T = 42.04 (X)	160	3	50%	50%	80	80
Saturday Peak Hour of Gen.***	T = 6.63 (X)	25	3	50%	50%	13	12

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center and applied to 814 PM rate.

* Percentages rounded to nearest 5%

***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

(Proposed) Drinking Place
Land Use Code (LUC) 936

Square Feet 2,500

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies		Directional Split *		Directional Distribution	
					IN	OUT	IN	OUT
Weekday	---	---	---		---	---	---	---
PM Peak Hour of Adj. St.	T = 11.34 (X)	28	12		65%	35%	18	10
PM Peak Hour of Gen.	T = 15.49 (X)	39	8		70%	30%	27	12
Saturday	---	---	---		---	---	---	---
Sat. Peak Hour of Generator	T = 16.48 (X)*	41	---	***	65%	35%	27	14

*Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 932 - High-Turnover (Sit-Down) Restaurant

** Percentages rounded to nearest 5%

***Directional split for this peak hour assumed based on other peak hours for this land use and the directional split for LUC

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Proposed Site Trip Generation

Time Period	Apartment	Hotel	General Office Building	Manufacturing	Specialty Retail	Drinking Place	Total Site	Apartment		Hotel		General Office Building		Manufacturing		Specialty Retail		Drinking Place		Total Site	
								IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
AM Peak Adjacent Street	5	59	198	50	3	---	**315**	1	4	35	24	178	20	38	12	2	1	---	---	254	61
PM Peak Adjacent Street	6	62	190	51	10	28	**347**	4	2	34	28	29	161	18	33	5	5	18	10	108	239
AM Peak Hour of Generator	6	55	198	53	26	---	**338**	2	4	30	25	178	20	37	16	13	13	---	---	260	78
PM Peak Hour of Generator	7	64	190	51	19	39	**370**	4	3	38	26	29	161	26	25	10	9	27	12	134	236
Saturday Peak Hour of Gen.	5	76	52	19	25	41	**218**	3	2	42	34	26	26	10	9	13	12	27	14	121	97

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	20	18	2
Retail	814	1,250	sf	1	1	0
Restaurant	936	1,250	sf	0	0	0
Cinema/Entertainment						
Residential	220	9	dwelling units	5	1	4
Hotel						
All Other Land Uses[2]	140	63,045	sf	46	35	11
Total				72	55	17

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	72	55	17
Internal Capture Percentage	0%	0%	0%
External Vehicle-Trips[3]	72	55	17
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	0%	N/A
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	18	18	1.00	2	2
Retail	1.00	1	1	1.00	0	0
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	1	1	1.00	4	4
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		0	0	0	0
Restaurant	3	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	0	0		0
Hotel	1	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	18	18	18	0	0
Retail	0	1	1	1	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	1	1	1	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	35	35	35	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	2	2	2	0	0
Retail	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	4	4	4	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	11	11	11	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	19	3	16
Retail	814	1,250	sf	3	1	2
Restaurant	936	1,250	sf	14	9	5
Cinema/Entertainment						
Residential	220	9	dwelling units	6	4	2
Hotel						
All Other Land Uses[2]	140	63,045	sf	47	16	31
Total				89	33	56

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	0	0
Restaurant	0	0		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	89	33	56
Internal Capture Percentage	4%	6%	4%
External Vehicle-Trips[3]	85	31	54
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	0%	50%
Restaurant	11%	20%
Cinema/Entertainment	N/A	N/A
Residential	25%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	3	3	1.00	16	16
Retail	1.00	1	1	1.00	2	2
Restaurant	1.00	9	9	1.00	5	5
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	4	4	1.00	2	2
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	0		1	0	1	0
Restaurant	0	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		3	0	2	0
Restaurant	1	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	0	1	0		0
Hotel	0	0	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	3	3	3	0	0
Retail	0	1	1	1	0	0
Restaurant	1	8	9	8	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	3	4	3	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	16	16	16	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	16	16	16	0	0
Retail	1	1	2	1	0	0
Restaurant	1	4	5	4	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	31	31	31	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing AM Generator Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	20	18	2
Retail	814	1,250	sf	9	5	4
Restaurant	936	1,250	sf			
Cinema/Entertainment						
Residential	220	9	dwelling units	5	2	3
Hotel						
All Other Land Uses[2]	140	63,045	sf	49	34	15
Total				83	59	24

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	1		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	83	59	24
Internal Capture Percentage	5%	3%	8%
External Vehicle-Trips[3]	79	57	22
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	6%	50%
Retail	20%	25%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	18	18	1.00	2	2
Retail	1.00	5	5	1.00	4	4
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	2	2	1.00	3	3
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	0	0
Retail	1		1	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	1	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	0	0	0	0
Retail	1		0	0	0	0
Restaurant	3	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	0	0		0
Hotel	1	0	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	1	17	18	17	0	0
Retail	1	4	5	4	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	34	34	34	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	1	1	2	1	0	0
Retail	1	3	4	3	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	3	3	3	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	15	15	15	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Shipyard	**Organization:**	
Project Location:	Protland	**Performed By:**	JAP
Scenario Description:	Shipyard Redevelopment and Expansion	**Date:**	3/6/2018
Analysis Year:	2018	**Checked By:**	
Analysis Period:	**Existing PM Generator Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	6,082	sf	19	3	16
Retail	814	1,250	sf	6	3	3
Restaurant	936	1,250	sf	19	13	6
Cinema/Entertainment						
Residential	220	9	dwelling units	6	4	2
Hotel						
All Other Land Uses[2]	140	63,045	sf	47	24	23
Total				97	47	50

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	97	47	50
Internal Capture Percentage	8%	9%	8%
External Vehicle-Trips[3]	89	43	46
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	0%
Retail	33%	67%
Restaurant	8%	33%
Cinema/Entertainment	N/A	N/A
Residential	50%	0%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute

Project Name:	Shipyard
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	3	3	1.00	16	16
Retail	1.00	3	3	1.00	3	3
Restaurant	1.00	13	13	1.00	6	6
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	4	4	1.00	2	2
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	0	0
Retail	0		1	0	1	0
Restaurant	0	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		4	0	2	0
Restaurant	1	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	0	2	0		0
Hotel	0	0	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	3	3	3	0	0
Retail	1	2	3	2	0	0
Restaurant	1	12	13	12	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	2	4	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	24	24	24	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	16	16	16	0	0
Retail	2	1	3	1	0	0
Restaurant	2	4	6	4	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	2	2	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	23	23	23	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

JN: 3184
Project Description: Shipyard Redevelopment
Project Location: Portland, ME
Date: 3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Total Proposed Site Trip Generation After Shared Use Reduction

Time Period	Apartment	Hotel	General Office Building	Manufacturing	Specialty Retail	Drinking Place	Total Site	Apartment		Hotel		General Office Building		Manufacturing		Specialty Retail		Drinking Place		Total Site	
								IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**
AM Peak Adjacent Street	5	54	192	50	2	---	**303**	1	4	35	19	173	19	38	12	1	1	---	---	**248**	**55**
PM Peak Adjacent Street	4	60	190	51	5	21	**331**	2	2	33	27	29	161	18	33	2	3	16	5	**100**	**231**
AM Peak Hour of Generator	6	49	185	53	17	---	**310**	2	4	30	19	169	16	37	16	8	9	---	---	**246**	**64**
PM Peak Hour of Generator	2	62	188	51	7	26	**336**	1	1	37	25	29	159	26	25	3	4	21	5	**117**	**219**
*Saturday Peak Hour of Gen.	4	71	49	19	23	38	**204**	2	2	40	31	25	24	10	9	12	11	25	13	**114**	**90**

* - NCHRP does not provide shared use reduction information for the Saturday Peak Hour of the Gen. so the average reduction of the other peak hours (6%) was used.

JN:	3184
Project Description:	Shipyard Redevelopment
Project Location:	Portland, ME
Date:	3/6/2018

Gorrill Palmer
707 Sable Oaks Drive
Suite 30
South Portland, Maine 04106

Residential	35.8%
Non-Residential	15.0%
Hotel Reduction	10.0%

Total Proposed Site Trip Generation After Shared Use Reduction and Multimodal Reduction

Time Period	Apartment	Hotel	General Office Building	Manufacturing	Specialty Retail	Drinking Place	**Total Site**	Apartment		Hotel		General Office Building		Manufacturing		Specialty Retail		Drinking Place		**Total Site**	
								IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	**IN**	**OUT**
AM Peak Adjacent Street	3	49	163	42	2	---	**259**	3	0	32	17	147	16	32	10	1	1	---	---	**212**	**47**
PM Peak Adjacent Street	3	54	162	43	4	18	**284**	1	2	30	24	25	137	15	28	2	2	14	4	**86**	**198**
AM Peak Hour of Generator	4	44	157	45	15	---	**265**	3	1	27	17	144	13	31	14	7	8	---	---	**209**	**56**
PM Peak Hour of Generator	1	56	160	43	6	22	**288**	1	0	33	23	25	135	22	21	3	3	18	4	**101**	**187**
Saturday Peak Hour of Gen.	3	64	42	16	20	32	**177**	1	2	36	28	21	21	9	7	10	10	21	11	**97**	**80**

JN:	3184	Gorrill Palmer
Project Description:	Shipyard Redevelopment	707 Sable Oaks Drive
Project Location:	Portland, ME	Suite 30
Date:	3/6/2018	South Portland, Maine 04106

Net Site Trip Generation After Shared Use Reduction and Other Modes Reduction

Time Period	Total Site Trip Ends	Total Site IN	OUT
AM Peak Adjacent Street	**199**	165	34
PM Peak Adjacent Street	**213**	59	154
AM Peak Hour of Generator	**199**	162	37
PM Peak Hour of Generator	**213**	66	147
Saturday Peak Hour of Gen.	**131**	69	62

Section 2
Traffic Crashes

2.A. Crash Summary Data

Gorrill Palmer obtained the crash data from MaineDOT for the period of 2015-2017, the most recent period available (Attachment 2A).

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:

2. A minimum of eight crashes over the same three year period.

Based on the crash data provided by MaineDOT, there are no HCLs in the immediate vicinity of the site. Additionally, there have been no crashes involving pedestrians during the most recent three year period. However, there have been two crashes involving bicycles during the most recent three year period. One crash occurred at the intersection of Middle Street and India Street and involved a driver traveling northeast on Middle Street failing to yield to a cyclist traveling northwest on India Street. The other bicycle crash occurred at the intersection of Fore Street and Mountfort Street and involved a bicyclist on Mountfort Street southbound failing to stop at a stop sign and colliding with a vehicle traveling east on Fore Street. This project is not anticipated to exacerbate the conditions at either of these locations.

2.B. Attachments

Attachment 2A – Node Map, Crash Report

Attachment 2A

Node Map
Crash Report

PORTLAND NODE MAP

The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.095 Miles

1 inch = 0.07 miles

Date: 3/8/2018
Time: 10:04:34 PM

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☑ 1320 Summary

REPORT DESCRIPTION

Portland - Fore St., Middle St., Newbury St., Federal St. E., India St., Hancock St., Mountfort St.

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

Route: 0560286	Start Node: 18836	Start Offset: 0	☐ Exclude First Node
	End Node: 18822	End Offset: 0	☐ Exclude Last Node
Route: 0560524	Start Node: 18798	Start Offset: 0	☐ Exclude First Node
	End Node: 18820	End Offset: 0	☑ Exclude Last Node
Route: 0560344	Start Node: 18797	Start Offset: 0	☐ Exclude First Node
	End Node: 71558	End Offset: 0	☑ Exclude Last Node
Route: 0561000	Start Node: 18804	Start Offset: 0	☐ Exclude First Node
	End Node: 18822	End Offset: 0	☑ Exclude Last Node
Route: 0561110	Start Node: 18797	Start Offset: 0	☑ Exclude First Node
	End Node: 18798	End Offset: 0	☑ Exclude Last Node
Route: 0560531	Start Node: 18803	Start Offset: 0	☑ Exclude First Node
	End Node: 18802	End Offset: 0	☑ Exclude Last Node
Route: 0560531	Start Node: 18804	Start Offset: 0	☑ Exclude First Node
	End Node: 18803	End Offset: 0	☑ Exclude Last Node
Route: 0560505	Start Node: 18817	Start Offset: 0	☑ Exclude First Node
	End Node: 18818	End Offset: 0	☑ Exclude Last Node
Route: 0560344	Start Node: 71558	Start Offset: 0	☑ Exclude First Node
	End Node: 71560	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
18820	0560286 - 0.28	Int of FORE ST MOUNTFORT ST	2	1	0	0	1	0	0	100.0	2.189	0.15	0.46	0.00
												Statewide Crash Rate:	0.15	
18822	0560286 - 0.45	Int of FORE ST INDIA ST	2	1	0	0	0	1	0	100.0	4.377	0.08	0.41	0.00
												Statewide Crash Rate:	0.16	
18836	0560286 - 0.08	Int of FORE ST WATERVILLE ST	2	1	0	0	0	0	1	0.0	1.937	0.17	0.48	0.00
												Statewide Crash Rate:	0.15	
71558	0560286 - 0.37	Int of FORE ST HANCOCK ST	2	3	0	0	0	1	2	33.3	1.664	0.60	0.50	1.21
												Statewide Crash Rate:	0.15	
18798	0560524 - 0.14	Int of FEDERAL ST E MOUNTFORT ST	2	1	0	0	0	0	1	0.0	0.524	0.64	0.59	1.08
												Statewide Crash Rate:	0.14	
18802	0560524 - 0.17	Int of MOUNTFORT ST NEWBURY ST	2	1	0	0	0	0	1	0.0	0.495	0.67	0.59	1.13
												Statewide Crash Rate:	0.14	
18797	0560344 - 0	Int of FEDERAL ST E HANCOCK ST	2	1	0	0	0	0	1	0.0	0.130	2.56	0.40	6.38
												Statewide Crash Rate:	0.14	
18803	0560344 - 0.04	Int of HANCOCK ST NEWBURY ST	2	2	0	0	0	0	2	0.0	0.238	2.81	0.58	4.84
												Statewide Crash Rate:	0.14	
18818	0560344 - 0.09	Int of HANCOCK ST MIDDLE ST	2	0	0	0	0	0	0	0.0	0.542	0.00	0.59	0.00
												Statewide Crash Rate:	0.14	
18804	0561000 - 0.13	Int of INDIA ST NEWBURY ST	2	2	0	0	0	0	2	0.0	2.096	0.32	0.49	0.00
												Statewide Crash Rate:	0.16	
18817	0561000 - 0.18	Int of INDIA ST MIDDLE ST	2	5	0	0	1	1	3	40.0	2.569	0.65	0.47	1.39
												Statewide Crash Rate:	0.16	
71560	0560344 - 0.19	Int of HANCOCK ST THAMES ST	2	1	0	0	0	1	0	100.0	1.236	0.27	0.51	0.00
												Statewide Crash Rate:	0.14	
Study Years: 3.00		NODE TOTALS:		19	0	0	2	4	13	31.6	17.997	0.35	0.28	1.25

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
18820	18836	3131698	0 - 0.20	0560286 - 0.08	0.20	2	2	0	0	1	0	1	50.0	0.00373	178.82	452.35	0.00
Int of FORE ST	MOUNTFORT ST			RD INV 05 60286											Statewide Crash Rate: 174.91		
18820	71558	4047688	0 - 0.09	0560286 - 0.28	0.09	2	4	0	0	0	0	4	0.0	0.00189	703.93	538.87	1.31
Int of FORE ST	MOUNTFORT ST			RD INV 05 60286											Statewide Crash Rate: 174.91		
71558	18822	4047689	0 - 0.08	0560286 - 0.37	0.08	2	1	0	0	0	0	1	0.0	0.00168	197.98	555.28	0.00
Int of FORE ST	HANCOCK ST			RD INV 05 60286											Statewide Crash Rate: 174.91		
18798	18802	194393	0 - 0.03	0560524 - 0.14	0.03	2	0	0	0	0	0	0	0.0	0.00015	0.00	1749.34	0.00
Int of FEDERAL ST E	MOUNTFORT ST			RD INV 05 60524											Statewide Crash Rate: 407.74		
18802	18820	194401	0 - 0.05	0560524 - 0.17	0.05	2	5	0	0	0	0	3	0.0	0.00021	8124.93	1692.07	4.80
Int of MOUNTFORT ST	NEWBURY ST			RD INV 05 60524											Statewide Crash Rate: 407.74		
18797	18803	194392	0 - 0.04	0560344 - 0	0.04	2	1	0	0	0	0	1	0.0	0.00005	7134.70	1234.04	5.78
Int of FEDERAL ST E	HANCOCK ST			RD INV 05 60344											Statewide Crash Rate: 407.74		
18803	18818	194403	0 - 0.05	0560344 - 0.04	0.05	2	1	0	0	0	0	1	0.0	0.00008	4086.09	1689.69	2.42
Int of HANCOCK ST	NEWBURY ST			RD INV 05 60344											Statewide Crash Rate: 407.74		
71558	18818	4047715	0 - 0.04	0560344 - 0.09	0.04	2	1	0	0	0	0	1	0.0	0.00018	1847.17	1719.74	1.07
Int of FORE ST	HANCOCK ST			RD INV 05 60344											Statewide Crash Rate: 407.74		
18804	18817	3122291	0 - 0.05	0561000 - 0.13	0.05	2	1	0	0	0	0	1	0.0	0.00104	319.15	739.79	0.00
Int of INDIA ST	NEWBURY ST			RD INV 05 61000											Statewide Crash Rate: 218.74		
18817	18822	3106813	0 - 0.05	0561000 - 0.18	0.05	2	0	0	0	0	0	0	0.0	0.00111	0.00	728.90	0.00
Int of INDIA ST	MIDDLE ST			RD INV 05 61000											Statewide Crash Rate: 218.74		
18797	18798	194391	0 - 0.10	0561110 - 0.20	0.10	2	3	0	0	0	0	0	0.0	0.00005	21074.82	1254.99	16.79
Int of FEDERAL ST E	HANCOCK ST			RD INV 05 61110											Statewide Crash Rate: 407.74		
18802	18803	194400	0 - 0.08	0560531 - 0.19	0.08	2	3	0	0	0	0	2	0.0	0.00007	15220.70	1576.01	9.66
Int of MOUNTFORT ST	NEWBURY ST			RD INV 05 60531											Statewide Crash Rate: 407.74		
18803	18804	194402	0 - 0.08	0560531 - 0.11	0.08	2	3	0	0	0	0	3	0.0	0.00009	11047.28	1723.02	6.41
Int of HANCOCK ST	NEWBURY ST			RD INV 05 60531											Statewide Crash Rate: 407.74		
18817	18818	194423	0 - 0.08	0560505 - 0.39	0.08	2	0	0	0	0	0	0	0.0	0.00038	0.00	1512.89	0.00
Int of INDIA ST	MIDDLE ST			RD INV 05 60505											Statewide Crash Rate: 407.74		
71560	71558	4047714	0 - 0.06	0560344 - 0.13	0.06	2	0	0	0	0	0	0	0.0	0.00046	0.00	1442.84	0.00
Int of HANCOCK ST	THAMES ST			RD INV 05 60344											Statewide Crash Rate: 407.74		
Study Years: 3.00				Section Totals:	1.08		25	0	0	1	0	18	4.0	0.01117	746.27	412.29	1.81
				Grand Totals:	1.08		44	0	0	3	4	31	15.9	0.01117	1313.43	571.26	2.30

Crash Date: 9/11/2015 Time: 16:37 City: Portland Street/Highway: FORE ST

Start Node: 18820 Int of FORE ST MOUNTFORT ST End Node: 0 Offset: 0

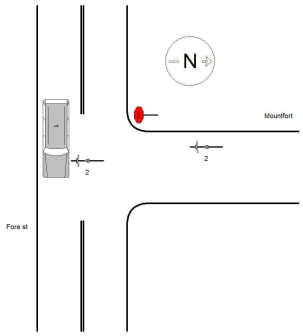
OE Start Node: 18820 Int of FORE ST MOUNTFORT ST OE End Node:

Type of Crash: 9 - Bicycle
Type of Location: 3 - Three Leg Intersection
Weather: 1 - Clear
Light: 1 - Daylight
Road Grade: 4 - Bottom of Hill
Surface Condition: 1 - Dry
Traffic Control: 5 - Stop Signs - Other
Cont. Circ. Env 1 1 - None
Cont. Circ. Env 2
Cont. Circ. Road 1 1 - None
Cont. Circ. Road 2

Narrative

Vehicle 1 was traveling Eastbound on the through way slowly in traffic. Unit 2 (bicycle) was coming down a hill from MountFort St. and failed to stop at the stop sign and struck vehicle 1 causing damage.

Diagram



Unit: 1

Type: 2 - (Sport) Utility Vehicle
Veh. Travel Dir.: 3 - Eastbound
Most Damaged Area: 10 - Front Driver Quarter Panel
Most Harmful Event: 13 - Motor Vehicle in Transport
Pre-Crash Actions: 1 - Following roadway
Contrib Circ. - Vehicle: 1 - None
Seq. Events 1: 21 - Motor Vehicle In Transport
Seq. Events 2:
Seq. Events 3:
Seq. Events 4:
Driver Distracted By: 1 - Not Distracted
Cond. at Time Crash: 1 - Apparently Normal
Driver Action 1: 1 - No Contributing Action
Driver Action 2:

Person Type	Age	Sex	Injury Degree
6 - Driver/Owner	30	1 - Male	5 - No Injury

Unit: 50

Type: 23 - Bicyclist
Veh. Travel Dir.:
Most Damaged Area: 0
Most Harmful Event:
Pre-Crash Actions:
Contrib Circ. - Vehicle:
Seq. Events 1:
Seq. Events 2:
Seq. Events 3:
Seq. Events 4:
Driver Distracted By:
Cond. at Time Crash:
Driver Action 1:
Driver Action 2:

Person Type	Age	Sex	Injury Degree
7 - Bicycle	19	1 - Male	3 - Non-Incapacitating

Maine Crash Report Summary

Crash Date: 4/28/2015 Time: 17:17 City: Portland Street/Highway: MIDDLE ST

Start Node: 18817 Int of INDIA ST MIDDLE ST End Node: 0 Offset: 0

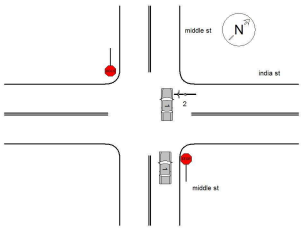
OE Start Node: ***18817*** ***Int of INDIA ST MIDDLE ST*** OE End Node:

Type of Crash: 9 - Bicycle
Type of Location: 4 - Four Leg Intersection
Weather: 2 - Cloudy
Light: 1 - Daylight
Road Grade: 1 - Level
Surface Condition: 1 - Dry
Traffic Control: 5 - Stop Signs - Other
Cont. Circ. Env 1 1 - None
Cont. Circ. Env 2
Cont. Circ. Road 1 1 - None
Cont. Circ. Road 2

Narrative

Vehicle 1 came to a complete stop and then proceeded through the intersection. Vehicle 2(cyclist) did not have a stop sign and was traveling on the through way. As a result vehicle 1 and the cyclist collided.

Diagram



Unit: 1

Type: 1 - Passenger Car
Veh. Travel Dir.: 4 - Westbound
Most Damaged Area: 3 - Center Passenger Side
Most Harmful Event: 13 - Motor Vehicle in Transport
Pre-Crash Actions: 1 - Following roadway
Contrib Circ. - Vehicle: 1 - None
Seq. Events 1: 21 - Motor Vehicle In Transport
Seq. Events 2: 18 - Pedalcycle
Seq. Events 3: 50 - No Other Events
Seq. Events 4:
Driver Distracted By: 1 - Not Distracted
Cond. at Time Crash: 1 - Apparently Normal
Driver Action 1: 3 - Failed to Yield Right-of-Way
Driver Action 2:

Person Type	Age	Sex	Injury Degree
6 - Driver/Owner	31	1 - Male	5 - No Injury
2 - Passenger	30	2 - Female	5 - No Injury
2 - Passenger	0	1 - Male	5 - No Injury

Unit: 50

Type: 23 - Bicyclist
Veh. Travel Dir.:
Most Damaged Area: 0
Most Harmful Event:
Pre-Crash Actions:
Contrib Circ. - Vehicle:
Seq. Events 1:
Seq. Events 2:
Seq. Events 3:
Seq. Events 4:
Driver Distracted By:
Cond. at Time Crash:
Driver Action 1:
Driver Action 2:

Person Type	Age	Sex	Injury Degree
7 - Bicycle	25	1 - Male	3 - Non-Incapacitating

Section 3
Development Entrances and Exits

3.A. Entrance and Exit Locations

The existing site has one full movement access on Hancock Street, one full movement access on Fore Street, one full movement access on Mountfort Street, and three full movement accesses on Newbury Street. The site is proposed to be accessed via four site accesses, two less than the current site. The first floor of the proposed parking garage will be accessed through an existing access on Fore Street, and the upper levels of the garage are proposed to be accessed via one new full movement entrance on Hancock Street. The parking for the proposed residential units will be accessed using a new entrance-only access on Hancock Street to the north of the proposed Hancock Street garage access, and a new exit-only access on Newbury Street.

3.B. Plan View

Attachment 1A of Section 1 shows the proposed site plan.

- Frontage Roads – Fore Street, Hancock Street, and Newbury Street
- Posted Speed Limit – 25 mph on all frontage roads
- Sight Lines – The posted speed limits on the frontage roads require a MaineDOT and City of Portland sight distance of 200 feet. Based on a field review of the site accesses, the sight distances at all accesses can be met if on-street parking is removed or relocated on either side of the site access. It should be noted that the sight distance at the proposed entrance to the residential units on Hancock Street was not evaluated because vehicles are not anticipated to be exiting from that access. Based on the sight distance review, a total of approximately 21 on-street spaces would need to be removed or relocated for all accesses to meet the requirements. It should be noted that limited available sight distance due to on-street parking spaces is extremely common throughout the City. The following describes each access in more detail:

  Proposed Hancock Street garage entrance: to meet the sight distance requirements, looking left approximately eight spaces on the east side of Hancock Street to the south of the proposed access would need to be removed or relocated. Looking right, approximately three parking spaces on the east side of Hancock Street north of the proposed access would need to be removed to meet the requirements.

Proposed Newbury Street residential parking exit: to meet the sight distance requirements, parking would need to be prohibited on the South side of Newbury Street for approximately 150 feet to the left of the exit and 50 feet to the right of the exit. This requires removal or relocation of approximately two existing spaces looking left and three existing parking spaces looking right. It should be noted that one of these existing spaces to be removed or relocated is a handicap space.

Existing Fore Street surface lot entrance proposed to be a garage entrance: to meet the sight distance looking left approximately three spaces on the north side of Fore Street to the east of the site access would need to be removed or relocated. Looking right, the hotel loading zone would need be relocated approximately 40 feet to the west, which would displace approximately two parking spaces.

Section 4
Title, Right, or Interest

4.A. Evidence of Title, Right, or Interest

A copy of the Deeds and Signature Authority are included in Attachment 4A.

4.B. Attachments

Attachment 4A – Deeds, Signature Authority

Attachment 4A

Deeds

Signature Authority

WARRANTY DEED
(Maine Statutory Short Form)

KNOW ALL PERSONS BY THESE PRESENTS, that **Ashleigh, Inc.**, a Maine corporation with its principal place of business in Portland, Maine, for consideration paid, **grants** to **Fred Forsley** of Cape Elizabeth, County of Cumberland and State of Maine, whose mailing address is 18 Cottage Lane, Cape Elizabeth, Maine 04107 with **Warranty Covenants**, the land with buildings thereon, in Portland, County of Cumberland and State of Maine, described as follows:

A certain lot or parcel of land, with the buildings thereon, situated on the westerly side of Mountfort Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a stake on said westerly side of Mountfort Street at the southeasterly corner of the lot of land conveyed by The Thomas Laughlin Company to Carmina Spizuocco by deed dated August 11, 1927 and recorded in the Cumberland County Registry of Deeds in Book 1273, Page 269; thence southerly by said westerly side of Mountfort Street forty-nine and fifteen hundredths (49.15) feet to a spike in a fence; thence westerly at right angles to said Mountfort Street seventy-two (72) feet to other land now or formerly of said The Thomas Laughlin Company; thence northerly by land now or formerly of said Company forty-nine and fifteen hundredths (49.15) feet to land conveyed by said Company to Gaetana Bruni by deed dated August 11, 1927; thence easterly by land now or formerly of said Spizuocco about seventy and four tenths (70.4) feet to said westerly side of Mountfort Street and the point of beginning.

Meaning and intending to convey the same premises conveyed to the Grantor by virtue of a deed from Fred M. Forsley dated December 28, 2001 and recorded in the Cumberland County Registry of Deeds in Book 17147, Page 174. Page .

IN WITNESS WHEREOF, the said **Ashleigh, Inc.** has caused this instrument to be signed in its corporate name by **Fred Forsley,** its President, and thereunto duly authorized, this 22nd day of September 2005.

Witness

Ashleigh, Inc.

By: **Fred Forsley**
Its President

State of Maine
County of Cumberland, SS. September 22, 2005

Then personally appeared the above named **Fred Forsley**, and acknowledged the foregoing instrument to be his free act and deed in his capacity and the free act and deed of the corporation.

Before me,

Notary Public/ Attorney at Law

C. TRENT GRACE
Notary Public, Maine
My Commission Expires February 6, 2008

Received
Recorded Register of Deeds
Sep 27,2005 03:26:29P
Cumberland County
John B OBrien

BK12206PG170

58571

SHORT FORM QUITCLAIM DEED WITH COVENANT

Longfellow, Inc., a Maine corporation with a place of business at 86 Newbury Street, Portland, Maine, FOR CONSIDERATION PAID, grants to Shipyard Brewing Company Limited Liability Company, a Maine limited liability company with a mailing address of 86 Newbury Street, Portland, Maine, with Quitclaim Covenant, certain real property, together with any improvements thereon, situated in the City of Portland, Cumberland County, and State of Maine, more particularly described on Exhibit A attached hereto and made a part hereof:

IN WITNESS WHEREOF, Longfellow, Inc. has caused this instrument to be executed by Fred M. Forsley, its President thereunto duly authorized, this 8th day of November, 1995.

WITNESS:

Name: John L. Carpenter

LONGFELLOW, INC.

By: Fred M. Forsley
Fred M. Forsley
Its: President

State of Maine
County of Cumberland, ss.

November 8, 1995

PERSONALLY APPEARED the above-named Fred M. Forsley, President of Longfellow, Inc. as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Corporation.

Before me,

Attorney-at-Law/~~Notary Public~~

BK12206PG171

P

EXHIBIT A

A certain lot or parcel of land, with buildings thereon, situated in the block bounded by the Southerly side of Middle Street, Easterly side of Hancock Street, Southerly side of Newbury Street, Westerly side of Mountfort Street, Northerly side of Fore Street
-In the City of Portland, County of Cumberland and State of Maine, being bounded and described as follows:

Beginning at a point on the Southerly side of said Middle Street, marking the Northeasterly corner of land conveyed to Micucci Brothers, Inc. by deed recorded in the Cumberland County Registry of Deeds in Book 11090, Page 193;

Thence, by the Southerly side of said Middle Street, N 63° 31' 00" E a distance of 222.36 feet to a point marking the intersection of the Southerly side of said Middle Street and the Easterly side of said Hancock Street;

Thence, by the Easterly side of said Hancock Street, N 23° 20' 20" W a distance of 276.62 feet to a point marking the intersection of the Easterly side of said Hancock Street and the Southerly side of said Newbury Street;

Thence, by the Southerly side of said Newbury Street, N 69° 07' 25" E a distance of 268.96 feet to a point marking the Northwesterly corner of land conveyed to David McCain by deed recorded in said Registry in Book 4680, Page 313;

Thence, by the Westerly line of said McCain land S 23° 54' 35" E a distance of 66.00 feet to McCain's Southwesterly corner;

Thence, by the Southerly line of said McCain N 69° 09' 10" E a distance of 49.00 feet to the Northwesterly corner of land conveyed to Charles W. & Susan Ann Cherwinski by deed recorded in said Registry in Book 5069, Page 278;

Thence, by the Westerly line of said Cherwinski S 20° 17' 25" E a distance of 47.30 feet to Cherwinski's Southwesterly corner;

Thence, by the Southerly line of said Cherwinski N 67° 50' 45" E a distance of 72.00 feet to a point marking the Westerly side of said Mountfort Street;

Thence, by the Westerly side of said Mountfort Street S 22° 09' 15" E a distance of 112.77 feet to a point marking the intersection of the Westerly side of said Mountfort Street and the Northerly side of said Fore Street;

Thence, by the Northerly side of said Fore Street on the following courses:

S 42° 28' 00" W a distance of 122.92 feet to an angle point;

S 35° 40' 50" W a distance of 327.64 feet to an angle point;

S 41° 54' 00" W a distance of 83.68 feet to a point of curvature;

Thence, by a curve to the right, whose radius is 384.90 feet, an arc distance of 86.10 feet to a point marking a compound curve;

Thence, continuing by said compound curve to the right, whose radius is 341.90 feet, an arc distance of 97.07 feet to a point of tangency;

Thence, S 70° 59' 00" W a distance of 40.66 feet to a point marking the Southeasterly corner of land conveyed to Guy Centafante by deed recorded in said Registry in Book 2127, Page 98, said point being located N 70° 59' 00" E a distance of 51.75 feet from the intersection of the Easterly side of said India Street and the Northerly side of said Fore Street;

Thence, by land of said Centafante on the following courses:

N 27° 56' 30" W a distance of 75.83 feet to a point;

N 57° 47' 00" E a distance of 39.00 feet to a point;

N 33° 35' 00" W a distance of 46.29 feet to land of said Micucci Brothers, Inc.

Thence, N 57° 47' 00" E a distance of 77.95 feet to a point;

Thence N 35° 35' 32" W a distance of 99.90 feet to the point of beginning containing 4.02 acres, more or less.

Bearings are based on Magnetic North 1955.

The property is conveyed subject to the following:

1. Agreement described in a deed from The Portland Historical Society to American Hoist & Derrick Company dated August 5, 1955, recorded in the Cumberland County Registry of Deeds in Book 2253, Page 85.

2. Possible rights or claims of the stockholders of The Marine Liquidating Corporation and/or their heirs and assigns in and to that certain portion of the real estate described on Exhibit A which was originally acquired by the entity then known as The Thomas Laughlin Company by deeds of Robert Seeley, dated September 14, 1906, recorded in the Cumberland County Registry of Deeds in Book 791, Page 275 and John M. Burke dated June 21, 1907 and recorded in said Registry of Deeds in Book 805, Page 252.

3. Rights and easements granted to Central Maine Power Company and New England Telephone and Telegraph Company by deed of American Hoist & Derrick Co. dated August 29, 1966 and recorded in the Cumberland County Registry of Deeds in Book 2978, Page 29.

4. Terms and conditions of a State of Maine Department of Environmental Protection Order dated December 18, 1990 and recorded in the Cumberland County Registry of Deeds in Book 9936, Page 205.

5. Declaration of Restrictive Covenant by Amdura Corporation dated as of March 9, 1992 and recorded in the Cumberland County Registry of Deeds in Book 9973, Page 122.

675.klp
LONGFELLOW.DD

RECEIVED
RECORDED REGISTRY OF DEEDS
95 NOV -9 AM 9:43
CUMBERLAND COUNTY
John B O'Brien

0038145 BK16372PG309

WARRANTY DEED

Know All Men By These Presents That We, Charles W. Cherwinski and Susan Ann Cherwinski
of 14 Mountfort Street, Portland,
County of Cumberland and State of Maine,

for consideration paid, grant to Fred Forsley

of 12 Mountfort Street, Portland,
County of Cumberland and State of Maine

with **WARRANTY COVENANTS:**

A certain lot or parcel of land together with any buildings thereon situated in Portland County of Cumberland and State of Maine, more particularly described in Exhibit A attached hereto and incorporated herein by reference.

In Witness Whereof, we have hereunto set our hand(s) this 31st day of May, 2001.

Witness

Charles W. Cherwinski

Susan Ann Cherwinski

MAINE REAL ESTATE TAX PAID

State of Maine
County of Cumberland ss.

On this 31st day of May, 2001, personally appeared before me the above named Charles W. Cherwinski and Susan Ann Cherwinski

and acknowledged the foregoing to be his/her/their free act and deed.

Notary Public, Attorney at Law

Return to: Fred Forsley

BK16372PG310

File No:, 01031686

Exhibit A - Deed

A certain lot or parcel of land, with the buildings thereon, situated on the westerly side of Mountfort Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a stake on said westerly side of Mountfort Street at the southeasterly corner of the lot of land conveyed by The Thomas Laughlin Company to Carmina Spizuocco by deed dated August 11, 1927 and recorded in Cumberland County Registry of Deeds in Book 1273, Page 269; thence southerly by said westerly side of Mountfort Street 49.15 feet to a spike in a fence; thence westerly at right angles to said Mountfort Street 72 feet to other land now or formerly of said The Thomas Laughlin Company; thence northerly by land now or formerly of the said Company 49.15 feet to land conveyed by said Company to Gaetana Bruni by Deed dated August 11, 1927; thence easterly by land now or formerly of said Bruni and by land now or formerly of said Spizuocco about 70.4 feet to said westerly side of Mountfort Street and the point of beginning.

Meaning and intending to convey and hereby conveying the same premises described in a deed from Robert W. Fickett and Dorene D. Fickett dated November 19, 1982 to Charles W. Cherwinski and Susan Ann Cherwinski and recorded in the Cumberland County Registry of Deeds in Book 5069, Page 278.

RECEIVED
RECORDED REGISTRY OF DEEDS
2001 JUN -4 PM 12:32
CUMBERLAND COUNTY
John B O'Brien

SHORT FORM QUITCLAIM DEED
WITHOUT COVENANT

70-72 Newbury Street Associates, LLC, a Maine limited liability company, with a mailing address of 63A Wilson Street, Portland, ME 04101 for consideration paid, releases to **70-72 Newbury St., LLC**, a Maine limited liability company with a mailing address of 86 Newbury Street, Portland, Maine, 04101, the premises located at 62-72 Newbury Street in the City of Portland, County of Cumberland and State of Maine, as described on **Schedule A** attached hereto and made a part hereof.

WITNESS our hands this 30th day of March, 2007.

70-72 NEWBURY STREET ASSOCIATES, LLC

By David M. McCain
Its Manager

MAINE REAL ESTATE TAX PAID

STATE OF MAINE
CUMBERLAND, SS.

March 30, 2007

Then personally appeared the above-named David M. McCain, Manager of 70-72 Newbury Street Associates, LLC, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of 70-72 Newbury Street Associates, LLC.

Before me,

~~Notary Public~~ Attorney at law

Printed Name: MICHAEL H. HILL

S:\M\MHH\70-72 Newbury Street Associates\Quitclaim Deed with Covenants.doc

SCHEDULE A

First Parcel

A certain lot or parcel of land with the buildings thereon, situated on the southeasterly side of Newbury Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the southeasterly side line of said Newbury Street at the most westerly corner of a lot of land conveyed to Mary J. Mundy by Samuel Sweetsir, et al by deed dated December 7, 1875, and recorded in the Cumberland County Registry of Deeds in Book 428, Page 320; thence running southeastwardly by said Mundy land and by land formerly of William Mundy, sixty-six (66) feet, more or less, to land now or formerly of William McSweeney; thence southwestwardly by said McSweeney land forty-nine (49) feet, more or less, to land now or formerly of Emeline S. Dutton; thence northwestwardly by said Dutton land sixty-six (66) feet, more or less, to said Newbury Street; thence northeastwardly by said Newbury Street, forty-nine (49) feet and six (6) inches, more or less, to the place of beginning.

Second Parcel

A certain lot or parcel of land with any buildings thereon situated on the southeasterly side of Newbury Street, in Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the southeasterly side line of said Newbury Street at the northerly corner of land formerly of Mrs. Wilson, and later of Joseph J. Bruni, which point is about seventy-two (72) feet from the intersection of said line of Newbury Street with the southwesterly line of Mountfort Street; thence running northeastwardly by said line of Newbury Street twenty (20) feet and four (4) inches; thence southeastwardly parallel with the northeasterly side line of land of Joseph J. Bruni to land formerly of Mrs. Hannah Roberts; thence southwestwardly by said Roberts land twenty (20) feet, more or less, to said land of Joseph J. Bruni; thence northwestwardly by said land of Joseph J. Bruni seventy-two (72) feet, more or less, to the point of beginning.

Being a strip of land twenty (20) feet and four (4) inches wide extending across the southwesterly end of land conveyed to Carmela Spizzuoco and Sabato Spizzuoco, by deed of Fannie Jacobson dated February 4, 1925 and recorded in the Cumberland County Registry of Deeds in Book 1192, Page 220.

Third Parcel

A certain lot or parcel of land with any buildings thereon situated in Portland, County of Cumberland and State of Maine and being in the rear of the westerly side of Mountfort Street, and in the rear of a certain lot or parcel of land conveyed by The Thomas Laughlin Company to Carmela Spizzuoco, and bounded and described as follows:

Beginning at a point in a line of a fence extending northerly to Newbury Street, said point being determined by measuring forty-eight and six-tenths (48.6) feet on a line at right angles to Newbury Street from a stake at a post set in the ground sixty-two and five–tenths (62.5) feet southerly of Newbury Street (sic) and at the southwesterly corner of said lot of land conveyed to said Spizzuoco; thence westerly on a course at right angles to Mountfort Street about twenty-one and eight-tenths (21.8) feet to a stake set in the ground at land of Bruni; thence northerly by land of said Bruni nine and eight-tenths (9.8) feet to a point; thence easterly on a line parallel with first described line about twenty-one and eight-tenths (21.8) feet to said fence extending northerly to Newbury Street; thence southerly nine and eight-tenths (9.8) feet to the point of beginning.

Fourth Parcel

A certain lot or parcel of land with the buildings and improvements thereon, situated on the southerly side of Newbury Street and the westerly side of Mountfort Street, in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point marking the intersection of the southerly side of said Newbury Street and the westerly side of said Mountfort Street; thence by the westerly side of said Mountfort Street South 22° 09' 15" East, a distance of 62.50 feet to a point marking the northeasterly corner of land conveyed to Charles W. and Susan Ann Cherwinski by deed recorded in the Cumberland County Registry of Deeds in Book 5069, Page 278; thence, by the northerly line of said Cherwinski land South 67° 50' 45" West, a distance of 48.60 feet to a point marking land conveyed to David McCain by deed recorded in said Registry of Deeds in Book 4680, Page 313; thence by the easterly line of said McCain land on the following courses: North 23° 34' 05" West, a distance of 9.80 feet to a point; South 67° 50' 45" West, a distance of 1.57 feet to a point; North 23° 28' 30" West, a distance of 53.87 feet to a point marking the southerly side of said Newbury Street; thence by the southerly side of said Newbury Street North 69° 07' 25" East, a distance of 51.67 feet to the point of beginning.

Above courses are magnetic 1985.

Together with all rights and easements appurtenant to said premises. The premises conveyed herein are subject to the matters set forth in a Quitclaim Deed with Covenant dated September 4, 2003, from McCain General Partnership to 70-72 Newbury Street Associates, LLC recorded in said Registry in Book 20130, Page 281.

Meaning and intending to convey, and hereby conveying the same premises conveyed to the Grantor by said deed of McCain General Partnership dated September 4, 2003, and recorded in said Registry in Book 20130, Page 281.

Received
Recorded Register of Deeds
Mar 30,2007 02:36:56P
Cumberland County
Pamela E. Lovley

Bateman Investments, LLC

470 Fore Street, Suite 400
Portland, ME 04101

March 6, 2018

86 Newbury Street, LLC
470 Fore Street, Suite 400
Portland, ME 04101

RE: Signatory Authority

To Whom It May Concern:

This letter is to confirm that Bateman Investments, LLC is a member of 86 Newbury Street, LLC. 86 Newbury Street, LLC consists of two members, Bateman Investments, LLC and Shipyard Brewery Company, LLC (the property owner).

This letter further confirms that David H. Bateman, as member of Bateman Investments, LLC, has the authority to sign and submit this application on behalf of 86 Newbury Street, LLC to the City of Portland, Maine.

Signed,

Nathan Bateman
Manager
Bateman Investments, LLC

Section 5
Public or Private Right-of-Way

5.A. Public or Private Rights-of-Way

The existing site has one full movement access on Hancock Street, one full movement access on Fore Street, one full movement access on Mountfort Street, and three full movement accesses on Newbury Street. The site is proposed to be accessed via four site accesses, two less than the current site. The first floor of the proposed parking garage will be accessed through an existing access on Fore Street, and the upper levels of the garage are proposed to be accessed via one new full movement entrance on Hancock Street. The parking for the proposed residential units will be accessed using a new entrance-only access on Hancock Street to the north of the proposed Hancock Street garage access, and a new exit-only access on Newbury Street.

Section 6
Schedule

6.A. Schedule

The proposed project is anticipated to be completed in 2019.

Shipyard Brewing Redevelopment

Transportation Demand Management (TDM) Plan

July 6, 2018

A. Summary

86 Newbury Street, LLC, having entered into a long-term agreement with Vet's First Choice (VFC) and Cambria Hotels (a Choice Hotels brand) provides this Transportation Demand Management (TDM) Plan for VFC's new corporate facility and the new Cambria hotel - to be housed in the proposed mixed-use Shipyard Redevelopment. This 2.15-acre parcel spans almost the full block between Fore, Hancock, Newbury, and Mountfort Streets on Portland's Eastern Waterfront and is currently home to the Shipyard Brewing Company.

VFC's specialty pharmacy and technical fulfillment and office space will take up 166,169 square feet of the building area on the Shipyard site. Initially, Vet's First Choice will be relocating 200 employees to the site from various peninsula office spaces nearby, with expected growth to 300 employees by 2025. The Cambria hotel is 105 rooms with 40 employees and caters to both business and leisure travelers. The remaining square footage of the different buildings on site will be used for a smaller-scale Shipyard brewery and tasting room, 10 residences and 380 structured parking spaces.

This TDM Plan aims to help accommodate this new growth and benefit the local transportation system through support of transportation alternatives and reductions in the rate of single-occupancy vehicle travel to and from 86 Newbury Street. *After the initial trip and parking projection reductions for pre-existing shared and multi-modal trips, the plan sets the following TDM targets for 3-5 years after Vet's First Choice and Cambria fully occupy the site:*

Shipyard Redevelopment Site

- 2.15-acre mixed-use urban infill site on the Eastern Waterfront
- **TDM Plan for primary site uses:**
  - Vet's First Choice: 166,169 ft^2; 200 employees initially, eventual growth to 300 employees by 2025
  - Cambria Hotel: 72,797 ft^2; 105 rooms, 40 employees

In addition to initial 3-20% shared-use (depending on time of day and site entry or exit) and 10-15% existing multi-modal rate reductions within trip generation and parking projections, the TDM Plan sets the following targets:

- ***Vet's First Choice***
  - ***Trip & parking reduction target:*** a further 5% reduction per capita (employees) within 5 years after full occupancy - resulting from TDM program
  - ***Multi-modal target:*** a further 3% increase in employee trips via transit, carpooling or vanpooling, by bicycle & on foot within 3-5 years after full occupancy
- ***Hotel:***
  - ***Trip & parking reduction targets:*** a further 2% reduction for employees and visitors within 5 years after full occupancy
  - ***Multi-modal target:*** a further 2% increase in employee and visitor trips via transit, carpooling or vanpooling, by bicycle & on foot within 3-5 years after full occupancy
- Will reassess targets at end of year one of VFC and Cambria operations at 86 Newbury

Cushman Transportation Consulting, LLC
94 Beckett Street, 2nd Floor, Portland, ME 04101 · (207) 200-1910 · www.sarahcushman.com

- *a 5% reduction in vehicle trips and parking demand for VFC, per capita and 3% multi-modal rate increase*
- *a 2% reduction in employee and visitor vehicle trips and parking demand for Cambria and 2% multi-modal rate increase*

B. Company Overviews & Their Commitment to TDM

Vet's First Choice

Vet's First Choice is a private company that is the leading provider of cloud-based prescription management, pharmacy services, marketing solutions and business analytics for veterinary practitioners. The company was founded in Maine in 2010 and is headquartered currently in the Old Port, across Franklin Street from the proposed new corporate facility at the Shipyard Redevelopment. It has grown in recent years to encompass over 800 employees in Maine, Arizona, Kansas, Kentucky, Nebraska and Texas.

Vet's First Choice is committed to Greater Portland and to serving as a good corporate citizen. Historically, the company has proactively identified and encouraged employees who live on the Portland Peninsula to walk or bike to work in lieu of accepting a parking pass. Employees who have been held back by the lack of showers and lockers at VFC's current locations are looking forward to these amenities at the new corporate facility.

The company views this TDM plan as a long-term initiative and sees the benefits that TDM implementation will bring its employees in the form of increased transportation choice and the positive utility of multi-modal travel itself. For example, walking or carpooling also improve well-being by getting outside or problem-solving complex work situations with colleagues; taking the bus enables workers to relax or catch up on email via mobile devices.

The corporation also takes pride in being a good employer and offering valuable benefits to its employees. It has an active company wellness program that utilizes the VFC newsletter and weekly wellness email list to market the benefits of getting outside, walking and bicycling. Moreover, the company's health insurance provider offers funding for wellness-related activities and VFC is exploring how to implement the funds for maximum impact. Vet's First Choice staff are excited about the TDM program as another opportunity to improve employee quality of life and physical and mental health.

Vet's First Choice will relocate all of its 200 Portland employees from its current two company spaces in the Old Port to the innovative corporate facility at 86 Newbury Street. These existing employees are already well-versed in transportation options for reaching work. In addition, 39% of them live within 5 miles of the Shipyard site, making walking, bicycling and the use of transit especially accessible.

> *…there is much evidence suggesting the Millennial generation is not as bound to the automobile as previous generations. Millennials are less likely to get their driver's licenses, take fewer car trips, and are more likely to get around by alternate means: by foot, by bike, or by transit.*
>
> - *2017 Portland Comprehensive Plan*

The company is utilizing 86 Newbury as a recruitment tool for new talent as it grows to approximately 300 employees within its first five years of occupancy. Based on the current employee demographics at Vet's First Choice, it is likely that many of these new employees will be members of the Millennial generation, individuals with an increased use and familiarity with communications, social media and digital technologies.

Millennials have been shown to prefer urban environments and it's likely that Vet's First Choice salaries will enable them to afford living closer to work. In fact, Vet's First Choice is in negotiations with the Shipyard development team to secure some of the proposed residential housing on site, which would facilitate the shortest possible commute.

Millenials tend to be more comfortable using modes other than the single-occupancy automobile for transportation. These multi-modal habits were heavily influenced by the Great Recession and driving by Millennials has increased slowly as the economy has improved. However, from a behavior change perspective, this familiarity with different ways of getting around will greatly facilitate these employees' participation in the proposed TDM program that follows.

Moreover, while there is substantial available parking on-site under current employee figures, the company understands the increasing value of TDM efforts to reduce the amount of company-required parking over time as the number of employees grow. This will both reduce the company's traffic and parking impacts and also save many thousands of dollars per year for VFC's bottom line.

Cambria Hotel

The proposed Cambria hotel is part of Choice Hotels International (NYSE: CHH), one of the largest and most successful lodging companies in the world and tracing its roots back to 1939. Choice currently franchises more than 6,800 hotels, representing more than 500,000 rooms, in more than 35 countries and territories. Ranging from limited service to full service hotels in the economy, mid-scale and upscale segments, Choice-branded properties provide business and leisure travelers with a range of high-quality, high-value lodging options throughout the United States and internationally.

Corporate Social Responsibility (CSR) is Choice's commitment to improve the quality of life for its associates and their families, as well as the surrounding community and society as a whole. It is reflected in many of the company's policies and is practiced at Choice through various initiatives and activities that are carried out by associates and franchisees, and through grants awarded by the Choice Hotels International Foundation.

Similar to VFC, Choice see the benefits that TDM implementation will bring its employees and guests by providing convenient, low-hassle and low-cost options for transportation. For example, the hotel's proximity to some of Portland's significant businesses (WEX, VFC, Tilson Technology) will provide business travelers with the ability to walk to their destinations during the day and get to many of Portland's dining and entertainment options in the evening on foot. Other significant destinations (Portland Jetport, Cross Insurance Arena, Hadlock Field, Thompson's Point) can all be reached by hotel shuttle, public transportation and taxi or Transportation Network Company services (Uber, Lyft, etc.). Hotel parking will be entirely valet, which will allow for efficient flow within the parking structure and the ability to maximize available space.

The new hotel is expected to have a total of 40 employees and a maximum of 25 working during a typical shift. Of special note, in order to meet the labor demand of the hotel, 30-40% of employees will be working through visa programs and the hotel will provide housing for them within walking distance. Hotel staff generally reach work and leave work during off-peak hours. For example housekeeping employees generally work from 6:30am to 2:30pm and food service employees work the breakfast through lunch shift or the lunch through dinner shifts.

C. Site Transportation Overview & Context

Historically, the Eastern Waterfront has been a vital part of the economic life of the City of Portland, connecting local and distant markets by sea and rail. The multi-use nature of the Shipyard Redevelopment - including the continued-while-scaled-down presence of the brewery, 10 housing units, the Cambria hotel and VFC's corporate facility – forms part of the new generation of residential and commercial vibrancy in the area.

Grand Trunk Station at Fore & India

This unique site, nestled between the Old Port commercial district and East End residential neighborhoods, is located in the India Street Form Based Code zone and has always been home to a diverse mix of uses. The area is seeing an overall rebirth with in-fill development of residential housing, increased public access to the water, passenger boat service, businesses, other hotels and restaurants.

Vet's First Choice, the Cambria hotel and the larger Shipyard Redevelopment project support the mixed-use, urban form, and transportation demand management objectives of a number of Portland studies and plans, including:

> *The Master Plan envisions new development in the area to be an amenity and an asset to neighborhood residents, the greater City, and the visiting public.*
>
> *-Master Plan for the Redevelopment of the Eastern Waterfront*

- the City's *Master Plan for the Redevelopment of the Eastern Waterfront* (2002, amended 2006)
- the 2014 Urban Land Institute Advisory Services Panel Report *Waterfronts of Portland and South Portland, Maine: Regional Strategies for Creating Resilient Waterfronts*
- the 2017 Portland Comprehensive Plan, *Portland's Plan 2030*
- the 2017 *City of Portland Parking Study for the Eastern Waterfront & Downtown*

Parking Management

Surface parking's impervious surfaces are another major contributor to stormwater runoff quantity and detrimental water quality in receiving bodies—especially of concern with economically vulnerable fisheries. Development should be designed to reduce the impact of surface flow across Commercial Street and to mitigate effects on landside structures.

Recommendations

- Identify opportunity sites that, once relieved of surface parking, can provide resilient structures or site development strategies that mitigate surface flow.
- To relieve waterfront sites of surface parking, develop comprehensive program to manage all parking resources as a system that includes on-street parking and all public and private garages.
- Periodically update and report actual parking utilization data. Align with transportation demand management planning and commuter-trip-reduction programs.
- Develop broad-based community support for enacting ordinances and pricing that encourage car sharing and other parking requirements in public and private development.

LOCAL GOALS

WE WILL:

Promote multi-modal accessibility, enabling residents and visitors of all ages and abilities to participate fully in the social and economic life of the community.

Support livability by improving the quality of life in neighborhoods and improving the public health of residents.

Support sustainability by reducing energy consumption, greenhouse gas emissions, and stormwater impacts.

Support economic vitality by ensuring the efficient movement of goods, services, and people.

The site is pedestrian and bicycle-friendly, located within the strong sidewalk network and lower-speed street grid of the Portland peninsula. It's also near the terminus of the Eastern Promenade multi-use path, a pivotal link in Portland's alternate transportation system. Existing and newly recruited Vet's First Choice and Cambria employees living on most parts of the Peninsula will be within comfortable walking distance of the company's corporate facility. Those employees within a five-mile commute distance can also easily bike to work, especially as bicycle networks in Portland, South Portland and Falmouth continue to improve.

From a public transportation perspective the project is within walking distance of several METRO routes that stop at Congress and India Streets: the Route 1 that traverses the peninsula and connects with the Portland Transportation Center, the crosstown Routes 9A and 9B to off-peninsula neighborhoods, the Route 7 to and from Falmouth, and the Breez with service to Yarmouth, Freeport and Brunswick. The site is also within walking distance of all South Portland Bus routes via the stops at Fore and Union Streets.

Portland and local transit providers have long eyed improved transit connections to the Eastern Waterfront from other transportation nodes across the city, including the Portland Transportation Center and the heart of downtown – where a number of METRO routes, the Lakes Region Explorer and Shuttlebus-ZOOM services terminate. These routes are also within walking distance of the new site. However, closer access to transit would likely enable increased ridership by Cambria and Vet's First Choice employees.

Two recent examples offering transit improvement recommendations for the waterfront are the 2015 *Portland "Hub Link" Feasibility Study* and the 2017 *City of Portland Parking Study for the Eastern Waterfront & Downtown*. City management has also expressed interest in serving as a test site for an automated Olli bus between the Portland Transportation Center, downtown and the waterfront. With the advent of the 58 Fore Street complex, additional discussions have arisen about possible public-private collaboration to bring transit into the Eastern Waterfront, beyond the METRO peninsula Route 8 on India Street and the routes that serve Congress at India. Vet's First Choice and Cambria plan to join these discussions with METRO as well, to benefit improved public transportation options for its employees and the general public.

We recommend continued pursuance of the following goals:

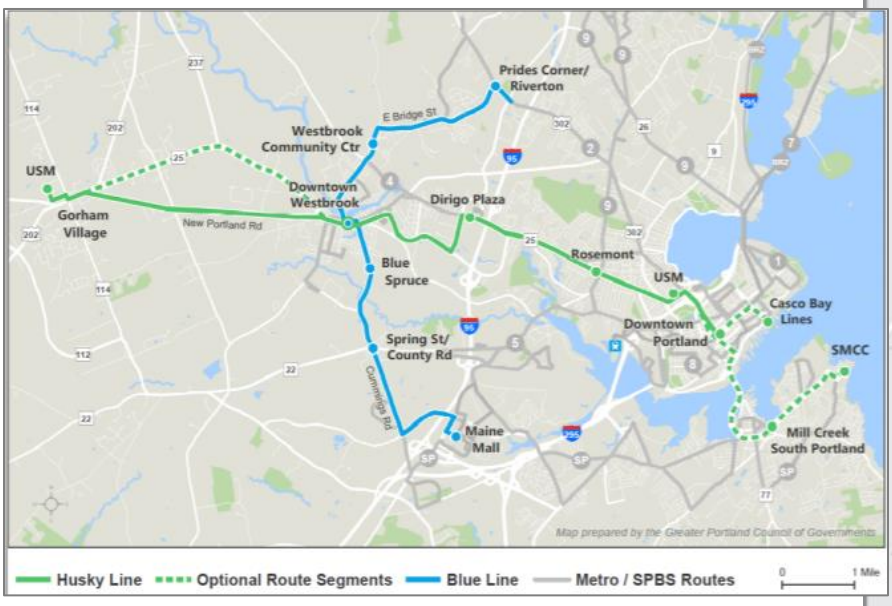
- *Increase the peak period frequency of key Peninsula routes to 10-20 min headways*
- *Provide a direct link between the Portland Transportation Center and Downtown/ Waterfront. As development on the Eastern Waterfront progresses, service should extend there as well.*
- *Use signal prioritization and other techniques (exclusive lanes perhaps) to help move buses through congested areas.*

…Additionally, we recommend the consideration of a downtown circulator route specifically meant to transport riders between the Waterfront and Cumberland Ave in a loop.

- 2017 City of Portland Parking Study for the Eastern Waterfront & Downtown

In terms of shared mobility, the use of transportation network companies (TNCs) such as Uber and Lyft has grown substantially in recent years and the 2017 *Parking Study* suggested the use of TNCs as an interim custom solution for companies like Vet's First Choice, for employees to access transit routes that are not within close walking distance. A trip via a TNC does not reduce traffic congestion, unless it combines what would normally be two or more vehicle trips; however, it does reduce parking demand. Moreover, there is a UhaulCarshare vehicle located within four blocks of the site, at the corner of Commercial and Franklin Streets.

Census commute data for employees originating in nearby communities with access to transit is behind the curve, not yet showing the results of the recent addition of the Lakes Region Explorer service from Bridgton, Naples, Raymond and Windham and the METRO Breez with service now from Brunswick, Freeport and Yarmouth. The delivery this spring of 11 new buses for the METRO fleet will also be a boon for transit using employees - each with space for three bikes, Wi-Fi access and in-seat USB ports. Moreover, commuters from Gorham and Westbrook are eyeing the August 2018 launch of the METRO West project and the Husky Line and the associated improved frequency of service on Brighton Avenue.



Meanwhile, there have been a number of other development projects near the proposed Shipyard Redevelopment that have spurred the City of Portland to work to unify its methodology for handing traffic and parking. This growth has also enhanced the amenities surrounding the Shipyard site and these provide an attractive dual-purpose trip for employees who do end up driving to work. Examples include: walking to run errands at nearby businesses, having lunch meetings with colleagues at local restaurants, meeting up with family and friends for after-hours events downtown, and exercising on the Eastern Prom Trail. These internally captured trips represent no net new trip generation or parking demand beyond the original trip to work or to stay at the hotel.

D. TDM Coordinator

Highly successful TDM programs share three vital characteristics: (1) they are dynamic: piloting strategies, assessing impacts, and modifying tactics as needed; (2) they are rigorously monitored and supported by local governing bodies, in this case, the City of Portland; and (3) they are managed by committed and enthusiastic staff who are responsible for overseeing, promoting and sustaining the program.

The Vet's First Choice & Cambria TDM Coordinators are responsible for:

- Strategic parking management to reduce costs/need for accessory parking
- Encouraging greater use of preferred modes through social media, website, on-site kiosk and company-wide promotion
- Coordinating company policies, subsidies and incentives
- Overseeing comprehensive surveying of employees
- Monitoring of employee and visitor parking usage and the effectiveness of TDM strategies
- Filing annual reports and updating the plan with the City
- Exploration of additional TDM strategies, if needed

Vet's First Choice has designated Georgia Wraight, Chief Operating Officer as its Interim TDM Coordinator and the Cambria hotel will assign the Human Relations Director at the hotel management company as its TDM Coordinator (HR director to be hired as hotel comes on line). These individuals are charged with coordinating the TDM plan implementation, monitoring activities and working with the City on any needed changes. Both companies will provide the TDM Coordinator with additional remuneration to support this work to lead their companies' ongoing TDM efforts. Acknowledging that roles and responsibilities change over time in any position, Vet's First Choice and Cambria will use the first few months of TDM implementation to enumerate their specific TDM Coordinator's responsibilities in detail, for any other staff to uphold the responsibility of the position. The Coordinators' contact information is:

- Vet's First Choice: Georgia Wraight, Chief Operating Officer, 7 Custom House St, Portland, ME 04101, georgia.wraight@vetsfirstchoice.com, (888) 280-2221
- Cambria: to be shared with City immediately upon hiring; the developer will serve as the TDM contact in the meantime

Day-to-day operations and monitoring of the TDM plan will be conducted in-house by the appointed TDM Coordinators; however, Vet's First Choice and Cambria will retain the services of a TDM consultant to review initiatives, problem-solve and develop new strategies if and when necessary.

E. Trip Generation and Parking Demand Projections and Targets

86 Newbury Street, LLC has hired Cushman Transportation Consulting, LLC (CTC) and Gorrill Palmer to assist with its TDM planning process. CTC has conducted recent research on TDM programs at evolving, multi-faceted development sites similar to Shipyard, 82 Hanover and Thompson's Point (e.g., in California and Northern Virginia) – including aspects of setting and managing TDM targets. This investigation helps inform the following trip reduction, parking reduction and multi-modal goals.

Projected Trip Generation & Parking Demand

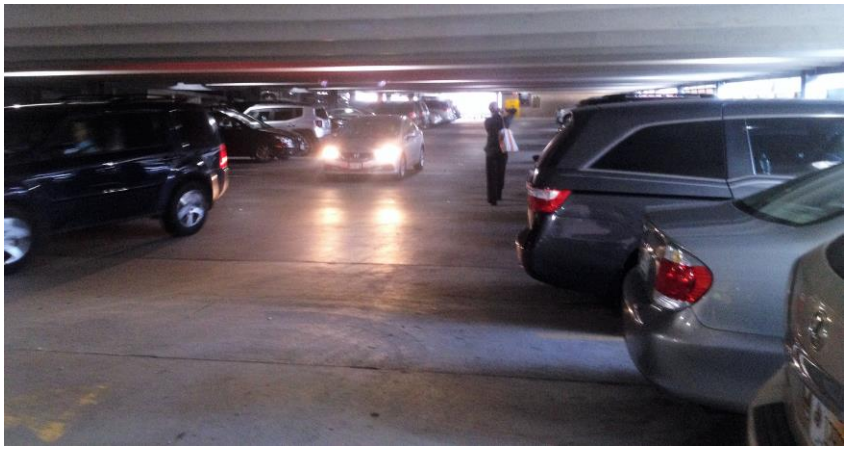
On behalf of the Shipyard Redevelopment, Gorrill Palmer has developed ITE and census-based trip generation projections and used City of Portland Land Use Code minimum off-street parking requirements to evaluate the impact of the new Vet's First Choice corporate facility and Cambria hotel.

In addition, Cushman Transportation Consulting has collected and assessed current Vet's First Choice employee origination data and compared these with census commuting data for carpooling, transit use and transit availability in surrounding municipalities.

The Gorrill Palmer trip generation projections include an initial 3-20% shared-use reduction in trips for people who will visit multiple tenants at the site during one outing (specific percentage reductions depend on time of day and site entry or exit), as well as a 15% reduction for the number of people who would use non drive-alone modes of transportation to reach the site under current conditions (pre-TDM implementation). This percentage was set in consultation with the City's Traffic Consultant. The parking demand projections include a similar multi-modal rate adjustment – 15% for VFC uses and 10% for hotel uses.

Accordingly, Vet's First Choice is expected to generate a total of 196 vehicle trips during the morning peak hour and 197 trips during the evening peak hour. The peak VFC parking demand projection is for 303 spaces at 10am.

The Cambria hotel is expected to generate a total of 44 vehicle trips during the morning peak hour and 56 trips during the evening peak hour. The peak hotel parking demand projection is for 84 spaces at 6am.



Projections & Targets

Projected Trip Generation:

- ***Vet's First Choice:*** 196 trips during A.M. peak, 197 trips during P.M. peak
- ***Hotel:*** 44 trips during A.M. peak, 56 trips during P.M. peak

Projected Peak Parking Demand:

- ***Vet's First Choice:*** 303 spaces at 10am
- ***Hotel:*** 83 spaces at 6am

In addition to initial 3-20% shared-use (depending on time of day and site entry or exit) and 10-15% existing multi-modal rate reductions within trip generation and parking projections, ***the TDM Plan sets the following targets:***

- ***Vet's First Choice***
  - ***Trip & parking reduction target:*** a further 5% reduction per capita (employees) within 5 years after full occupancy - resulting from TDM program
  - ***Multi-modal target:*** a further 3% increase in employee trips via transit, carpooling or vanpooling, by bicycle & on foot within 3-5 years after full occupancy
- ***Hotel:***
  - ***Trip & parking reduction targets:*** a further 2% reduction for employees and visitors within 5 years after full occupancy
  - ***Multi-modal target:*** a further 2% increase in employee and visitor trips via transit, carpooling or vanpooling, by bicycle & on foot within 3-5 years after full occupancy
- Will reassess targets at end of year one of VFC and Cambria operations at 86 Newbury

The city Land Use Code continues to have minimum off-street parking requirements and requires 372 spaces for the various Shipyard Redevelopment uses. The site will include a multi-level parking garage with 380 spaces. Initially, Vet's First Choice has forecasted leasing up to 318 parking spaces for its employees and Cambria expects to lease 100 spaces. Both companies propose parking management strategies to help ensure that there are enough parking spaces to support functioning of the site, while not providing more parking than necessary.

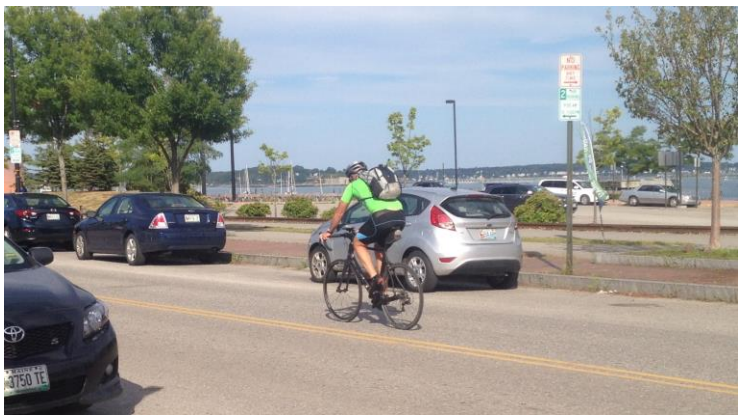
Targets for Reducing Drive Alone Trips & Parking Demand - & Increasing Multi-modal Trips

Vet's First Choice and the Cambria Hotel offer the following TDM targets given the diversity of the proposed Shipyard site user groups (salaried daytime employees, hourly employees working early mornings and evenings, hotel visitors, etc.) and within the context of the multi-modal accessibility of 86 Newbury Street, assertive on-site parking management, and robust implementation of TDM strategies and incentives. These are for reducing drive alone trips and parking demand and increasing the rate of site users reaching the Shipyard redevelopment via transit, carpooling or vanpooling, by bicycle & on foot. Both companies will revisit these targets after their first full year of operations.

From other TDM experiments in North America, it is clear that individuals' use of various alternate modes shift over time as different employees and visitors come and go. For example, an employee who uses transit might leave for a different place of employment or a commuter who walks might switch to bicycling. In another instance, a couple that in the past has visited Portland via train and used a combination of Lyft rides and walking may begin to drive to the hotel at times with their growing family. Therefore, it seems most useful for VFC's and Cambria's TDM efforts to address the specific needs of transit users, carpoolers, bicyclists and walkers, while setting these overarching multi-modal trip targets for the site. Both companies plan to closely monitor existing trends to attain a reasonable mode-shift goal over time.

Vet's First Choice Targets

In addition to the initial 1-20% shared-use trip generation reductions (depending on time of day and site entry or exit) and the 15% existing multi-modal rate reduction for both projected trips and parking demand, VFC's TDM efforts should enable a further 5% reduction in employee trips and parking demand by the end of 3-5 years. Moreover, Vet's First Choice sets a multi-modal trip target for the same time frame of a further 3% increase.



Cambria Hotel Targets

After the 3-25% shared-use adjustment to hotel-generated trips (again, depending on time of day and site entry or exit) and the 10% existing multi-modal rate reduction for both projected trips and parking demand, the hotel's TDM programming should achieve a further 2% reduction in drive alone trips and parking demand. In addition, the hotel is setting a target of a 2% increase in employee and visitor multi-modal trips.

F. Trip and Parking Reduction Strategies

In the table beginning on the following page, Cambria and Vet's First Choice propose a number of best-practice and sensible parking and trip reduction strategies for its TDM Plan. These are based on both companies' understanding of the site's transportation context, their employees and visitors, and the usefulness of various TDM efforts. For example, strategically managed parking will produce the strongest results for reducing single-occupancy vehicle trips to the site. Unless otherwise noted in the 3rd column of the table, the TDM strategy will be used by both VFC and the hotel.

In addition, both workplaces acknowledge the various needs of different multi-modal commuters. For instance, employees who walk to work or bicycle or carpool with children are more able to do so if they have on-site, secure storage for larger commuting gear. Moreover, employees will require tangible financial incentives such parking cash-out and transit pass subsidies or carpool vouchers to help encourage them to experiment with other ways of getting to work.

Another critical component for the success of Cambria and VFC's TDM Plan is a carefully thought-out marketing plan that regularly engages employees and visitors regarding preferred modes of transportation and provides easily accessible information. This work also builds their companies' TDM cultures and the sense of multi-modal travel as the social norm. Within this TDM Plan, Vet's First Choice and Cambria have begun designing a marketing strategy that complements other area Portland TDM work to promote walking, bicycling, rideshare, public transit and alternate work arrangements.

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MAINE

Finally, Greater Portland Council of Governments and the City of Portland are reexamining the need for an area Transportation Management Association (TMA) to benefit private sector employers. TMAs are generally public-private entities that assist employers with TDM implementation and monitoring, advocate for improved transit and act as brokers for services such as vanpools and shuttles. Cambria and Vet's First Choice plan to support the development of a TMA, if found to be feasible, and participate as members.

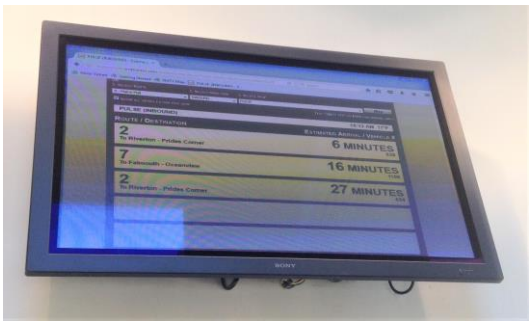
Unless otherwise noted in the 3rd column, the TDM strategy will be used by both VFC and the hotel.		
Infrastructure		
Transit Access	Transit Screen in main lobby with live-time transit service information for routes near the site	
	Transit passes available for purchase on-site	
	Free hotel shuttle service available for visitors and for employees at no charge. E.g. to get visitors to and from the airport or for employees to park remotely at Marginal Way Park & Ride	Hotel
	Work with City of Portland and METRO regarding possible expansion of public transportation to the Eastern Waterfront	
Pedestrian Access	Reconstruction of all street sidewalk segments abutting development	
	ADA barrier-free ramp improvements at the four street corners abutting the building	
	Striping improvements to existing crosswalks at Newbury & Hancock and Hancock & Middle	
	Street and building lighting improvements to improve sidewalk illumination	
	Secure storage on 1st floor for larger commute gear, e.g.: strollers, islander handcarts, etc.	VFC
	On-site showers and clothing lockers	
Bicycle Access	38 on-street bicycle parking spaces	
	20 secure and weatherproof parking spaces on 1st Floor for regular bicycles and larger-size or heavier bike commuting set-ups, such as: cargo bicycles, electric bikes and bicycles with trailers or child bicycling attachments	VFC
	26 secure and weatherproof parking spaces on lower level of parking structure with 24/7 monitoring by valet parking attendants; mix of bicycle lockers and open-view racks	Hotel
	On-site showers and clothing lockers	
	Depending on demand, work with City to install seasonal bike corral for summer and shoulder seasons; Alternately, committed to meeting a higher demand for on-street bike parking if needed	VFC

Shared Mobility	Secure storage on 1st floor for larger commuting gear, e.g.: car seats	VFC
	Fleet of 6 cruiser bicycles available for loan for visitors and for employee use for short trips. Will provide helmets, bike locks, bicycle safety guidelines and laminated local bike route map with each bicycle.	Hotel
	UhaulCarshare vehicle within 6 minute walk; may explore additional on-street carshare vehicle(s) to serve Shipyard and other new development on Eastern Waterfront	
Remote/Valet Parking	Will have contract with Unified Parking Partners for valet parking. Intentionally schedule special events that draw people not staying at the hotel for weekend evenings after 6pm. Hotel employees will not be provided with parking and will be encouraged to use other ways to reach the site.	Hotel
Electric Vehicle Charging	At least one electric car charging station per floor will be provided in the parking garage	Hotel
Other	On-site amenities such as three full service meals a day, vending cubby off the main corridor and business center to discourage unnecessary drive-alone visitor trips off site	Hotel
General Contribution to Area Transportation Improvements	Through the City's evolving MaineDOT Traffic Movement Permit process for the combined sites of 86 Newbury, 0 Hancock and 100 Fore Streets, the developer will make a to-be-determined financial contribution for the site, for city transportation improvements within the commute shed of the project.	
Employee & Visitor Incentives		
Parking Pricing/Cash Out/Incentives	Monthly parking cash incentive (cash-out) for employee to give up parking space - on par with per-space-fee employer pays landlord for on-site parking (employees currently provided parking at no cost)	VFC
	Allocate a small number of parking spaces for occasional use by employees who are primarily multi-modal commuters	VFC
	Preferential Parking program through GO MAINE – carpoolers are prioritized for parking spaces near entrance(s) and receive special permits	VFC
Transit Subsidies	Partial or full subsidy of monthly and multi-ride passes for employees to use transit	
	One-time financial incentives to give up a parking space and start using transit	VFC
	Site registration with GO MAINE for rewards for transit riders and to provide access to Emergency Ride Home benefit	

Transit Subsidies cont'd	Explore new METRO fare media (2019) to enable billing company for individual employee trips.	
	Upon implementation of the Hub Link Study, with associated direct bus running from the Jetport and Portland Transportation Center to downtown and the Old Port, hotel will actively promote the use of this service. This will include offering printable free day passes pre-trip, with clear directions for taking the bus from the airport or Portland Transportation Center.	Hotel
Carpool-Rideshare Subsidies	Site registration with GO MAINE for ridematching/carpooling opportunities and rewards and to provide access to Emergency Ride Home benefit	
	One-time financial incentives to start new carpool or recruit new carpool members	
	Monthly voucher for carpool/vanpool on par with transit pass subsidy	
	Within two years of full site occupancy, do Enterprise vanpool zip code analysis of employees (and possibly collaborate with other nearby redeveloped sites with similar employee pools, such as WEX) to assess potential vanpools	
Bicycle-Pedestrian Subsidies	One annual footwear purchase for pedestrian commuters	VFC
	One annual bicycle maintenance visit to local bike shop for bicycle commuting employees	VFC
	Reimburse employees for bicycle safety courses	
	Purchase Bicycle Benefits memberships for bicycle commuting employees	VFC
Shared Mobility Subsidies	Full or partial subsidy for multi-modal employees who need to use UhaulCarshare or Transportation Network Companies (Uber/Lyft) during work day	VFC
	Monthly employee bikeshare memberships on par with transit pass subsidy, when/if bikeshare starts in Portland	
	May explore a customized Transportation Network Company (TNC - e.g., Lyft & Uber) solution for employees to access transit routes elsewhere on the peninsula	VFC
Flexible Work	Written policy for flextime, telecommuting & condensed work shifts	VFC
	Encourage all possible staff to avoid A.M. & P.M. peak travel times (7-9 a.m. and 4-6 p.m.)	VFC
	Free employee overnight accommodation (subject to room availability) for employees who are scheduled to work a late evening shift (ending at 11:00 p.m. or later) and a morning shift the following day – or in case of severe weather event	Hotel

Targeted Promotions	1st year: monthly raffle for multi-modal staff with benefits such as vacation time, gift cards, etc.	
	Thereafter, campaigns 1-2 times per year, tied to regional and national events like Way 2 GO MAINE and National Bike Month - and offering similar rewards; e.g., Vet's First Choice will organize an internal competition and challenge another local business such as WEX during the Way 2 GO MAINE business-to-business commuter challenge	
	Actively promote the use of the Amtrak Downeaster as a transportation option through co-promotional and hotel stay packages. Reservation will also provide transit connection information from Portland Transportation Center to downtown.	Hotel
	Upon construction of the proposed Portland Landing park and public dock, hotel will work with City and/or private entities to promote the use of water shuttle/taxi conveyance to Portland and South Portland sites.	Hotel
Information		
Education for Travel Choice	TDM orientation and benefits packets for relocating employees and new hires	
	One-on-one consultations or commute coaching available to explore employee options upon site opening and offered at least once annually, thereafter	
	Transit Screen monitor located in lobby with looping slides, offering information on: • all TDM benefits available to employees, including company policies • links to current maps, routes, and schedules for public transit routes near the site • live-time transit info from Southern Maine Transit Tracker • information on GO MAINE ride-matching and Emergency Ride Home benefit • walk, bicycle & trail routes to and near site • list of facilities available for bicyclists, carpoolers, pedestrians, transit riders and vanpoolers • list of other available transportation options in the area • contact information for TDM Coordinator	
	Active "Optimize Your Commute" web page on company site including all the information above and links to each resource	
	Point-of-Purchase prompts: hotel will list preferred modes of travel and directions (transit, bicycle, bicycle rental, walking, taxi/Uber, etc.) before driving directions and parking information on hotel web site, at online point of purchase and via confirmation emails	Hotel

Education for Travel Choice cont'd	Guest Transportation Options Packet (made available at check-in and/or in room): concise, customized information on how to access the hotel by various travel modes, with special consideration of efficient modes such as walking, cycling and public transportation. Includes: (1) Map of the area, showing the destination, major streets, nearby landmarks and time to walk/bike to them, the closest bus stops and walking times, recommended cycling and walking routes, etc. (2) Information about transit service frequency, fares, first and last runs, and schedules if possible; plus phone numbers and web addresses for transit service providers and taxi companies. Note: special transit schedule information can be provided for events that start and end at specified times; (3) How to reach the hotel from major transportation terminals (bus and train stations, airport, ferry terminal, etc.) (4) Access arrangements for people with disabilities; (4) Availability of bicycle facilities, including secure bike parking and bikeshare, if available; (5) Automobile Parking availability and price.	Hotel
	At least quarterly communications with employees regarding commuting benefits available – e.g. through email, e-newsletter, announcements, posters, etc.	
	Required employee and visitor transportation surveys and reporting to City will also serve as education tool	
Promotion of Alternate Modes	The above commuter challenges and incentive campaigns	
	Use company social media to build social proof of others doing the desired TDM actions (with posts from employees taking action – e.g., posting a photo of taking the bus to work or the morning carpool) - vs. just likes or retweets of the idea of using preferred alternate modes	
	At least once per quarter: recognize individual employees and visitors who reduce the traffic impact of the site through company social media, door posters, newsletter, email or other announcements.	
	Consider applying for Best Workplaces for Commuters status - a national qualification that no Maine business has yet attained	



G. Plan for Monitoring, Data Collection and Reporting

Recognizing that the implementation of a TDM Plan is a dynamic process, the VFC and Cambria TDM Coordinators will work with the City to monitor the TDM Plan's components, to assess whether the site is achieving the trip and parking reduction targets listed above. Both companies will evaluate the value of various subsidies for preferred modes and make improvements. Another important piece will be to determine the flexibility of employees and visitors to utilize various travel modes to access the site.

Surveying & Monitoring

- Employee and visitor surveys once annually for first 3 years, then every two years thereafter
- Collect parking usage data to cross-reference with the employee and visitor surveys
- Reassess parking and trip monitoring at 2 year mark
- Track employees' use of multi-modal subsidies
- Annual report to City

Vet's First Choice and Cambria will also explore possible use of the national TRIMMS model (Trip Reduction Impacts of Mobility Management Strategies). This would be helpful for internal assessment, to estimate the impacts of the various transportation demand initiatives and provide a program cost effectiveness assessment, including the net program benefit and a benefit-to-cost ratio analysis. The TDM Coordinators will conduct annual employee surveys that provide quantitative data (e.g., trip, parking and mode split) and qualitative data (e.g., perception of the Shipyard Redevelopment's alternate transportation access and TDM initiatives). Similarly, Cambria will also survey hotel visitors. The companies will carry out these surveys once annually for the first three years of full occupancy and then every two years thereafter. The data collection and surveys will produce comparable data from year to year and be available for compilation with other sites' travel data by a third party, such as the City. The following will be included in the monitoring assessment.

Employee Surveys & Parking Usage

The survey will be developed in consultation with the city's TDM manager and conform to overall city TDM modeling and planning. Survey questions will include:

- Employee's zip code of residence
- Mode(s) of travel to and from work and any use of alternate work arrangements
- If parking personal vehicle, where
- Type of participation in TDM program and/or use of any employee TDM benefits
- Preferences, barriers or concerns with modes of travel
- TDM marketing effectiveness
- To help report any business benefits from Vet's First Choice's TDM efforts, the survey may also collect data regarding: any changes in employee satisfaction with travel options, changes in levels of stress, impacts on employee turnover/absenteeism, increases in savings due to participation in subsidies, etc.
- Space to add comments

Visitor Surveys

Similar to the employee survey, Cambria will consult the city's TDM manager and ensure the visitor survey is appropriate for the plan's context and needs. The hotel will provide opportunities for visitors

to complete the survey during their stay, providing the survey at check-in and in each room, as well as via email upon check-out. Visitor survey questions will likely include:

- Visitor's zip code of residence
- Mode of travel to and from the site
- If by car, specify as a driver or a passenger
- If driver, ascertain how many passengers and parking location
- Check boxes of specific preferences, barriers or concerns with using other modes
- Space to add comments

Note: the use of these survey tools will also assist Cambria and Vet's First Choice with their TDM education efforts. That is, the questions themselves help people think differently about their transportation behavior. The surveys will also provide a reminder and link to VFC's and the Cambria's online transportation pages for further information about options.

Parking Usage

Using the employee and visitor surveys and site parking data, Vet's First Choice and Cambria will produce a summary of employee and visitor parking usage.

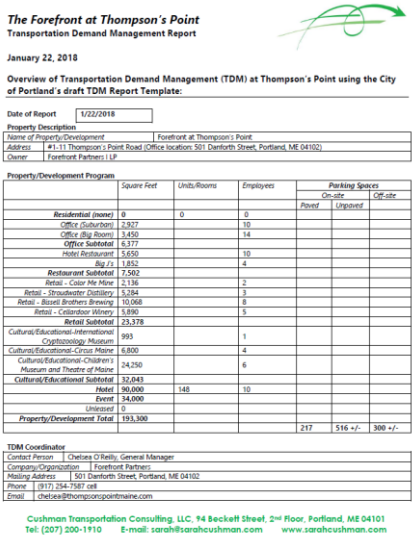
Use of Multi-Modal Subsidies

The TDM Coordinators will track the number of employees utilizing different TDM incentives. The Vet's First Choice TDM Coordinator will monitor the parking cash-out program and use of the subsidies for transit passes, carpool and vanpool vouchers, preferential parking for carpoolers, bicycle maintenance and footwear purchases, bicycle safety courses and Bicycle Benefits memberships. The Cambria TDM Coordinator will do the same for visitors' and employee use of the hotel shuttle, transit passes, and bicycle loan program, etc. In addition, the two coordinators will tally the number of company employees who are members of GO MAINE. If Cambria and/or Vet's First Choice engage with a future bikeshare operation, UhaulCarShare or a transportation network company, the coordinators will assess that usage as well.

Annual Report

The TDM Coordinators will then collaborate to produce an annual TDM Report to meet the City's monitoring requirements. The report will include:

a. the above employee and visitor survey results, parking data and use of subsidies
b. details of that year's TDM operations – including management, strategies, marketing and any new infrastructure development
c. lessons learned and any changes in the TDM plan during the year
d. plans for the following year



The Forefront at Thompson's Point
Transportation Demand Management Report

January 22, 2018

Overview of Transportation Demand Management (TDM) at Thompson's Point using the City of Portland's draft TDM Report Template:

Date of Report: 1/22/2018

Property Description

Name of Property/Development	Forefront at Thompson's Point
Address	#1-11 Thompson's Point Road (Office location: 501 Danforth Street, Portland, ME 04102)
Owner	Forefront Partners I LP

Property/Development Program

	Square Feet	Units/Rooms	Employees	Parking Spaces		
				On-site		Off-site
				Paved	Unpaved	
Residential (none)	0	0	0			
Office (Suburban)	2,927		10			
Office (Big Boom)	3,450		14			
Office Subtotal	6,377					
Hotel Restaurant	5,650		10			
Big J's	1,852		4			
Restaurant Subtotal	7,502					
Retail - Color Me Mine	2,136		2			
Retail - Stroudwater Distillery	5,284		3			
Retail - Bissell Brothers Brewing	10,068		8			
Retail - Cellardoor Winery	5,890		5			
Retail Subtotal	23,378					
Cultural/Educational-International Cryptozoology Museum	993		1			
Cultural/Educational-Circus Maine	6,800		4			
Cultural/Educational-Children's Museum and Theatre of Maine	24,250		6			
Cultural/Educational Subtotal	32,043					
Hotel	90,000	148	10			
Event	34,000					
Unleased	0					
Property/Development Total	193,300					
				217	516 +/-	300 +/-

TDM Coordinator

Contact Person	Chelsea O'Reilly, General Manager
Company/Organization	Forefront Partners
Mailing Address	501 Danforth Street, Portland, ME 04102
Phone	(917) 254-7587 cell
Email	chelsea@thompsonspointmaine.com

Cushman Transportation Consulting, LLC, 94 Beckett Street, 2nd Floor, Portland, ME 04101
Tel: (207) 200-1910 E-mail: sarah@sarahcushman.com www.sarahcushman.com

Shipyard Brewing
Level III Site Plan Application
Response to Comments

	Reviewer Comment	Response
	Transportation	
1	Submit TMP, TDM, trip generation, parking study	TDM has been submitted. TMP Application has been submitted and scoping meeting is to be scheduled. Based on discussions with City Staff the TMP process is being considered for an alternative review process where 3 or more projects in the area will be considered together under one TMP. At this time the schedule for the TMP process is unclear but expected to be determined soon. No parking study is being provided as the site currently provides sufficient parking to meet code, however we have included parking calculations based on ITE rates which depict hourly demand throughout a typical weekday. Parking for the Pharmacy and Technical Fulfillment space has been provided at a rate of 1 space per 1000 sf which provides a total of 60 spaces for those uses. It is not anticipated that there will be 60 employees for those particular uses, as such there is sufficient parking for the Pharmacy and Fulfillment. In addition, we know that the hotel and office uses have staggered peak needs for parking as noted by the parking calculations included with this resubmittal.
2	Waivers: # of curb cuts	The proposed plan for 4 driveways makes the site considerably less non-conforming than it's current condition. The existing site has 7 driveways, many of which are over 40 feet wide. This plan seeks to keep the existing driveway on Fore Street and provide a new driveway that serves the parking garage on Hancock Street. 2 lesser driveways that strictly serve the residential units and Pharmacy Deliveries on Newbury Street are proposed as well. This is a one-way route where vehicles enter on Hancock and leave on Newbury, with a very low number of trips expected per day.
3	Sidewalk/ramp details – follow Tech Manual, 2% cross slope	The plans have been updated based on comments received from Staff, and have been designed to comply with the technical manual.
4	Widen sidewalks where possible	Sidewalks have been widened on all 4 sides of the project to be at least 10 feet wide, and in most cases are wider than 10 feet. As required, Hancock Street along the project frontage has been reduced in width by approximately 7 feet to align with the rest of Hancock Street. The reduction will provide additional sidewalk on what is likely to be the most active pedestrian area for the project. The on-street parking will remain along Hancock.
5	Bike parking standard – update calculation, possible waiver, show locations	34 bike parking spots are required, which will be provided at various locations on site. Both the hotel and office will have bike storage rooms inside the buildings to promote commuting by bike for their employees. A mix of exterior racks in key locations, and interior bike storage space is proposed to satisfy the code requirements. 20 rack spaces outside are proposed and at least 14 spaces will be provided inside the 2 bike storage rooms.
	Environmental Quality	
7	Construction limited between June 1 and August 1 for bat species	Comment acknowledged.
8	Street tree standard for multi-family (TM 4.6.1):1 tree/unit in ROW 10 req; 17? Provide trees within landscape areas where possible (Newbury Street); ask Jeff about trees on Hancock and Mountfort	The update Landscape Plan is included with this resubmittal and includes 11 street trees and an additional 7 smaller understory trees along Newbury Street.
9	Submit landscape plan for understory plantings review	An updated landscape plan has been provided with this submittal.
10	Details for Green Roof needed – diagram of total area showing at least 50% pervious, calcs for 1" storm event, draft maintenance plan, details	An exhibit showing that at least 50% of the site will be pervious surface either as a green roof or other surface has been included with this submittal. An allowance for mechanical space on the roof has been provided, although final design has not been completed the mechanical allowance is expected to be more than is needed.
11	Reflect changes for numbers in stormwater application	The Stormwater Report and Calculations have been updated to reflect the latest plans.

12`	Indicate how you are meeting the DEP and MHPO recommendations for construction	The MHPC recommended that a Phase I Archeological Reconnaissance Survey be performed in the area near the buildings at 70-72 Newbury an 10-12 Mountfort Street. In addition the MHPC requested that a history of these 2 buildings be provided including the tenants and thier ethnicity. The Applicant has retained the firm Independent Archeological Consulting, LLC (IAC) from Portsmouth, NH to perform these services, and they are currently underway and ongoing. Due to the amount of prior industrial use, development and redevelopment only a small isolated area near the corner of Newbury and Mountfort Streets has remained undisturbed since the mid 1800's. This area is the focus of the archeological work. Relative to construction we do not anticipate any restrictions by MHPC. IAC has included construction monitoring for the initial earthwork phase of the project in their proposal and, dependent on the outcome of the Phase i, may be onsite during excavation work to monitor for archeological resources that can be recovered.
	Public Infrastructure and Community Safety	
13	Separate addresses for each building/use	Comment acknowledged, separate addresses for each use will be requested.
14	Capacity letters need to be updated to reflect the changed program.	Updated requests for ability to serve have been provided to the various utility providers, responses will be provided when received.
15	Can overhead utilities poles be consolidated?	During its June 12 Workshop to review the proposed 86 Newbury Street mixed use project it was requested by the Planning Board that the Applicant investigate the potential of converting existing overhead power on Newbury Street to underground service. The Project Team as part of its due diligence efforts conducted an extensive design review meeting with CMP Staff to review and evaluate the feasibility of the undergrounding request. The current pole design and configuration on Newbury Street presents several challenges. These challenges are a result of many factors including the residential nature of the opposite side of Newbury Street, prior undergrounding elsewhere in the area, and the presence of other overhead utilities. The first challenge is the fact that this section of street contains three riser poles for the primary electric circuit serving this area of the City and a separate fourth riser pole for the other non-electric utilities (telephone/cable) since these other utilities cannot be located on the same pole as electric. In general, riser poles are not able to be combined with other riser poles, so consolidating three poles into one pole is not an option based on our discussions with CMP. As noted above these risers are a result of prior undergrounding work elsewhere, so if a circuit goes below ground it must come out somewhere and this particular street corner happened to be where three circuits all came back above ground. The Applicant would have to bear the cost of relocating all of this infrastructure and is unlikely to recapture any of the costs in the future. In theory this work would be achievable but would require substantial engineering, design and construction work and cost. Additional coordination and buy-in from all of the utility providers such as cable television and telephone would be necessary to remove all the poles from Newbury Street, which would add another layer of cost. The second issue which is more prohibitive is the fact that all of the existing housing units on the opposite side of Newbury Street are served by the overhead power. Per CMP these secondary lines that cross Newbury Street and service the housing units are the responsibility of CMP to maintain as long as they remain overhead. In order to eliminate the overhead power these secondary lines would need to be run under the street and connected to the existing buildings. Once these secondary lines are run underground the maintenance and responsibility shifts from CMP to the individual building or unit owner.

15 cont'd		We would need to obtain written agreements with all of these owners acknowledging that they would be taking on an additional financial obligation for these secondary lines. In CMP's experience this is usually impossible to obtain 100% buy in from the neighbors as it does not benefit the existing users. In addition, the cost of work to switch from overhead to underground would be an additional burden on the owners of these residential properties. Without 100% buy in we would be required to maintain the existing overhead secondary lines serving the housing units, which would mean there would continue to be poles on Newbury Street. After reviewing these two significant challenges it was determined that the best course of action would be to attempt to reconfigure the existing overhead service to potentially eliminate some of the poles and work to straighten out some of the runs to have a more visually appealing configuration. As noted above, the four riser poles that exist at the corner of Newbury and Hancock are unsightly and detract from the visual aesthetics of the street corridor. The Applicant recognizes this in the context that they are creating a world-class development, but also recognizes that the cost to underground is not only challenging and cost-prohibitive but in reality, may not actually improve the situation. Similar to other developments that have put the utilities on their street underground, this project would end up shifting these riser poles to the intersection of Newbury and Mounfort Street. In all likelihood these poles, plus at least one additional riser pole would then end up at the end of Newbury Street, directly in line with the view corridor looking east down Newbury. This unintended consequence, as noted above would be costly and not necessarily achieve the goal of improving aesthetics of the Newbury Street corridor. Not only that it may shift the burden to another property, who may contemplate undergrounding in the future. Recognizing that undergrounding on Newbury Street has benefits and challenges the Applicant would be willing to engage with the City, CMP and other stakeholders to develop a more regional solution to undergrounding existing overhead lines. A strategy to prioritize undergrounding where it's most beneficial would serve the entire Eastern Waterfront Area, especially as it continues to grow and change. This type of approach would also serve to mitigate the unintended consequences noted above of shifting the burden on a street by street basis, with ever increasing costs and complications. However; this process should not hold up the progress of this time-sensitive project.
	Site Design	
16	Garage Ventilation?	Ventilation details will be provided during detailed building design. Please note that the Fore Street side of the parking garage is open-air.
17	Within 100' of historic landmark – see HP Board advisory review notes	The architectural plans included with this resubmittal have taken into account the HP Boards advisory comments. The Applicant has modifed the program to include residential units along Newbury Street, and has modified the architecture at the corner of Newbury and Mountfort street in order to better reflect the scale of the neigborhood in that area.
18	Site lighting/photometrics needed; Street lights required – medium scale, black with LED 3000 K color temp (new spec to be adopted into Tech Manual) Spacing listed in Tech Manual, 2"-4" concrete footing	The lighting plan has been updated, street lights are City Standard in black with 3000 K color temp and the foundation detail has been provided to provide a 4" max spacing between the sidewalk and bottom of the pole mounting.
19	Specify HVAC equipment locations	HVAC locations have been depicted on the exhibit for the green roof.
	Subdivision Review	
20	PWD letter needed – update capacity request to reflect latest sf	Updated requests for ability to serve have been provided to the various utility providers, responses will be provided when received.
21	Trash rooms/solid waste management?	A trash room is proposed on the ground floor and is shown on the site plan and building floor plans.
22	Permits needed: Traffic Movement Permit, DEP Maine Construction General Permit, Permit By Rule	As noted above, an application for a TMP has been submitted to the City. A Permit By Rule (PBR) will be submitted to DEP shortly, by signing the PBR form the Applicant is agreeing to the terms of Maine's Consruction General Permit (CGP). As such, as separate CGP application is not required.
23	Waiver Requests: Drive aisle widths, # of curb cuts/driveways, Location of driveways from intersection on Fore Street	The Applicant is requesting the following site-related waivers: 1. a waiver for the number of site driveways, 2. a waiver for parking garage dimensions, and 3. a waiver to the driveway separation requirements. Please see the attached Waiver Table and Justification Statement.
24	Street Trees -10 required for 10 residential units; 17? provided in/near ROW	The update Landscape Plan is included with this resubmittal and includes 11 street trees and an additional 7 smaller understory trees along Newbury Street.

25	Staff suggest that trees should go in the private landscape areas where possible to increase sidewalk width and improve viability of trees	Planters on Newbury have been removed from the sidewalk and trees are shown on private landscape
	Additional Submittals Required	
26	We need a legal document (P&S agreement or deed) showing Right, Title, & Interest	A deed showing 86 Newbury St, LLC owns the property has been provided with this resubmittal, along with an explanation that Bateman Investments is a member of 86 Newbury Street, LLC.
27	Housing Replacement – 9 units to be demolished	10 units are proposed as part of this project, with at least 10% provided to meet the City's Inclusionary Zoning requirements.
28	Construction Management Plan narrative	An updated Construction Management Plan has been provided which includes the required Narrative on the plan sheet.
29	Neighborhood Meeting minutes/attendance	Neighborhood Meeting minutes have been provided.
	Easements/Licenses	
30	10' no-building easement adjacent to Residence Inn	Comment acknowledged, this is shown on the plan and the proposed building does not encroach within the no-build easement.
31	Access easement to Residence Inn (shown on site plan) – applicant indicated this easement may be revised	The Applicant is proposing to satisfy the terms of the Access Easement, an exhibit has been provided with this resubmittal to show the clear height being provided by the proposed parking garage.
	General Development Standards	
32	Staff request additional info – diagram showing how 50% pervious lot area is met, Ch 32 compliance and calculations, details, and greenroof maintenance agreement	An exhibit showing that at least 50% of the site will be pervious surface either as a green roof or other surface has been included with this submittal. An allowance for mechanical space on the roof has been provided, although final design has not been completed the mechanical allowance is expected to be more than is needed. A post construction O&M section has been added to the stormwater report that satisfies Ch. 32. The Applicant requests that a maintenance agreement for the green roof will be provided to the City as a condition prior to a Certificate of Occupancy.
33	More information needed to determine parking requirement.	No parking study is being provided as the site currently provides sufficient parking to meet code, however we have included parking calculations based on ITE rates which depict hourly demand throughout a typical weekday. Parking for the Pharmacy and Technical Fulfillment space has been provided at a rate of 1 space per 1000 sf which provides a total of 60 spaces for those uses. It is anticipated that the Pharmacy will not employ more than 25 and the Fulfillment will not employ more than 35, as such there will be more than sufficient parking for the Pharmacy and Fulfillment. In addition, we know that the hotel and office uses have staggered peak needs for parking as noted by the parking calculations included with this resubmittal.
	Siting Standards	
34	Waiting for final site plan for lot coverage	Lot Coverage (buildings only) is 75% and has been shown on the Site Plan.
	Setbacks	
35	Waiting for revised plans for final evaluation; staff suggest extending sidewalks into front yard where feasible	Sidewalks have been widened on all 4 sides of the project to be at least 10 feet wide, and in most cases are wider than 10 feet. Additionally sidewalks have been extended up to building faces where possible.
	Building Entries	
36	Newbury = 1 required per building, Mountfort = 2 required, Fore = 1 required (possible waiver request), Hancock = 1 required for residential building; 1 or 2 required for Hotel, 2 provided	The applicant is requesting a waiver for the 1 required entry on Fore Street.
37	More information needed on principal entry elevation	See revised plans and elevations for further information on principal entry of the office building. Additional renderings have also been submitted for further information of entry design.
	Height Standards	
38	Hampshire/Federal = UN 45'max; Federal/Franklin = UT 77' max; Provide height measured from average grade	All height measurements (from average grade) are provided on building elevations.
39	3 stories on Newbury; 7 stories on Mountfort/Fore (more info needed for bonus story); 6 stories on Hancock	Number of stories are address/provided on building elevations. Further information on green roof has been submitted.
	Neighborhood Context	

40	Intent: be mindful of the transitional nature of the site – especially on Newbury and Mountfort streets. The large office building needs to become more contextual with the small-scale, residential streets and blocks that surround it. The façade composition and material placement can be used to transition this office use and larger scale. Newbury Street residential buildings will be good scale for transition from residential buildings across the street. Hancock Street is mostly mid-rise buildings – hotel is appropriate scale and has active frontage.	Revised design addresses staff as well as historic comments on design and transition from Newbury Street and Mountfort Street to Fore Street. In regards to the office building design, the curtainwall material was scaled down, and is featured predominantly along Fore Street and at the intersection of Fore and Mountfort. The building transitions to more tradition materials along Mountfort and Newbury Street, The scale of the building also transitions at Mountfort and Newbury in relation to the existing context.
41	Guidelines: staff will evaluate these items more closely when revised submission is received.	Comment acknowledged.
	Articulation & Composition	
42	Intent generally met but more information needed for office building facades and the residential buildings.	Revised building elevations and renderings have been provided for further information on the design of the residential buildings along Newbury Street, as well as the office building.
43	Guidelines: Façade plane changes, overhanging cornices, massing variation	Comment acknowledged.
	Fenestration	
44	Standard 4.3 -- what is VT of glass?	Specifications of glass options have been provided. This addresses possible VT levels of the glass curtainwall.
	Building Materials	
45	Intent: More info needed for residential buildings; hotel building has appropriate mix of brick and industrial references; office building curtain wall is not appropriate in relationship to the residential blocks.	Revised building elevations and renderings have been provided for further information on the design of the residential buildings along Newbury Street, as well as the office building.
	Building Entries	
46	Intent: Please provide entry locations in revised submission. Most facades appear to include active entries.	See revised site plans.
47	Guidelines: Staff will confirm the guidelines are met with the revised submission.	Comment acknowledged.
48	Standard 6.1 -- Principal entry for hotel on Hancock, for office on Mountfort, for residential buildings on Newbury. Fore Street may not have an entrance and would require a waiver.	Applicant requests a waiver for the entry on Fore Street
49	Standard 6.7: Frequency -- See zoning checklist	
	Roof Lines	
50	Intent: More information requested regarding any roof mechanical systems – placement and design integration	See revised building elevations for mechanical locations, mechanical units to have screening/treatment.
51	Guidelines: Staff will weigh in more once revisions to hotel and office buildings are made. HP did comment on the roof forms of the residential buildings and whether they could relate more to the front-end gable buildings across the street. Staff feel that flat roofs are appropriate for multi-family buildings	Comment acknowledged. Revised elevations and renderings have been provided.
52	Standard 7.1 -- More information requested regarding rooftop systems.	See revised building elevations for mechanical locations and screening.
	Structured Parking	
53	Guidelines: The structured parking is buried behind other buildings. More information is requested regarding the parking deck materials/design on Fore Street.	See revised elevation for design along Fore Street.
	Civil Engineering - Third Party Reviewer; Lauren Swett	
54	The Applicant has noted utility ability to serve letters are pending.	Updated requests for ability to serve have been provided to the various utility providers, responses will be provided when received. We've met with PWD, CMP and Unitil to review the plans and are currently finalizing utility designs with these parties. All have indicated that they would be able to serve the project. We have submitted an updated Wastewater Capacity Application to the City's Department of Public Services and it is currently under review. In general, water and sewer flows are expected to decrease significantly given that the water-intensive brewing operations are being scaled down.
55	Please provide additional information on the stormwater connection in Mountfort Street. Information on the proposed manhole, pipe sizes, inverts, etc. should be provided. Note that if the stormwater pipe from the site is greater than 8 inches in size, a manhole must be installed in the street to connect to the main. Direct-to-pipe connection methods are not allowed for larger pipes.	The connection on Mountfort Street has been updated to include a proposed manhole. The sewer invert at the intersection of Newbury and Mountfort was unable to be deteremined; as builts plans have been requested from the City.
56	Provide a construction management plan narrative using the City's template which is available online: http://www.portlandmaine.gov/DocumentCenter/View/18030	An updated Construction Management Plan has been provided which includes the required Narrative on the plan sheet.
57	The post-development stormwater figure does not match the current site plan.	The Post-Development Water Quality Map has been updated to match the current plans.
58	The Applicant has shown stormwater (foundation drain) connections to catch basins in the city street. Private connections to City catch basins are not allowed.	Foundation drains have been connected to the existing storm system on-site.

Shipyard Brewing
Level III Site Plan Application
Response to Comments

59	The HydroCAD model indicates that the increase in impervious surface is greater than 1,000 SF, while the application notes that the increase is de minimus	The revised Stormwater Report and Hydrocad Calculations show that the current plan results in a slight reduction in impervious area in the post-development condition.
60	Applicant has provided a note on their detail sheet that "subsurface detention systems may be substituted with an engineer approved equal". Please note that the detention system must be a DEP-approved system.	The note has been updated on Sheet C103.
61	A post-construction stormwater O&M plan and a stormwater agreement in accordance with Chapter 32 requirements is required.	A post-construction O&M Plan is included in the Stormwater Report, and is also provided in the Erosion Control Report. A Stormwater Agreement will be provided to Staff under separate cover.
62	Note that with the level of impact to Mountfort Street, which is under moratorium, it appears that the most of street may need to be repaved.	The Applicant is anticipating that Mountfort Street, along the frontage of the project will need to be resurfaced due to the number of utility connections and the incidental damage that is likely during construction. The plans have been modified to to show this.
63	Applicant is proposing a green roof. Additional design and construction information should be provided, i.e. construction details, storage calculations, O&M plan, maintenance agreement.	Additional details of the green roof have been provided with this submittal. Detailed design of the roof has not been provided at this stage as the building design has not commenced. The Applicant requests that this information be provided once the final roof design has been completed. At this time the stormwater design does not account for any storage volume from the green roof, which provides a conservative approach.

Google Groups

86 Newbury Development Concerns-In addition

Karen Snyder <karsny@yahoo.com> Jun 26, 2018 8:10 AM
Posted in group: **Planning and Urban Development**

Dear Planning Board Members,

Please add the below comment to my public comment since I forgot to include it in the original email below.

A zoning height change should NOT be given to 86 Newbury development. There is a reason the City has zoning in place and it was NOT meant to be continuously broken/waived by developers.

Regards,
Karen Snyder
Munjoy Hill Resident and Property Owner

On Tuesday, June 26, 2018 07:39:15 AM EDT, Karen Snyder <karsny@yahoo.com> wrote:

Portland Planning Board: Tuesday, June 26, 2018
Sean Dundon, Chairperson
Brandon Mazer, Vice Chairperson
David Eaton
David Silk
Austin Smith
Maggie Stanley
Lisa Whited

Re: 86 Newbury Development

Dear Chairperson Dundon and Portland Planning Board Members,

I am very concerned about the 86 Newbury development at the base of Munjoy Hill. As you are well aware, we all ready have parking issues of downtown Portland workers, tourists, city employees parking on Munjoy Hill and it will only get worse. There is also great traffic congestion during rush hours on Franklin Arterial and Washington Avenue which will only get worse as well.

However, just simply adding 360 parking spaces to this site is a very short sited and “car-centric” mind set. This will create further traffic congestion and pollution on Franklin Arterial and Washington Avenue during the rush hours which are all ready cause for avoidance for Munjoy Hill residence, India St residence, and the fisherman on the working waterfront on Commercial street. Please note the commuter park and ride parking lot at I-295 and Marginal Way is currently under-utilized.

If Portland government and developers are chanting Portland as wanting to be a "world" class city, just creating a massive amount of more parking spaces to create even more gridlock and pollution in the city is NOT a world class solution for this day and age. Mass transit should be pursued to push as much parking and traffic congestion off the peninsula rather than the City encouraging it.

Mass transit is sadly lacking within the US as shown below and way behind Europe.

Summary of Trams/Street Cars/Light Rail by Continent:

- African Continent: 11 cities, Total Population: 1.2 billion
- Asian Continent: 56 cities, Total Population:4.4 billion
- European Continent: **274 cities**, Total Population: **738 million**
- North American Continent: **24 cities**, Total Population: **579 million**

Source: https://en.wikipedia.org/wiki/List_of_tram_and_light_rail_transit_systems

Potential Solutions to Portland's Parking and Traffic Congestion Issues:
Long-Term Solutions:

1) **Obtain funding to build up on the commuter park and ride right off of I-295 on Marginal Way**. This parking lot is extremely under-utilized.
- Have city investigate getting funding to build this by either Federal grants, DOT, Dept of Energy, developers, etc.
- Make it 4 to 5 stories to move the parking off to the highway (800-1,000 parking spaces).
- Have City enforce that companies > 50 employees start using this park and ridge garage off of I-295 that work in town.
- Why can't WEX help fund this? Their employees will have the biggest impact on the city of over 600 employees.

2) **Obtain funding to create a solar/electric street cars/tram/light rail going from this garage, up Franklin Arterial with a turn about at Middle street.**
-Have city investigate getting funding to build this by either Federal grants, DOT, Dept of Energy.

3) I am sure there are great other ideas out there....

I urge the Planning Board to find more progressive and environmental sustainable solutions for the Portland residents and fishermen affected by this development rather than thinking that creating more parking spaces will solve current traffic/parking problems. It will only further exasperate the traffic congestion/parking problems besides increased pollution that we currently have in Portland.

Regards,

Karen Snyder

Munjoy Hill Resident and Property owner

100 Fore St, 86 Newbury St,

Debby Murray <debbym@gwi.net> Jun 25, 2018 5:12 PM
Posted in group: **Planning and Urban Development**

I am lumping these two issues I'd like to protest together because they make me want to scream. WHERE ARE WE PUTTING ALL THE CARS? What's the traffic plan? HELP! No one lives or works in these glass monstrosities down by the Wex etc project and the driving is already horrendous. WHAT HAPPENS WHEN THEY ALL LEAVE FOR WORK?

And height. Think about places you love to visit or live, like Brooklyn or Charleston....the sky is not cluttered with high rise buildings. It's like a game of dominoes right now- one developer blocks residents- a new developer blocks that one and soon the richest developer wins. His buyers get the view AND NO ONE ELSE DOES.

These are Two huge things to consider when you vote on these projects. Cars, parking, pollution, noise, safety all come under one umbrella - beauty, accessibility, and sensitivity come under the other.

Debby Murray

Debby Murray🐝
104 North St.
Portland. ME 04101

Re: 86 Newbury Development Concerns

Joey Brunelle <joey.brunelle@gmail.com> Jun 27, 2018 1:50 AM
Posted in group: **Planning and Urban Development**

Dear members of the Planning Board and city staff,

I fully support the point that Karen is making here.

The Press Herald reported earlier today that the State of Maine has analyzed future traffic patterns on I-295 and has determined that traffic congestion is bad and will inevitably grow worse. Well, what will contribute directly to making it worse? Plopping hundreds (actually more like thousands, if you tally the Portland Company development, the Wex building, and the other things going up on the Waterfront) of new parking spaces at the end of Franklin Street with only a token gesture of support for public transit.

If Portland is not to be choked by a traffic disaster of its own making within 5-10 years, we must start seriously and aggressively pursuing limits on parking, high traffic impact fees for new developments, and a much greater focus on public transit like expanded bus service, light right, and commuter rail. Backwards, late-20th century car-centric planning patterns must die, or Portland will suffer as a result. If we are to become a "world class city" as our City Manager so often suggests, we can no longer rely on cars and car commuters to do it - public transit must be a bigger part of the equation.

Thanks,
- Joey Brunelle

On Tue, Jun 26, 2018 at 4:39 AM Karen Snyder <karsny@yahoo.com> wrote:

> Portland Planning Board: Tuesday, June 26, 2018
> Sean Dundon, Chairperson
> Brandon Mazer, Vice Chairperson
> David Eaton
> David Silk
> Austin Smith
> Maggie Stanley
> Lisa Whited
>
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>
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3) I am sure there are great other ideas out there....

I urge the Planning Board to find more progressive and environmental sustainable solutions for the Portland residents and fishermen affected by this development rather than thinking that creating more parking spaces will solve current traffic/parking problems. It will only further exasperate the traffic congestion/parking problems besides increased pollution that we currently have in Portland.

Regards,

Karen Snyder

Munjoy Hill Resident and Property owner

86 Newbury St. - India St. District - NO zoning height change please

Anna Medina <fruity.gemini@gmail.com> Jul 6, 2018 11:46 AM
Posted in group: **Planning Board**

Good afternoon,

As a Munjoy Hill resident I write to encourage you to NOT give a zoning height change to 86 Newbury Street - India Street district.

This development will severely affect traffic congestion and may create even more parking issues on Munjoy Hill as well besides removing more affordable housing and erasing even more of India Street area. This development will also severely impact the working waterfront traffic congestion that is affecting the fisherman.

Please encourage the development of affordable housing units, not the removal of them. To remove traffic congestion off the peninsula, please encourage mass transit capability. Portland is a growing city. Isn't it time our public transportation system grow alongside all of the buildings and parking garages?

Sincerely,

Anna Medina

86 Newbury St - India Street District

R Cousins <rcousins@hotmail.com> Jul 10, 2018 12:10 PM
Posted in group: **Planning Board**

I respectfully Request that the zoning height waiver is NOT given.

Among other problems: This development will severely affect traffic congestion and may create even more parking issues on Munjoy Hill as well besides removing more affordable housing and erasing even more of India Street area. This development will also severely impact the working waterfront traffic congestion that is affecting the fisherman.

As mentioned in my previous letter about 100 Fore St it's time to move the in migration of working folks to public transit via parking garages located at the 'gateways' or perimeters of the city. In this instance we should also insist on more affordable housing units. Yes provide parking on site for the residential units, which should be more affordable.

This project is to me way out of scale to the adjoining neighborhood and should really be scaled back in size and ambition. I'm not against growth but I haven't seen my property taxes reduced with all the 'growth' in my 'hood nor the surrounding area. Is this something I should expect or is the City just going to increase taxes by re-evaluating my property now that other properties have greater value?

Sincerely,

Rae Cousins
Munjoy Hill resident

100 Fore Street 86 Newbury WEX

Stephen Gaal <steve@gaal.com> Jul 10, 2018 9:47 AM
Posted in group: **Planning and Urban Development**

Dear Planning Board members, City Council members and staff,

The requested zoning changes to waive or revise height limits and add nearly 1,000 parking spaces in the India Street area defy description. Why do we have zoning rules that protect us all and make it possible to live in close proximity and in relative harmony when they can be easily circumvented? These property owners knew what the rules were when they purchased and planned their developments. Hold them accountable to the rules. Please, DO NOT grant the waivers.

The idea of adding 950 parking spaces is astonishing. Just 3-4 years ago, when the planning board was considering the contract zone for the new 400 seat theater at the St. Lawrence, neighbors objected saying the additional 200 cars per performance would be an issue without additional parking and the project was approved anyway saying the city's strategy is to NOT make parking more available and to encourage public transportation. What is good for the goose is good for the gander. Please do not approve these waivers. Let them take public transportation. Perhaps they can "subsidize" the Metro like the St. Lawrence promised to do.

Respectfully,

Stephen Gaal
Portland ME
steve@gaal.com
(603) 651-9183 mobile

The Russian dissident and chess grandmaster Garry Kasparov drew upon long familiarity with that process when he tweeted: "The point of modern propaganda isn't only to misinform or push an agenda. It is to exhaust your critical thinking, to annihilate truth."

Google Groups

86 Newbury Street - India Street District

Stan Berkow <stan.berkow@gmail.com> Jul 11, 2018 2:59 PM
Posted in group: **Planning Board**

To whom it may concern:

As residents of Munjoy Hill, we ask that this project NOT receive a zoning height change, include affordable housing, and encourage mass transit options vs. extensive parking which will bring significant traffic to the area.

Thank you,
Stan and Christina Berkow

Google Groups

Shipyard/St. Development

Mike Curran <mwcurran@gmail.com> Jul 19, 2018 11:28 AM
Posted in group: **Planning Board**

-Based on recent neighborhood meetings I attended this project can be a betterment to the area as long as the developer stays on script, as he stated that submitted plans conform to the existing zone requirements.
-As City of Portland knows this area has and remains under major construction projects and the outlook is for at least 3+ more years.
-Currently or finished-
TilsonBuilding/MasonBloc/Marriott/Bay/ThamesSt/Shipyard/WexCorp/113Newbury/CreditUnion
possible others- Fore St. another hotel and condo-mixed use building.
-Therefore a traffic plan for pedestrians and vehicles is appropriate to assure safety measures are formalized.
-There is an 8 street grid that is under density pressure and the levels continue to grow.
Grid includes but not totally limited to-
Commercial St./India St./Montfort St./Fore St./Federal St./Newbury St./Hancock St./Middle St.
-Some considerations-
One way streets/15MPH limit./elevated road areas (similar to Deering HS areas)

I cannot attend the next Planning Board meeting and ask you consider this as my observations and pro-active considerations. Thank you.
--
Mike Curran
22 Hancock St. #206
Portland, ME 04101
207 747 9639

July 11, 2018

Barbara Barhydt
Planning Division
89 Congress Street
Portland, Maine 04101

Dear Ms. Barhydt,

On behalf of the Washington Square Housing Association, which consists of 30 private residences bordering Mountfort, Congress, and Ponce Streets on Munjoy Hill, we would like to convey our concern over the proposed redevelopment of the Shipyard Brewing Site.

We find the volume of traffic in the area of lower Munjoy Hill and Old Port to be problematic at present, with five new large structures currently under construction (two on India Street and three on Commercial Street by the CAT terminal. These buildings may offer interior parking but even so we're concerned about the sheer volume of cars moving in and out of these buildings on the narrow streets of this area, particularly in times of snow.

The June 20th issue of The Forecaster noted a recent study showing an excess of vehicles looking for parking on any given day than spaces available. This implies increased driving time while cars look for spaces.

The City of Portland is now permitting the addition of

hundreds of cars to a very small and constricted area with narrow streets, devoid of shoulders and places for packed snow.

We believe that adding any more large building projects in this area defies any common sense notion of how many cars can be added to the already congested traffic in this area and indeed on the entire peninsula.

Sincerely,

The Board of the Washington Square Housing Association
59 Mountfort Street
Portland, ME 04101

Please no height waver, no 360 parking garage, and no more tearing down of affordable housing in the city.

Kris Lape <krislape@aol.com> Jul 18, 2018 10:05 AM
Posted in group: **Planning Board**

86 Newbury

- **Wanting a Zoning Height Waiver and plan to add 360 parking spaces.**
- Erasing an entire block across from Abyssinian Church and removing 9 affordable housing units.

This development will severely affect traffic congestion and may create even more parking issues on Munjoy Hill as well besides removing more affordable housing and erasing even more of India Street area. This development will also severely impact the working waterfront traffic congestion that is affecting the fisherman. India Street area is losing it's historical and architectural beauty. More of the same will forever change history, just as the creation of Franklin Arterial did when it destroyed hundreds of homes and businesses. Lost forever. Please DO NOT give a zoning height change and stop the creation of monstrous 'lego-like' buildings. They add no architectural meaning to the history of business and housing neighborhoods. The city needs to include affordable housing, and instead of encouraging more traffic and cars in the city need to encourage mass transit capability to remove traffic congestion off the peninsula.

Portland's history is literally being erased before our eyes, erasing Munjoy Hill history, erasing the working waterfront, creating even more traffic congestion, and the reducing the ability for locals to even live in their own city.

Please encourage better architecture (with some unique features), less traffic, lower buildings, and more affordable housing. Please help save our precious waterfront and the access to it.

Thank you so much.

Sincerely,

Kris Lape

Kris Lape
Kris Lape Designs
krislape@aol.com
207-592-3484

SHIPYARD REDEVELOPMENT

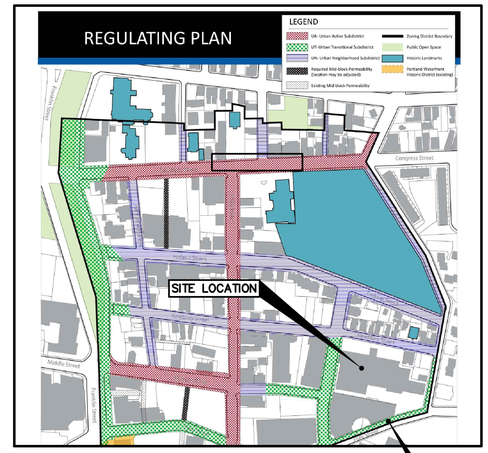
NEWBURY STREET
PORTLAND, MAINE

PROJECT PARCEL SITE
PORTLAND ASSESSOR'S MAP & LOT NUMBERS

MAP	LOT
020	C001, C002
020	C005, C009, C015

Applicant:

86 NEWBURY STREET, LLC
470 FORE STREET, PORTLAND ME 04101
CLIENT PHONE #: (207) 772-2992



LOCATION MAP
N.T.S.
FROM CITY OF PORTLAND DIVISION 15.2

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BUILDING	
	RIGHT OF WAY	
	PROPERTY LINE	
	BUILDING SETBACK	
	ZONE LINE	
	WETLAND BOUNDARY	
	GUIDE RAIL	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL DRIVE	
100	GRADING CONTOUR LINE	100
X 226.4	SPOT ELEVATION	100.31
	TREELINE	
	TREES & HEDGES	
	POLE WITH LIGHT FIXTURE(S)	
	UTILITY POLE	
	FREESTANDING SIGN	
	PAINTED DIRECTIONAL TRAFFIC ARROW	
OE	OVERHEAD ELECTRIC/TELEPHONE	OHE/T
UE	UNDERGROUND ELECTRIC/TELEPHONE	UGE/T
W	WATER LINE	8"W
D	STORM DRAIN LINE	18"SD
	CULVERT	18"CULVERT
	HYDRANT	
WV	WATER GATE VALVE	
	WATER SHUT OFF VALVE	
	MANHOLE	
	CATCH BASIN	
	TEST PIT	
	IRON ROD (SET)	
	IRON ROD (FOUND)	
	MONUMENT	
	RIPRAP	
	SILT FENCE – PERIMETER	
	STONE SEDIMENT BARRIER	
x	FENCE	
N	WELL	

GENERAL NOTES

1. TOPOGRAPHIC DATA AND EXISTING CONDITIONS WAS PREPARED BY OWEN HASKELL OF FALMOUTH, MAINE ON FEBRUARY 14, 2017

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

3. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER, THE CITY OF PORTLAND OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.

4. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.

5. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, AND/OR CITY OF PORTLAND SPECIFICATIONS.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF A SITE PLAN APPROVAL FROM THE CITY OF PORTLAND. THE CONSTRUCTION WILL BE GOVERNED BY THE CITY OF PORTLAND ZONING ORDINANCE WHICH IS AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

LAYOUT NOTES

1. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB.

2. OFFSETS TO CATCH BASINS AND MANHOLES ARE TO THE CENTER OF THE FRAME.

3. PIPE LENGTH EQUALS THE CENTER TO CENTER DISTANCES BETWEEN CATCH BASINS AND/OR MANHOLES MINUS ONE-HALF OF THE DIAMETER OF EACH CATCH BASIN OR MANHOLE.

4. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE, BY A MAINE LICENSED LAND SURVEYOR.

5. PROPOSED RIGHT OF WAY MONUMENTS AND PROPERTY LINE PINS SHALL BE INSTALLED UNDER THE DIRECTION OF A MAINE LICENSED LAND SURVEYOR.

6. CURB RADII UNLESS OTHERWISE NOTED ON THE PLAN SHALL BE A MINIMUM OF 3'.

UTILITY NOTES

1. ALL WATER UTILITY MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO PORTLAND WATER DISTRICT STANDARDS. ALL WATER DISTRIBUTION PIPING SHALL BE CLASS 52 DUCTILE IRON PIPE, DOUBLE CEMENT LINED AND BITUMINOUS COATED CONFORMING TO AWWA/ANSI C104/A21.4. DISINFECTION OF WATER LINES SHALL CONFORM TO AWWA STANDARD C651, LATEST REVISION.

2. THE LOCATION OF THE PROPOSED UNDERGROUND ELECTRICAL SERVICE IS APPROXIMATE AND THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION WITH CENTRAL MAINE POWER COMPANY.

3. THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL BE PLACED ON THE WATER DISTRIBUTION LINES AT ALL BENDS, TEES, VALVES, CHANGES IN DIRECTION, ETC. THE THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL MEET THE REQUIREMENTS OF THE PORTLAND WATER DISTRICT STANDARDS.

4. TEST PITS AT ALL UTILITY CROSSINGS SHALL BE COMPLETED TWO WEEKS IN ADVANCE OF THE START OF CONSTRUCTION OR ORDERING OF MATERIALS. TEST PIT INFORMATION SHALL BE PROMPTLY PROVIDED TO ENGINEER FOR REVIEW.

GRADING AND DRAINAGE NOTES

1. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603-- PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE, CLASS III
POLYVINYL-CHLORIDE (PVC) PIPE
SMOOTH BORE POLYETHYLENE - ADS OR HANCOR

2. TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED ON SITE AT A LOCATION TO BE DESIGNATED BY THE OWNER. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFF SITE.

3. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

EROSION CONTROL NOTES

1. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.

2. PRIOR TO BEGINNING ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCES AND THE CONSTRUCTION ENTRANCE.

3. ALL GROUND AREAS DISTURBED FOR CONSTRUCTION WILL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURE SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL NOTES INCLUDED ON SHEET C406.

4. PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SEDIMENT FROM ALL STORM DRAIN LINES, REMOVE ACCUMULATED SEDIMENT FROM SUMPS AND INVERTS AND PROPERLY DISPOSE OF.

5. ALL CATCH BASINS WITH OUTLET PIPES 18" DIAMETER OR LESS SHALL BE PROVIDED WITH A "SNOUT" SEDIMENTATION HOOD PER DETAIL.

6. SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES.

7. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCE AS IT BECOMES SATURATED WITH MUD TO ENSURE THAT IT WORKS AS PLANNED DURING CONSTRUCTION.

8. SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.

9. EROSION CONTROL NOTES ACCOMPANY THIS PLAN SET AND ARE CONTAINED ON DRAWING C405 OF THIS PLAN SET.

10. THE MAINTENANCE SCHEDULE FOR THE CATCH BASIN SEDIMENT SUMPS IS CONTAINED IN THE EROSION CONTROL NOTES INCLUDED ON SHEET C405.

11. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS BASED UPON ANY THIRD PARTY REVIEW (ie MDEP) MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.

12. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED, UNLESS OTHERWISE DIRECTED BY THE OWNER.

13. ALL DISTURBED AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL PRIOR TO PERMANENT SEEDING.

UTILITIES

WATER:
PORTLAND WATER DISTRICT
225 DOUGLASS STREET
PORTLAND, MAINE 04102
(207) 761-8300
CONTACT: JAY ARNOLD

SEWER:
DEPARTMENT OF PUBLIC SERVICES
55 PORTLAND STREET
PORTLAND, MAINE 04101-2991
(207) 874-8832
CONTACT: BRAD ROLAND

ELECTRIC:
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
(207) 828-2882
CONTACT: JAMES COUGH

TELEPHONE:
FAIRPOINT
5 DAVIS FARM ROAD
PORTLAND, MAINE 04103
(207) 797-1842
(207) 712-1063 (C)
CONTACT: BRIAN BOUCHARD

CABLE:
SPECTRUM
118 JOHNSON ROAD
PORTLAND, MAINE 04102
(207) 253-2222

GAS:
UNITIL
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
(207) 541-2543
CONTACT: SCOTT CARPENTER

INDEX

C001	COVER SHEET, GENERAL NOTES, & LEGEND
–	BOUNDARY AND TOPOGRAPHIC SURVEY
C002	SUBDIVISION PLAN
~~C003~~	~~SUBDIVISION NOTES AND DETAILS~~
C004	DEMOLITION PLAN
C100	SITE PLAN – FIRST FLOOR
C101	UTILITY PLAN
C102	UTILITY INSETS
C103	GRADING, DRAINAGE & EROSION CONTROL PLAN
C104	GRADING INSETS
C401	SITE DETAILS
C402	SITE DETAILS
C403	DRAINAGE & UTILITY DETAILS
C404	FOCAL POINT AND DETENTION POND DETAILS
C405	DETENTION POND AND DRAINAGE DETAILS
C406	FOCAL POINT DETAILS
C407	SUBSLAB DRAINAGE PLAN & DETAILS
C408	EROSION CONTROL NOTES & DETAILS
L001	LANDSCAPE PLAN
L002	LANDSCAPE DETAILS
E0.00	PHOTOMETRIC LIGHTING PLAN
E0.10	ELECTRICAL DISTRIBUTION PLAN

PERMITS

TYPE OF PERMIT	GOVERNING BODY	STATUS
LEVEL III SITE PLAN AND SUBDIVISION APPLICATION	CITY OF PORTLAND PLANNING DEPARTMENT 389 CONGRESS STREET PORTLAND, MAINE 04101 (207) 874-8719	SUBMITTED: APRIL 2018
TRAFFIC MOVEMENT PERMIT	CITY OF PORTLAND PLANNING DEPARTMENT 389 CONGRESS STREET PORTLAND, MAINE 04101 (207) 874-8719	ANTICIPATED SUBMITTAL: JULY 2018
CONSTRUCTION GENERAL PERMIT	MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION 312 CANCO ROAD PORTLAND, ME 04103 (207) 822-6300	ANTICIPATED SUBMITTAL: AUGUST 2018

CALL BEFORE YOU DIG
1-888-344-7233

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS S. ANTHONY
15250
LICENSED PROFESSIONAL ENGINEER
7/2/18

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: NTS	Job No.: 3184
File Name: 3184-COVER.dwg		

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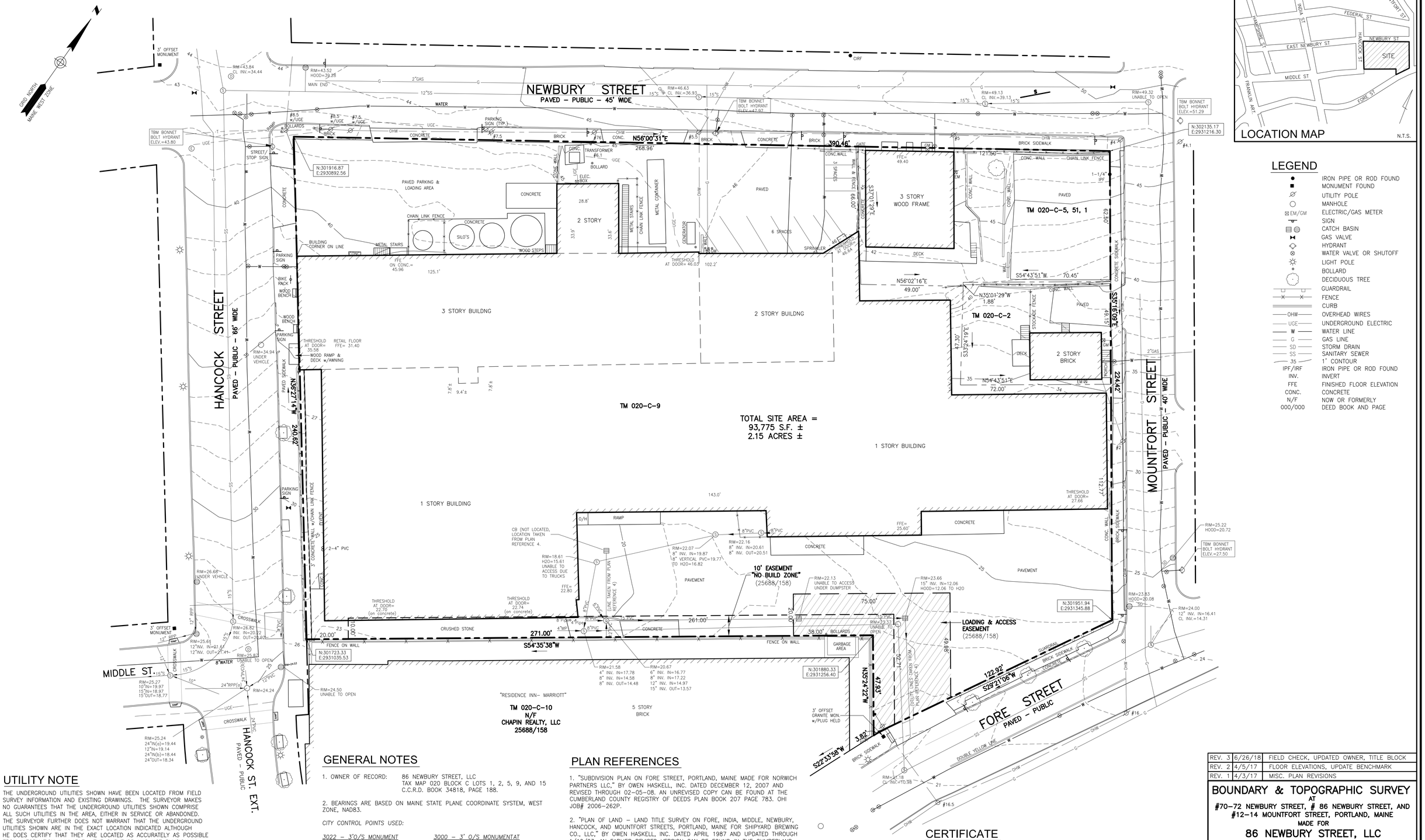
207.772.2515

Drawing Name: COVER SHEET, GENERAL NOTES & LEGEND
Project: **Shipyard Redevelopment** Newbury Street, Portland, ME
Client: **86 Newbury Street, LLC** 470 Fore Street, Portland, ME 04101

Drawing No. C001

U:\3184_Shipyard Brewing\Z - CAD\DWG\3184-COVER.dwg 7/3/2018 5:25 PM



LEGEND

●	IRON PIPE OR ROD FOUND
■	MONUMENT FOUND
⌀	UTILITY POLE
○	MANHOLE
⊠ EM/GM	ELECTRIC/GAS METER
	SIGN
	CATCH BASIN
	GAS VALVE
	HYDRANT
	WATER VALVE OR SHUTOFF
	LIGHT POLE
	BOLLARD
	DECIDUOUS TREE
	GUARDRAIL
	FENCE
	CURB
OHW	OVERHEAD WIRES
UGE	UNDERGROUND ELECTRIC
W	WATER LINE
G	GAS LINE
SD	STORM DRAIN
SS	SANITARY SEWER
35	1' CONTOUR
IPF/IRF	IRON PIPE OR ROD FOUND
INV.	INVERT
FFE	FINISHED FLOOR ELEVATION
CONC.	CONCRETE
N/F	NOW OR FORMERLY
000/000	DEED BOOK AND PAGE

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1–888–DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

GRAPHIC SCALE

0 10' 20' 40' 80'

GENERAL NOTES

1. OWNER OF RECORD: 86 NEWBURY STREET, LLC
TAX MAP 020 BLOCK C LOTS 1, 2, 5, 9, AND 15
C.C.R.D. BOOK 34818, PAGE 188.

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83.

CITY CONTROL POINTS USED:

3022 – 3'O/S MONUMENT HANCOCK/THAMES	*3000 – 3' O/S MONUMENTAT AT HANCOCK/FORE*
N:301388.62	*N:301536.15*
E:2931424.18	*E:2931222.69*

3. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM. BENCHMARK USED IS A USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

4. STREET LINES REPRODUCED FROM MARKERS FOUND AS SHOWN ON PLAN REFERENCE 3.

PLAN REFERENCES

1. "SUBDIVISION PLAN ON FORE STREET, PORTLAND, MAINE MADE FOR NORWICH PARTNERS LLC," BY OWEN HASKELL, INC. DATED DECEMBER 12, 2007 AND REVISED THROUGH 02–05–08. AN UNREVISED COPY CAN BE FOUND AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 207 PAGE 783. OHI JOB# 2006–262P.

2. "PLAN OF LAND – LAND TITLE SURVEY ON FORE, INDIA, MIDDLE, NEWBURY, HANCOCK, AND MOUNTFORT STREETS, PORTLAND, MAINE FOR SHIPYARD BREWING CO., LLC," BY OWEN HASKELL, INC. DATED APRIL 1987 AND UPDATED THROUGH 1/10/03. AN EARLIER REVISED VERSION CAN BE FOUND IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 195 PAGE 398. OHI JOB# 95217P

3. "PLAN OF LAND – STANDARD BOUNDARY SURVEY ON FORE, INDIA, MIDDLE, NEWBURY, HANCOCK, AND MOUNTFORT STREETS, PORTLAND, MAINE FOR AMERICAN HOIST & DERRICK CO." BY OWEN HASKELL, INC. DATED APRIL 1987 AND REVISED THROUGH 2/13/92. OHI JOB# 86193P.

4. "SITE PLAN WITH PARKING GARAGE SHIPYARD BREWERY PORTLAND, MAINE FOR SEA DOG REALTY" DATED 3–16–2011 BY ATTAR ENGINEERING INC.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE. WITH THE EXCEPTION OF MARKERS SET AT ALL CORNERS.

6/26/2018
DATE

SAMUEL D. GLIDDEN, PLS #2520

STATE OF MAINE SAMUEL D GLIDDEN 2520 REGISTERED LAND SURVEYOR

REV.		
REV. 3	6/26/18	FIELD CHECK, UPDATED OWNER, TITLE BLOCK
REV. 2	4/5/17	FLOOR ELEVATIONS, UPDATE BENCHMARK
REV. 1	4/3/17	MISC. PLAN REVISIONS

BOUNDARY & TOPOGRAPHIC SURVEY

AT

#70–72 NEWBURY STREET, # 86 NEWBURY STREET, AND #12–14 MOUNTFORT STREET, PORTLAND, MAINE

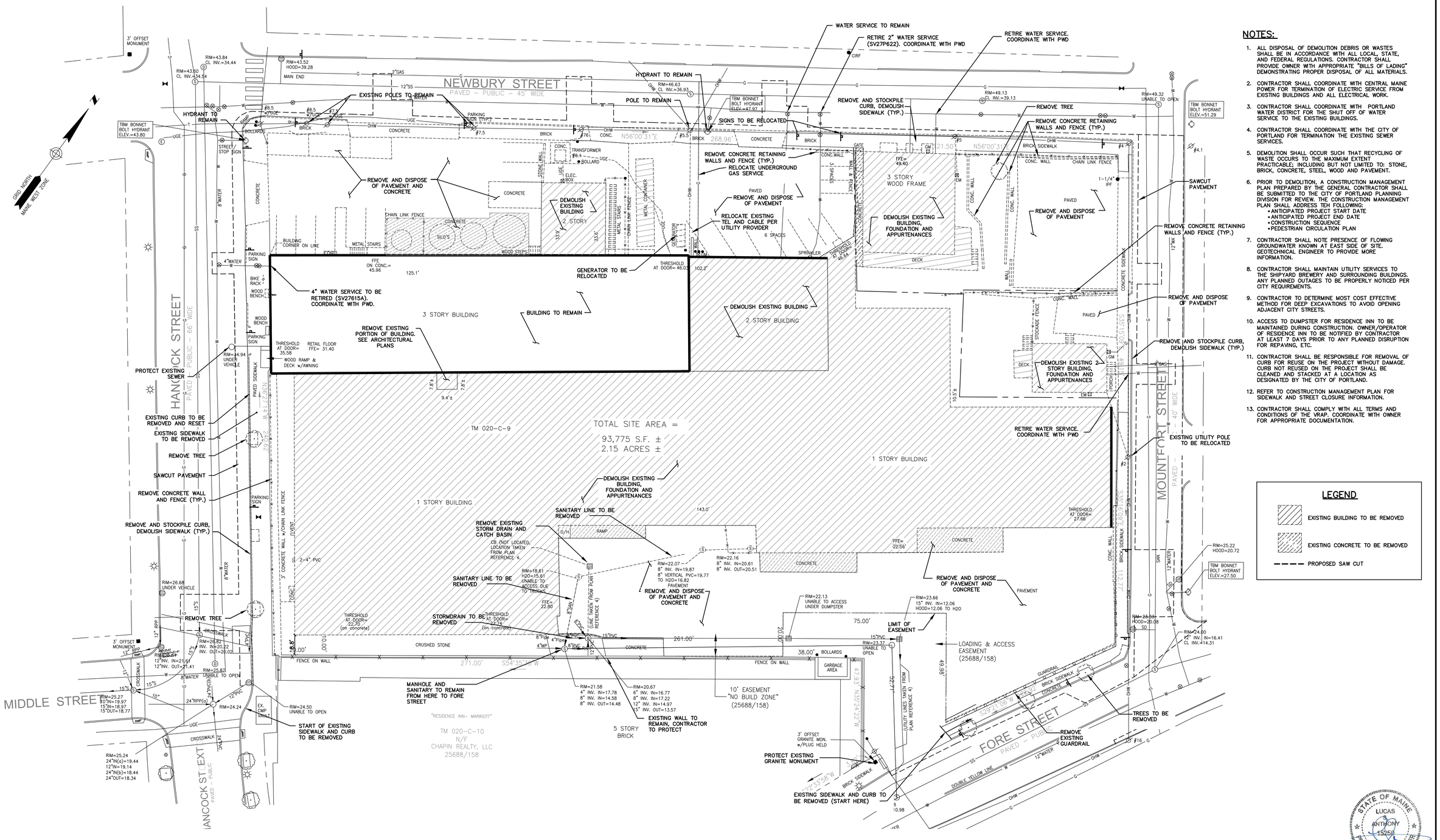
MADE FOR

86 NEWBURY STREET, LLC

86 NEWBURY STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207)774–0424

Drawn By SDG	Date	Job No.
Trace By JLW	FEBRUARY 14, 2017	2017–010P
Check By JWS	Scale	Drwg. No.
Book No. 1155	1" = 20'	1



NOTES:

1. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTES SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
2. CONTRACTOR SHALL COORDINATE WITH CENTRAL MAINE POWER FOR TERMINATION OF ELECTRIC SERVICE FROM EXISTING BUILDINGS AND ALL ELECTRICAL WORK.
3. CONTRACTOR SHALL COORDINATE WITH PORTLAND WATER DISTRICT FOR THE SHUT OFF OF WATER SERVICE TO THE EXISTING BUILDINGS.
4. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTLAND FOR TERMINATION THE EXISTING SEWER SERVICES.
5. DEMOLITION SHALL OCCUR SUCH THAT RECYCLING OF WASTE OCCURS TO THE MAXIMUM EXTENT PRACTICABLE; INCLUDING BUT NOT LIMITED TO: STONE, BRICK, CONCRETE, STEEL, WOOD AND PAVEMENT.
6. PRIOR TO DEMOLITION, A CONSTRUCTION MANAGEMENT PLAN PREPARED BY THE GENERAL CONTRACTOR SHALL BE SUBMITTED TO THE CITY OF PORTLAND PLANNING DIVISION FOR REVIEW. THE CONSTRUCTION MANAGEMENT PLAN SHALL ADDRESS TEH FOLLOWING:
   - ANTICIPATED PROJECT START DATE
   - ANTICIPATED PROJECT END DATE
   - CONSTRUCTION SEQUENCE
   - PEDESTRIAN CIRCULATION PLAN
7. CONTRACTOR SHALL NOTE PRESSENCE OF FLOWING GROUNDWATER KNOWN AT EAST SIDE OF SITE. GEOTECHNICAL ENGINEER TO PROVIDE MORE INFORMATION.
8. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO THE SHIPYARD BREWERY AND SURROUNDING BUILDINGS. ANY PLANNED OUTAGES TO BE PROPERLY NOTICED PER CITY REQUIREMENTS.
9. CONTRACTOR TO DETERMINE MOST COST EFFECTIVE METHOD FOR DEEP EXCAVATIONS TO AVOID OPENING ADJACENT CITY STREETS.
10. ACCESS TO DUMPSTER FOR RESIDENCE INN TO BE MAINTAINED DURING CONSTRUCTION. OWNER/OPERATOR OF RESIDENCE INN TO BE NOTIFIED BY CONTRACTOR AT LEAST 7 DAYS PRIOR TO ANY PLANNED DISRUPTION FOR REPAVING, ETC.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF CURB FOR REUSE ON THE PROJECT WITHOUT DAMAGE. CURB NOT REUSED ON THE PROJECT SHALL BE CLEANED AND STACKED AT A LOCATION AS DESIGNATED BY THE CITY OF PORTLAND.
12. REFER TO CONSTRUCTION MANAGEMENT PLAN FOR SIDEWALK AND STREET CLOSURE INFORMATION.
13. CONTRACTOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE VRAP. COORDINATE WITH OWNER FOR APPROPRIATE DOCUMENTATION.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS ANTHONY 15250
LICENSED PROFESSIONAL ENGINEER
7/2/18

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184-DEMO.dwg		

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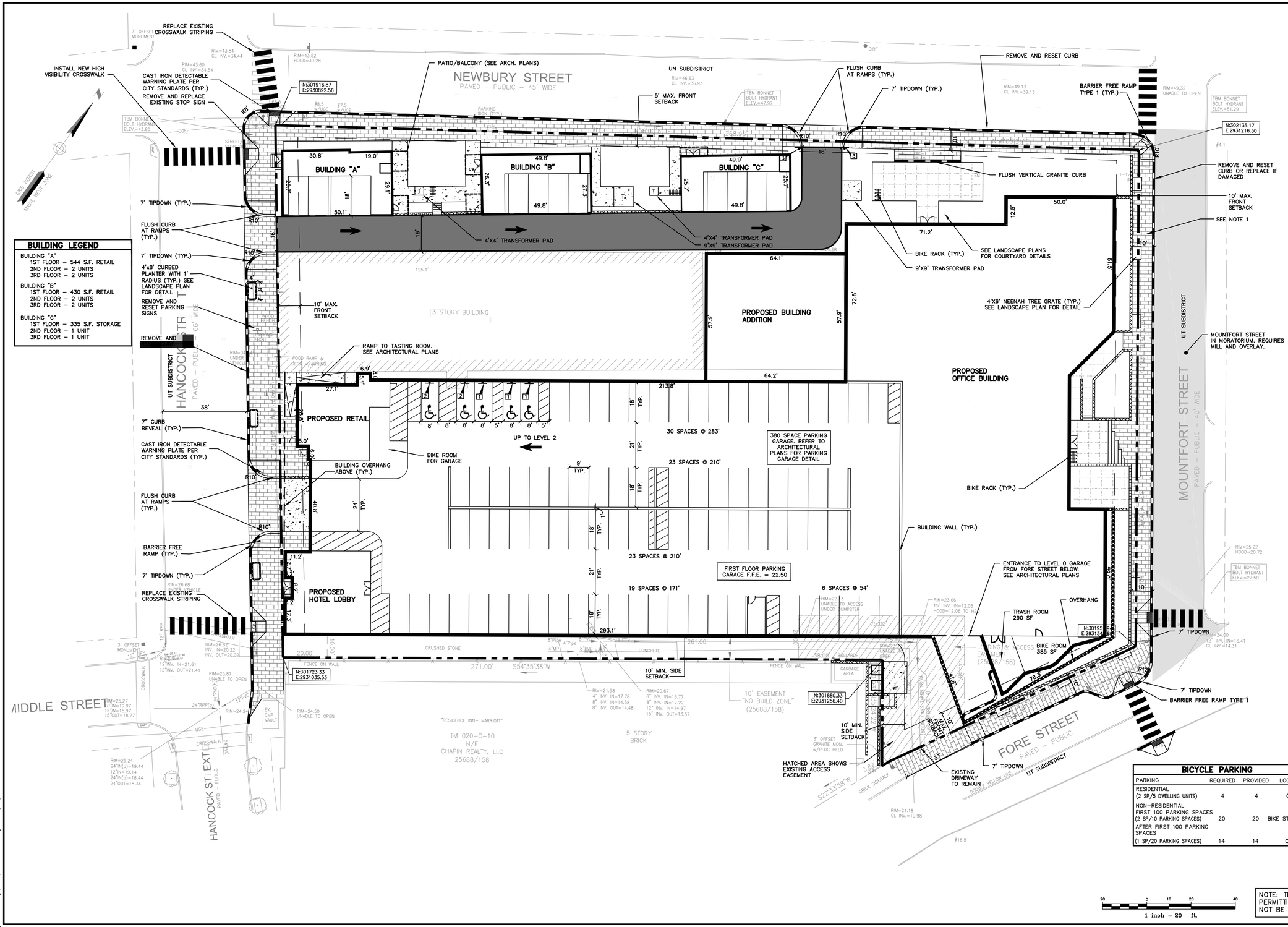
Drawing Name:	DEMOLITION PLAN
Project:	Shipyard Redevelopment Newbury Street, Portland, ME
Client:	86 Newbury Street, LLC 470 Fore Street, Portland, ME 04101

Drawing No.
C004

U:\3184_Shipyard Brewing\2 – CAD\DWG\3184-DEMO.dwg 7/3/2018 5:26 PM



BUILDING LEGEND

BUILDING "A"
1ST FLOOR – 544 S.F. RETAIL
2ND FLOOR – 2 UNITS
3RD FLOOR – 2 UNITS

BUILDING "B"
1ST FLOOR – 430 S.F. RETAIL
2ND FLOOR – 2 UNITS
3RD FLOOR – 2 UNITS

BUILDING "C"
1ST FLOOR – 335 S.F. STORAGE
2ND FLOOR – 1 UNIT
3RD FLOOR – 1 UNIT

SITE DATA

ZONE: INDIA STREET FORM BASED CODE
SITE AREA 93,775 S.F. = 2.15 ACRES

BUILDING AREA:	
RETAIL 1	544 S.F.
RETAIL 2	430 S.F.
RETAIL 3	2,700 S.F.
TASTING	2,500 S.F.
BREWERY	9,590 S.F.
OFFICE	107,171 S.F.
PHARMACY	24,190 S.F.
TECH. FULLFILLMENT	34,808 S.F.
HOTEL (105 ROOM)	72,797 S.F.
RESIDENTIAL (10 UNITS)	9,060 S.F.

PARKING	REQUIRED	PROVIDED
HOTEL (1 SP/4 GUEST ROOMS)	27	27
OFFICE (1 SP/400 SF)	268	271
PHARMACY (1 SP/1000 SF)	25	25
TECH. FULLFILLMENT (1 SP/1000 SF)	35	35
BREWERY (1 SP/1000 SF)	10	10
TASTING ROOM (1 SP/200 SF 2,000 SF EXEMPT)	3	12
RETAIL 1 (1 SP/200 SF 2,000 SF EXEMPT)	0	0
RETAIL 2 (1 SP/200 SF 2,000 SF EXEMPT)	0	0
RETAIL 3 (1 SP/200 SF 2,000 SF EXEMPT)	4	0
TOTAL GARAGE PARKING	372	380
BARRIER FREE	8	13
RESIDENTIAL (1 SP/UNIT AFTER 3 UNITS)	7	12 BELOW UNITS

SPACE AND BULK STANDARDS

ZONE: INDIA STREET FORM BASED CODE –UN –NEWBURY STREET	REQUIRED	PROVIDED
BUILDING SETBACKS		
FRONT (MAX.)	5 FT.	>5 FT.
SIDE (MIN.)	5 FT.	>5 FT.
REAR (MIN.)	10 FT.	>10 FT.
MIN. BUILDING HEIGHT	25 FT. (2 STORIES)	45 FT.
MAX. BUILDING HEIGHT	45 FT. (4 STORIES)	45 FT.
MAX. LOT COVERAGE	90%	75%

SPACE AND BULK STANDARDS

ZONE: INDIA STREET FORM BASED CODE– UT –HANCOCK, FORE & MOUNTFORT STREETS	REQUIRED	PROVIDED
BUILDING SETBACKS		
FRONT (MAX.)	10 FT.	10 FT.
SIDE (MIN.)	10 FT.	>10 FT.
REAR (MIN.)	10 FT.	>10 FT.
STEPBACK (ADJACENT TO UN ZONE)	35 FT. MIN. AFTER 45' HEIGHT	35 FT.
MIN. BUILDING HEIGHT	3 STORIES	65 FT.
MAX. BUILDING HEIGHT	65 FT. (6 STORIES)	65 FT.
MAX. LOT COVERAGE	90%	75%

PAVEMENT/LANDSCAPE LEGEND

- BITUMINOUS CONCRETE
- PORTLAND CEMENT CONCRETE
- BRICK
- MILL AND OVERLAY

SEE LANDSCAPE PLAN FOR PLANTING DETAIL

CURBING LEGEND

- VERTICAL GRANITE CURB
- FLUSH CURB

STRIPING LEGEND

SIGNAGE, STRIPING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REGARDING SIZE, INSTALLATION, LOCATION & REFLECTIVITY.

12"SL – 12" WIDTH STOP LINE

SIGN LEGEND

R7–8 12"x 18"	R7–8 12"x 18"	R5–1 30"x 30"
1	2	3

NOTES:
1. EXISTING BRICK SIDEWALK SHALL BE RESTORED TO NEW CONDITION WHERE DISTURBED BY CONSTRUCTION.

BICYCLE PARKING

PARKING	REQUIRED	PROVIDED	LOCATION
RESIDENTIAL (2 SP/5 DWELLING UNITS)	4	4	ON SITE
NON–RESIDENTIAL FIRST 100 PARKING SPACES (2 SP/10 PARKING SPACES)	20	20	BIKE STORAGE ROOM
AFTER FIRST 100 PARKING SPACES (1 SP/20 PARKING SPACES)	14	14	ON SITE

1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE · LUCAS · ANTHONY · 15250 · LICENSED PROFESSIONAL ENGINEER
7/2/18

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184–SP_L1.dwg		

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Drawing Name: SITE PLAN – FIRST FLOOR
Project: Shipyard Redevelopment
Newbury Street, Portland, ME
Client: 86 Newbury Street, LLC
470 Fore Street, Portland, ME 04101

Drawing No. C100

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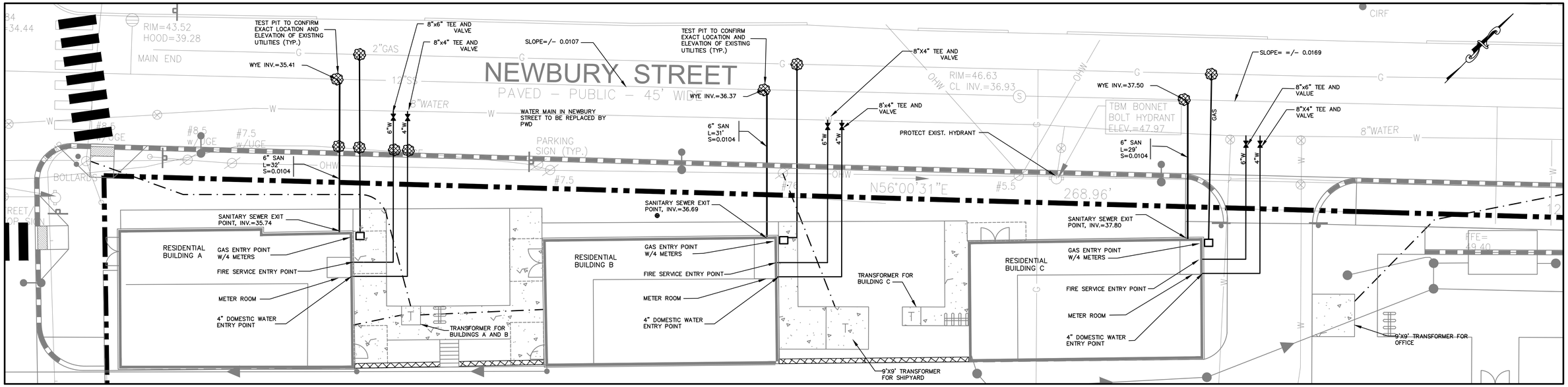
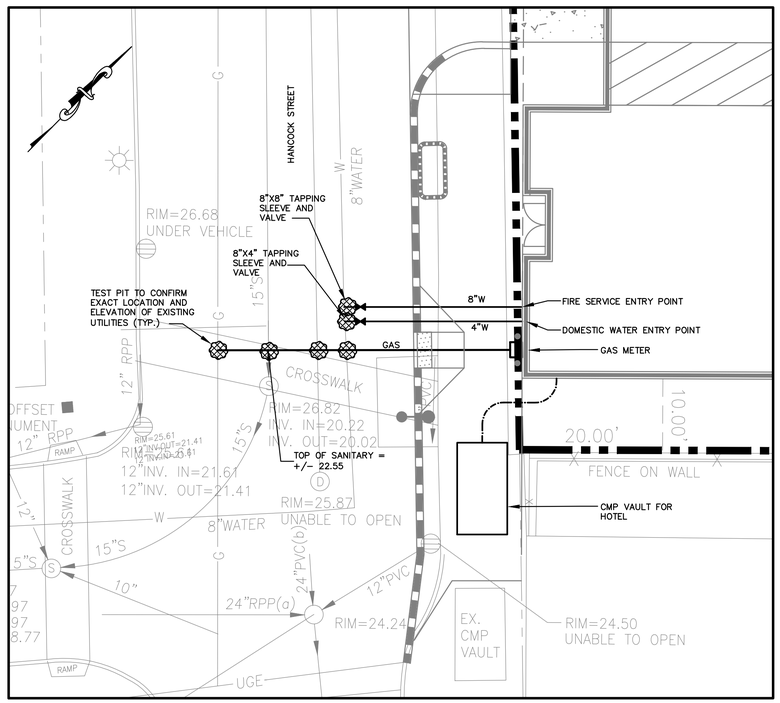
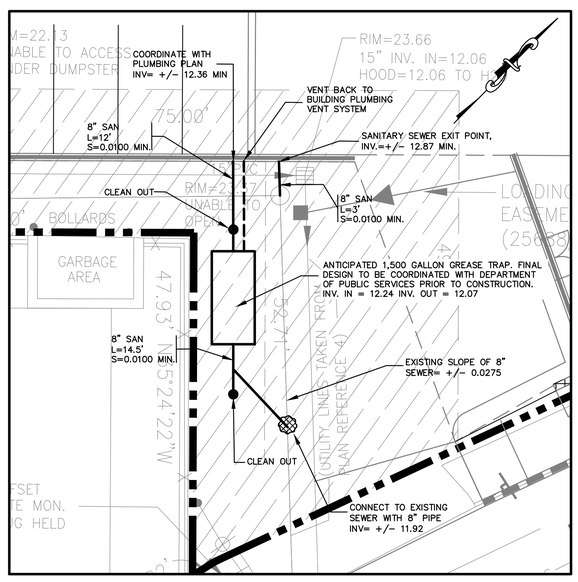


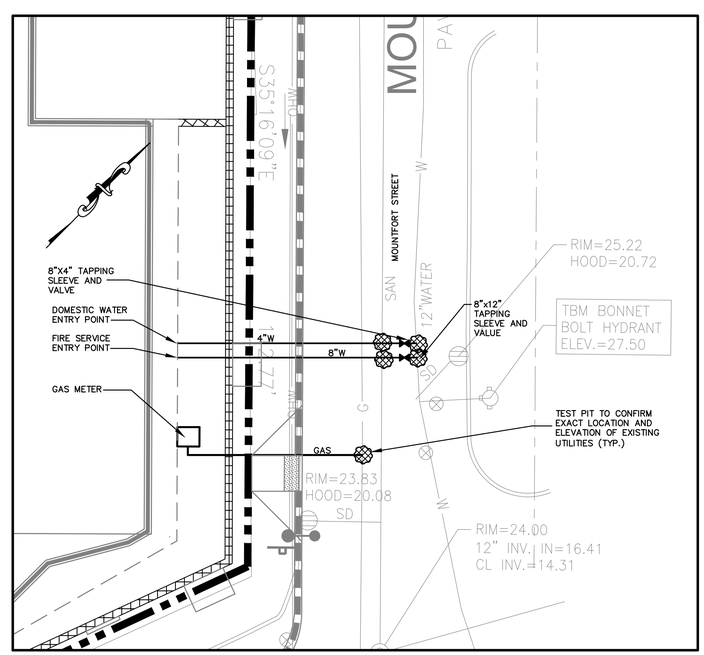
UTILITY PLAN 1
1"=10'



UTILITY PLAN 2
1"=10'



UTILITY PLAN 3
1"=10'



UTILITY PLAN 4
1"=10'

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS S. ANTHONY
15250
LICENSED PROFESSIONAL ENGINEER
7/2/18

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Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
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File Name: 3184-SP_L1.dwg		

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Drawing Name: UTILITY INSETS

Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME

Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. C102

DRAINAGE STRUCTURE SCHEDULE

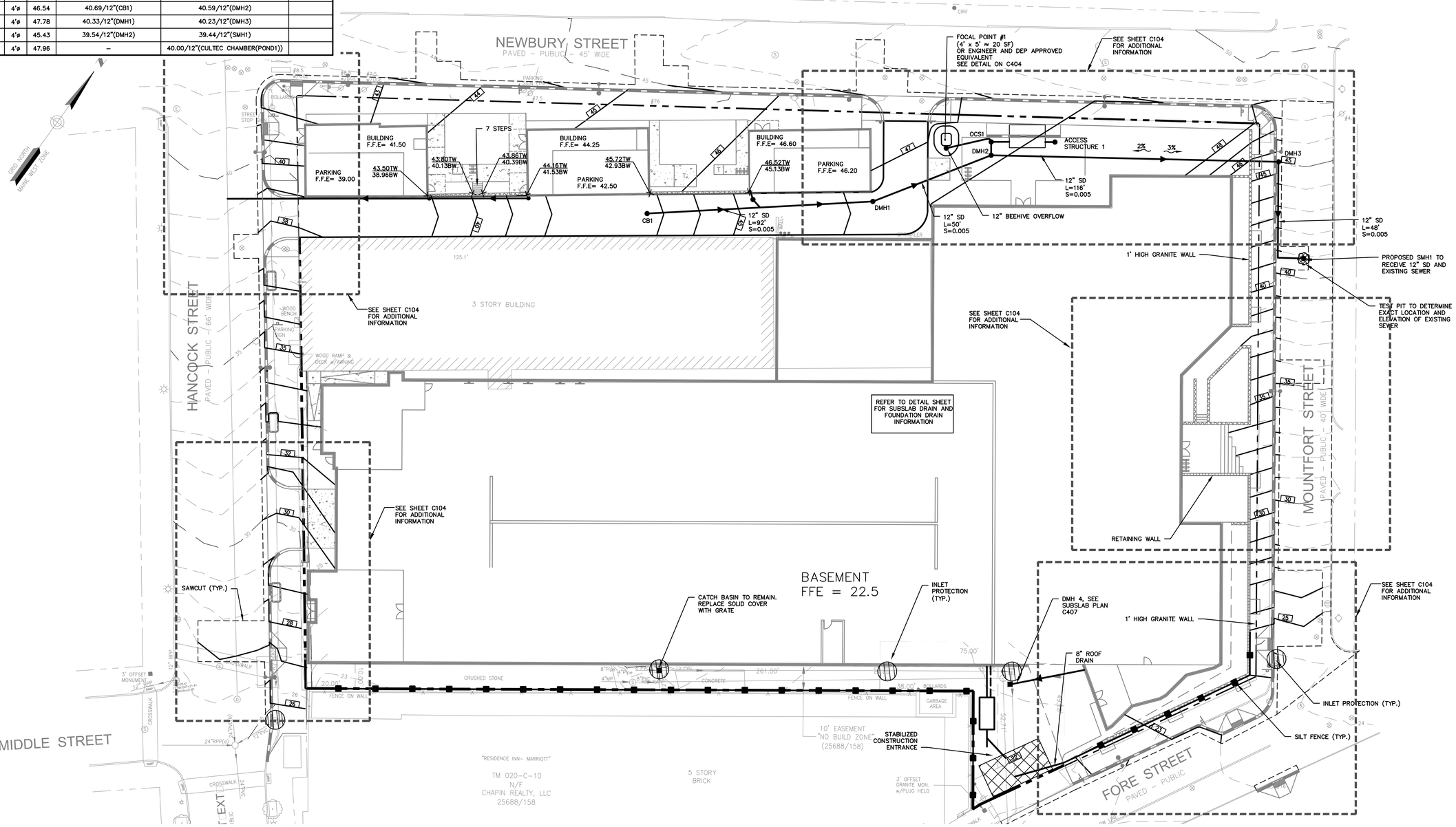
STRUCTURE	SIZE	RIM	INV. IN/SIZE (FROM)	INV. OUT/SIZE (TO)	COMMENTS
BEEHIVE OVERFLOW	1'ø	46.75	43.00/6"(FOCALPOINT 1)	42.00/6"(OCS1)	
OCS1	6'ø	47.72	41.62/6"(BEEHIVE OVERFLOW	40.14/12"(CULTECT CHAMBER(POND1)) 38.29/12"(DMH2)	FIELD INLET
CB1	4'ø	44.15	–	41.15/12"(DMH1)	
DMH1	4'ø	46.54	40.69/12"(CB1)	40.59/12"(DMH2)	
DMH2	4'ø	47.78	40.33/12"(DMH1)	40.23/12"(DMH3)	
DMH3	4'ø	45.43	39.54/12"(DMH2)	39.44/12"(SMH1)	
ACCESS STRUCTURE	4'ø	47.96	–	40.00/12"(CULTEC CHAMBER(POND1))	

NOTE: INSTALL SEDIMENT HOODS (SNOUT) ON ALL CATCH BASIN OUTLET PIPES 18"ø AND LESS.

NOTES:
1. PER THE CITY OF PORTLAND'S TECHNICAL STANDARD, THE CURBING ALONG ALL STREETS SHALL HAVE A 7" REVEAL.

2. A FOUNDATION DRAIN SHALL BE INSTALLED AROUND THE BUILDING PERIMETER AND OUTLET INTO THE STORM DRAIN SYSTEM AS SHOWN. REFER TO SUBSLAB DRAINAGE PLAN FOR DETAILS.

3. A SUB SLAB DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SUBSLAB DRAINAGE PLAN. THE 6" SUBSLAB DRAIN SHALL OUTLET AT THE FOUNDATION DRAIN LOCATION INTO THE STORM DRAINAGE SYSTEM AS SHOWN ON C407.



20 0 10 20 40
1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS S ANTHONY
15258
LICENSED PROFESSIONAL ENGINEER
7/2/18

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184–GRADING.dwg		

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Drawing Name: GRADING, DRAINAGE, & EROSION CONTROL PLAN
Project: Shipyard Redevelopment
Newbury Street, Portland, ME
Client: 86 Newbury Street, LLC
470 Fore Street, Portland, ME 04101

Drawing No. C103

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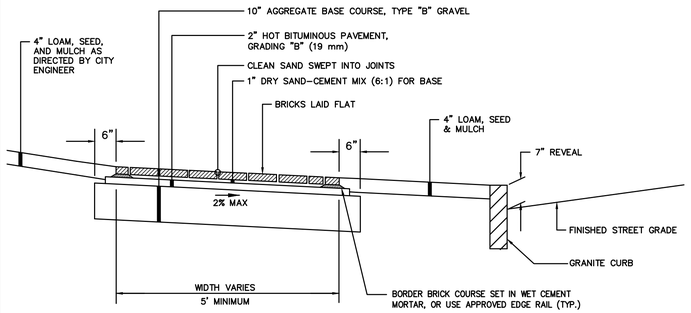
BRICKS TO BE USED:

NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA.
LACHANCE ITEM # 193623, PINE HALL PATHWAY PAVER BRICK.

REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS.
SPECIFICATION NUMBER:
"VERMONT BACKER BRICK",
ITEM NUMBER # VBBB

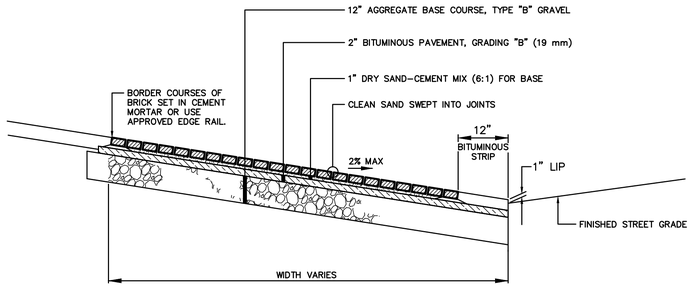


BRICK SIDEWALK WITH BITUMINOUS BASE
NOT TO SCALE

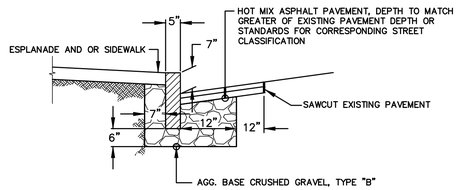
BRICKS TO BE USED:

NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA.
LACHANCE ITEM # 193623, PINE HALL PATHWAY PAVER BRICK.

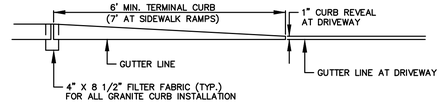
REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS.
SPECIFICATION NUMBER:
"VERMONT BACKER BRICK",
ITEM NUMBER # VBBB



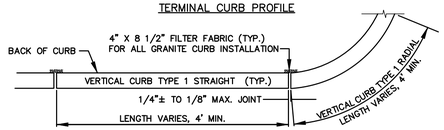
BRICK DRIVEWAY APRON WITH BITUMINOUS BASE
NOT TO SCALE



VERTICAL GRANITE CURB CROSS SECTION

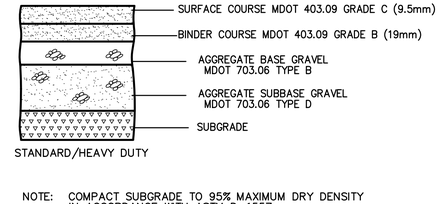


TERMINAL CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW

VERTICAL GRANITE CURB INSTALLATION IN EXISTING STREETS
NOT TO SCALE

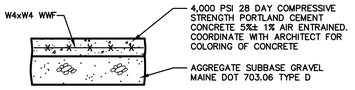


STANDARD/HEAVY DUTY

NOTE: COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
LAYERS	
SURFACE COURSE MDOT 403.210 (12.5mm)	1 1/2"
BINDER COURSE MDOT 403.210 (19mm)	2 1/2"
AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B	3"
AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D	21"

BITUMINOUS PAVEMENT SECTION
N.T.S.



NOTE:
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
STANDARD	LAYERS
5 1/2"	PORTLAND CEMENT CONCRETE
9"	AGGREGATE SUBBASE GRAVEL MAINEDOT 703.06 TYPE D

NOTE:

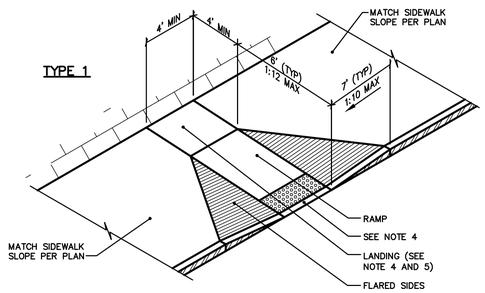
WHERE NON-FROST SUSCEPTIBLE SOILS (I.E. LESS THAN 10% PASSING THE NO. 200 SIEVE) ARE FOUND NOT TO BE PRESENT BENEATH THE BOTTOM OF THE PAVEMENT SECTION, THEN THESE SOILS SHOULD BE REPLACED WITH NON-FROST SUSCEPTIBLE SOILS TO A MINIMUM DEPTH OF 18 INCHES BELOW DESIGN SOIL SUBGRADE.

COMPACTOR PAD SECTION
NOT TO SCALE

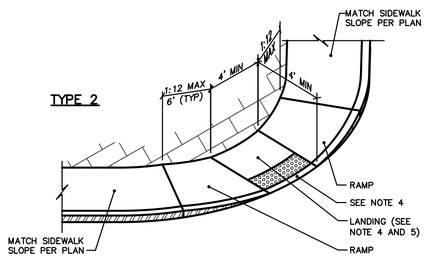
NOTE:

1. CURB RAMP LENGTHS ARE BASED ON SEVEN (7) INCH CURB REVEAL HEIGHT AND NO RUNNING SLOPE. RAMP LENGTHS SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE VARYING CURB REVEAL HEIGHTS AND TO MATCH RUNNING SLOPES OF ADJACENT ROADWAY AND SIDEWALK SLOPES TO MAINTAIN A RAMP THAT DOES NOT EXCEED THE MAXIMUM RAMP SLOPE OF 1:12.
2. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES AND SHALL HAVE A BASE DIAMETER OF 0.9 INCHES (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM; A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM AND A HEIGHT OF 0.2 INCHES (5.1 mm), A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41mm) MINIMUM AND 2.4 INCHES (61mm) MAXIMUM; AND A BASE-TO-BASE SPACING OF 0.65 INCHES (17mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
3. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
4. ALL ACCESSIBLE ROUTE SIDEWALKS INTERSECTING ROADWAYS, DRIVEWAYS, OR OTHER VEHICULAR CROSSINGS REQUIRE DETECTABLE WARNINGS. DETECTABLE WARNING ZONES SHALL BE INSTALLED SEVEN (7) INCHES (OR THE HORIZONTAL THICKNESS OF THE ADJACENT CURB) FROM THE FLOW LINE OF THE CURB, EXTEND INTO THE SIDEWALK FOR A 24" DEPTH, AND COVER THE COMPLETE WIDTH OF THE SIDEWALK OR RAMP AREA. DETECTABLE WARNING ZONES SHALL CONFORM TO THE SLOPE REQUIREMENTS OF THE RAMP, LANDING, OR ACCESSIBLE ROUTE AS DEFINED IN THE SPECIFIED DETAIL. DETECTABLE WARNINGS SHALL NOT BE INSTALLED IN FLARED SIDES, IF THE RAMP INCLUDES FLARED SIDES.
5. ALL LANDING AREAS SHALL BE 4 FEET WIDE BY 4 FEET LONG (MINIMUM DIMENSIONS). THE SLOPE OF THE LANDING AREA SHALL NOT EXCEED A 1:48 IN ANY DIRECTION.
6. ALL ACCESSIBLE ROUTE SLOPES ADJOINING THE LANDING AREA, EXCLUDING THE CURB RAMP, SHALL NOT EXCEED A SLOPE OF 1:20 UNLESS OTHERWISE NOTED.

TYPE 1



TYPE 2



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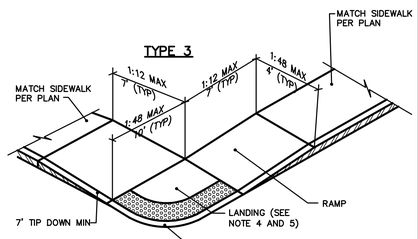
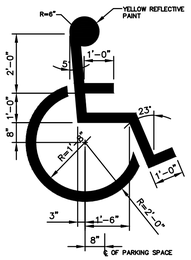
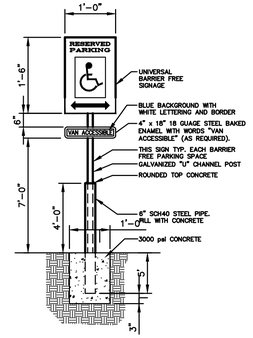


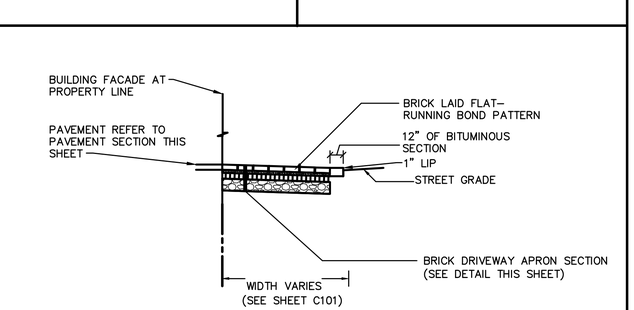
BARRIER FREE RAMP
N.T.S.



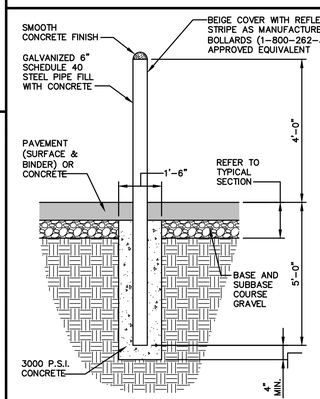
INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



BARRIER FREE PARKING SIGN
NOT TO SCALE

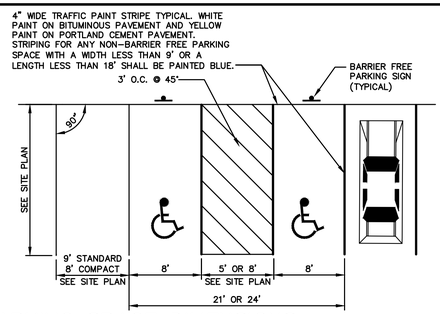


BRICK/ASPHALT JOINT
N.T.S.

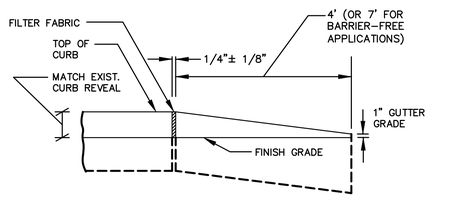


GUARD POST
NOT TO SCALE

4" WIDE TRAFFIC PAINT STRIPE TYPICAL. WHITE PAINT ON BITUMINOUS PAVEMENT AND YELLOW PAINT ON PORTLAND CEMENT PAVEMENT. STRIPING FOR ANY NON-BARRIER FREE PARKING SPACE WITH A WIDTH LESS THAN 9' OR A LENGTH LESS THAN 18' SHALL BE PAINTED BLUE.



PARKING SPACE DIMENSIONS
NOT TO SCALE



TYPICAL TIPDOWN CURB INSTALLATION
N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — LUCAS E. ANTHONY — 11625 — LICENSED PROFESSIONAL ENGINEER — 5/30/18

Rev.	Date	Revision
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft: CG	Date: APR 2018
Checked: LSA	Scale: NTS	Job No.: 3184

File Name: 3184-DETAILS.dwg

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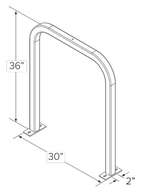
Drawing Name: SITE DETAILS
Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME
Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. C401

U:\3184_Shipyard Brewing\Z - CAD\DWG\3184-DETAILS.dwg 5/30/2018 5:02 PM

DOWNTOWN RACK
Submittal Sheet



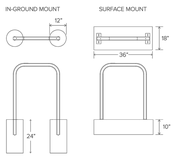
CAPACITY 2 Bikes

MATERIALS
- ☐ **Standard** 2" x 2" x .188" square tube - mild steel; 2" x 2" x .120" square tube - stainless steel
- ☐ **Lightweight** *Powder coat or galvanized only; 2" x 2" x .083" square tube - mild steel

FINISHES
- ☐ **Galvanized** An after fabrication hot dipped galvanized finish is our standard option.
- ☐ **Powder Coat** Our powder coat finish assures a high level of adhesion and durability by following these steps: 1. Sandblast 2. Epoxy primer electrostatically applied 3. Final thick TGIC polyester powder coat
- ☐ **Thermoplastic** In addition to an increased thickness (8-10mils), the thermoplastic finish covers a galvanized layer and offers superior impact resistance over powder coating.
- ☐ **PVC Dip** (plastisol) Other colors available by special order (minimum orders apply)
- ☐ **Stainless** Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

MOUNT OPTIONS

IN-GROUND MOUNT / SURFACE MOUNT



- ☐ **In-ground** In ground mount is embedded into concrete base. Specify in ground mount for this option.
- ☐ **Surface** Foot Mount has two 2.5"x6"x.25" feet with two anchors per foot. Specify foot mount for this option.
- ☐ **Rail** Rail Mounted Downtown Racks are bolted to two parallel rails which can be left freestanding or anchored to the ground. Rails are heavy duty 3"x1.4"x3/16" thick galvanized mounting rails. Specify rail mount for this option.

OPTIONAL LEAN BAR
- ☐ **Add Lean Bar**

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DATE: OCTOBER 2017
REVISED:

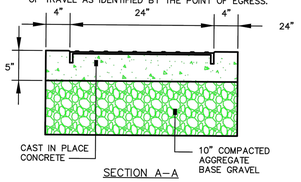
CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
TRANSPORTATION SYSTEMS AND STREET DESIGN
SECTION I

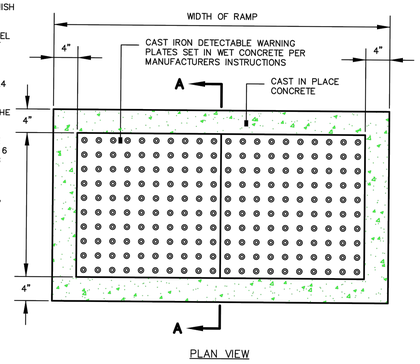
SIDEWALK RAMP DETECTABLE WARNING PANEL

FIGURE: I-7

NOTES:

1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. SIZE: THE DETECTABLE WARNING PLATES SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE PLATE WIDTH + CONCRETE SHALL EXTEND THE WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.
5. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.

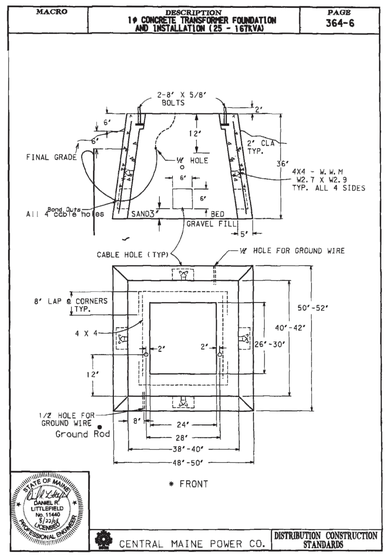




SIDEWALK RAMP DETECTABLE WARNING PANEL
NOT TO SCALE

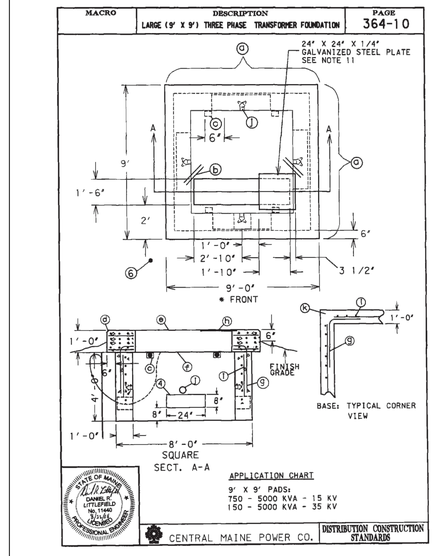
XII. ILLUSTRATION No. 23

MACRO	DESCRIPTION	PAGE
	1φ CONCRETE TRANSFORMER FOUNDATION AND INSTALLATION (25 - 167KVA)	364-6



XII. ILLUSTRATION No. 25

MACRO	DESCRIPTION	PAGE
	LARGE (9' X 9') THREE PHASE TRANSFORMER FOUNDATION	364-10



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STATE OF MAINE — LUCAS ANTHONY 15250 — LICENSED PROFESSIONAL ENGINEER — 7/2/18

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Rev.	Date	Revision

Issued For	Date	By
SITE PLAN AND SUBDIVISION	7/3/18	LSA

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: NTS	Job No.: 3184
File Name: 3184–DETAILS.dwg		

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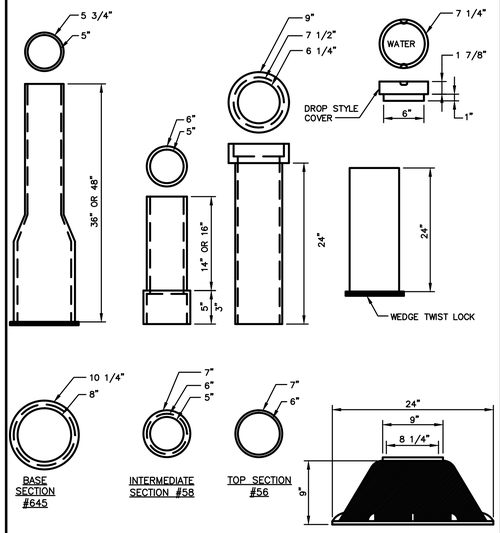
Drawing Name:	SITE DETAILS
Project:	**Shipyard Redevelopment** Newbury Street, Portland, ME
Client:	**86 Newbury Street, LLC** 470 Fore Street, Portland, ME 04101

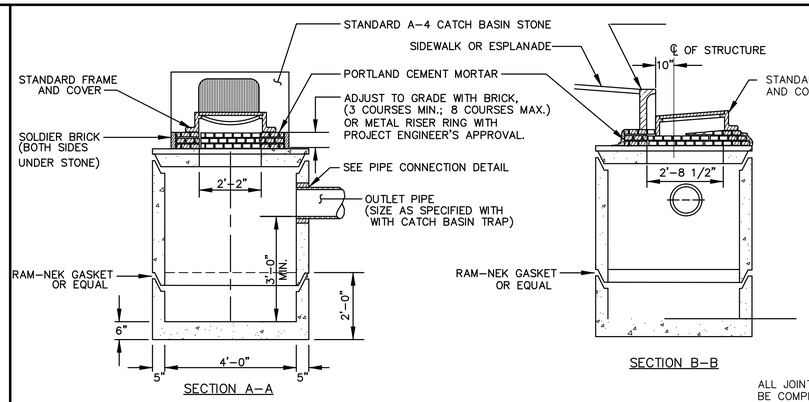
Drawing No. C402



NOTE:
BUFFALO VALVE BOXES NUMBERS ARE FOR 5.25"

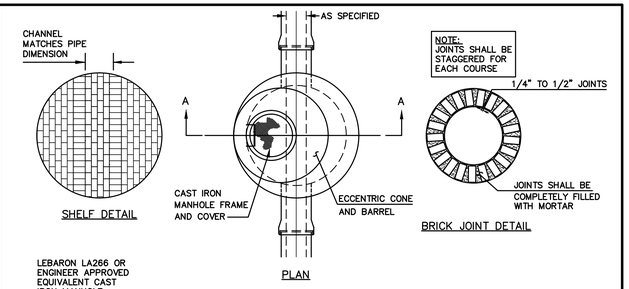
VALVE BOXES

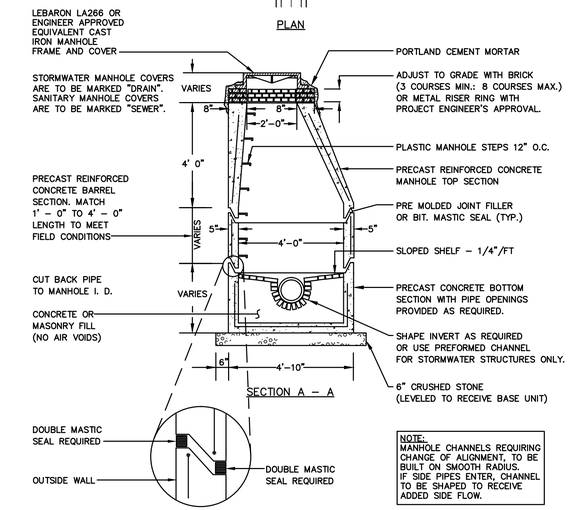
N.T.S.



PRECAST CONCRETE CATCH BASIN – TYPE "E"

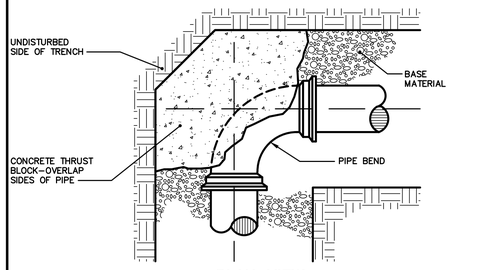
NOT TO SCALE





PRECAST CONCRETE MANHOLE

NOT TO SCALE



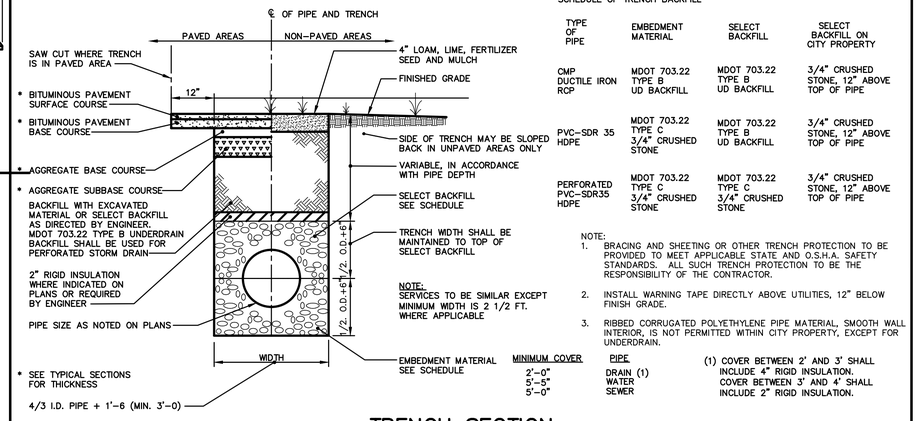
SECTION

THRUST/RETAINER GLAND SCHEDULE		
1/4 BEND	(90°)	USE POURED–IN–PLACE THRUST BLOCK w/RETAINERS
1/8 BEND	(45°)	THRUST BLOCK w/RETAINERS
1/16 BEND	(22 1/2°)	THRUST BLOCK
1/32 BEND	(11 1/4°)	THRUST BLOCK

THE ABOVE SCHEDULE IS SUBJECT TO THE APPROVAL OF THE ON–SITE INSPECTOR DUE TO SOILS AND WORKING PRESSURES IN THE AREA.

THRUST BLOCK PLACEMENT ON BENDS

N.T.S.



SCHEDULE OF TRENCH BACKFILL

TYPE OF PIPE	EMBEDMENT MATERIAL	SELECT BACKFILL	SELECT BACKFILL ON CITY PROPERTY
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL	3/4" CRUSHED STONE, 12" ABOVE TOP OF PIPE
PVC–SDR 35 HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL	3/4" CRUSHED STONE, 12" ABOVE TOP OF PIPE
PERFORATED PVC–SDR35 HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	3/4" CRUSHED STONE, 12" ABOVE TOP OF PIPE

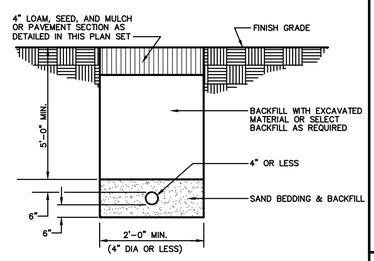
NOTE:
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES, 12" BELOW FINISH GRADE.
3. RIBBED CORRUGATED POLYETHYLENE PIPE MATERIAL, SMOOTH WALL INTERIOR, IS NOT PERMITTED WITHIN CITY PROPERTY, EXCEPT FOR UNDERDRAIN.

PIPE	MINIMUM COVER
DRAIN (1)	2'–0"
WATER	5'–5"
SEWER	5'–0"

(1) COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION.

TRENCH SECTION

NOT TO SCALE



SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

WATER SERVICE TRENCH SECTION

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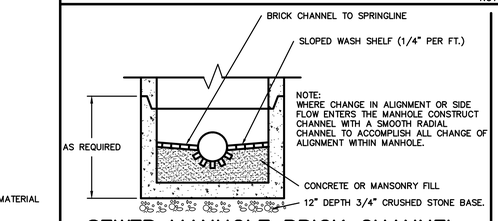

SEWER MANHOLE BRICK CHANNEL

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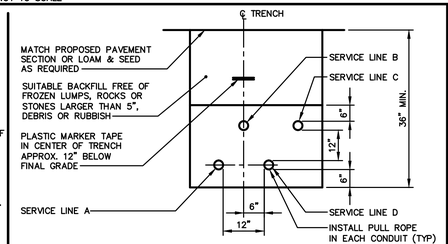


CONDUIT TYPE SCHEDULE

SERVICE	CONDUIT SIZE	GRASS & PAVED AREAS	UTILITY	REMARKS
A	2–5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTES
B	2–4"	SCHEDULE 40	TELEPHONE	SEE NOTES
C	2–4"	SCHEDULE 40	CABLE	SEE NOTES
D	2–4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	SEE NOTES

NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.
2. MAXIMUM PULLING DISTANCE BETWEEN HANDHOLES IS 600'. FOR CONDUIT D INSTALL KEVLER PULL STRING BETWEEN ALL HANDHOLES.
3. FOR CONDUIT D THERE SHALL BE 5–1" RIGID INNER–DUCTS INSTALLED, SMOOTH WALL OR CORRUGATED INNER–DUCTS ARE ACCEPTABLE.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

THE BEARING SURFACE OF THE THRUST BLOCK SHALL BE THE SURFACE AREA OF THE THRUST BLOCK WHICH IS CAST AGAINST THE TRENCH WALL. THE BEARING SURFACE SHALL NOT EXCEED THE FOLLOWING LOADINGS:

IN–SITU CONDITION	ALLOWABLE
BEDROCK	3,000 psf
SAND OR OUTWASH DEPOSITS	1,500 psf
OTHER SOILS	1,000 psf

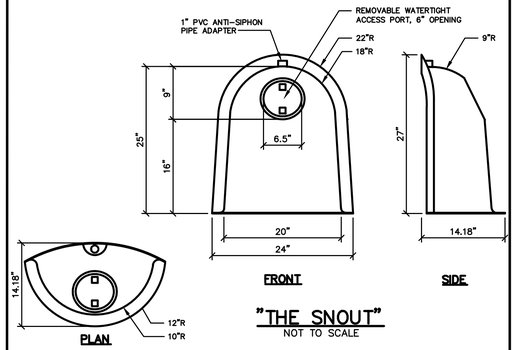
THE THRUST SHALL BE COMPUTED ON THE BASIS OF 150 psi x THE CROSS SECTIONAL AREA OF THE PIPE. FOR EXAMPLE, A THRUST BLOCK FOR A 1/4 BEND ON AN 8" WATER MAIN BEARING AGAINST CLAY WOULD REQUIRE A BEARING SURFACE OF 7.5 s.f.

$$\frac{150 \text{ psi} \times 50 \text{ sq. in.}}{1{,}000 \text{ psf}} = 7.5 \text{ s.f.}$$

INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.

THRUST BLOCK NOTES

N.T.S.



"THE SNOUT"

NOT TO SCALE

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C–478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVED EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C–32–63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48–CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP. SEE FIGURE II–09.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE · LUCAS S. ANTHONY · 15250 · LICENSED PROFESSIONAL ENGINEER · 5/30/18

Rev.	Date	Revision
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft: CG	Date: APR 2018
Checked: LSA	Scale: NTS	Job No.: 3184
File Name: 3184–DETAILS.dwg		

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Drawing Name:	DRAINAGE & UTILITY DETAILS
Project:	Shipyard Redevelopment Newbury Street, Portland, ME
Client:	86 Newbury Street, LLC 470 Fore Street, Portland, ME 04101

Drawing No.
C403

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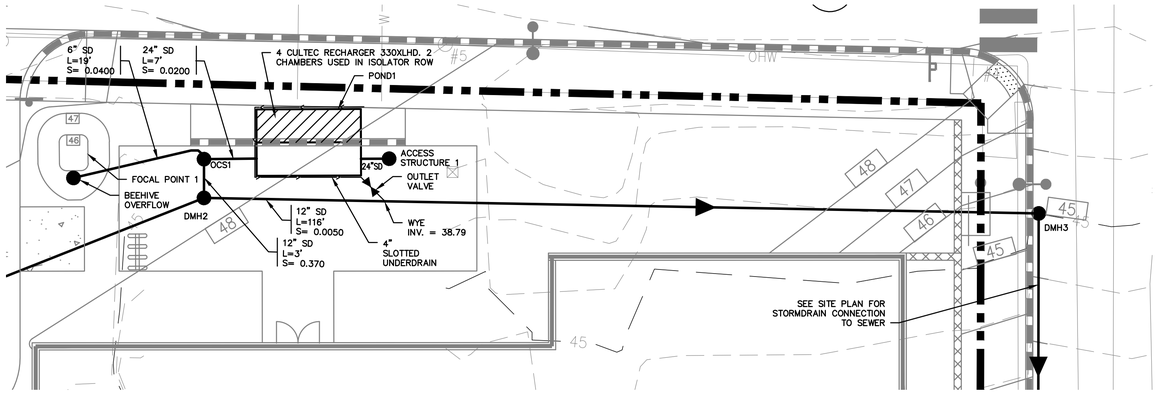


SUBSURFACE CULTEC PLAN

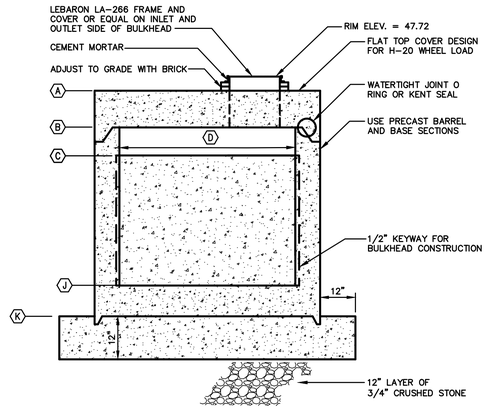
SCALE: 1" = 10'

CONSTRUCTION OVERSIGHT

1. THE FOCAL POINT SYSTEM SHALL BE INSTALLED UNDER THE SUPERVISION OF A MANUFACTURERS REPRESENTATIVE.
2. ALL PLANT MATERIAL SHALL BE APPROVED BY THE FOCAL POINT REPRESENTATIVE.
3. CONTRACTOR SHALL FLOOD POND1 TO ELEVATION 42.7 WITH OUTLET VALVE CLOSED, AND THEN ADJUST OUTLET VALVE TO ACHIEVE A 24–48 HOUR RELEASE RATE.

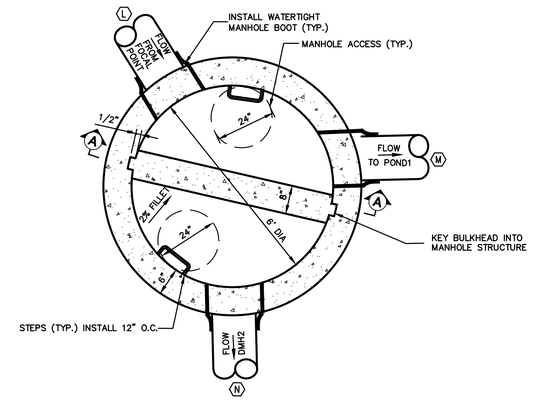
DRAINAGE STRUCTURE SCHEDULE

STRUCTURE	SIZE	RIM	INV. IN/SIZE (FROM)	INV. OUT/SIZE (TO)	COMMENTS
CULTECT CHAMBER (POND1)	330XLHD	–	40.00/24"(OCS1) 40.00/24"(ACCESS STRUCTURE 1)	9.50/4"(12"SD)	4 CHAMBERS– 2 CHAMBERS REQUIRED FOR ISOLATOR ROW
OCS1	6'ø	47.72	40.24/6"(BEEHIVE OVERFLOW)	40.14/24"(CULTECT CHAMBER(POND1)) 40.14/12"(DMH2)	FIELD INLET
BEEHIVE OVERFLOW	1'ø	46.75	43.00/6"(FOCAL POINT 1)	41.00/6"(OCS1)	
DMH2	4'ø	47.78	39.03/12"(DMH1) 39.03/12"(OCS1)	38.93/12"(DMH3)	
DMH3	4'ø	45.00	38.35/12"(DMH2)	38.25/12"(SMH1)	
ACCESS STRUCTURE	4'ø	48.10	–	40.00/24"(CULTEC CHAMBER(POND1))	



SECTION A–A
OUTLET CONTROL STRUCTURE 1 (OCS1)

NOT TO SCALE



PLAN VIEW
6' OUTLET CONTROL STRUCTURE 1 (OCS1)

NOT TO SCALE

OUTLET CONTROL STRUCTURE 1

	Item Description	Elevation
		OCS 1
A	TOP OF STRUCTURE	47.22
B	UNDERSIDE TOP SLAB	46.55
C	TOP CONCRETE BULKHEAD	41.1
D	WEIR LENGTH	6'
J	MANHOLE INVERT	38.29
K	BOTTOM OF STRUCTURE	37.29
L	PIPE DIAMETER	6"
	INVERT IN	40.24
M	PIPE DIAMETER	12"
	INVERT OUT	40.14
N	PIPE DIAMETER	12"
	INVERT OUT	38.29

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE · LUCAS ANTHONY 15258 · LICENSED PROFESSIONAL ENGINEER

7/2/18

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH | Draft: CG | Date: JUL 2018
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File Name: 3184 – DRAINAGE DETAILS.dwg

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Drawing Name: FOCAL POINT AND DETENTION POND DETAILS
Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME
Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. C404

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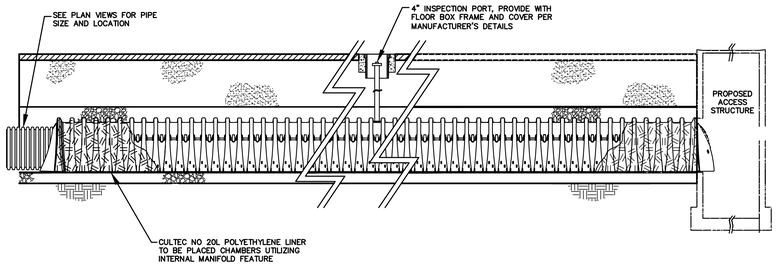
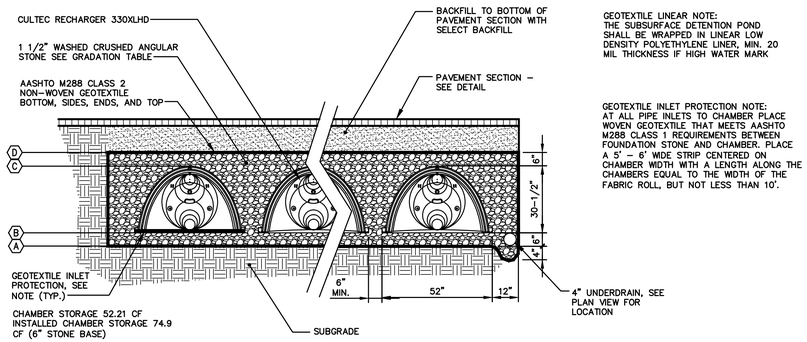


CHAMBER ISOLATOR ROW

N.T.S.



CHAMBER STORAGE 52.21 CF
INSTALLED CHAMBER STORAGE 74.9 CF (6" STONE BASE)

FOR CULTECH
INFORMATION CALL (203) 775-4416

GEOTEXTILE LINEAR NOTE:
THE SUBSURFACE DETENTION POND SHALL BE WRAPPED IN LINEAR LOW DENSITY POLYETHYLENE LINER, MIN. 20 MIL THICKNESS IF HIGH WATER MARK

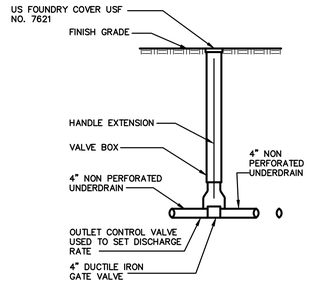
GEOTEXTILE INLET PROTECTION NOTE:
AT ALL PIPE INLETS TO CHAMBER PLACE WOVEN GEOTEXTILE THAT MEETS AASHTO M288 CLASS 1 REQUIREMENTS BETWEEN FOUNDATION STONE AND CHAMBER. PLACE A 5' – 6' WIDE STRIP CENTERED ON CHAMBER WIDTH WITH A LENGTH ALONG THE CHAMBERS EQUAL TO THE WIDTH OF THE FABRIC ROLL, BUT NOT LESS THAN 10'.

CHAMBER CROSS SECTION

NOT TO SCALE

SUBSURFACE DETENTION SYSTEMS MAY BE SUBSTITUTED WITH AN ENGINEER APPROVED EQUAL WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT

Chambers				
Structure	ELEVATION			
POND	A	B	C	D
1	39.5	40	42.54	43.04
2	37.5	38	40.54	41.04



OUTLET VALVE

NOT TO SCALE

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — LUCAS E. ANTHONY 11520 — LICENSED PROFESSIONAL ENGINEER — 5/30/18

Rev.	Date	Revision
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH | Draft: CG | Date: APR 2018
Checked: LSA | Scale: NTS | Job No.: 3184
File Name: 3184 – DRAINAGE DETAILS.dwg

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Drawing Name: DETENTION POND AND DRAINAGE DETAILS
Project: **Shipyard Redevelopment** Newbury Street, Portland, ME
Client: **86 Newbury Street, LLC** 470 Fore Street, Portland, ME 04101

Drawing No. C405

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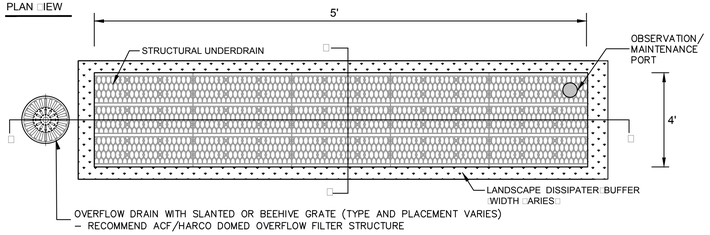
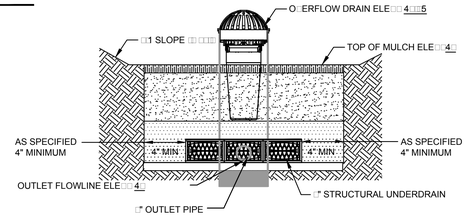
PLAN □IEW

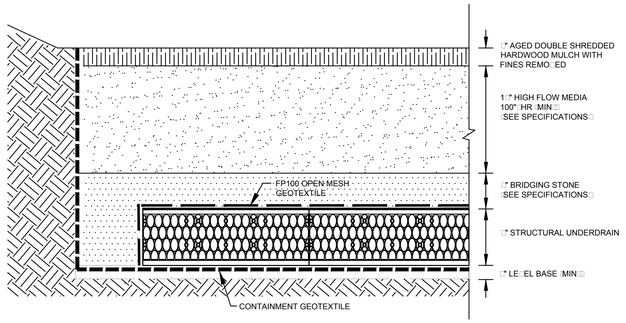


SECTION Y-Y



1

FOCALPOINT CONSTRUCTION GUIDE



FOCALPOINT HP PERFORMANCE SPECIFICATION:

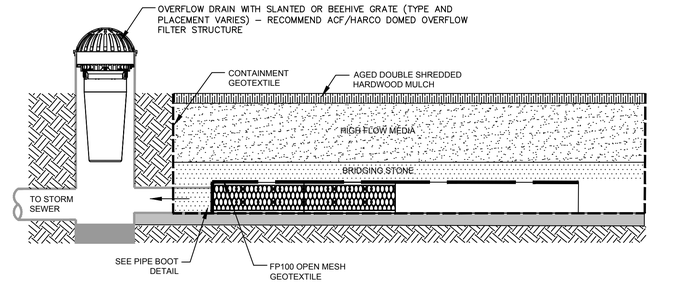
HIGH PERFORMANCE MEDIA

HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100"PER HOUR INFILTRATION RATE.

HIGH PERFORMANCE STRUCTURAL UNDERDRAIN

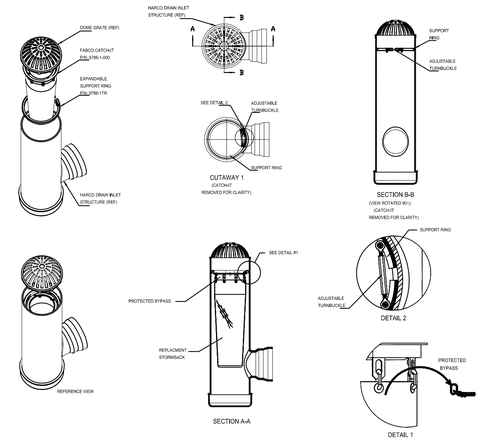
MUST HAVE A MINIMUM OF 19 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT.
MUST MEET H20 LOADING REQUIREMENTS.
MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE.
MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.

FOCALPOINT DETAILED CROSS SECTION



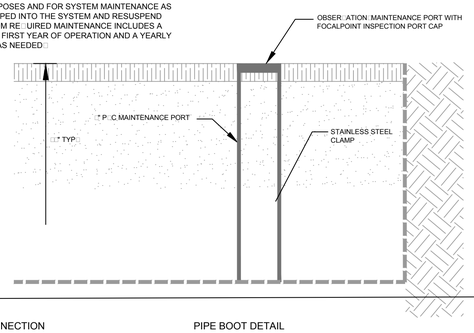
NOTES:
1. STORMSACK WEIGHT (EMPTY): 12 LB MAX
2. MATERIAL:
A) SHROUD: HIGH DENSITY POLYETHYLENE (TYPICAL WALL THICKNESS .125")
B) SUPPORT HUB: CRS, POWDER COATED
C) STORMSACK: WOVEN POLYPROPYLENE GEOTEXTILE (GEOTEX 117F)
D) HARDWARE: ALUMINUM POP-RIVETS
3. RECOMMENDED MINIMUM VAULT DEPTH: 24IN BELOW CARTRIDGE
4. TYPICAL INSTALLATION: RAISE STORM GRATE, PUSH CATCH-IT SHROUD DOWN ON FRAME SUPPORT LEDGE UNTIL LOCKING-CLIPS CLICK IN PLACE, LOWER STORM GRATE.
5. USE ONLY WITH FABCO REPLACEABLE STORMSACK.

STRUCTURE DIAMETER (INCHES)	DEBRIS CAPACITY (CF)	FILTERED FLOWRATE (CFS)	BYPASS FLOWRATE (CFS)	TOTAL SYSTEM FLOWRATE (CFS)
12	0.77	2.2	1.2	3.4
18	1.65	2.5	1.2	3.5

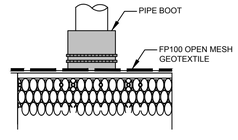


OBSERVATION/ MAINTENANCE PORT

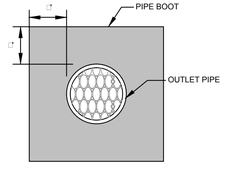
PORT USED FOR INSPECTION PURPOSES AND FOR SYSTEM MAINTENANCE AS RE□UIRED□WATER SHALL BE PUMPED INTO THE SYSTEM AND RESUSPEND ACCUMULATED SEDIMENT. MINIMUM RE□UIRED MAINTENANCE INCLUDES A □UARTERLY INSPECTION FOR THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER FLUSH AS NEEDED□



OBSER□ATION□MAINTENANCE PORT CONNECTION



PIPE BOOT DETAIL



NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS S. ANTHONY
#15250
LICENSED PROFESSIONAL ENGINEER
5/30/18

Rev.	Date	Revision
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

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File Name: 3184 – DRAINAGE DETAILS.dwg		

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Drawing Name: FOCAL POINT DETAILS
Project: Shipyard Redevelopment
Newbury Street, Portland, ME
Client: 86 Newbury Street, LLC
470 Fore Street, Portland, ME 04101

Drawing No. C406

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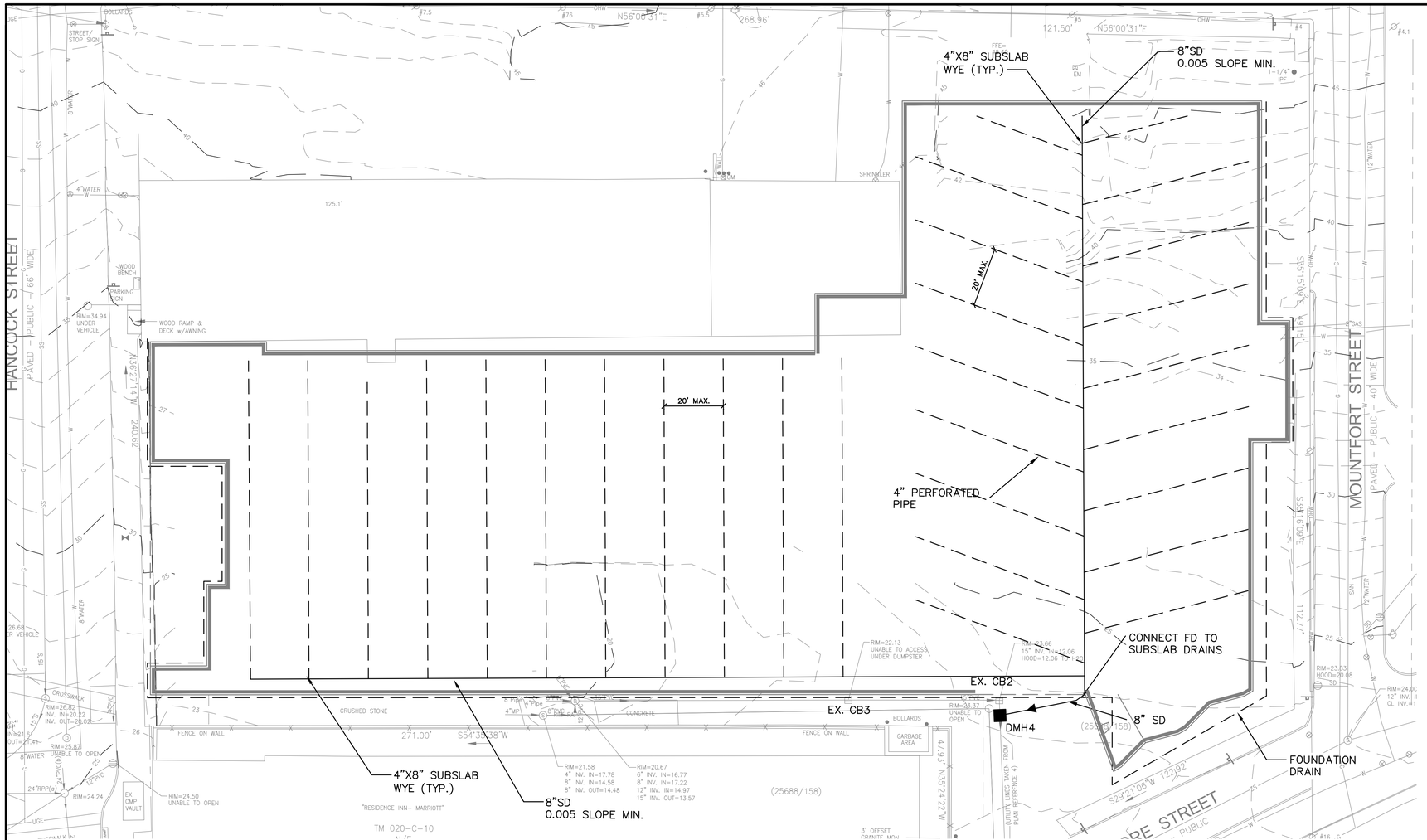
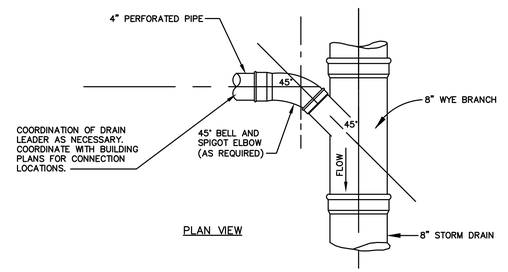


NOTE:
1. THE INSTALLATION OF THE SUBSLAB DRAIN SHALL BE COORDINATED WITH THE STRUCTURAL FOUNDATION PLAN TO AVOID ANY POTENTIAL CONFLICTS.
2. THE SUBSLAB DRAIN WILL NOT PROVIDE DRAINAGE FOR ANY FEATURE 4' BELOW THE BUILDINGS FINISH ELEVATION.
3. COORDINATE LOCATION OF EXTERIOR FOUNDATION DRAIN WITH LOCATION OF PROPERTY LINES AND EASEMENTS ON SHEET C101. PROPERTY LINES AND EASMENTS ARE NOT SHOWN ON THIS PLAN FOR CLARITY.

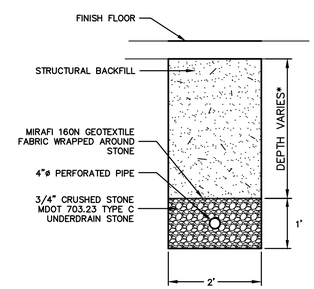
DRAINAGE STRUCTURE SCHEDULE

STRUCTURE	SIZE	RIM	INV. IN/SIZE (FROM)	INV. OUT/SIZE (TO)
DMH4	TBD	23.06	TBD/15" (EX. CB2) TBD/8" (SUBSURFACE DRAIN)	TBD

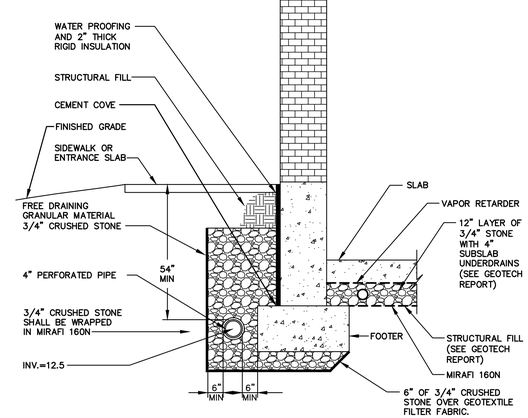
SUBSLAB DRAIN PLAN
SCALE: 1"=20'



4"x8" SUBSLAB WYE
NOT TO SCALE



SUBSLAB DRAIN
NOT TO SCALE
* REFER TO GEOTECHNICAL REPORT AND ARCHITECTURAL PLANS



TYPICAL FOUNDATION DRAIN DETAIL
NOT TO SCALE

STATE OF MAINE
LUCAS ANTHONY 15250
LICENSED PROFESSIONAL ENGINEER
7/2/18

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

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Drawing Name:	SUBSLAB DRAINAGE PLAN AND DETAILS
Project:	**Shipyard Redevelopment** Newbury Street, Portland, ME
Client:	**86 Newbury Street, LLC** 470 Fore Street, Portland, ME 04101
Drawing No.	C407

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1.3.5 Erosion Control Measures and Site Stabilization

The primary emphasis of the erosion/sedimentation control plan, which will be implemented for this project, is as follows:

- Development of a careful construction sequence.
- Rapid revegetation of denuded areas to minimize the period of soil exposure.
- Rapid stabilization of drainage paths to avoid rill and gully erosion.
- The use of on-site measures to capture sediment (hay bales/ stone check dams/silt fence, etc.)

The following temporary and permanent erosion and sediment control devices will be implemented as part of the site development. These devices shall be installed as indicated on the plans or as described within this report. For further reference, see the latest edition of the Maine Erosion and Sediment Control BMPS.

A. Dewatering

Water from construction trench dewatering shall pass first through a filter bag or secondary containment structure (e.g. hay bale lined pool) prior to discharge. The discharge site shall be selected to avoid flooding, icing, and sediment discharges to a protected resource. In no case shall the filter bag or containment structure be located within 50 feet of a protected natural resource.

B. Inspection and Monitoring

Maintenance measures shall be applied as needed during the entire construction season. After each rainfall, snow storm or period of thawing and runoff, the site contractor shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function. Following the temporary and/or final seeding and mulching, the contractor shall in the spring inspect and repair any damages and/or unestablished spots. Established vegetative cover means a minimum of 90% of areas vegetated with vigorous growth.

The following standards must be met during construction

(a) Inspection and corrective action. Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event (rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including standards and conditions in the permit, shall conduct the inspections.

(b) Maintenance. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

(c) Documentation. Keep a log (report) summarizing the inspections and any corrective action taken. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicles access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

The log must be made accessible to MDEP and City of Portland staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

C. Temporary Erosion Control Measures

The following measures are planned as temporary erosion/sedimentation control measures during construction:

1. A crushed stone-stabilized construction entrance shall be placed at the approved drive off Fore Streets and Newbury Streets.

2. Siltation fence or wood waste compost berms shall be installed downstream of any disturbed areas to trap runoff- borne sediments until grass areas are revegetated. The silt fence and/or wood waste compost berms shall be installed per the details provided in this package and inspected at least once a week and before and immediately after a storm event of 0.5 inches or greater, and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence or berm line. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam. Wood waste compost berms are not to be used adjacent to wetland areas that are not to be disturbed.

3. Straw or hay mulch including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and October 15th on slopes of less then 15 percent shall be anchored by applying water; mulch placed on slopes of equal to or steeper than 15 percent shall be covered by a fabric netting and anchored with staples in accordance with manufacturer's recommendation. Fabric netting and staples shall be used on disturbed areas within 50' of lakes, streams, and wetlands regardless of the upstream slope. Mulch placed between October 15th and April 15th on slopes equal to or steeper than 8 percent shall be covered with a fabric netting and anchored with staples in accordance with the manufacturer's recommendations. Slopes steeper than 3:1 and equal to or flatter than 2:1, which are to be revegetated, shall receive curlex blankets by American Excelsior or equal. Slopes steeper than 2:1 shall receive riprap as noted on the plans. The mulch application rate for both temporary and permanent seeding is 75 lbs per 1000 sf as identified in Attachment A of this section. Mulch shall not be placed over snow.

4. Temporary stockpiles of stumps, grubbings, or common excavation will be protected as follows:

a) Temporary stockpiles shall not be located within 50 feet of any wetlands which will not be disturbed and shall be located away from drainage swales.

b) Stockpiles shall be stabilized within 7 days by either temporarily seeding the stockpile by a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch, such as hay, straw, or erosion control mix.

c) Stockpiles shall be surrounded by sedimentation barrier at the time of formation.

5. All denuded areas that are within 50 feet of an undisturbed wetland, which have been rough graded and are not located within a building pad, parking area, or access drive subbase area, shall receive mulch or erosion control mesh fabric within 48 hours of initial disturbance of soil. All areas within 100 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. In other areas, the time period may be extended to 7 days.

6. For work, which is conducted between October 15th and April 15th of any calendar year, all denuded areas, shall be covered with hay mulch or erosion control mix, applied at twice the normal application rate and anchored with a fabric netting. The time period for applying mulch shall be limited to 2 days for all areas.

7. Hancock Street, Newbury Street, Moundfors Street, and Fore Street shall be swept to control mud and dust as necessary. Additional stone shall be added to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

8. During grubbing operations stone check dams shall be installed at any evident concentrated flow discharge points and as directed on the Erosion Control Plans.

9. Silt fencing with a minimum stake spacing of 6 feet shall be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence shall be anchored.

10. Wood waste compost/bark berms may be used in lieu of siltation fencing. Berms shall be removed and spread in a layer not to exceed 3" thick once upstream areas are completed and a 90% catch of vegetation is attained.

11. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or approved sediment bags (such as Silt Sack). Installation details are provided in the plan set. The barriers shall be inspected after each rainfall and repairs made as necessary. Sediment shall be removed and the barrier restored to its original dimensions when the sediment has accumulated to ½ the design depth of the barrier. The barrier shall be removed when the tributary drainage area has been stabilized.

12. Water and/or calcium chloride shall be furnished and applied in accordance with MDOT specifications - Section 637 - Dust Control.

13. Loam and seed is intended to serve, as the primary permanent revegetative measure for all denuded areas not provided with other erosion control measures, such as riprap. Application rates are provided in Attachment A of this section. Seeding shall not occur over snow.

D. Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas as noted in Temporary Erosion Control Measures paragraph 3 of this report. All areas within 50 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window. Native topsoil shall be stockpiled and reused for final restoration when it is of sufficient quality.

2. All storm drain pipe outlets shall have riprap aprons at their outlet to protect the outlet and receiving channel from scour and deterioration. Installation details are provided in the plan set. The aprons shall be installed and stabilized to the extent practicable prior to directing runoff to the tributary pipe or culvert.

3. Catch basins shall be provided with sediment sumps and inlet hoods (the Snout) for all outlet pipes that are 18" in diameter or less.

1.2 Implementation Schedule

The following construction sequence shall be required to insure the effectiveness of the erosion and sedimentation control measures are optimized:

It is anticipated that construction of the project will commence in Fall of 2018 and be completed by Fall of 2019.

Note: For all grading activities, the contractor shall exercise extreme caution not to overexpose the site, this shall be accomplished by limiting the disturbed area.

1. Install stabilized construction entrance along Newbury Street and Fore Street.
2. Install perimeter silt fence and/or wood waste berms prior to commencement of demolition.
3. Perform demolition of existing site elements.
4. Foundation preparation area shall be excavated for installation of the building foundations. Building work will be on going through the remainder of the project.
5. Commence installation of drainage appurtenances.
6. Commence earthwork and grading to subgrade.
7. Commence earthwork for Subsurface Chambers.
8. Commence installation of water and sewer lines.
9. Continue earthwork and grading to subgrade as necessary for construction.
10. Complete installation of underground utilities to within 5' of the buildings.
11. Install light pole foundations and light poles.
12. Complete remaining earthwork operations.
13. Complete installation of drainage appurtenances.
14. Install sub-base and base gravel within walkways, and drives.
15. Install brick sidewalk.
16. Install base course paving for drives and concrete surfaces.
17. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
18. Install surface course paving for drives. Stripe per plan.
19. Once the site is stabilized and a 90% catch of vegetation has been obtained, remove all temporary erosion control measures.
20. Touch up loam and seed.

Note: All denuded areas not subject to final paving, riprap, or gravel shall be revegetated.

Prior to construction of the project, the contractor shall submit to the owner a schedule for the completion of the work, which will satisfy the following criteria:

1. The above construction sequence should generally be completed in the specified order; however, several separate items may be constructed simultaneously. Work must also be scheduled or phased to reduce the extent of the exposed areas as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.
2. The work shall be conducted in sections which shall:
   a) Limit the amount of exposed area to those areas in which work is expected to be undertaken during the proceeding 30 days.
   b) Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event; or temporarily stabilized within 48 hours of initial disturbance of soil for areas within 50 feet of an undisturbed wetland and 7 days for all other areas. Areas within 50 feet of an undisturbed wetland shall be mulched prior to any predicted rain event regardless of the 48 hour window.
   c) Incorporate planned inlets and drainage system as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.

1.3 Erosion, Sedimentation and Stabilization Control Plan

The Erosion Control information is included in the plan set.

1.4 Details and Specifications

The Erosion Control details and specifications are included in the plan set.

1.5 Winter Stabilization Plan

The winter construction period is from November 1 through April 15. If the construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15 then the site needs to be protected with over-winter stabilization. An area considered open is any area not stabilized with pavement; vegetation, mulching, erosion control mats, riprap or gravel base on a road.

Winter excavation and earthwork shall be completed such that any area left exposed can be controlled by the contractor. Limit the exposed area to those areas in which work is expected to be under taken during the proceeding 15 days and that can be mulched in one day prior to any snow event.

All areas shall be considered to be denuded until the subbase gravel is installed in roadway/parking areas or the areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch rate shall be a minimum of 150 lbs./1,000 s.f. (3 tons/acre) and shall be properly anchored.

The contractor shall install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions. Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized, in order to minimize areas without erosion control protection.

1. Soil Stockpiles

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or at 150 lbs/1,000 s.f. (3 tons per acre) or with a four-inch layer of woodwaste erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpile shall not be placed (even covered with hay or straw) within 50 feet from any natural resources.

2. Natural Resource Protection

Any areas within 50 feet from any natural resources, if not stabilized with a minimum of 75% mature vegetation catch, shall be mulched by December 1 and anchored with plastic netting or protected with erosion control mats. During winter construction, a double line of sediment barriers (i.e. silt fence backed with hay bales or erosion control mix) shall be placed between any natural resource and the disturbed area. Projects crossing the natural resource shall be protected a minimum distance of 50 feet on either side from the resource. Existing projects not stabilized by December 1 shall be protected with the second line of sediment barrier to ensure functionality during the spring thaw and rains.

3. Sediment Barriers

During frozen conditions, sediment barriers shall consist of woodwaste filter berms as frozen soil prevents the proper installation of hay bales and sediment silt fences.

4. Mulching

An area shall be considered denuded until areas of future loam and seed have been loamed, seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched with straw or hay at a rate of 150 lb. per 1,000 square feet (3 tons/acre) and adequately anchored that ground surface is not visible though the mulch.

Between the dates of November 1 and April 15, all mulch shall be anchored by peg line, mulch netting, asphalt emulsion chemical, or wood cellulose fiber. When ground surface is not visible through the mulch then cover is sufficient. After November 1st, mulch and anchoring of all bare soil shall occur at the end of each final grading workday.

5. Mulching on Slopes and Ditches

Slopes shall not be left exposed for any extended time of work suspension unless fully mulched and anchored with peg and netting or with erosion control blankets. Mulching shall be applied at a rate of 230 lbs/1,000 s.f. on all slopes greater than 8%.

Mulch netting shall be used to anchor mulch in all drainage ways with a slope greater than 3% for slopes exposed to direct winds and for all other slopes greater that 8%. Erosion control blankets shall be used in lieu of mulch in all drainage ways with slopes greater than 8%. Erosion control mix can be used to substitute erosion control blankets on all slopes except ditches.

6. Seeding

Between the dates of October 15 and April 1st, loam or seed will not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched. Dormant seeding may be selected to be placed prior to the placement of mulch and fabric netting anchored with staples. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs/1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

Standards for Timely Stabilization of Construction Sites During Winter

1. Standard for the timely stabilization of ditches and channels -- The applicant shall construct and stabilize all stone-lined ditches and channels on the site by November 15. The applicant shall construct and stabilize all grass-lined ditches and channels on the site by September 1. If the applicant fails to stabilize a ditch or channel to be grass-lined by September 1, then the applicant will take one of the following actions to stabilize the ditch for late fall and winter.

Install a sod lining in the ditch -- The applicant shall line the ditch with properly installed sod by October 1. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.

Install a stone lining in the ditch --The applicant shall line the ditch with stone riprap by November 15. The applicant shall hire a registered professional engineer to determine the stone size and lining thickness needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the applicant shall regrade the ditch prior to placing the stone lining so to prevent the stone lining from reducing the ditch's cross-sectional area.

2. Standard for the timely stabilization of disturbed slopes -- The applicant shall construct and stabilize stone-covered slopes by November 15. The applicant shall seed and mulch all slopes to be vegetated by September 1. The department shall consider any area having a grade greater than 15% to be a slope. If the applicant fails to stabilize any slope to be vegetated by September 1, then the applicant shall take one of the following actions to stabilize the slope for late fall and winter.

Stabilize the soil with temporary vegetation and erosion control mats -- By September 1 the applicant shall seed the disturbed slope with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control mats over the mulched slope. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed slope by November 1, then the applicant shall cover the slope with a layer of woodwaste compost as described in item iii of this standard or with stone riprap as described in item iv of this standard.

Stabilize the slope with sod -- The applicant shall stabilize the disturbed slope with properly installed sod by September 1. Proper installation includes the applicant pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The applicant shall not use late-season sod installation to stabilize slopes having a grade greater than 33% (3H:1V).

Stabilize the slope with woodwaste compost -- The applicant shall place a six-inch layer of woodwaste compost on the slope by November 15. Prior to placing the woodwaste compost, the applicant shall remove any snow accumulation on the disturbed slope. The applicant shall not use woodwaste compost to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.

Stabilize the slope with stone riprap -- The applicant shall place a layer of stone riprap on the slope by November 15. The applicant shall hire a registered professional engineer to determine the stone size needed for stability and to design a filter layer for underneath the riprap.

3. Standard for the timely stabilization of disturbed soils -- By September 15 the applicant shall seed and mulch all disturbed soils on areas having a slope less than 15%. If the applicant fails to stabilize these soils by this date, then the applicant shall take one of the following actions to stabilize the soil for late fall and winter.

Stabilize the soil with temporary vegetation -- By September 1 the applicant shall seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1000 square feet, and anchor the mulch with plastic netting. The applicant shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 75% of the disturbed soil before November 1, then the applicant shall mulch the area for over-winter protection as described below.

Stabilize the soil with sod -- The applicant shall stabilize the disturbed soil with properly installed sod by September 15. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

Stabilize the soil with mulch -- By November 15 the applicant shall mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, the applicant shall remove any snow accumulation on the disturbed area. Immediately after applying the mulch, the applicant will anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

1.4 Maintenance of facilities

The stormwater facilities will be maintained by the Applicant, 86 Newbury Street, LLC or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report.

Long-term operation/maintenance for the stormwater facilities must comply with Chapter 32 of the City of Portland Code of Ordinances. An excerpt for the annual report requirements is provided below:

The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

Snow Storage:
Plowed snow stored on-site shall not be placed over the FocalPoint filter system. Snow shall be removed from the site by a private waste hauler.

Inspection and Maintenance Frequency and Corrective Measures :
The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:
Inspect catch basins 2 times per year (preferably in Spring and Fall) to observe that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12" from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. At a minimum, remove floating debris and hydrocarbons at the time of the inspection.

Vegetated Areas:
Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

Ditches, Swales, and other Open Stormwater Channels:
Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel's bottom or sidesloses. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

Roadways and Parking Surfaces: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

Inlet/Outlet Control Structures:
Inspect structures and piping 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris within the structure.

Stormdrain Outlets:
Inspect outlets 2 times per year (preferably in Spring and Fall) to ensure that the outlets are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the outlet and within the conduit Repair any erosion damage at the stormdrain outlet.

Subsurface Detention Chambers:
Inspect chambers per manufacturer's recommendation. At a minimum, inspect chambers two times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove sediment from isolator row when depth of sediment reaches three inches.

FocalPoint System:
A five year maintenance and inspection contract shall be obtained with a professional with knowledge of erosion and stormwater control including experience with the FocalPoint system. The contract shall be renewed before its expiration. At a minimum the system shall be inspected every six months. Remove sediment and provide maintenance as required based upon the inspection.

Post-Construction Stormwater Management Plan

As part of the Stormwater Permit, the applicant is required to meet the standards in Section 5 of the City of Portland Technical Manual for Stormwater Management. The General Standard in item IV. Submission Requirements states that a project must submit a Post-Construction Stormwater Inspection & Maintenance Plan per Maine DEP Chapter 500 Appendix B with reporting requirements per Chapter 32 of City of Portland Code of Ordinances, and a Stormwater Maintenance Agreement. The management plan shall comply to Chapter 32 of City of Portland Code of Ordinances as follows:

(a) The owner or operator of a BMP shall hire a qualified post-construction stormwater inspector to at least annually, inspect the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning, and maintenance requirements of the approved post-construction stormwater management plan.
(b) If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide record of the deficiency and corrective action(s) to the department of public works ("DPW") in the annual report.
(c) The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.
(d) Any person(s) required to file an annual certification under this section shall include with the annual certification a filing fee established by DPW to pay the administrative and technical costs of review of the annual certification.
(e) In order to determine compliance with this article and with the post-construction stormwater management plan, DPW may enter upon property at reasonable hours with the consent of the owner, occupant, or agent to inspect the BMPs.

Housekeeping

The following procedures are hereby established as a minimum for compliance with this section. For further information on the procedures listed below, refer to MDEP Chapter 500 rules - Appendix C.

Spill Prevention:
Appropriate spill prevention, containment, and response planning/implementation shall be used to prevent pollutants from being discharged from materials on site.

Groundwater Protection:
During construction, hazardous materials with the potential to contaminate groundwater shall not be stored or handled in areas of the site which drain to an infiltration area.

Fugitive Sediment and Dust:
Appropriate measures shall be taken to ensure that activities do not result in noticeable erosion of the soils and water and/or calcium chloride shall be used to ensure that activities do not result in fugitive dust emissions during or after construction.

Debris and Other Materials:
Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

Trench or Foundation De-watering:
Water collected through the process of trenching and/or de-watering must be removed from the ponded area, and must be spread through natural wooded buffers or other areas that are specifically designed to collect the maximum amount of sediment possible.

Non-stormwater Discharges:
Identify and prevent contamination by non-stormwater discharges.

PROJECT: SHIPYARD REDEVELOPMENT

SITE LOCATION: PORTLAND, ME

TEMPORARY SEEDING

1. INSTRUCTION ON PREPARATION OF SOIL: PREPARE A GOOD SEED BED FOR PLANTING METHOD USED.
2. APPLY LIME AS FOLLOWS: _# / ACRES, OR 138 # /M SQ. FT.
3. FERTILIZE WITH ____ POUNDS OF ____ N–P–K/AC. OR 13.8 POUNDS OF 10–10–10 N–P–K/M SQ. FT.
4. METHOD OF APPLYING LIME AND FERTILIZER: SPREAD AND WORK INTO THE SOIL BEFORE SEEDING.
5. SEED WITH THE FOLLOWING MIXTURE:
   50% WINTER RYE
   50% ANNUAL RYE
6. MULCHING INSTRUCTIONS: APPLY AT THE RATE OF ____PER ACRE, OR 75 POUNDS PER M. SQ. FT.

	AMOUNT	UNIT # TONS, ETC.
7. TOTAL LIME	138	#/1000 SQ. FT.
8. TOTAL FERTILIZER	13.8	#/1000 SQ. FT.
9. TOTAL SEED	1.03	#/1000 SQ. FT.
10. TOTAL MULCH	75	#/1000 SQ. FT.
11. TOTAL OTHER MATERIALS, SEEDS, ETC.		
12. REMARKS		

SPRING SEEDING IS RECOMMENDED; HOWEVER, LATE SUMMER (PRIOR TO SEPTEMBER 1) SEEDING CAN BE MADE. PERMANENT SEEDING SHOULD BE MADE PRIOR TO AUGUST 5 OR AS A DORMANT SEEDING AFTER THE FIRST KILLING FROST AND BEFORE THE FIRST SNOWFALL. IF SEEDING CANNOT BE DONE WITHIN THESE SEEDING DATES, TEMPORARY SEEDING AND MULCHING SHALL BE USED TO PROTECT THE SITE. PERMANENT SEEDING SHALL BE DELAYED UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

SEEDING PLAN

PROJECT: SHIPYARD REDEVELOPMENT

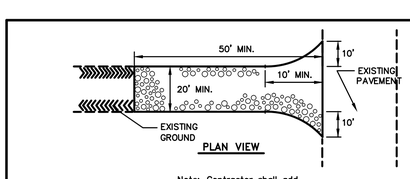
SITE LOCATION: PORTLAND, ME

PERMANENT SEEDING

1. INSTRUCTION ON PREPARATION OF SOIL: PREPARE A GOOD SEED BED FOR PLANTING METHOD USED.
2. APPLY LIME AS FOLLOWS: _# / ACRES, OR 138 # /M SQ. FT.
3. FERTILIZE WITH ____ POUNDS OF ____ N–P–K/AC. OR 18.4 POUNDS OF 10–20–20 N–P–K/M SQ. FT.
4. METHOD OF APPLYING LIME AND FERTILIZER: SPREAD AND WORK INTO THE SOIL BEFORE SEEDING.
5. SEED WITH THE FOLLOWING MIXTURE:
   40% CREEPING RED FESCUE
   30% CHARGER II PERENNIAL RYEGRASS
   20% KENBLUE KENTUCKY BLUEGRASS
   10% TIFFANY CHEWINGS FESCUE
6. MULCHING INSTRUCTIONS: APPLY AT THE RATE OF ____PER ACRE, OR 75 POUNDS PER M. SQ. FT.

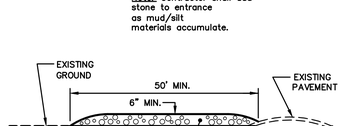
	AMOUNT	UNIT # TONS, ETC.
7. TOTAL LIME	138	#/1000 SQ. FT.
8. TOTAL FERTILIZER	18.4	#/1000 SQ. FT.
9. TOTAL SEED	1.03	#/1000 SQ. FT.
10. TOTAL MULCH	75	#/1000 SQ. FT.
11. TOTAL OTHER MATERIALS, SEEDS, ETC.		
12. REMARKS		

SPRING SEEDING IS RECOMMENDED, HOWEVER, LATE SUMMER (PRIOR TO SEPTEMBER 1) SEEDING CAN BE MADE. PERMANENT SEEDING SHOULD BE MADE PRIOR TO AUGUST 5 OR AS A DORMANT SEEDING AFTER THE FIRST KILLING FROST AND BEFORE THE FIRST SNOWFALL. IF SEEDING CANNOT BE DONE WITHIN THESE SEEDING DATES, TEMPORARY SEEDING AND MULCHING SHALL BE USED TO PROTECT THE SITE. PERMANENT SEEDING SHALL BE DELAYED UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.



PLAN VIEW

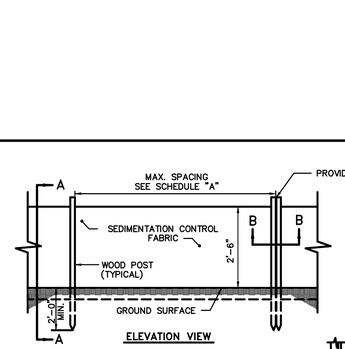
Note: Contractor shall add stone to entrance as mud/silt materials accumulate.



SECTION

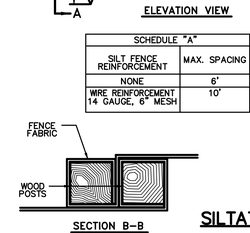
STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

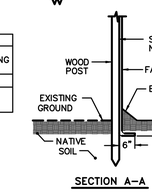


ELEVATION VIEW

SCHEDULE "A"	
SILT FENCE REINFORCEMENT	MAX. SPACING
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'



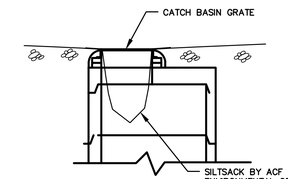
SECTION B–B



SECTION A–A

SILTATION FENCE

N.T.S.



CATCH BASIN INLET FILTER

N.T.S.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE — LUCAS S. ANTHONY 14320 LICENSED PROFESSIONAL ENGINEER — 5/30/18

Rev.	Date	Revision
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft: CG	Date: APR 2018
Checked: LSA	Scale: NTS	Job No.: 3184
File Name: 3184–DETAILS.dwg		

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Drawing Name: EROSION CONTROL NOTES & DETAILS

Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME

Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. C408

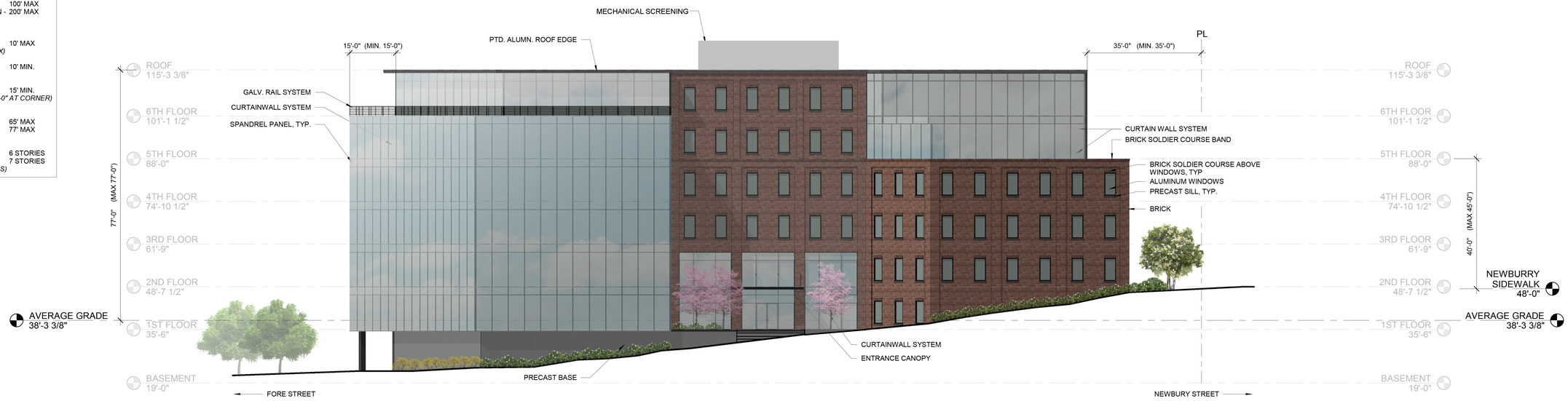
U:\3184_Shipyard Brewing\Z – CAD\DWG\3184–DETAILS.dwg 5/30/2018 5:03 PM

UT SUBDISTRICT

FRONTAGE REQUIREMENTS
- BUILDING LENGTH - 100' MAX
  MASSING VARIATION - 200' MAX
  (ACTUAL = 200'-0")

SETBACKS
- FRONT YARD - 10' MAX
  (ACTUAL = 10'-0" MAX)
- SIDEYARD - 10' MIN.
  (N/A)
- BONUS FLOOR - 15' MIN.
  (ACTUAL = 15'-0", 35'-0" AT CORNER)

HEIGHT STANDARDS
- BUILDING HEIGHT - 65' MAX
  BONUS HEIGHT - 77' MAX
  (ACTUAL = 77'-0")
- BUILDING STORIES - 6 STORIES
  BONUS FLOORS - 7 STORIES
  (ACTUAL = 6 STORIES)



1 | MOUNTFORT STREET ELEVATION
1/16" = 1'-0"

UN SUBDISTRICT

FRONTAGE REQUIREMENTS
- BUILDING LENGTH - 50' MAX
  (ACTUAL = 50'-0")

SETBACKS
- FRONT YARD - 5' MAX
  (ACTUAL = 22'-0" (UT CONFLICT))
- SIDEYARD - 10' MIN.
  (N/A)
- CORNER COND. - 35' MIN.
  (ACTUAL = 35'-0")

HEIGHT STANDARDS
- BUILDING HEIGHT - 45' MAX
  (ACTUAL = 40'-0")
- BUILDING STORIES - 4 STORIES
  (ACTUAL = 3 STORIES)
  (ACTUAL = 5 STORIES W/CORNER)

UN SUBDISTRICT

FRONTAGE REQUIREMENTS
- BUILDING LENGTH - 50' MAX
  (ACTUAL = 50'-0")

SETBACKS
- FRONT YARD - 5' MAX
  (ACTUAL = 3'-0" - 5'-0")
- SIDEYARD - 10' MIN.
  (N/A)

HEIGHT STANDARDS
- BUILDING HEIGHT - 45' MAX
  (ACTUAL = 43'-6 1/2" MAX (VARIES))
- BUILDING STORIES - 4 STORIES
  (ACTUAL = 3 STORIES)

2 | NEWBURY STREET ELEVATION
1/16" = 1'-0"

Prepared For: Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT
Address
City, State

Revisions:

Scale: 1/16" = 1'-0"

Date: March 22, 2018

Building Elevations

A2.01

UT SUBDISTRICT

FRONTAGE REQUIREMENTS

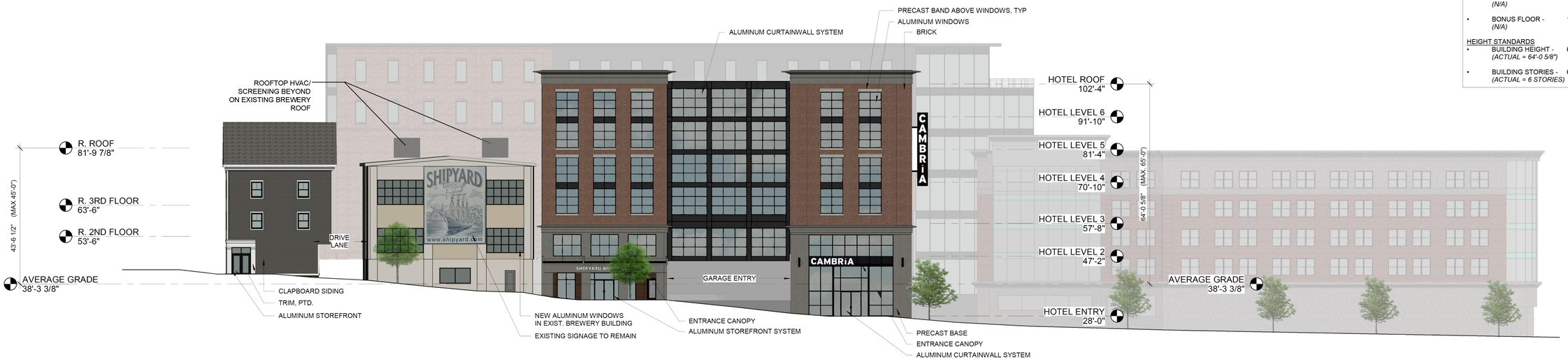
- BUILDING LENGTH - 100' MAX
  PARTITION WALLS - 200' MAX
  (ACTUAL = 120'-0")

SETBACKS

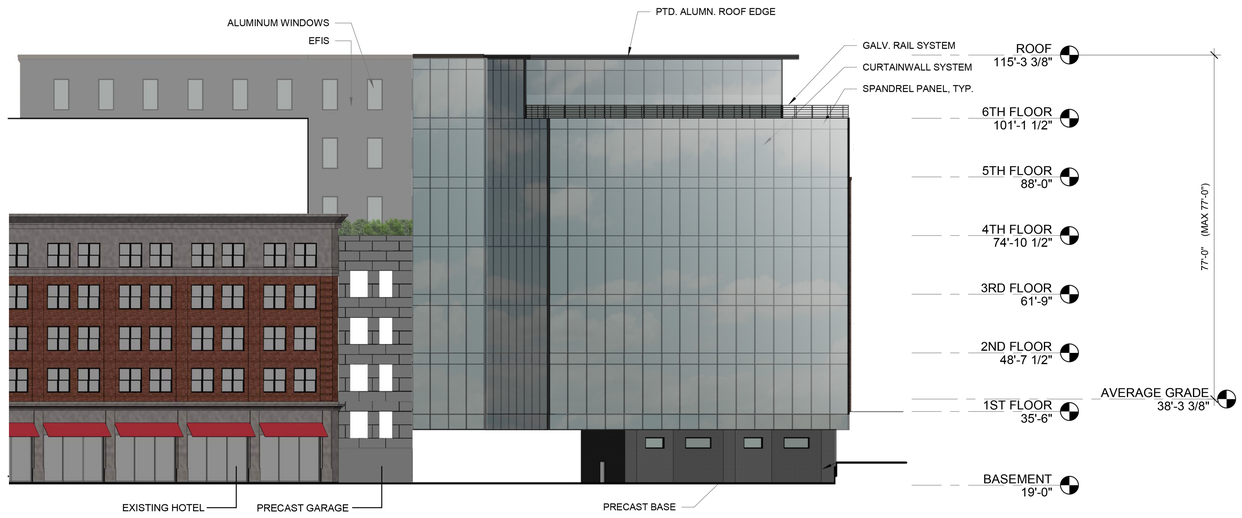
- FRONT YARD - 10' MAX
  (ACTUAL = 3'-0" / 0'-6")
- SIDEYARD - 10' MIN.
  (N/A)
- BONUS FLOOR - 15' MIN.
  (N/A)

HEIGHT STANDARDS

- BUILDING HEIGHT - 65' MAX
  (ACTUAL = 64'-0 5/8")
- BUILDING STORIES - 6 STORIES
  (ACTUAL = 6 STORIES)



1 | HANCOCK STREET ELEVATION
1/16" = 1'-0"



2 | Elevation 1 - a
1/16" = 1'-0"

Prepared For: Owner

Consultant:

Architect: ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT

Revisions:

Scale: 1/16" = 1'-0"

Date: March 22, 2018

BUILDING ELEVATIONS

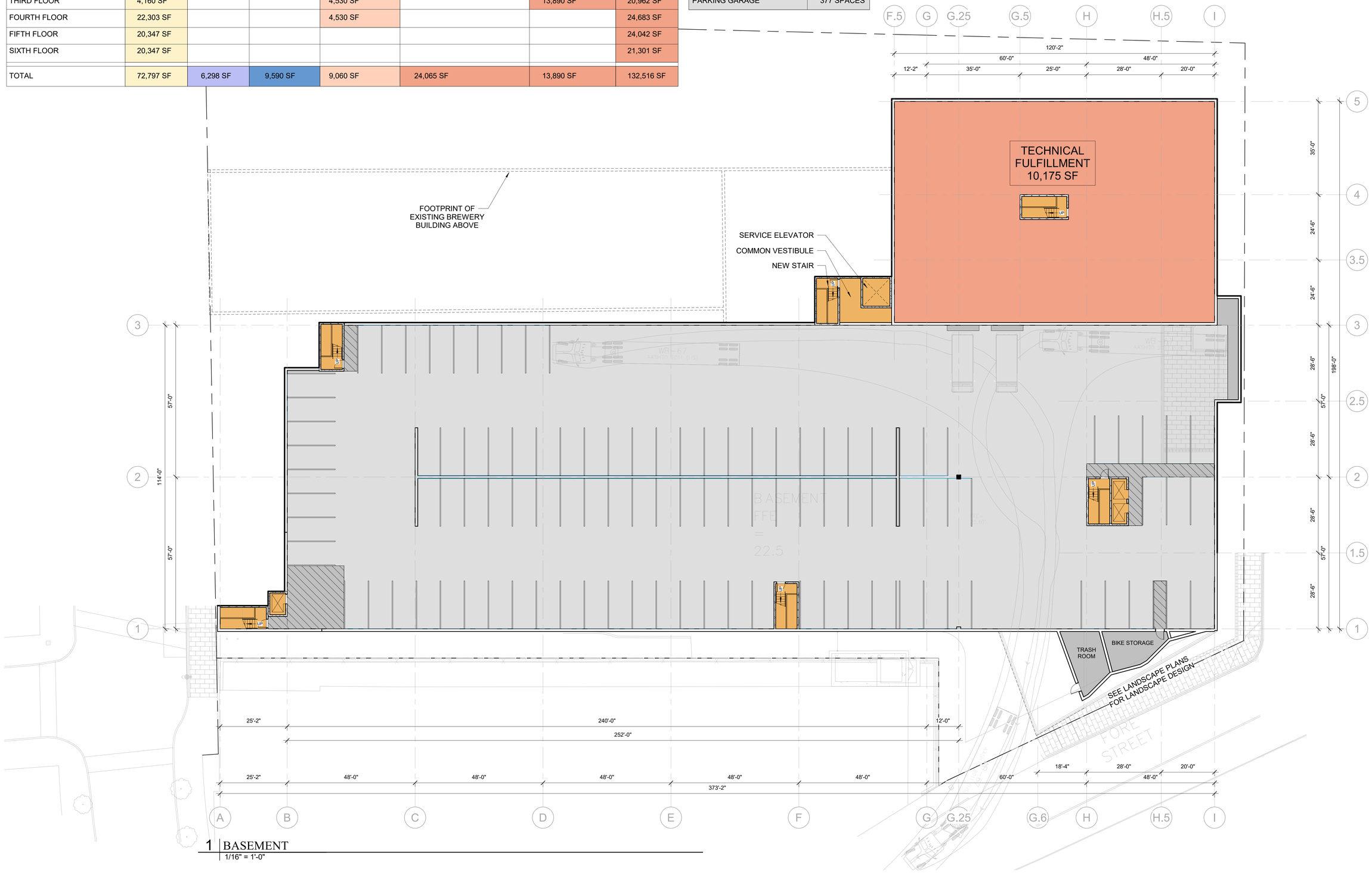
A2.02

PROJECT DESCRIPTION

	HOTEL	RETAIL	BREWERY	RESIDENTIAL	TECHNICAL FULFILLMENT	PHARMACY	OFFICE
BASEMENT					10,175 SF		
FIRST FLOOR	1,480 SF	5,200 SF	9,590 SF				21,043 SF
SECOND FLOOR	4,160 SF	1,098 SF			13,890 SF		20,485 SF
THIRD FLOOR	4,160 SF			4,530 SF		13,890 SF	20,962 SF
FOURTH FLOOR	22,303 SF			4,530 SF			24,683 SF
FIFTH FLOOR	20,347 SF						24,042 SF
SIXTH FLOOR	20,347 SF						21,301 SF
TOTAL	72,797 SF	6,298 SF	9,590 SF	9,060 SF	24,065 SF	13,890 SF	132,516 SF

HOTEL	105 ROOMS
RESIDENTIAL A	4 UNITS
RESIDENTIAL B	4 UNITS
RESIDENTIAL C	2 UNITS
PARKING GARAGE	377 SPACES

OUTDOOR ASSEMBLY	
4TH FLOOR	1,443 SF
6TH FLOOR	1,909 SF
TOTAL	3,352 SF



1 BASEMENT
1/16" = 1'-0"

Prepared For: Owner

Consultant:

Architect: ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT

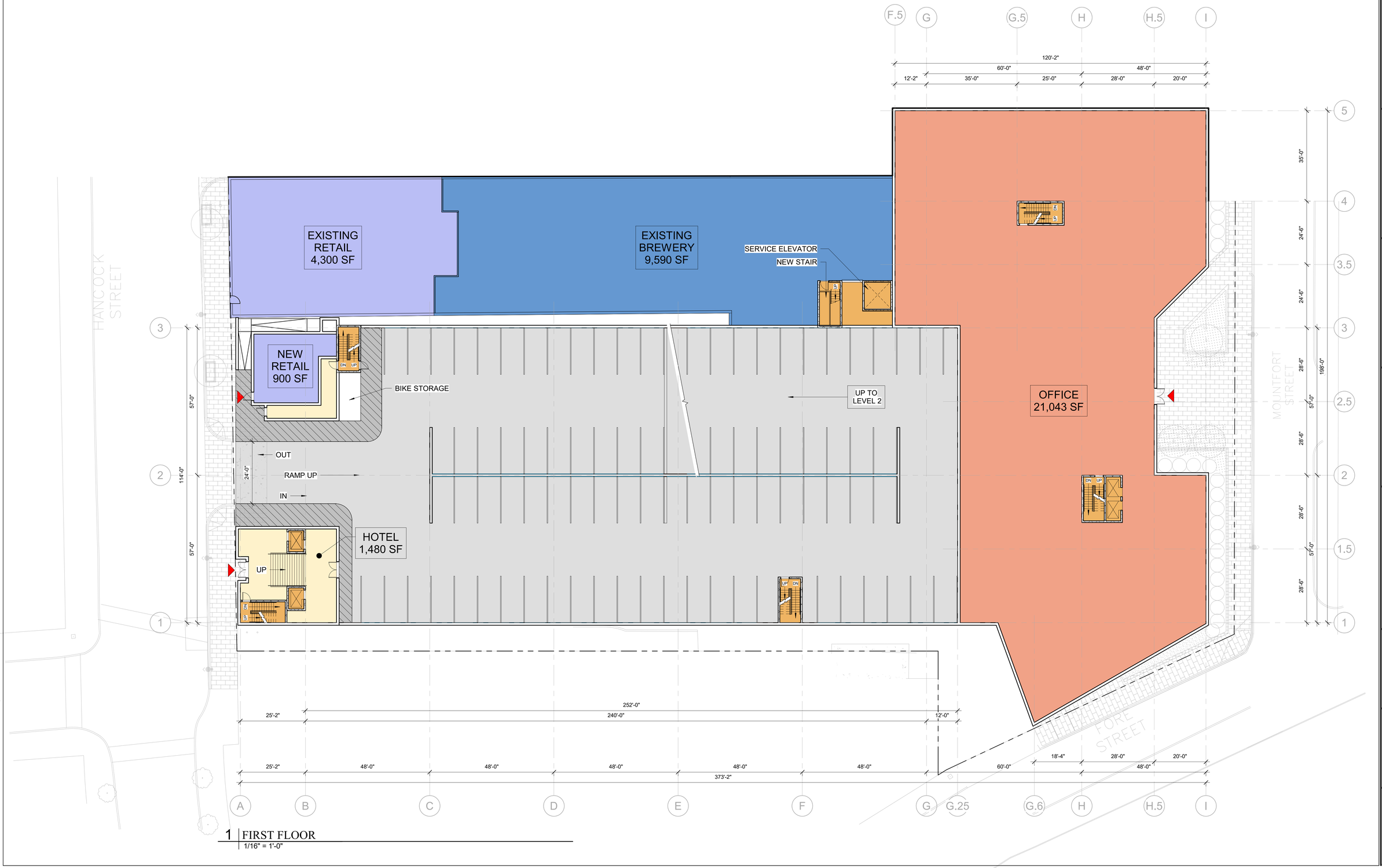
Revisions:

Scale: 1/16" = 1'-0"

Date: JULY 2018

BASEMENT

A1.00



1 FIRST FLOOR
1/16" = 1'-0"

Prepared For:
Owner

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
SHIPYARD DEVELOPMENT
Address
City, State

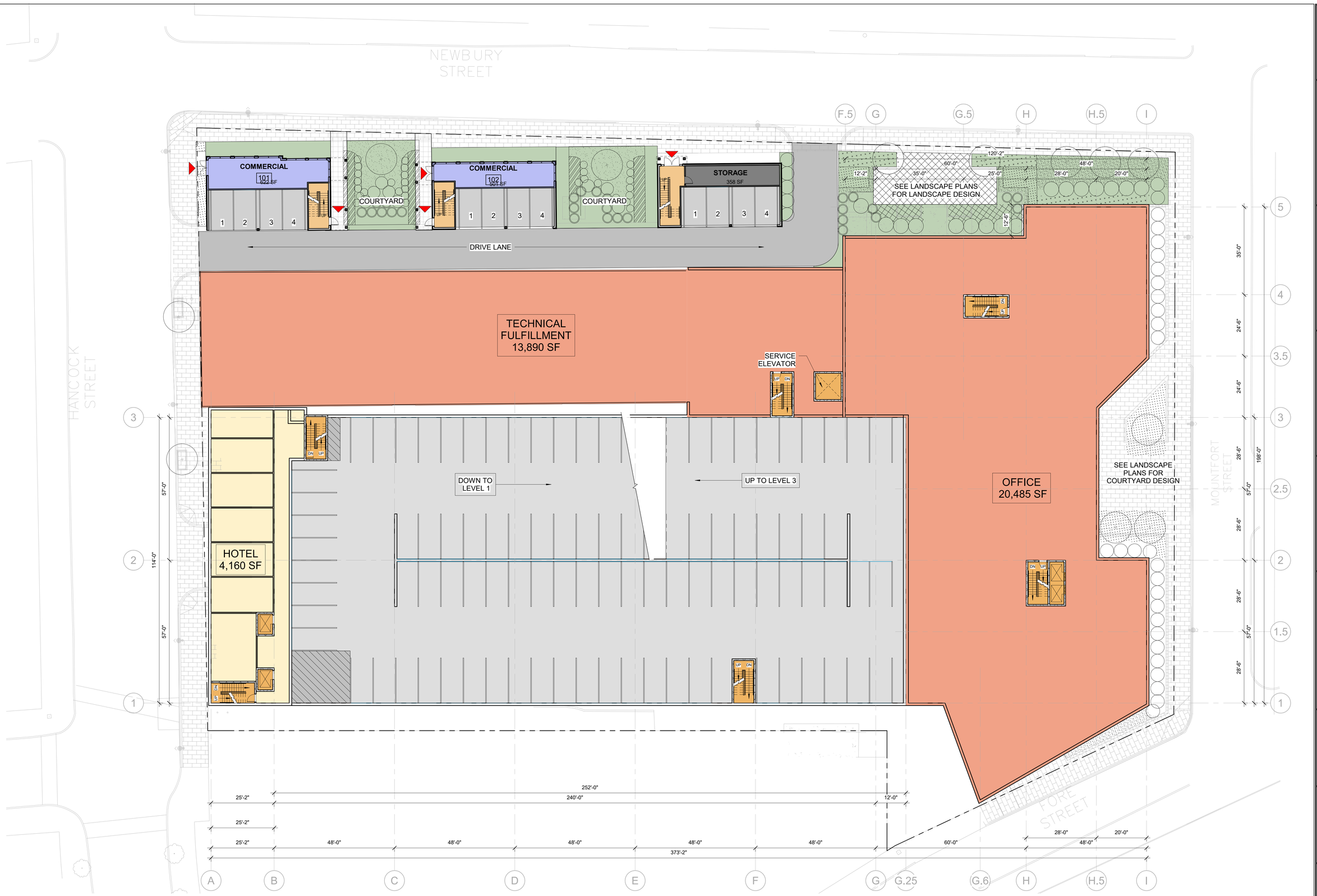
Revisions:

Scale: 1/16" = 1'-0"

Date: JULY 2018

First Floor

A1.01



1 | SECOND FLOOR
1/16" = 1'-0"

Prepared For:
Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
SHIPYARD DEVELOPMENT
Address
City, State

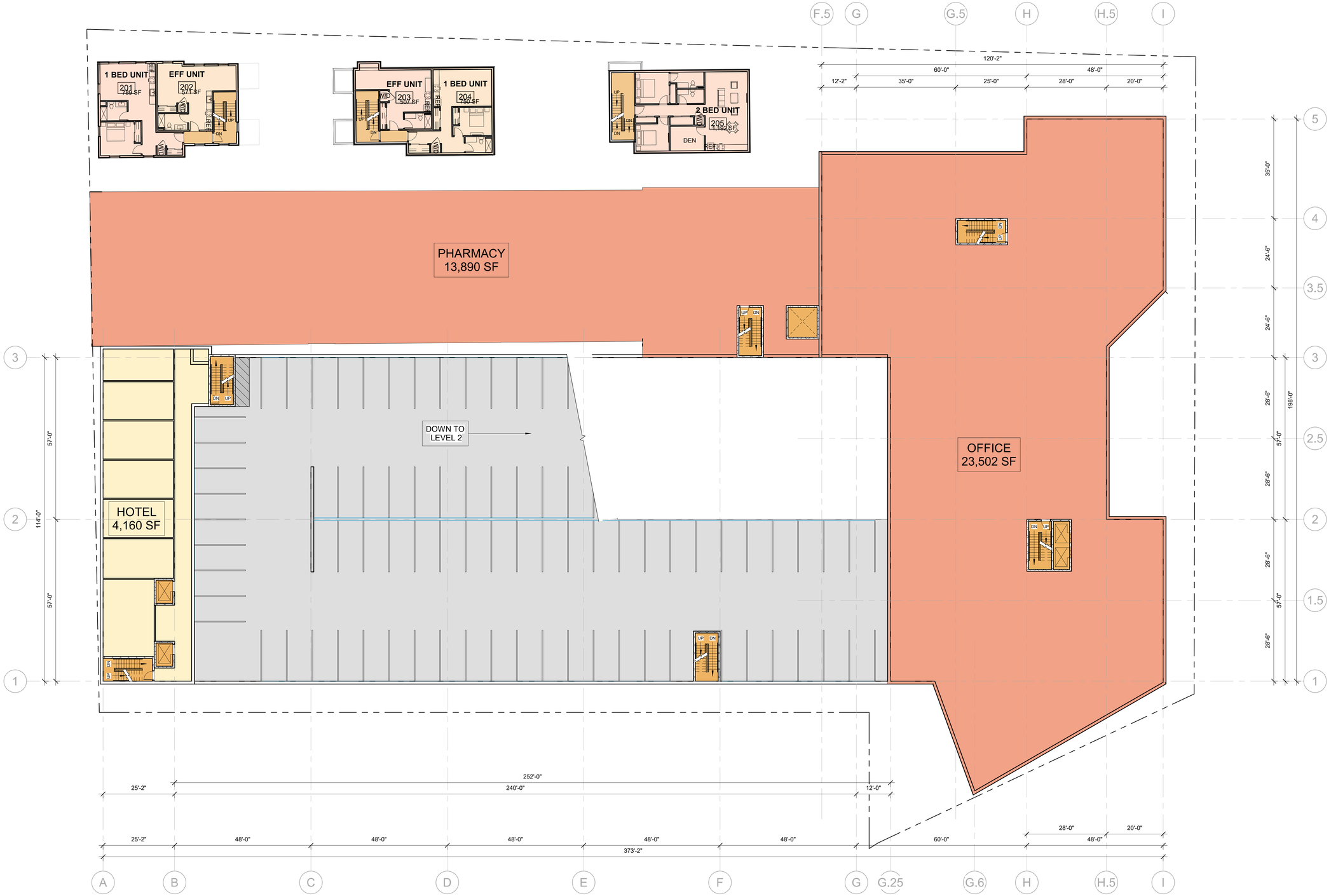
Revisions:

Scale:
1/16" = 1'-0"

Date:
JULY 2018

Second Floor Plan

A1.02



2 | THIRD FLOOR
1/16" = 1'-0"

Prepared For:
Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
SHIPYARD DEVELOPMENT
Address
City, State

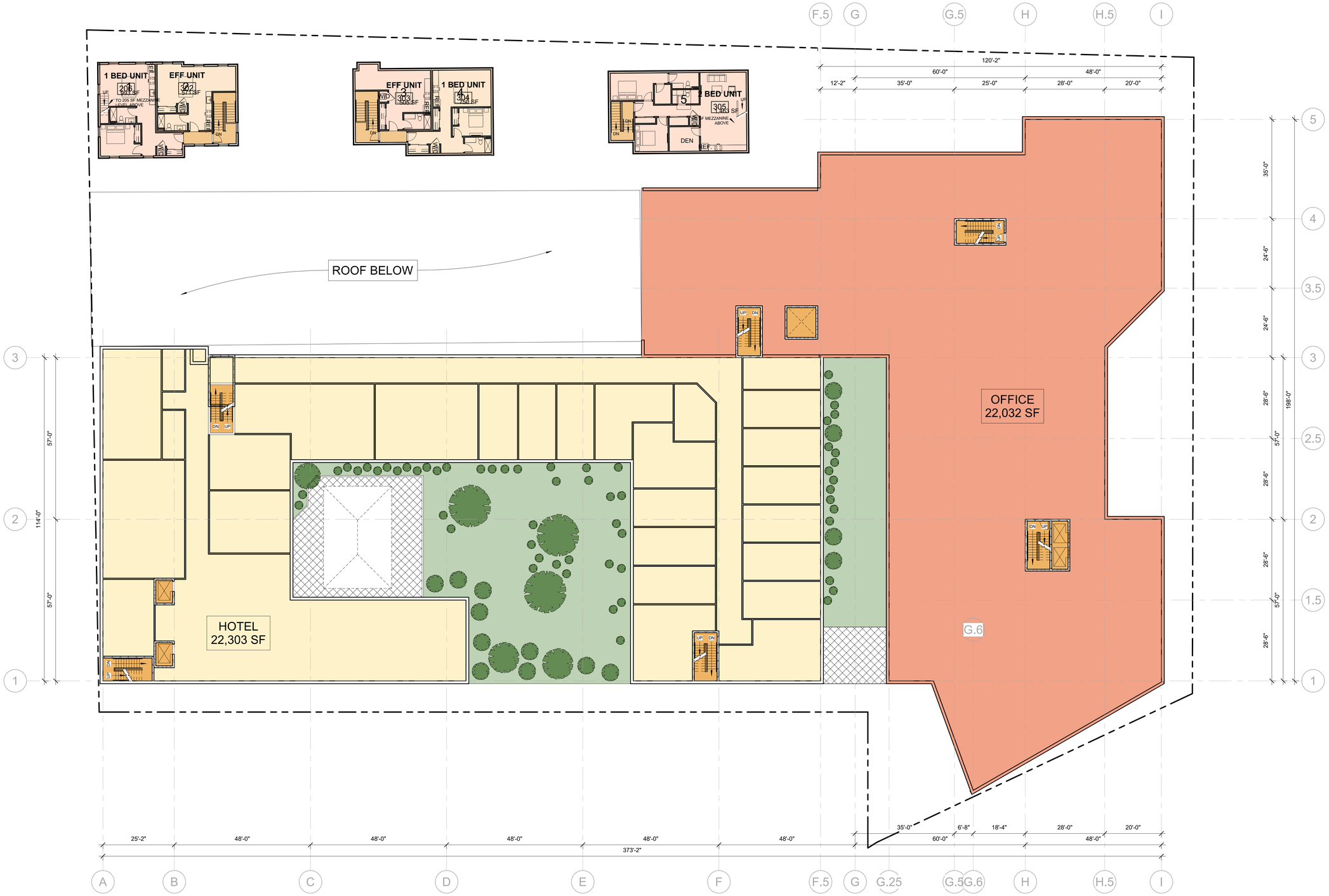
Revisions:

Scale: 1/16" = 1'-0"

Date: JULY 2018

Third Floor Plan

A1.03



2 FOURTH FLOOR
1/16" = 1'-0"

Prepared For:
Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
SHIPYARD DEVELOPMENT
Address
City, State

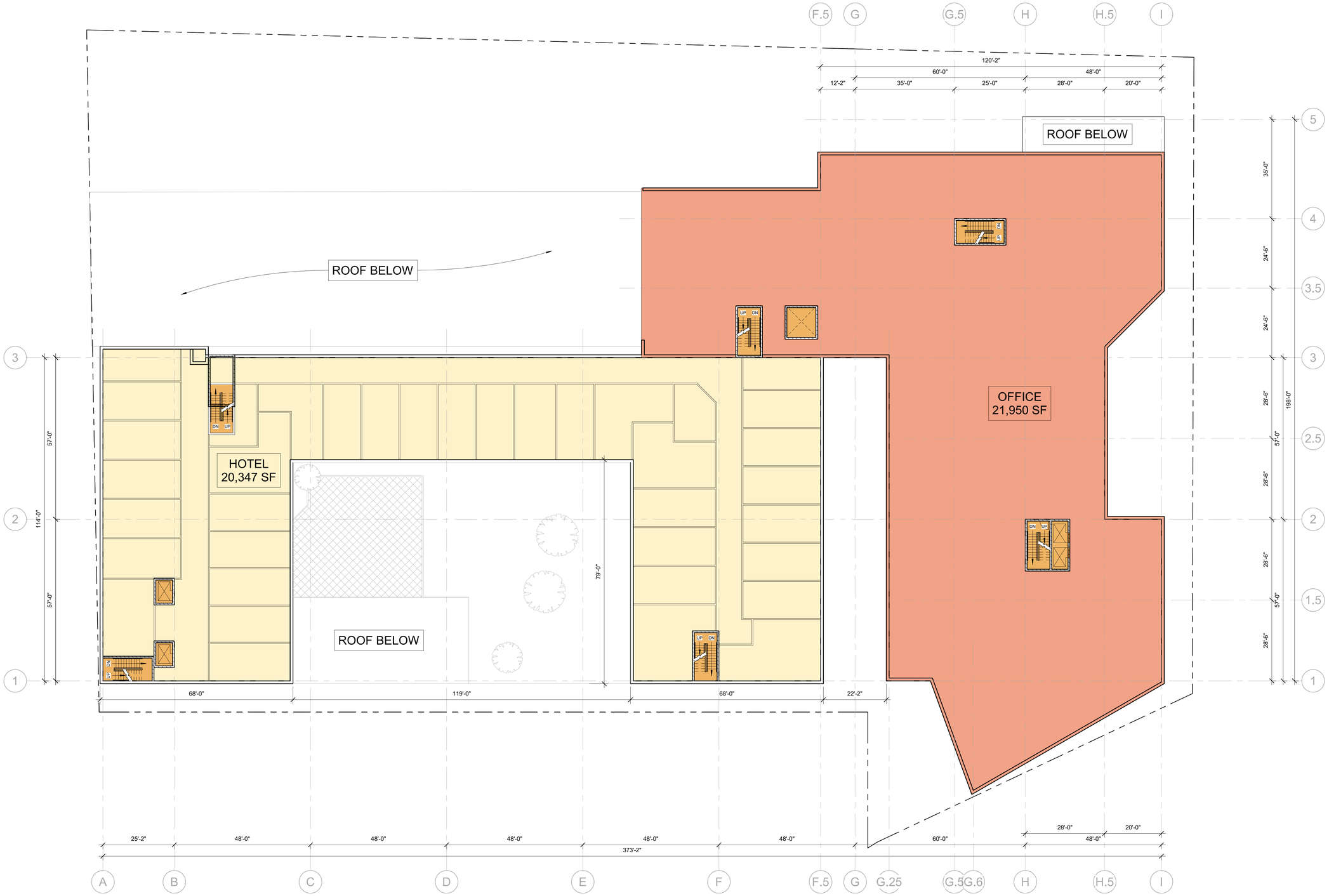
Revisions:

Scale: 1/16" = 1'-0"

Date: JULY 2018

Fourth Floor Plan

A1.04



1 | 5TH FLOOR
1/16" = 1'-0"

Prepared For:
Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
SHIPYARD DEVELOPMENT
Address
City, State

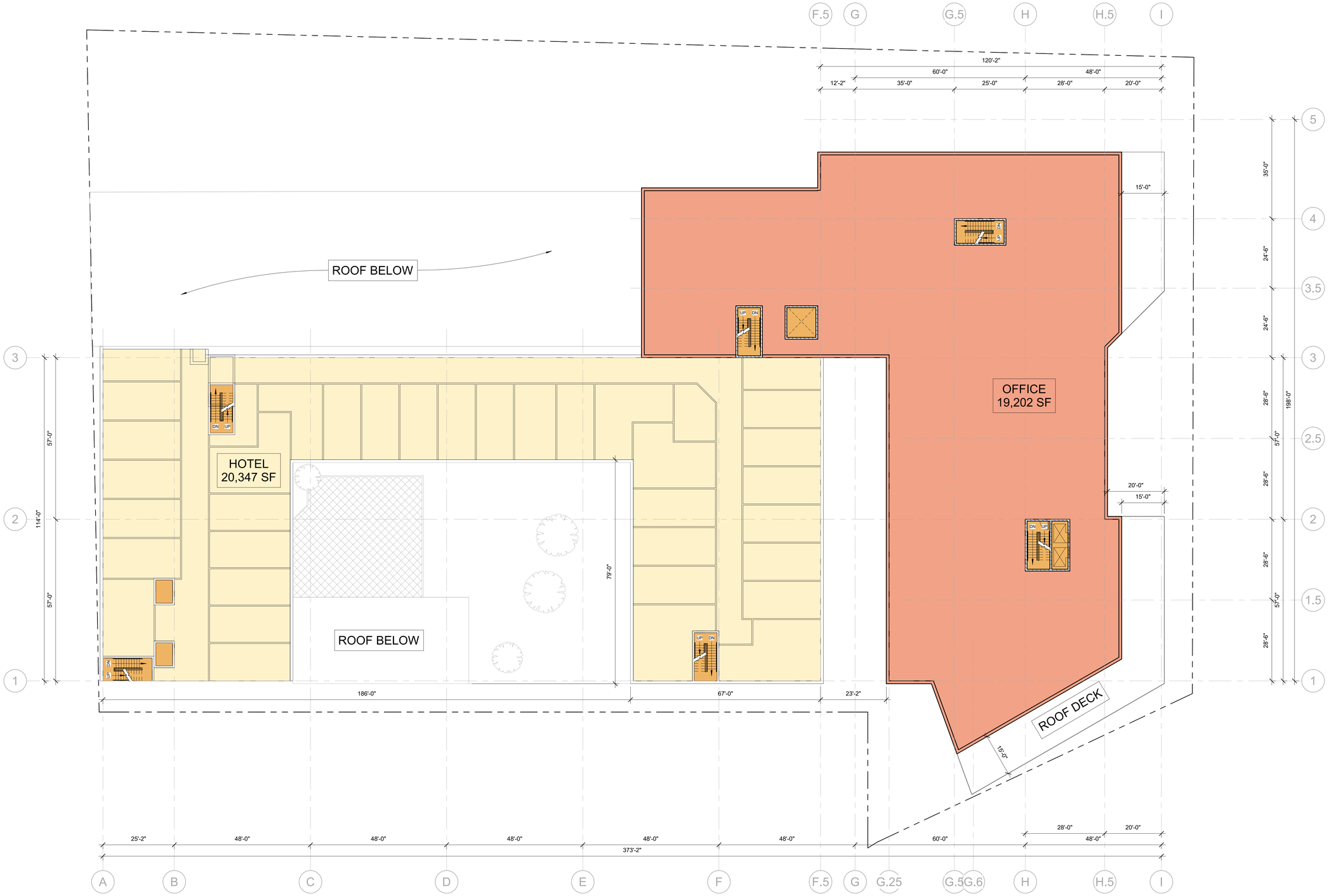
Revisions:

Scale: 1/16" = 1'-0"

Date: JULY 2018

Fifth Floor Plan

A1.05



1 6TH FLOOR
1/16" = 1'-0"

Prepared For:
Owner

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
SHIPYARD
DEVELOPMENT

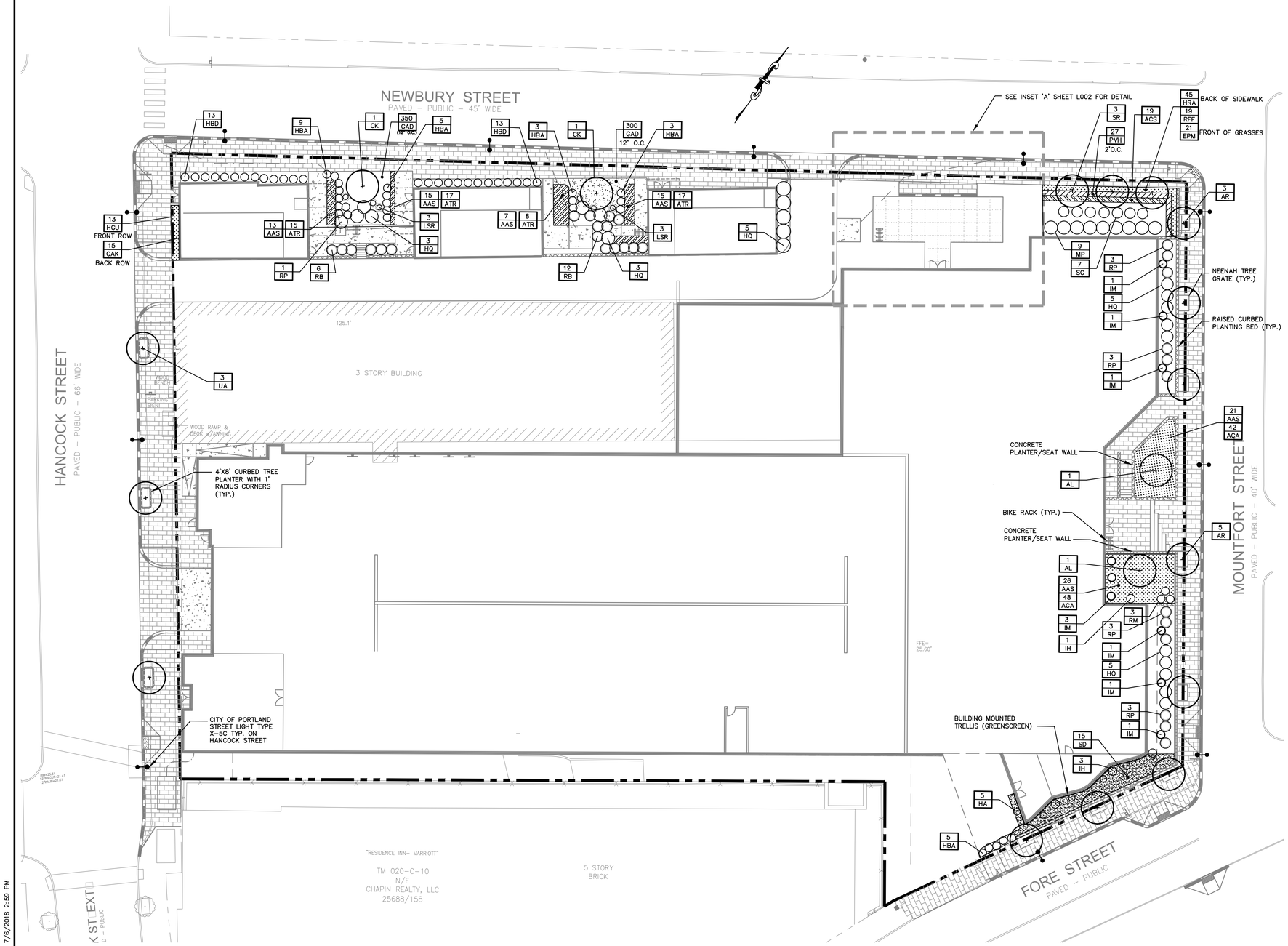
Revisions:

Scale: 1/16" = 1'-0"

Date: JULY 2018

Sixth Floor Plan

A1.06



GENERAL PLANTING NOTES

1. CALL DIG–SAFE (1–888–344–7233) PRIOR TO BEGINNING WORK. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO OWNER.
2. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
3. DO NOT SCALE FROM DRAWINGS. ANY OMISSIONS IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT. ANY DISCREPANCIES BETWEEN DRAWINGS, PLANT QUANTITIES, DETAILS, NOTES AND SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE LANDSCAPE ARCHITECT FOR FURTHER DIRECTION AND RESOLUTION BEFORE ANY ADDITIONAL WORK PROCEEDS.
4. PROVIDE SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
5. CONTRACTOR SHALL FURNISH AND PLACE 12 INCHES OF LOAM IN ALL SHRUB BEDS, 30 INCHES IN ALL TREE PITS, AND 6 INCHES UNDER ALL TURF AREAS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBGRADE PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
6. ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OFTHE LATEST PUBLICATION OF "AMERICAN STANDARDS FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN".
7. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
8. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING STAKING OR GUYING WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM THE OWNER.
9. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
10. EXISTING TREES TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
11. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY, OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT (AND MUNICIPAL AUTHORITY, IF APPLICABLE) PRIOR TO INSTALLATION ON SITE.
12. WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR GROUND COVER AND PERENNIAL BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL–ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.
13. DAMAGE TO EXISTING SITE IMPROVEMENTS DURING INSTALLATION OF LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
14. CONTRACTOR SHALL COORDINATE INSPECTION OF PLANT MATERIAL AND LOCATIONS WITH PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ALL PLANT MATERIAL SHALL BE ON–SITE AND PLACED BEFORE INSPECTION CAN BE COMPLETED. A MINIMUM OF 48 HOUR NOTIFICATION SHALL BE REQUIRED.
15. MAINTENANCE REQUIREMENTS: PRUNE DEAD OR DAMAGED BRANCHES, MAINTAIN GUY POSTS AND WATER AS REQUIRED UNTIL PROJECT COMPLETION AND ACCEPTANCE BY OWNER.
16. WATERING: ALL PLANTINGS SHALL BE THOROUGHLY WATERED UPON INSTALLATION, AND THEN WEEKLY WHENEVER ANY DRY SPELLS OCCUR, UNTIL ACCEPTANCE BY OWNER.
17. LANDSCAPE CONTRACTOR OR PLANT SUPPLIER SHALL GUARANTEE PLANTS AND PROVIDE REPLACEMENTS FOR TWO YEARS FROM INSTALLATION.
18. CONTRACTOR SHALL PLACE 4" SHREDDED DARK BARK MULCH WITHIN ALL PLANTING BEDS AND TREE PITS.

PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE
AR	ACER RUBRUM 'BOWHALL'	BOWHHALL COLUMNAR RED MAPLE	2-1/2" CAL.
AAS	ASTILBE ARDENSII 'FLAMINGO'	FLAMINGO ASTILBE	NO. 1 CONT.
ACA	AQUILEGIA CANADENSIS 'PINK LANTERNS'	CANADIAN COLUMBINE	NO. 1 CONT.
AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	8'-10' HGT. CLUMP
ANA	ASTER NOVAE ANGLIAE	PURPLE DOME ASTER	NO. 1 CONT.
ATR	ATHYRIUM NIPONICUM	PAINTED LADY FERN	NO. 1 CONT.
AR	ACER RUBRUM 'BOWHALL'	BOWHHALL COLUMNAR RED MAPLE	2-1/2" CAL.
CK	CORNUS KOUSA	JAPANESE DOGWOOD	8'-10' HGT. CLUMP
CAK	CALAMAGROSTIS X ACUTIFOLLA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	NO. 1 CONT.
CFR	CIMICIFUGA RACEMOSA	SNAKE ROOT	NO. 1 CONT.
CIB	CLEMATIS 'INNOCENT BLUSH'	INNOCENT BLUSH CLEMATIS	NO. 1 CONT.
CJN	CLEMATIS 'NIOBE'	JACKMANII GRP NIOBE CLEMATIS	NO. 1 CONT.
DCS	DIGITALIS 'CAMELOT SERIES'	CAMELOT SERIES FOXGLOVE	NO. 1 CONT.
DEB	DRYOPTERIS ERYTHROSORA 'BRILLANCE'	AUTUMN FERN	NO. 1 CONT.
EPM	ECHINACEA PURPUREA 'MAGNUS'	MAGNUS PURPLE CONE FLOWER	NO. 1 CONT.
EPF	EUPATORIUM FISTULOSUM	JOE PYE WEED	NO. 1 CONT.
HAF	HELIANTHUS ANGUSTIFOLIUS	SWAM SUNFLOWER	NO. 1 CONT.
HGU	HOSTA 'GUACAMOLE'	GUACAMOLE HOSTA	NO. 1 CONT.
HBA	HOSTA 'BLUE ANGEL'	BLUE ANGEL HOSTA	NO. 1 CONT.
HRA	HEMEROCALLIS 'RAINDROP'	RAINDROP DAYLILY	NO. 1 CONT.
HQ	HYDRANGEA QUERCIFOLIA	OAK LEAF HYDRANGEA	18"-24" HGT.
HA	HYDRANGEA ANOMALA PETIOLARIS	CLIMBING HYDRANGEA	NO.2 CONT.
IH	ILEX X MESERVE 'HECKENSTAR'	CASTLE WALL® BLUE HOLLY	3'-4' HGT.
IM	ILEX X MESERVE 'HACHFEE'	CASTSLE SPIRE BLUE® HOLLY	4'-6' HGT.
KB	KALMIA LATIFOLIA 'BULLSEYE'	BULLSEYE KALMIA	18"-24" HGT.
LSR	LUGULARIA STENOCEPHALA 'THE ROCKET'	THE ROCKET GOLDEN RAY	NO. 1 CONT.
ML	MAGNOLIA X LOEBERNII 'LEONARD MESSEL'	LEONARD MESSEL MAGNOLIA	8'-10' HGT.
PVH	PANICUM VERGATUM 'HEAVY METAL'	HEAVY METAL SWITCH GRASS	NO. 1 CONT.
RB	RHODODENDRON X 'BOULE DE NEIGE'	BOULE DE NEIGE' RHODODENDRON	18"-24" HGT.
RP	RHODODENDRON 'PJM'	PJM RHODODENDRON	18"-24" HGT.
RFU	RUDEBECKIA FULGIDA VAR 'FULGIDA'	BLACK EYED SUSAN	NO. 1 CONT.
SA	SYMPHORICARPOS 'BOKRABRIGHT'	BRIGHT FANTASY SNOWBERRY	24"-30" HGT.
SD	SYMPHORICARPOS X DOOR RENBOSII 'KOLMGALA'	GALAXY SNOWBERRY	12"-18" HGT.
SC	SYMPHORICARPOS X CHENAULTII 'HANCOCK'	SNOWBERRY HANCOCK	NO. 1 CONT.
SR	SYRINGA RETICULTA	JAPENESE TREE LILAC	2" CAL.
VC	VIBURNUM X CARLCEPHALUM 'CAYUGA'	CAYUGA VIBURNUM	24"-30" HGT.
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2-1/2" CAL.

20 0 10 20 40
1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT
CHRISTOPHER DI MATTEO
No. 2696
STATE OF MAINE

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CDM	Draft: CH	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184–LANDSC.dwg		

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207.772.2515

Drawing Name: Landscape Plan
Project: Shipyard Redevelopment, Newbury Street, Portland, ME
Client: 86 Newbury Street, LLC, 470 Fore Street, Portland, ME 04101

Drawing No. L001

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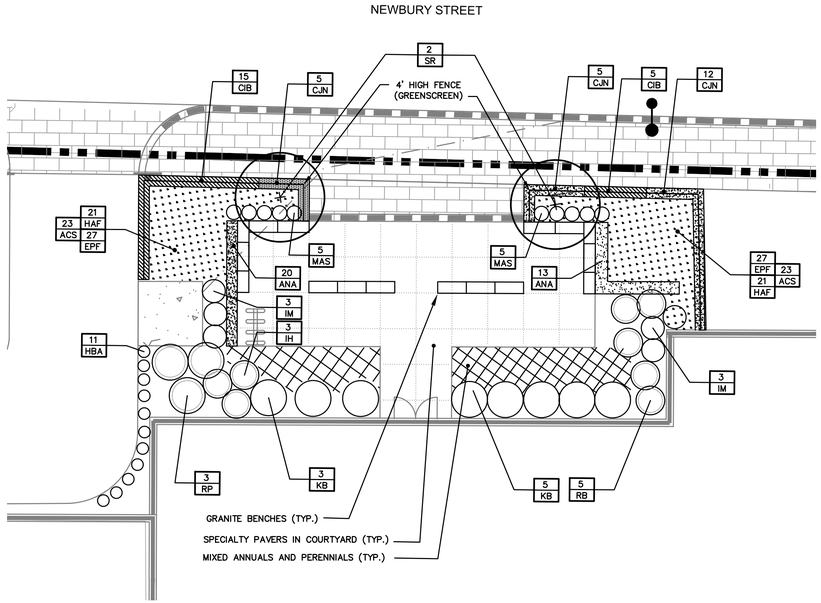


INSET 'A'

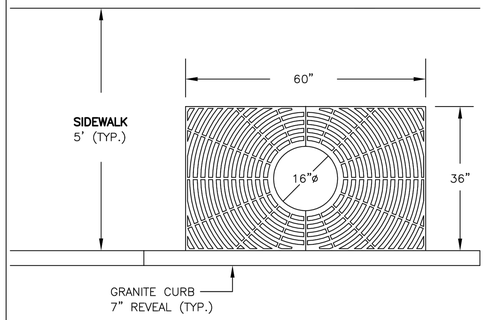
1"=10'

NOTES:

16"ø EXPANDABLE TREE OPENING. 0.25" SLOT OPENINGS.

SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

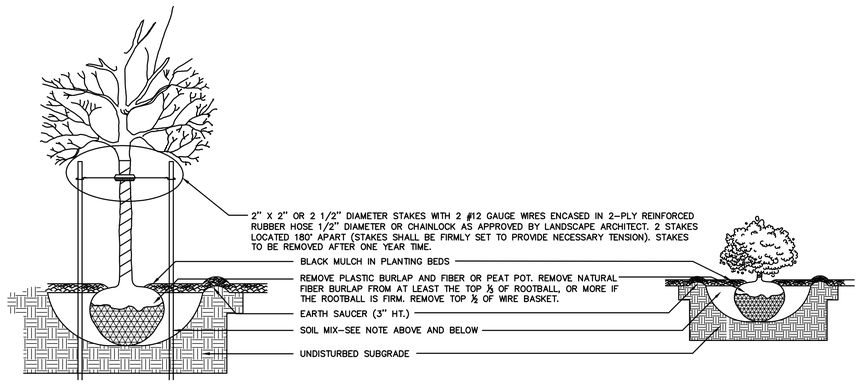
WHEN THE TREE GRATE IS INSTALLED IN A CONCRETE SIDEWALK, A NOTCH MUST BE INSTALLED ALONG THE EDGE TO HOLD THE GRATE, WHEN INSTALLED IN A BRICK SIDEWALK IT REQUIRES A FRAME TO BE INSTALLED TO HOLD THE GRATE IN PLACE.



PLAN VIEW

EXPANDABLE TREE GRATE NEENAH MODEL R-8810

NOT TO SCALE



TREE AND SHRUB PLANTING DETAIL

NOT TO SCALE

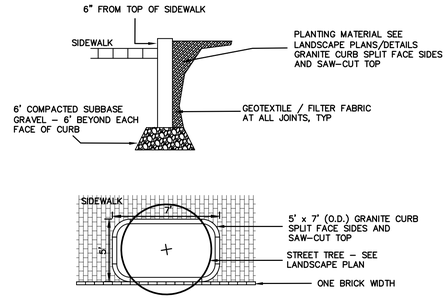
GENERAL PLANTING NOTES:

DIG HOLE AT LEAST 2 TIMES THE WIDTH OF ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH ROOT FLARE AT GROUND LEVEL. CORRECT HOLE DEPTH AS NEEDED. NOTE: MANY BALLED & BURLAPPED PLANTS HAVE SOIL PILED AROUND THE ROOT FLARE WHICH SHOULD BE REMOVED PRIOR TO PLANTING.

FOR DECIDUOUS AND NEEDLED EVERGREEN TREES AND SHRUBS 1 FULL WHEELBARROW EXISTING SOIL, 2 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL. FOR BROAD-LEAVED EVERGREENS AND RELATED ERICACAE PLANTS, 1 FULL WHEELBARROW EXISTING SOIL, 3-4 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL OF LOW pH (RECOMMENDATIONS ARE FOR ACCEPTABLE PLANTING AREAS).

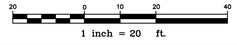
CONTAINER GROWN STOCK:
REMOVE ALL CONTAINERS AND GENTLY COMB OUT ROOTS TO ELIMINATE CIRCLING ROOTS. PRUNE DAMAGED ROOTS AS NEEDED.

BACKFILL 2/3 OF HOLE WITH AMENDED SOIL THEN FILL HOLE WITH WATER, LET DRAIN, REPEAT WATER AND DRAIN. BACK FILL TO FINISH GRADE, TAMP GENTLY, AND CREATE EARTH SAUCER. WATER THOROUGHLY ONCE AGAIN TO REMOVE REMAINING AIR POCKETS.



RAISED GRANITE TREE PLANTER DETAIL

N.T.S.



NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT
CHRISTOPHER DI MATTEO
No. 2696
STATE OF MAINE

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design:	Draft: CH	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184-LANDSC.dwg		

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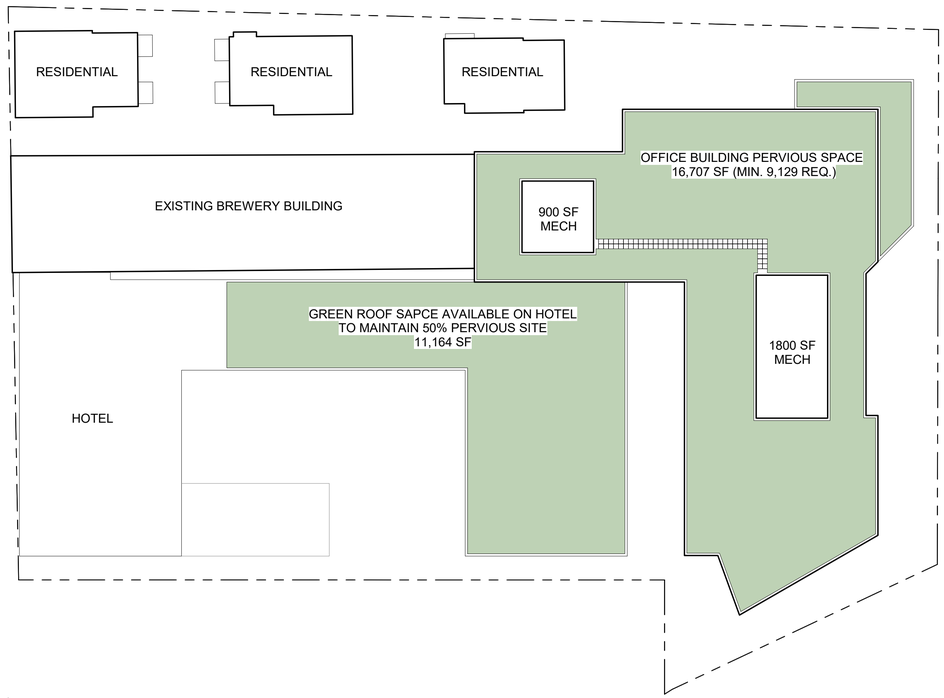
207.772.2515

Drawing Name:	Landscape Details
Project:	**Shipyard Redevelopment** Newbury Street, Portland, ME
Client:	**86 Newbury Street, LLC** 470 Fore Street, Portland, ME 04101

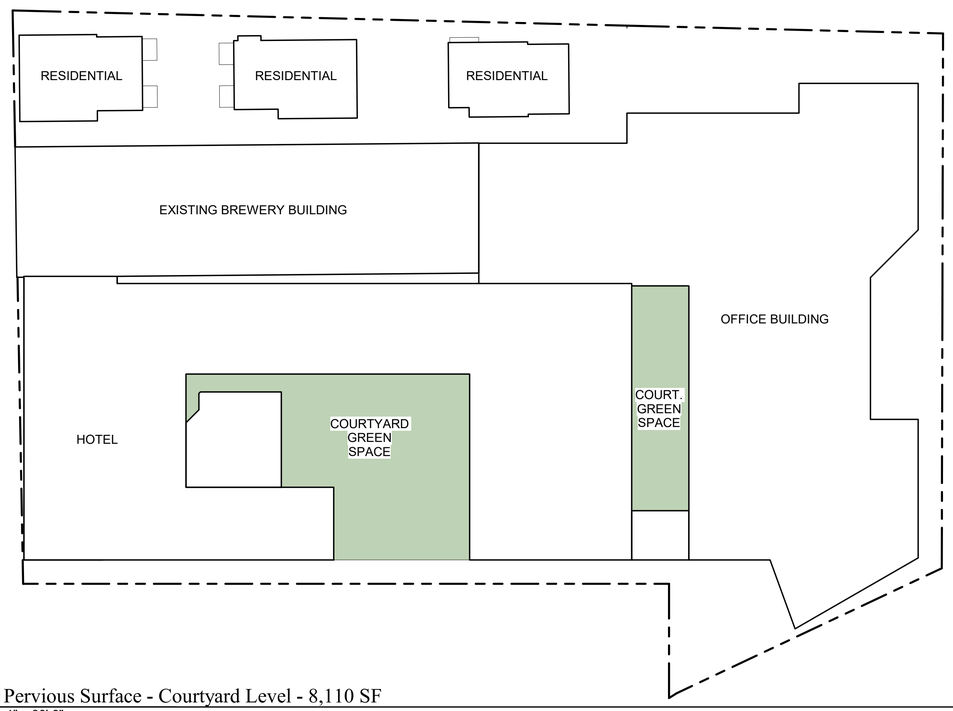
Drawing No.
L002

U:\3184_Shipyard Brewing\2 - CAD\DWG\3184-LANDSC.dwg 7/6/2018 2:59 PM

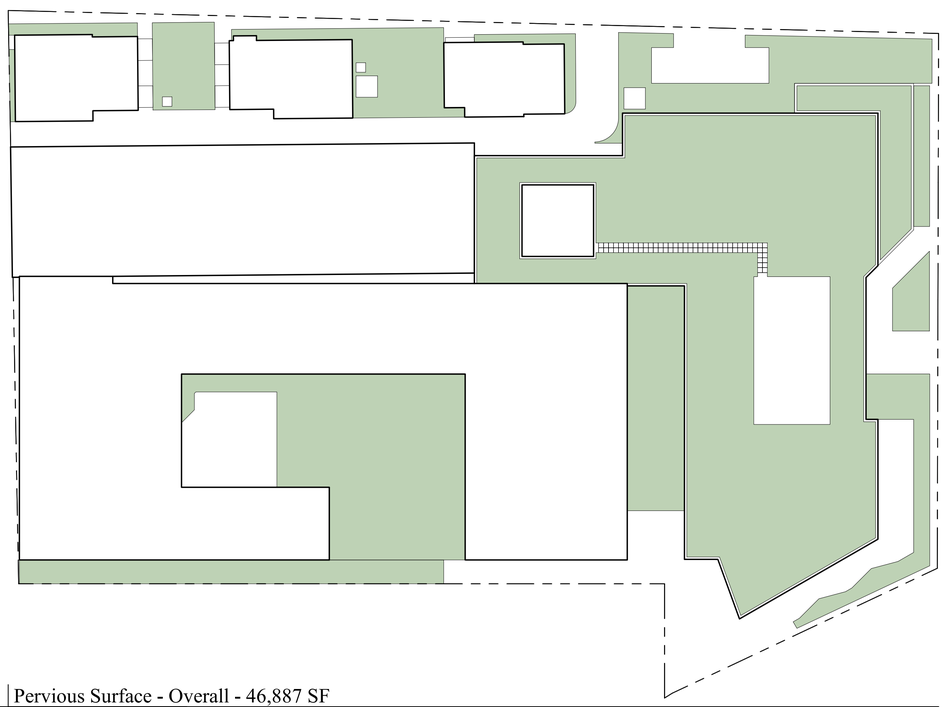
1 | Pervious Surface - Ground Level - 9,673 SF
1" = 30'-0"



3 | Pervious Surface - Roof - 29,104 SF
1" = 30'-0"



2 | Pervious Surface - Courtyard Level - 8,110 SF
1" = 30'-0"



4 | Pervious Surface - Overall - 46,887 SF
1" = 30'-0"

TOTAL SITE	= 93,774 SF
50%	= 46,887 SF
PERVIOUS AREA	
GROUND	= 9,673 SF
COURTYARD	= 8,110 SF
ROOF	= 29,104 SF
TOTAL	= 46,887 SF

Prepared For: Owner

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT

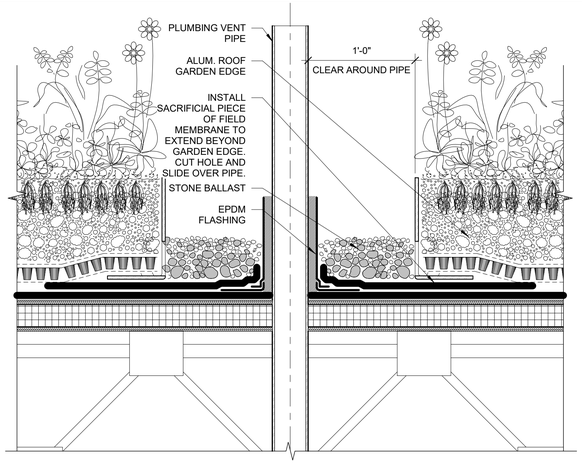
Revisions:

Scale: 1" = 30'-0"

Date: JULY 2018

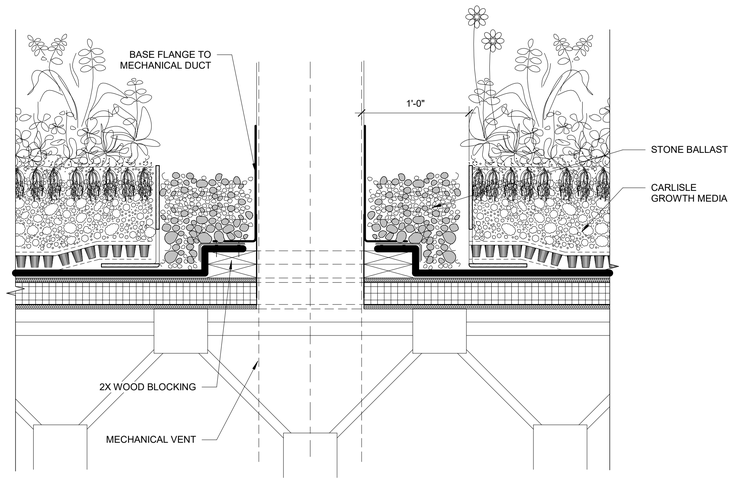
PERVIOUS SURFACE

G1.01



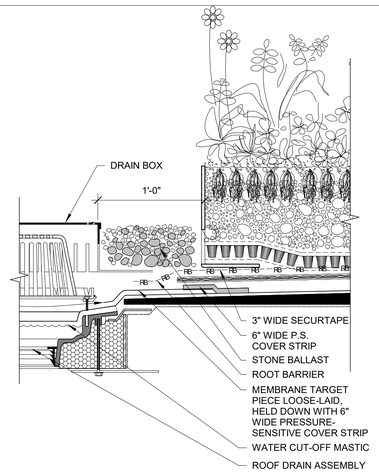
5 TYP. ROOF PENETRATION - PLUMBING PIPE

1 1/2" = 1'-0"



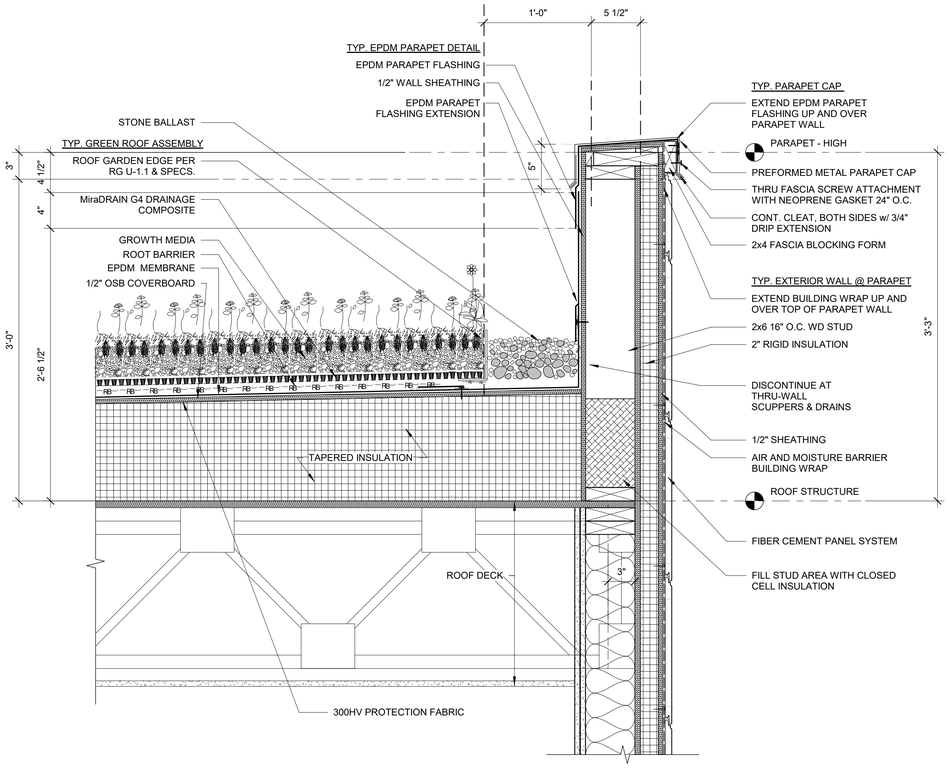
6 TYP. ROOF PENETRATION - MECH DUCT

1 1/2" = 1'-0"



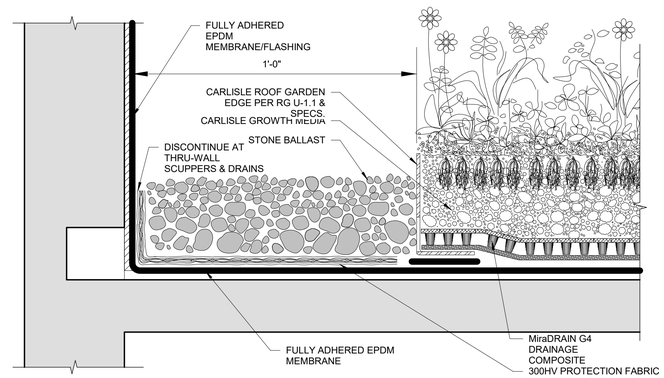
4 ROOF DRAIN DETAIL

1 1/2" = 1'-0"



3 ROOF PARAPET DETAIL - HIGH

1 1/2" = 1'-0"



1 GREEN ROOF AT PARAPET WALL

3/16" = 1'-0"

Prepared For: Owner

Consultant:

Architect: ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT
PORTLAND, MAINE

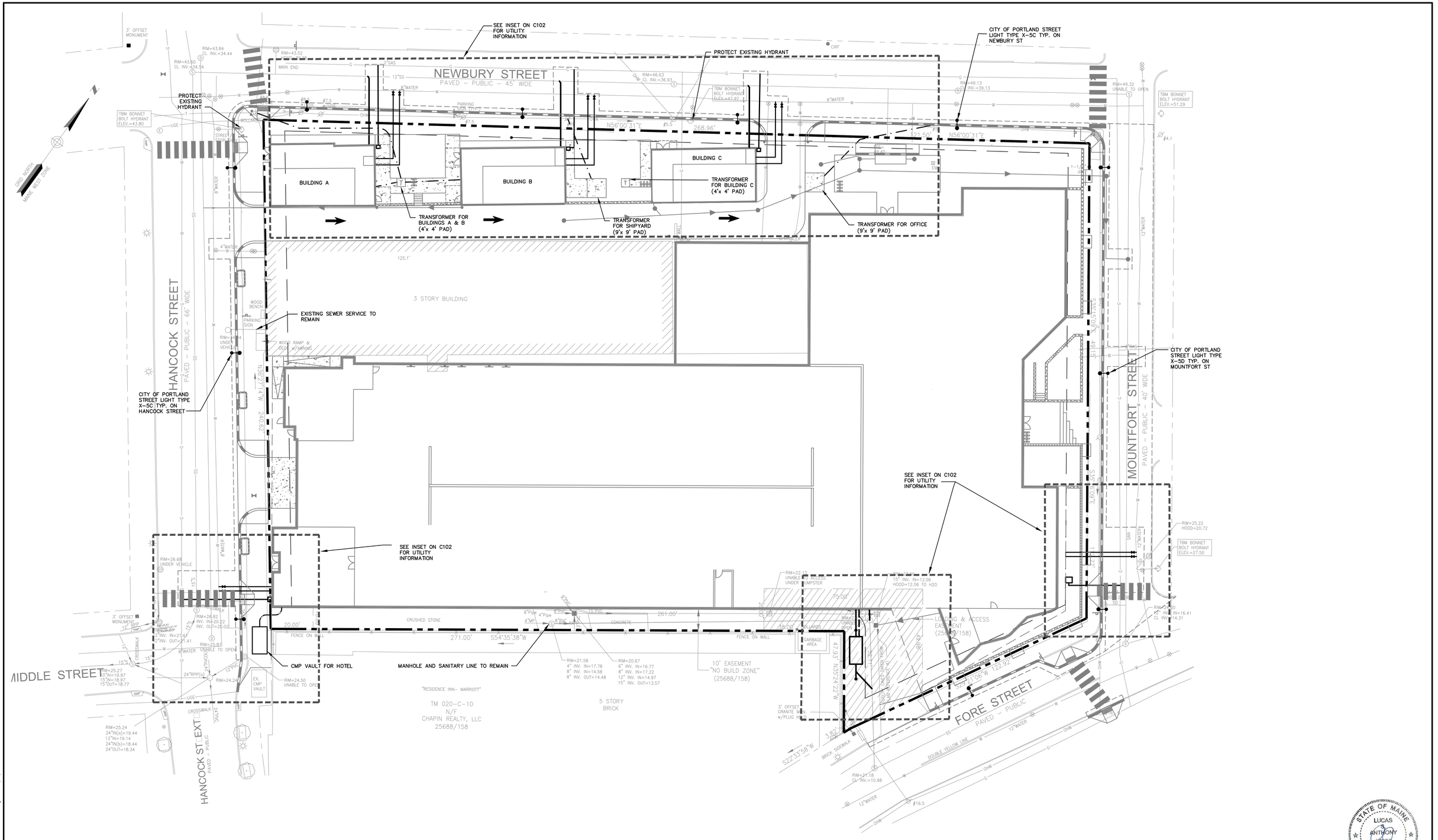
Revisions:

Scale: As indicated

Date: JULY 2018

GREEN ROOF - TYPICAL DETAILS

G1.02



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STATE OF MAINE
LUCAS ANTHONY 15250
LICENSED PROFESSIONAL ENGINEER
7/2/18

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184-SP_L1.dwg		

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Drawing Name: UTILITY PLAN

Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME

Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. C101

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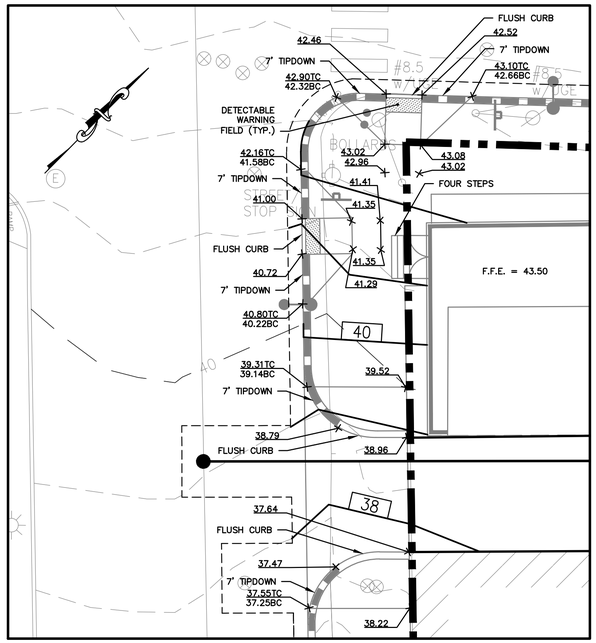
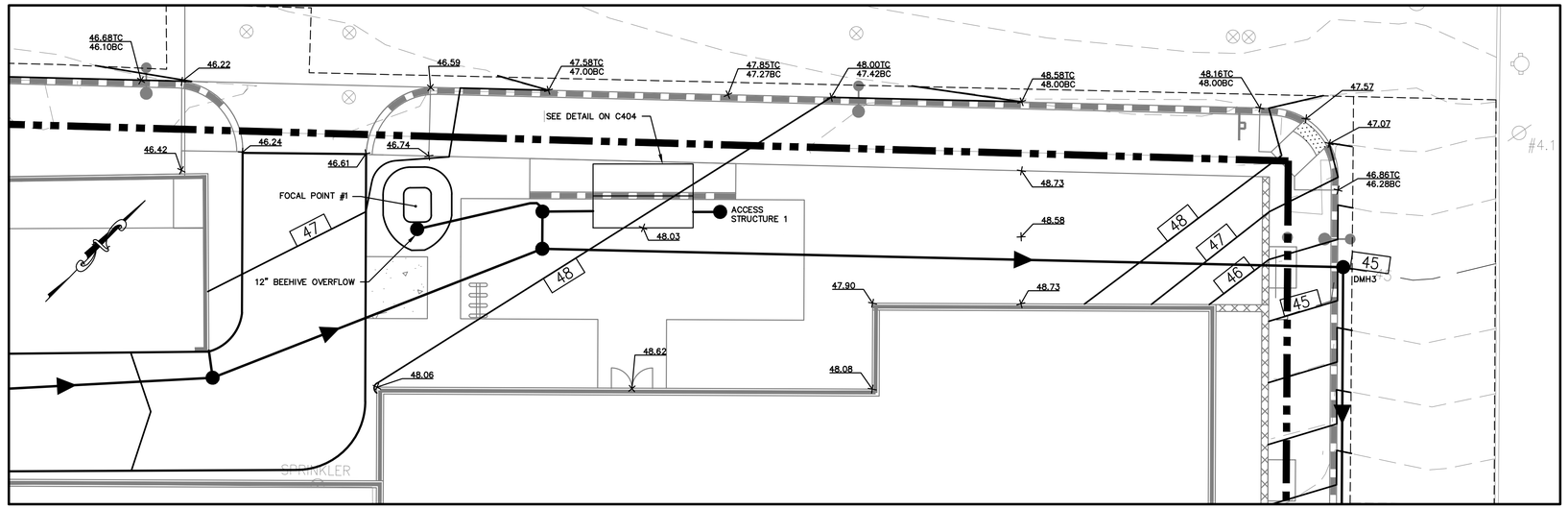
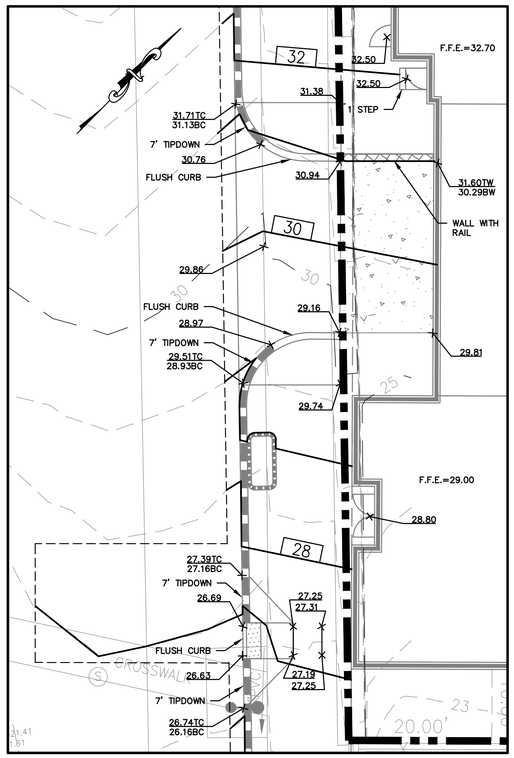


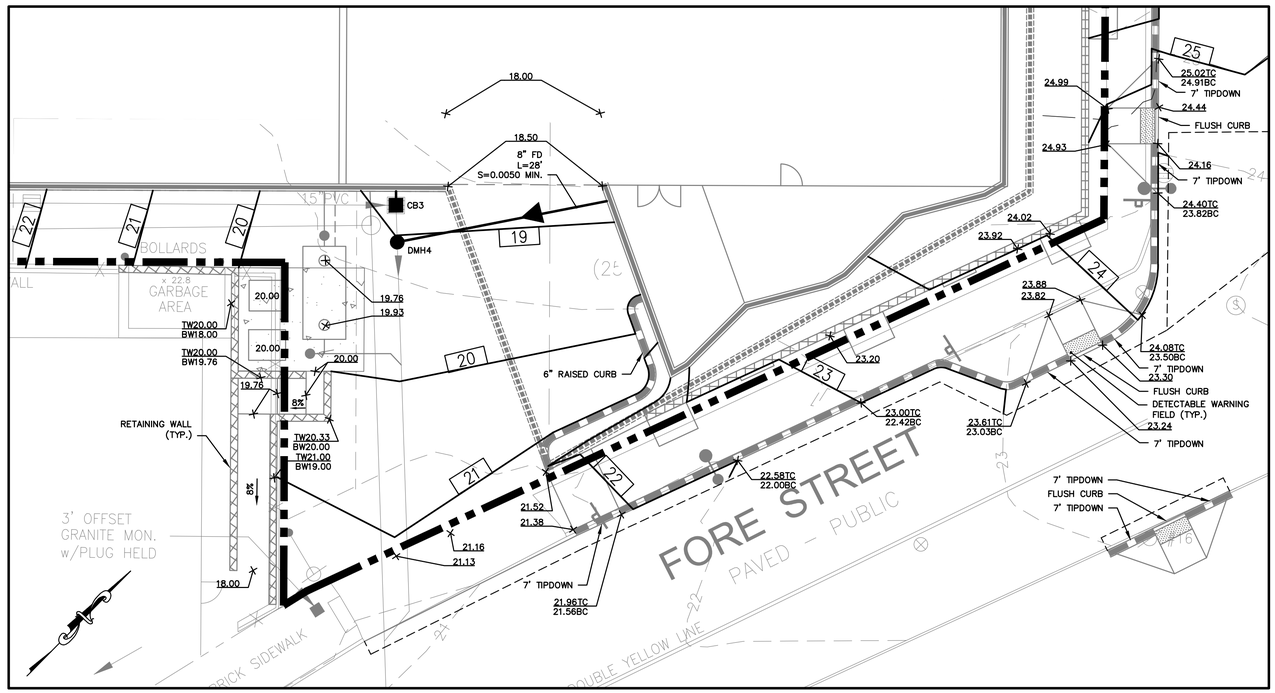
GRADING PLAN 1
1"=10'



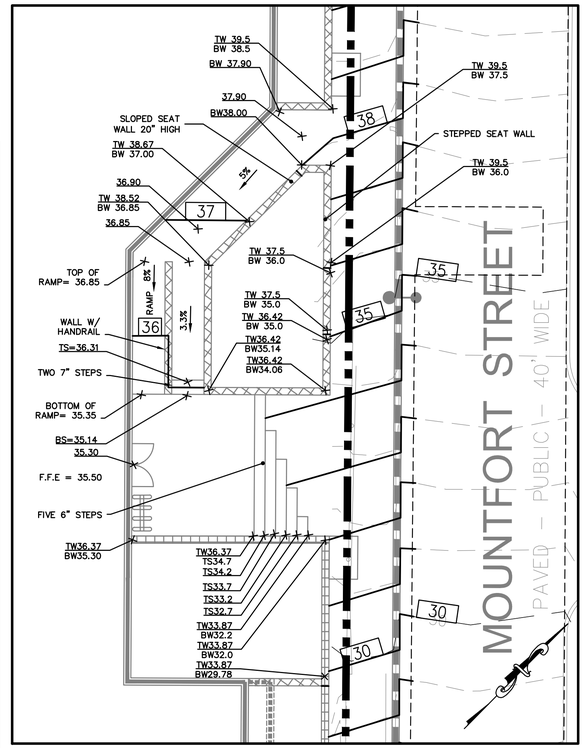
GRADING PLAN 2
1"=10'



GRADING PLAN 5
1"=10'



GRADING PLAN 4
1"=10'



GRADING PLAN 3
1"=10'

10 0 5 10 20
1 inch = 10 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
LUCAS ANTHONY
15250
LICENSED PROFESSIONAL ENGINEER
7/2/18

C:\CAD Working\3184 Shipyard Brewing\DWG\3184-GRADING.dwg 7/13/2018 2:56 PM

Rev.	Date	Revision

SITE PLAN AND SUBDIVISION	7/3/18	LSA
Issued For	Date	By

Design: CEH	Draft: CG	Date: JUL 2018
Checked: LSA	Scale: 1"=10'	Job No.: 3184
File Name: 3184-GRADING.dwg		

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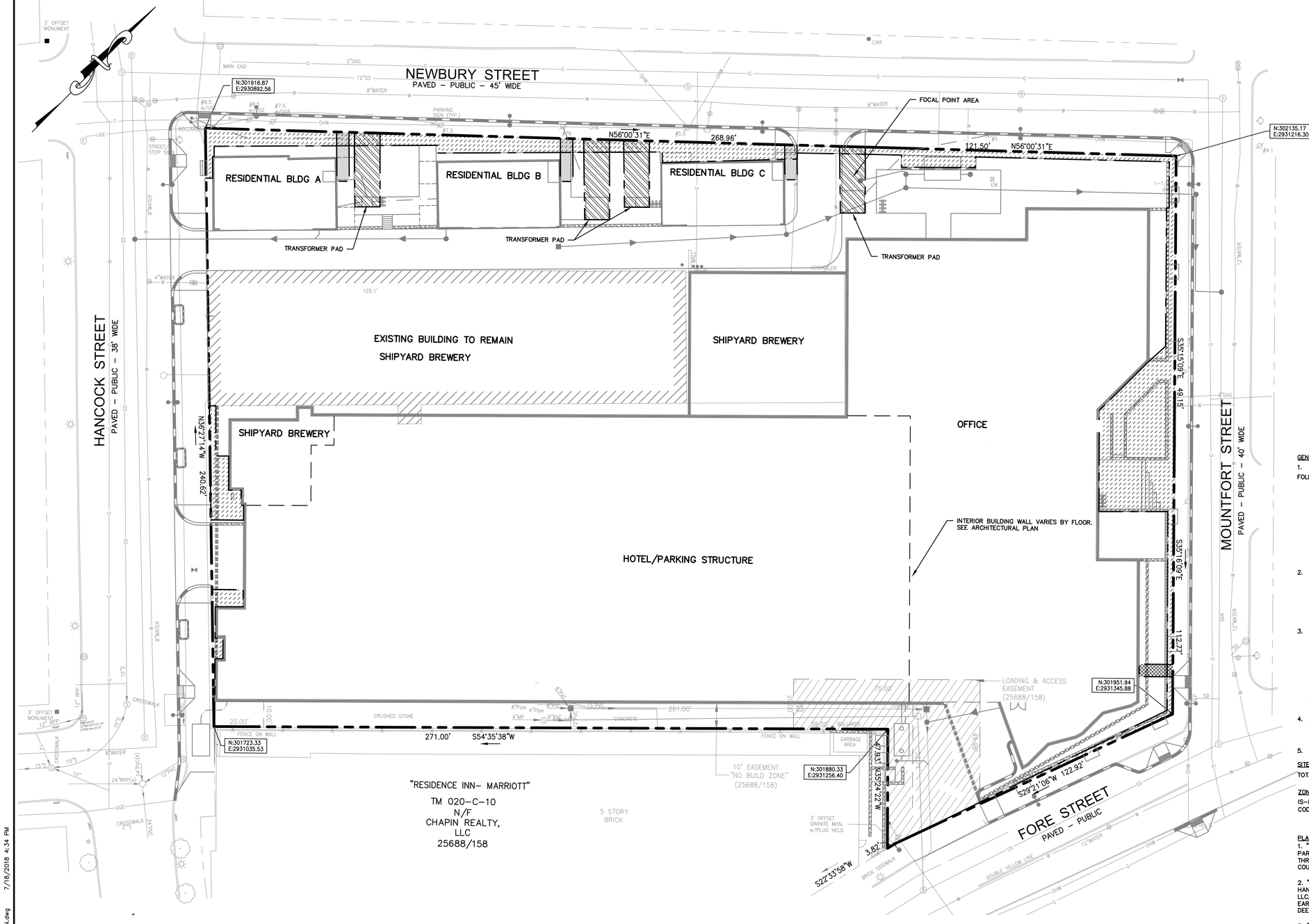
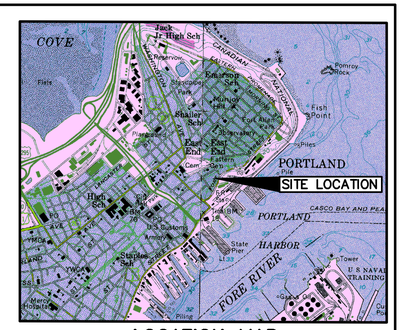
Drawing Name: GRADING INSETS
Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME
Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No.
C104





LOCATION MAP
N.T.S.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	EASEMENT LINE	
	MONUMENT	
	CURB	
	RELEASE OR EASEMENT (SEE SHEET C003)	⑥
	PROPERTY REBAR TO BE SET	
	BUILDING	
	EDGE OF PAVEMENT	
	BUILDING OVERHANG	
	UTILITY POLE	
	MANHOLE	
	CATCH BASIN	
	LIGHTPOLE	

EASEMENT FOR CENTRAL MAINE POWER	
EASEMENT FOR PORTLAND WATER DISTRICT	
EASEMENT FOR UNITIL GAS	
CITY LICENSE FOR PUBLIC SIDEWALK ENCROACHMENT	

APPROVAL BY:
CITY OF PORTLAND PLANNING BOARD

DATE: _____

GENERAL NOTES:

1. THIS SUBDIVISION INTENDS TO PROVIDE FOR THE FOLLOWNG CONDOMINIUM UNITS:
   1) RESIDENTIAL BUILDING A (4 UNITS)
   2) RESIDENTIAL BUILDING B (4 UNITS)
   3) RESIDENTIAL BUILDING C (2 UNITS)
   4) OFFICE
   5) HOTEL
   6) SHIPYARD BREWERY
   7) STRUCTURED PARKING

2. OWNERS OF RECORD:
   TAX MAP 020 BLOCK C LOTS 1,2,5,9, AND 15
   86 NEWBURY STREET, LLC
   470 FORE STREET, PORTLAND, ME 04101
   C.C.R.D. BOOK 34818, PAGE 186

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83

   CITY CONTROL POINTS USED:
   3022 – 3'O/S MONUMENT
   HANCOCK/THAMES
   N: 301388.62
   E: 2931424.18

   3000 – 3'O/S MONUMENT AT
   HANCOCK/FORE
   N: 301536.15
   E: 2931222.69

4. ELEVATIONS ARE BASED ON CITY OF PORTLAND VERTICAL DATUM. BENCHMARK USED IS A USC&GS DISK AT 17 COMMERCIAL STREET ELEVATION=14.50.

5. STREET LINES REPRODUCED FROM MARKERS FOUND AS SHOWN ON PLAN REFERENCE 3.

SITE DATA:
TOTAL SITE AREA=2.15 A.C. (93,775 S.F.)

FLOODING:
THE ENTIRE SITE IS IN THE FLOOD ZONE C.

ZONE INFORMATION:
IS–FBC INDIA STREET FORM–BASED CODE, ABUTTING ZONES:
–UN–URBAN NEIGHBORHOOD SUBDISTRICT
–UT–URBAN TRANSITIONAL SUBDISTRICT

PLAN REFERENCES
1. "SUBDIVISION PLAN ON FORE STREET, PORTLAND, MAINE MADE FOR NORWICH PARTNERS LLC," BY OWEN HASKELL, INC. DATED DECEMBER 12, 2007 AND REVISED THROUGH 02–05–08. AN UNREVISED COPY CAN BE FOUND AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 207 PAGE 783. OHI JOB# 2006–262P.

2. "PLAN OF LAND – LAND TITLE SURVEY ON FORE, INDIA, MIDDLE, NEWBURY, HANCOCK, AND MOUNTFORD STREETS, PORTLAND, MAINE FOR SHIPYARD BREWING CO. LLC," BY OWEN HASKELL, INC. DATED APRIL 1987 AND UPDATED THROUGH 1/10/03. AN EARLIER REVISED VERSION CAN BE FOUND IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 195 PAGE 398. OHI JOB# 95217P.

3. "PLAN OF LAND – STANDARD BOUNDARY SURVEY ON FORE, INDIA, MIDDLE, NEWBURY, HANCOCK, AND MOUNTFORT STREET, PORTLAND, MAINE FOR AMERICAN HOIST & DERRICK CO." BY OWEN HASKELL, INC. DATED APRIL 1987 AND REVISED THROUGH 2/13/92. OHI JOB# 86193P.

4. "SITE PLAN WITH PARKING GARAGE SHIPYARD BREWERY PORTLAND, MAINE FOR SEA DOG REALTY" DATED 3–16–2011 BY ATTAR ENGINEERING INC.

20 0 10 20 40
1 inch = 20 ft.

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

Rev.	Date	Revision

Issued For	Date	By
SITE PLAN AND SUBDIVISION	7/3/18	LSA

Design: CEH	Draft: CAG	Date: JUL 2018
Checked: LSA	Scale: 1"=20'	Job No.: 3184
File Name: 3184–SUBDIVISION.dwg		

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Drawing Name: **PRELIMINARY SUBDIVISION PLAN**

Project: **Shipyard Redevelopment**
Newbury Street, Portland, ME

Client: **86 Newbury Street, LLC**
470 Fore Street, Portland, ME 04101

Drawing No. C002

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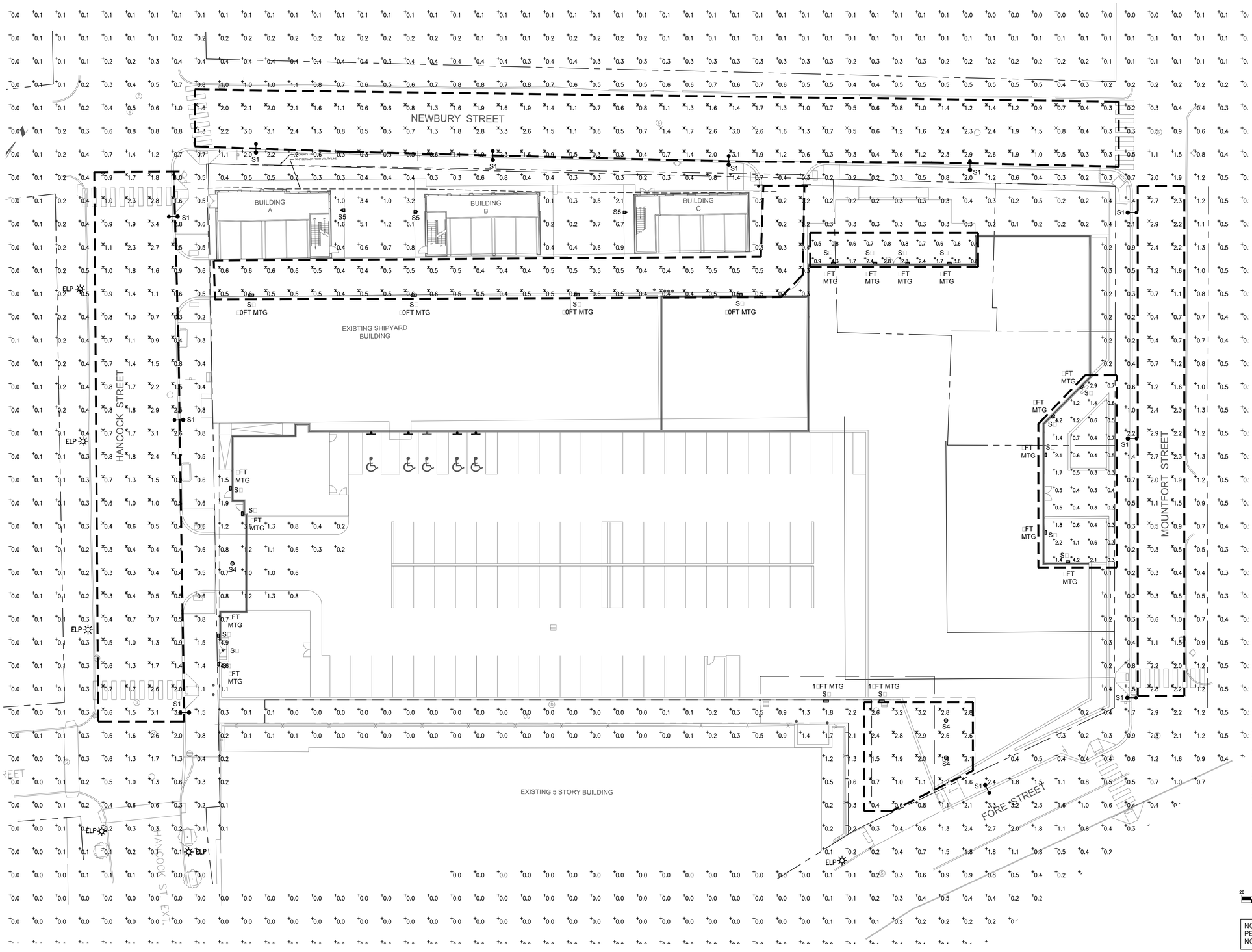
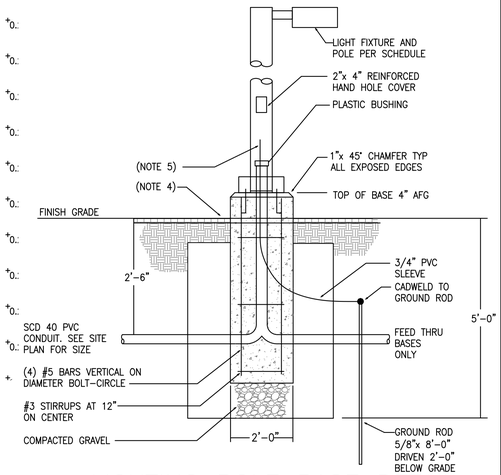


GENERAL NOTES:

1. CALCULATIONS REPRESENT MAINTAINED FOOTCANDLE LEVELS AT GRADE.
2. LIGHT LOSS FACTOR USED IN CALCULATION: 0.9.
3. LIGHTING FIXTURES:
   - TYPE S1 STANDARD CITY OF PORTLAND STREET LIGHT, TYPE X-5C HOLOPHANE #ESL2 P10S 30K AS BK TG 3 P R (FIXTURE) HOLOPHANE #OUC 6060-T6 (BRACKET ARM) HOLOPHANE #BHLF200-5CA/AS (SPLIT FITTER) HOLOPHANE CAMBRIDGE SERIES (SECORATIVE BASE) HOLOPHANE TAPED STEEL 19'-3" POLE
   - TYPE S3 CAMMAN LIGHTING #DW650-11-LN-35K-1-WA-PAL DECORATIVE WALL MOUNTED MOUNTED LED FIXTURE ALUMINUM HOUSING AND TRIM AND WHITE ACRYLIC DIFFUSER. FINISH: ALUMINUM PAINT. 0% UPLIGHT DISTRIBUTION
   - TYPE S4 McGRAW EDISION #TT-C2-LED-E1-DL-DP-7050 PARKING GARAGE LED LIGHT WITH ALUMINUM HOUSING ACRYLIC LENS AND DRIVE LANE DISTRIBUTION OPTICS. FINISH: DARK PLATINUM.
   - TYPE S5 BEGA #99 868 BLK SMALL DECORATIVE WALKWAY LIGHT WITH TEMPERED GLASS LENS MOUNTED ON A 89.5" TALL POLE. FINISH: BLACK 0% UPLIGHT DISTRIBUTION
   - TYPE S6 HALO #SMD6R6935WHDM LOW PROFILE DIRECT MOUNT DOWNLIGHT WITH POLYCARBONATE FRAME AND HIGH IMPACT DIFFUSE LENS. FINISH: WHITE
   - TYPE S7 McGRAW EDISION #ISC-AF-450-LED-E1-RW-BK-7050 DECORATIVE WALL MOUNTED LED LIGHT WITH ALUMINUM HOUSING AND RECTANGULAR WIDE OPTICAL DISTRIBUTION. FINISH: BLACK 0% UPLIGHT DISTRIBUTION
4. CALCULATED GRID STATISTICS
   - GRID A – BACK ALLEY AVE: 0.5 MAX: 0.7 MIN: 0.3 MAX:MIN 2.3:1 AVE:MIN 1.7:1
   - GRID B – HANCOCK ST AVE: 1.2 MAX: 3.4 MIN: 0.3 MAX:MIN 11.3:1 AVE:MIN 4.0:1
   - GRID C – MOUNTFORT ST AVE: 1.5 MAX: 2.9 MIN: 0.3 MAX:MIN 9.7:1 AVE:MIN 5.0:1
   - GRID D – NEWBURY ST AVE: 1.3 MAX: 3.3 MIN: 0.3 MAX:MIN 11.0:1 AVE:MIN 4.3:1
   - GRID E – OFFICE BUILDING ENTRANCE AVE: 1.0 MAX: 4.2 MIN: 0.3 MAX:MIN 14.0:1 AVE:MIN 3.3:1
   - GRID F – OFFICE BUILDING ENTRANCE (NEWBURY ST) AVE: 1.5 MAX: 4.3 MIN: 0.4 MAX:MIN 10.8:1 AVE:MIN 3.8:1
   - GRID G – FORE ST GARAGE ENTRANCE ENTRANCE AVE: 2.0 MAX: 3.2 MIN: 0.4 MAX:MIN 8.0:1 AVE:MIN 5.0:1

LIGHTING POLE BASE DETAIL NOTES:

1. POLE BASE MAY BE PRECAST.
2. PAINT EXPOSED CONCRETE WITH (2) TWO COATS OF BRONZE MASONRY PAINT.
3. CONCRETE WITH AIR ENTRAINED AGENT. 4000 P.S.I. AFTER 30 DAYS.
4. COORDINATE TYPES AND REQUIREMENTS OF SIDEWALKS WITH GENERAL CONTRACTOR.
5. #4 BARE COPPER GROUND WIRE. ATTACH TO POLE PER MANUFACTURES INSTRUCTIONS.
6. BOLT COVER, BOLT PATTERN TEMPLATE, ANCHOR BOLTS, NUTS, WASHERS AND SHIMS BY POLE SUPPLIER.



2 / E0.00 LIGHTING POLE BASE DETAIL

SCALE: NOT TO SCALE

20 0 10 20 40

1 inch = 20 ft.

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BENNETT ENGINEERING
MECHANICAL • ELECTRICAL
(207) 865-9475

STATE OF MAINE — STEVEN M. MCMAHON #8488 — LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision
3	07/03/18	REVISED PER CITY STAFF COMMENTS
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft:	Date: APR 2018
Checked: LSA	Scale:	Job No.: 3184
File Name: 4215 E0.0 & E0.1.dwg		

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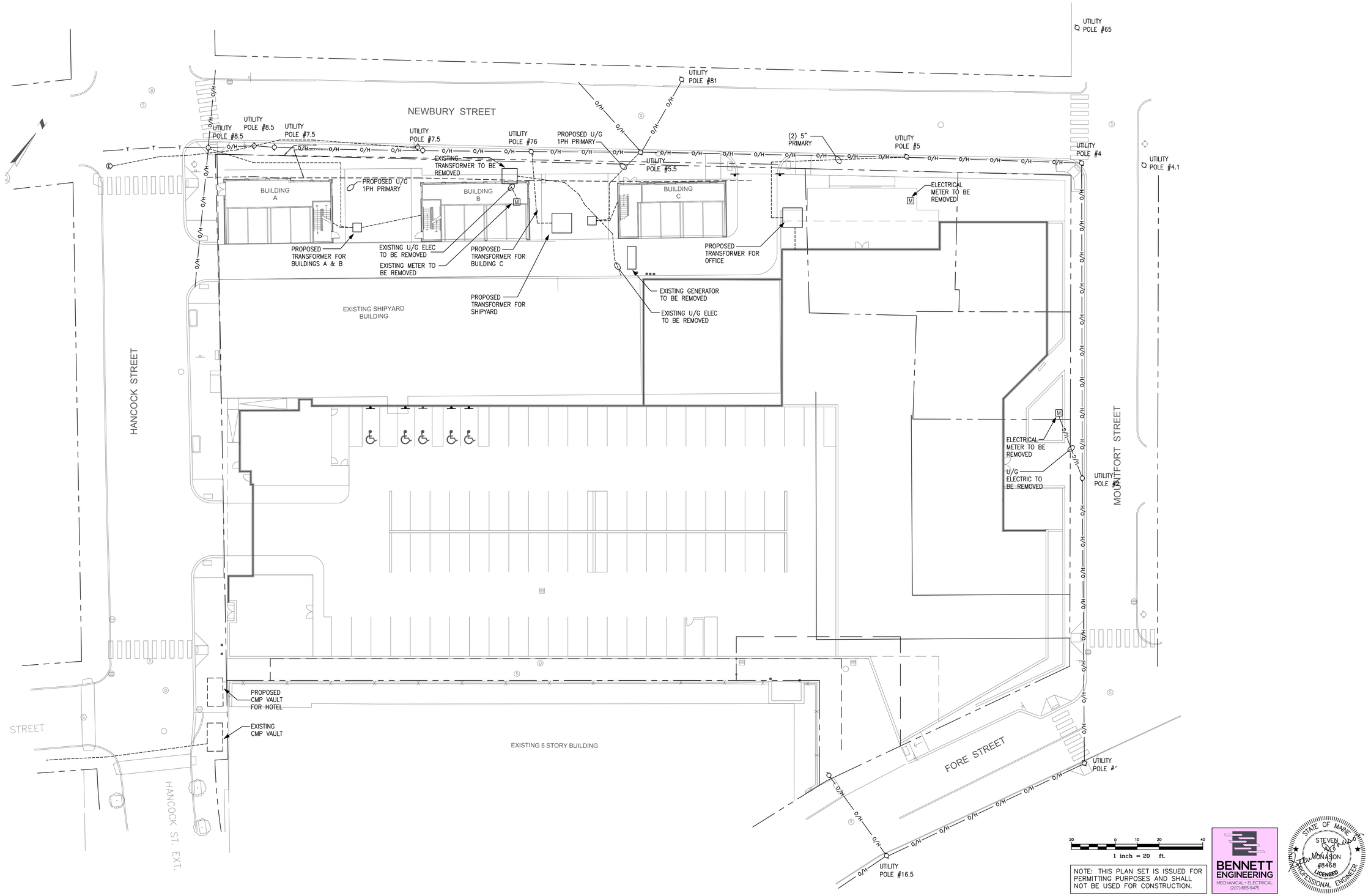
Drawing Name: SITE LIGHTING PHOTOMETRIC PLAN

Project: Shipyard Redevelopment
Newbury Street, Portland, ME

Client: 86 Newbury Street, LLC
470 Fore Street, Portland, ME 04101

Drawing No. E0.0

N:\4200 to 4299 Jobs\4215 Shipyard\Drawings\4215 E0.0 & E0.1.dwg 7/2/2018 4:52 PM



NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

BENNETT ENGINEERING
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(207) 865-9475

STATE OF MAINE — STEVEN A. MONASON #8488 LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Revision
3	07/03/18	REVISED PER CITY STAFF COMMENTS
2	5/30/18	REVISED PER CITY STAFF COMMENTS
1	5/14/18	REVISED PER UPDATED ARCHITECTURAL PLANS

Issued For	Date	By
SITE PLAN AND SUBDIVISION	4/10/18	LSA

Design: CEH	Draft:	Date: APR 2018
Checked: LSA	Scale:	Job No.: 3184
File Name: 4215 E0.0 & E0.1.dwg		

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207.772.2515

Drawing Name: ELECTRICAL DISTRIBUTION PLAN
Project: Shipyard Redevelopment
Newbury Street, Portland, ME
Client: 86 Newbury Street, LLC
470 Fore Street, Portland, ME 04101

Drawing No. E0.1

N:\4200 to 4299 Jobs\4215 Shipyard\Drawings\4215 E0.0 & E0.1.dwg 7/2/2018 11:13 AM

AVERAGE GRADE = 27.50 + 39.00 + 43.00 + 43.50 + 44.25 + 45.50 + 46.00 + 47.00 + 48.00 + 47.00 + 24.50 + 21.50 + 21.00 / 13 = 38.28' (AVERAGE GRADE)

1 AVERAGE GRADE
1/16" = 1'-0"

Prepared For: Owner

Consultant:

Architect: ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: SHIPYARD DEVELOPMENT

Revisions:

Scale: 1/16" = 1'-0"

Date: May 24, 2018

Unnamed

A3.05

NEWBURY STREET
PAVED – PUBLIC – 45' WIDE

HANCOCK STREET
PAVED – PUBLIC – 66' WIDE

MOUNTFORT STREET
PAVED – PUBLIC – 40' WIDE

MIDDLE STREET

FORE STREET
PAVED – PUBLIC

HANCOCK ST. EXT
PAVED – PUBLIC

"RESIDENCE INN– MARRIOTT"
TM 020–C–10
N/F
CHAPIN REALTY, LLC
25688/158
5 STORY
BRICK

10' EASEMENT
"NO BUILD ZONE"
(25688/158)

GRID NORTH
MAINE WEST ZONE

20 0 10 20 40
1 inch = 20 ft.

NEW BUILDING

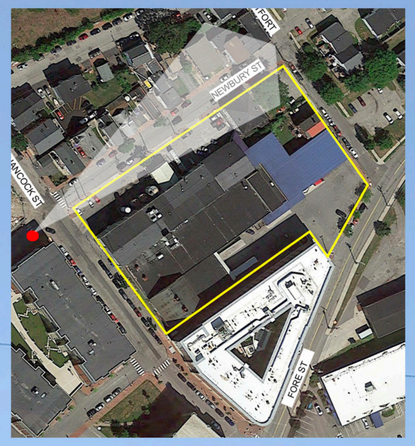
EXISTING BUILDING

GREEN ROOF

INTERIOR COURT YARD

Shipyard Brewing Redevelopment

GORRILL PALMER



ABYSSINIAN MEETING HOUSE
UNDERGROUND RAILROAD
HISTORICAL SITE

NEWBURY STREET PERSPECTIVE

Portland, Maine

JUNE 2018

FORE STREET PERSPECTIVE

Portland, Maine

ARCHETYPE architects

MOUNTFORT STREET ENTRY

Portland, Maine

ARCHETYPE architects

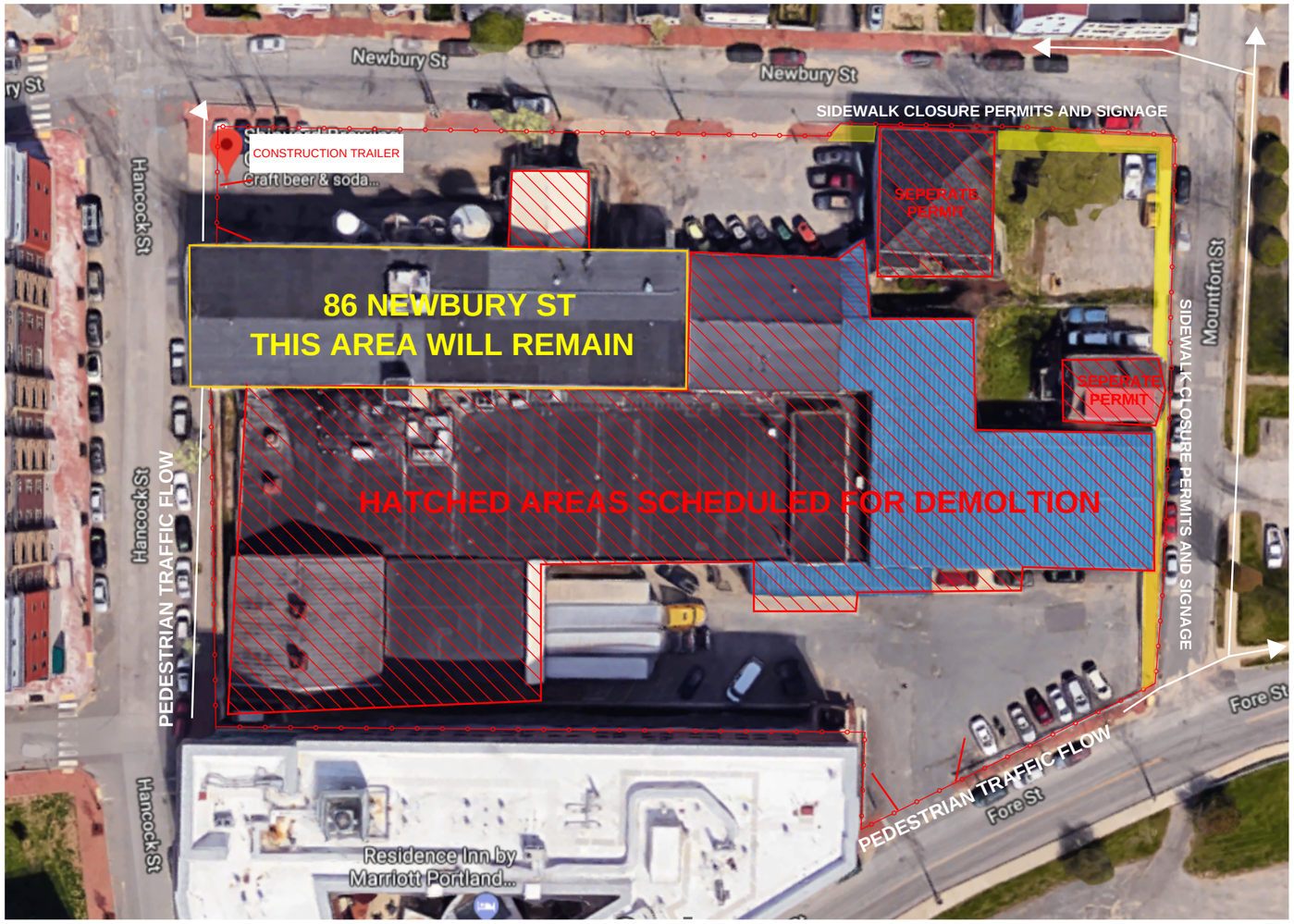
MOUNTFORT STREET ENTRY

Portland, Maine

ARCHETYPE architects

SHIPYARD BREWING SITE

CONSTRUCTION MANAGEMENT PLAN - PHASE 1 DEMOLITION



NOTES:

-Construction fencing and gates in place around site perimeter before demolition begins.

-Sidewalk closure permits to be obtained for Mountfort St. and partial Newbury St. sidewalks. Duration of closure approx 2-3 months.

- Sidewalk closure signage to be posted for pedestrian traffic flow as indicated on plan.

-Shipyard Brewing tasting room and 1st floor facility to remain operational during demolition.

-All water, sewer, gas, and electrical feeding the main building (yellow) will remain active, all services within buildings scheduled for demolition will be cut, safe offed, and verified by licensed tradesmen at outlying buildings prior to demolition.

86 NEWBURY STREET, PORTLAND ME

DEMOLITION TIME FRAME - 3 MONTHS
PROJECT WILL THEN ENTER PHASE 2 - CONSTRUCTION

SHIPYARD BREWING SITE

CONSTRUCTION MANAGEMENT PLAN - PHASE 2 CONSTRUCTION

NOTES:

1. Construction phase to start after demolition phase has ended.

2. Construction fencing to be installed with appropriate safety and contact info signage.

2. Sidewalk, parking lane, and travel lane closure permits to be pulled and signage to be posted. All closures to be coordinated with D.P.W.

3. One way traffic down Newbury St., Hancock St. and Mountfort St. during Construction Phase. One way traffic signage to be posted.

4. Pedestrian walkway paths indicated, temporary ADA compliant crosswalk on Fore St. to Mountfort St. to be installed.

5. Snow removal within fenced areas to be completed by AlliedCook Construction.

6. Shipyard Brewing tasting room and 1st floor brewery to remain open during construction.

7. Vets First Choice temporary pharmacy located within existing brewery to remain open during construction. Employee access to space only.

8. If traffic flow will be impacted by construction operations, traffic control will be maintained using flaggers.

9. Construction Management Plan is subject to change during the project.

86 NEWBURY STREET, PORTLAND ME

CONSTRUCTION DURATION - APPROX 24 MONTHS

P: 000153-2018 208 Fore St.

Paula Foley-Stelmack <mstelma1@maine.rr.com> Jul 23, 2018 11:05 AM
Posted in group: **Planning Board**

July 23, 2018

Mr. Christian Roadman, Planner

City of Portland Maine

Planning and Urban Department

389 Congress St.

Portland, Maine 04101

Re: Plan #PL-000153-2018

208 Fore St.

Dear Christian,

Thank you for taking the time to talk with me this morning. We discussed that the current building at 208 Fore St. is not designated as a landmark by the city; however there will be additional review to determine historic importance and if the building has a contributing or non-contributing designation. We also discussed that the reason the new building is being proposed with 7 stories rather than 6, is that the new building will include a “green roof”. You also advised me that there will be several opportunities for public comment at workshops and at planning board meetings.

Section 1.2, of the proposal states that the project would be compatible with the existing neighborhood. This is simply not the case. There are no other building 7 stories tall within our neighborhood and the proposed height significantly impacts neighbors and businesses in the area. I object to the proposal of 7 stories.

Attachment 1-B showing the proposed building renderings notes that “red fiber cement panel” will be used on a significant amount of the building surface. The design of this building will create a conflict with the other buildings in the area and certainly look out of character in the neighborhood. Approval of such a design would certainly change the area and not for the better.

I also note in the renderings that there is no additional landscaping around the building. The lot will be completely filled with the proposed building. There will be no curb appeal and the area will lose some of its existing natural vegetation.

Also, the sidewalk is very narrow currently and it does not appear that the size will increase with the proposed building. That area has recently had a large increase in the amount of foot

traffic coming down Fore St. due to the addition of new hotels and office space nearby. The building should be set back further to add sidewalk width so as to avoid the need for pedestrians to step onto the heavily trafficked Fore St. especially with the addition of retail space in the proposed building.

Thank you for listening to me this morning and I look forward to meeting you as this project progresses.

Paula Foley-Stelmack

207 Fore St. Unit 1

Portland, Me 04101

Google Groups

86 Newbury Street

Kate Philbin <kphilb3@gmail.com> Jul 24, 2018 9:12 AM
Posted in group: **Planning Board**

Dear Board Members,

I understand and support the desire for Portland to grow. I understand that growth brings change to our life here on the peninsula. What I don't see, and it concerns me deeply, is a cohesive vision for the development of the East End. What am I seeing? New condos, new hotels, new office space, new retail and restaurant spaces, and new parking garages. What I don't see is a creative, thoughtful and progressive plan on how to transport these new residents and employees on and off the peninsula. It is my belief that more parking garages are not the answer. The peninsula is finite with only several access points to bring people on and off the peninsula. Where is the plan for handling traffic - not parking but traffic? I would like to see the building development slow down and speed up the public transportation development. Endless parking garages are not a solution; they exacerbate the problem of traffic.

86 Newbury Street - refuse to grant the zoning height waiver and do not demolish the affordable housing on the street. I think it's disgraceful to cater to the wealthy and show such disregard for working class residents and their needs for affordable housing. All the service jobs in these new offices, hotels, condos, shops, and restaurants will be staffed by people making the minimum wage or slightly more. Where will they live?

Thank you.

Kate Philbin
45 Eastern Promenade
Portland

PLANNING BOARD REPORT
PORTLAND, MAINE
977 Brighton Avenue
Senior Housing
Level III Site Plan and Subdivision Plan
2017-299
Applicant: Avesta Housing

Submitted to Portland Planning Board Public Hearing Date: July 24, 2018	Prepared by: Christian Roadman Date: July 20, 2018

Provided rendering of proposed 977 Brighton Project (image provided by applicant team)

I. INTRODUCTION

Avesta Housing seeks to construct a 40 unit apartment building for senior citizens. 34 units, or 85%, of the proposed units are intended to qualify as low income units for rent. Twenty-four (24)units will be affordable to a household earning 50% of area mean income and below, and 10 units will be affordable for a family earning 60% of area mean income and below. The remaining six units will be market rate. The project capitalizes on density bonuses as part of the Affordable Housing section of the Land Use Code.

The proposed project is located at the corner of Brighton Avenue and Wessex Street. Wessex Street is currently unfinished, and the project calls for a 28-foot wide street with sewer. This represents a change since the project's Planning Board workshop on April 24, and is intended to meet City standards.

28 parking spaces are proposed for the site. This represents a four-space reduction since the project's workshop, and reflects both the applicant's experience with other comparable projects and staff's desire to minimize impervious surface and wetland impacts. Under Division 20 (parking) eligible projects providing affordable housing may have a lower number of parking spaces per unit than otherwise allowed, as set by the board.

The applicant states that the project location is good for senior housing, as it offers access to transit along Brighton Avenue and proximity to shopping centers for both employment and commerce. This is one of the first projects to utilize the density bonuses and dimensional modifications available under the R-P Residence Professional zoning district. The project is larger and of a different use than many other buildings in the area – Brighton is a largely commercial corridor with office and retail uses. Single family residential neighborhoods are immediately adjacent.

After the Planning Board workshop, the applicant held a neighborhood meeting, provided a traffic study, and updated

their submission to reflect staff comments. The Planning Department scheduled this project for a public hearing on June 26, but the agenda item was tabled due to lack of a quorum; three Planning Board members are recused from this item.

The Land Use Code specifies that affordable housing projects receive expedited review. This report is an update of the report written in anticipation of a June 26, 2018 hearing. The applicant team responded to that report with updated submission materials. However, not all suggestions were addressed in the updated submissions. Additionally, City staff and third party reviewers did not have adequate time to provide thorough comments for all items. This is reflected in the suggested potential conditions of approval.

Applicant: Avesta Housing (Greg Payne)
Consultants: Walsh Engineering Associates (Tom Greer), CWS Architects (Ben Walter), Owen Haskell, Inc. - surveyor (John Schwanda)

II. REQUIRED REVIEWS

Waiver Requests	Applicable Standards
21 foot drive aisle width (portion of drive aisle parallel to Wessex. Street). Tom Errico, P.E. supports the waiver.	Technical Manual, Section 1.14, requiring aisle width for right-angle parking be 24 feet (per Figure I-27)
35.71% compact parking spaces. Tom Errico, P.E. supports the waiver.	Technical Manual, Section 1.14, allowing parking lots with greater than 10 spaces to be comprised of 20% compact parking spaces
Sidewalk on one side of street. Tom Errico, P.E. supports the waiver.	Technical Manual, Figure I-1, requiring sidewalks on both sides of a local street
Existing utility poles along Wessex Street to remain above ground. The applicant is bringing the electrical lines underground to the site, but the existing overhead line that serves the dental office and homes on Wessex are proposed to remain. The cost of putting lines underground, particularly existing lines serving structures, is high and this is an affordable housing project. The Planning staff support a waiver of this standard.	Site Plan Ordinance, Section 14-526(c)(3)(b) - Electrical service shall be underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost, the need to retrofit properties not owned by the applicant or complexity of revising existing overhead facilities. Subdivision Ordinance, Section 14-499(h) - All utility lines shall be placed underground unless otherwise approved by the Planning Board.

Review	Relevant Code
Site Plan	*Section 14-526*
Subdivision	*Section 14-497*
Affordable Housing / Conditional Use	*Sections 14-487, 14-488*

III. PROJECT DATA

Existing Zoning	R-P Residence Professional, R-3 Residential
Existing Use	Commercial / Office
Proposed Use	Multifamily Residential
Proposed Development Program	34 affordable units, 6 market rate units
Bedroom Mix	All 1 bedroom
Parcel Size	32,000 sq. ft.

	Existing	*Proposed*	*Net Change*
Building Footprint (sq. ft.)	3,128	7,825	4,697
Building Floor Area (sq. ft.)	3,740	31,300	27,560
Impervious Surface Area (sq. ft.)	8,168	18,275	10,107
Parking Spaces	5	28	23
Bicycle Parking Spaces	0	16	16

Estimated Cost of Project	$7,100,000

IV. EXISTING CONDITIONS

At present, a one story wood frame building and a separate two story wood frame building exist on the site. Both of these were used most recently for commercial purposes. The rear, or northernmost area of the site (approximately 4,000 square feet), is in the R-3 residential zone. The remainder of the site (approximately 28,000 square feet) is in the R-P residence professional zone.

The properties immediately west and east of the proposed building's location are commercial or professional office buildings, but not large-scale buildings. Also north of Brighton Avenue are a number of nearby single family homes, including several along the unfinished Wessex Street. The Fred P. Hall Elementary School is to the northeast, within walking distance. West of the site, on Brighton Avenue, are Sagamore Village, commercial uses, and the Barron Center.

Brighton Avenue is a local arterial road which carries a significant amount of traffic. The intersection of Brighton Avenue and Wessex Street is not signalized. Approximately 500 feet further west, the signalized intersection of Brighton and Cabot Street / Rand Road provides pedestrian access to a bus stop and shopping center.

V. PROPOSED DEVELOPMENT

Avesta Housing proposes to build a 40 unit apartment building on the site, after demolishing the existing onsite buildings. The proposed building would be oriented towards Brighton Avenue, with entrances off that street as well as off the proposed parking lot on the rear / south of the site. The proposed building takes advantage of height and setback bonuses available for provision of affordable housing (Division 30). The proposed building height is approximately 49 feet tall at its north end and approximately 47 feet tall at its south end (both below the 50 foot maximum permitted with affordable housing density bonuses). The building as designed includes cement-fiber panels and planks. Every proposed unit is a 1 bedroom. Laundry machines are proposed on multiple floors onsite, and the proposed building includes a front office.

The proposed site plan includes a parking lot with 28 spaces, of which 12 are designated accessible spaces and ten are compact spaces (four spaces are designed as compact ADA spaces). The parking lot is the source of two waiver requests: reduced drive aisle width and increased percentage of compact spaces. The proposed parking lot extends into existing wetland, which would be partially infilled. The applicant included a permit from the Maine Department of Environmental Protection granting permission to alter the wetland. The applicant cited site geometry, maximization of onsite parking, and minimization of wetland impact as reasons for its waiver requests. 16 bicycle parking spaces, via 8 bicycle racks, are also proposed.

As part of the project, Wessex Street, which is currently unfinished, would be paved to City standards (28 feet) and sewer installed.

VI. Public Comment and Neighborhood Meeting

Prior to this project's April 24 workshop, the Planning Department received four emailed comments. Two came from individuals who grew up on the street (one grew up in a building on the site). Both cited the history and age of the existing building facing Brighton Avenue, built in 1924, as reasons against demolition. It was the home and greenhouse location of Ameido Martelle, a Portland resident, as well as the home of Joe Martelle, a member of the Maine Broadcasters Hall of Fame. The greenhouse structures are no longer present on the property.

The third comment in opposition came from a neighbor on Brighton Avenue who raised concerns about traffic safety (entering and exiting Brighton Avenue without a traffic light at Wessex), the size and scale of the proposed building / parking lot, lighting impacts (loss of sunlight and impact of exterior lighting), and maintenance.

A fourth comment, received from the property owner on Brighton Avenue across Wessex Street, was neither in favor of nor in support of the project, but raised a number of issues. These included concerns about turning movements onto Brighton Avenue, potential use of the commenter's property as a turnaround and/or pet-walking site, and the potential for shadow impacts. This commenter also expressed that paving of Wessex Street would be a positive development, and followed up with an email after the public workshop expressing appreciation for the project's review process and how it is being conducted.

A sixth comment, also received after the workshop, expressed concern about traffic movements, wetland elimination, stormwater, and scale.

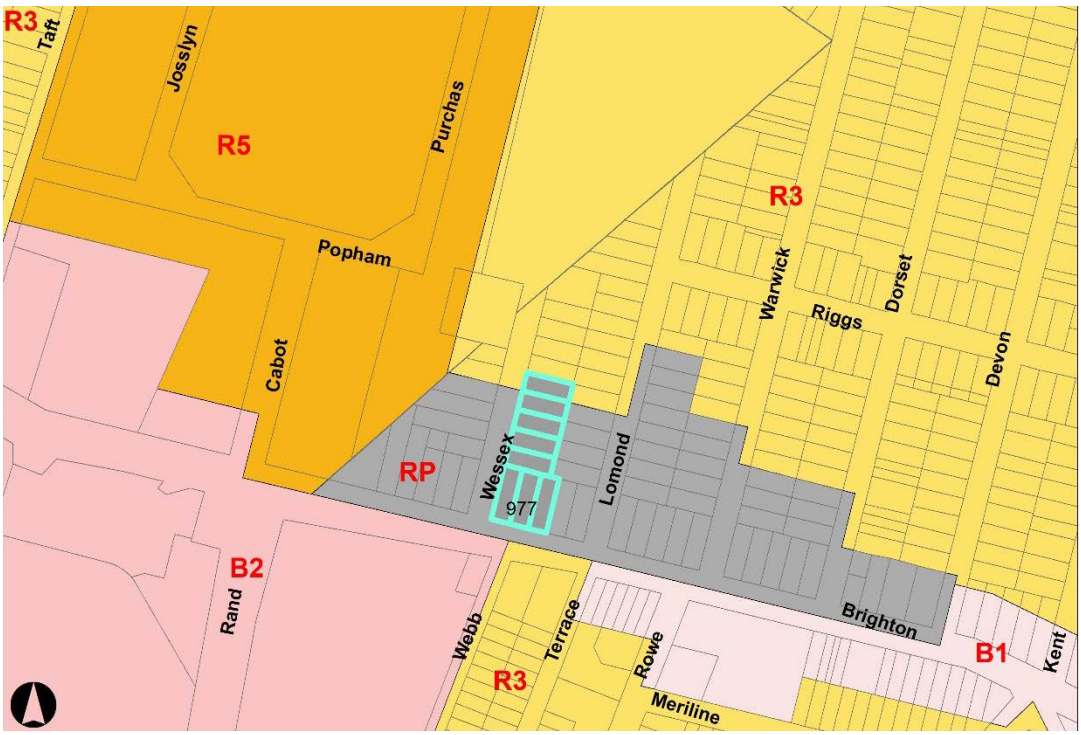
According to the applicant's submitted documentation, eleven people attended their neighborhood meeting on April 26. The applicant highlighted two topics of concern / feedback in particular: stormwater and traffic movements. Attendees noted that additional pavement will increase stress on the existing system, and expressed interest in a left-turn lane for Wessex Street. A left turn lane is not included on the plans for the proposed project.

A shadow study (attachment Y) is included with the applicant's current submission.

VII. RIGHT, TITLE, INTEREST AND FINANCIAL / TECHNICAL CAPACITY

The applicant submitted a warranty deed for three lots, and a quitclaim deed for two lots, which evidence ownership of the property in question.

A document provided by the applicant, Avesta, cites the organization's 2,200 apartments and two assisted living facilities, as well as its $195 million in assets, to evidence its capacity for successful project completion. The document lists anticipated funding sources for the project, including subsidies, low income housing tax credit, and loans.



Zoning context of proposed 977 Brighton Project. Associated project parcels are outlined in light blue.

VIII. ZONING ANALYSIS

Multifamily housing is not a use normally available under the R-P or R-3 zones, but is provided for in the R-P zone in the Affordable Housing section of the Land Use Code. Planning staff, in consultation with zoning staff, confirmed that 40 units are appropriate under the density bonuses allowable. The project also takes advantage of height and setback bonuses, which staff determined comply with zoning. Because part of the site (roughly 4,000 sq. ft.) is located in an R-3 zone, this square footage was omitted from the calculations pertaining to density bonuses.

According to the Parking section, Division 20, of the Land Use Code, the Planning Board may determine the parking required for affordable housing projects such as this one. The applicant cites previous experience with comparable affordable housing projects as support for the amount of parking requested, and provided traffic and parking studies. To address staff and board concerns regarding wetland / impervious surface impacts, the number of proposed spaces was reduced from 32 to 28. The reduction in spaces is consistent with the traffic and parking studies, and is supported by the City's consulting traffic engineer, Tom Errico. His comments (Attachment 1) are addressed further

in the Transportation Standards section below.

All developments of ten units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Division 30, Section 14-487 of the Zoning Ordinance. Victoria Volent, Housing Program Manager, determined that the project has met these requirements (Attachment 2). Ms. Volent recommends the Board approve this conditional use provided the applicant maintains a minimum of four units of housing at or below 100% area mean income. Should the applicant fail to maintain these minimum housing guidelines the applicant and the City should enter into an agreed upon affordable housing agreement.

IX. DEVELOPMENT REVIEW

A. SUBDIVISION (Section 14-497)

The proposed development prompts review for conformance with relevant standards of Portland's subdivision ordinance and applicable regulations.

1. Will Not Result in Undue Water and Air Pollution, and Will Not Result in Undue Soil Erosion; Will Provide for Adequate Sanitary Sewer and Stormwater Disposal, and Will Not Cause an Unreasonable Burden on Municipal Solid Waste and Sewage

   The Department of Public Works confirmed wastewater capacity for the project.

   The City's civil engineering consultant, Lauren Swett, reviewed the applicant's submission for compliance with applicable codes, standards, and practices (Attachment 3). Comments requiring correction include:

   - Flooding Standard: storage is modeled in a pond referred to Pond 21P: Culvert at Parking. It is unclear where this storage is located on the plans. Please clarify
   - Applicant did not provide an ability to serve letter from Portland Water District

   Review and approval of updated documents addressing the necessary revisions and submissions detailed in Ms. Swett's submitted memorandum (Attachment 3) by the Planning Authority and the City's consulting civil engineer is suggested as a **condition of approval**.

2. Sufficient Water Available

   As mentioned directly above, the applicant did not provide evidence of capacity to serve from the Portland Water District. Such evidence is suggested as a **condition of approval**.

3. Will Not Cause Unreasonable Traffic Congestion

   The applicant provided a traffic impact study estimating the total number of site trips generated by the project as eight trips during the morning peak hour and 11 trips in the evening peak hour. The study author recorded peak hour volumes entering / exiting Wessex Street as less than seven vehicles. They concluded that the existing transportation system can accommodate the added traffic demand within acceptable levels of service. They noted existing conditions resulting in delays on Brighton Avenue, and that traffic exiting Wessex Street is expected to experience "somewhat lengthy" delays during peak travel periods.

   City traffic engineering consultant Tom Errico provided comments on this project (Attachment 1), which are addressed in the Transportation Standards section below.

4. Comprehensive Plan

   The applicant identified the following local goals, drawn from the City's comprehensive plan, as applicable to the project:

   - Increase, preserve, and modify the overall supply of housing City-wide to meet the needs, preferences and financial capabilities of all Portland households
   - Encourage additional contextually-appropriate housing density in and proximate to neighborhood centers, concentrations of services, and transit nodes and corridors as a means of supporting complete neighborhoods

- Pursue policies to enable people who work in Portland to have the option to live in Portland
- Encourage quality, sustainable design in new housing development
- Adopt affordable housing: pursue new opportunities for increased energy efficiency, increased densities, mixed incomes, and greater connectivity to surrounding neighborhoods

B. SITE PLAN (Section 14-526)

The proposed development prompts review for conformance with relevant standards of Portland's site plan ordinance and applicable regulations.

1. Transportation Standards

a) Impact on Surrounding Street Systems, Access, and Circulation; Sidewalks; Parking; Also: Construction Management Plan

The traffic study provided by the applicant team indicates that the existing transportation network can accommodate the proposed development. Tom Errico, the City's consulting traffic engineer, reviewed the study. He noted in comments (attached) that traffic impact at the Brighton Avenue and Wessex Street intersection is expected to be minimal. He wrote that no mitigation action related to traffic impacts is required of the applicant.

The applicant is proposing a paved street width of 28 feet with granite curbs and a sidewalk along the project frontage. In the original application, there was a request to reduce the pavement width to 24 feet. The Department of Public Works and Tom Errico did not support that waiver. For the final application, the street width meets the city standard. The applicant is installing a sidewalk along the project frontage on Wessex Street and is seeking a waiver of installing a second sidewalk on the westerly side of Wessex Mr. Errico expressed support for the waivers regarding provision of sidewalks on both sides of the street, percent of compact spaces, and drive aisle width. Mr. Errico also offered feedback expressing items which should be addressed or corrected:

- Total parking spaces: the applicant has conducted a parking study and I find the estimate to be reasonable. I support providing 28 parking spaces.

- Handicap parking spaces: the applicant has noted that the number of spaces is based upon their experience with a similar project and I find conditions to be acceptable. The applicant should provide a van accessible parking space or provide documentation that it is not required. I would note that some of the handicap parking spaces have a depth of 15 feet. *ADA standards do not note a parking space length requirement, but the applicant should provide documentation that the spaces meet ADA requirements* (emphasis added).

- Construction management plan: a revised construction management providing additional detail, particularly in regards to potential sidewalk closure and work in the Brighton Avenue right-of-way, shall be submitted for review and approval by the City's consulting traffic engineer and the Planning Authority. (Please note, the current construction management plan is a revision, but is not currently acceptable).

Review and approval of updated documents addressing the necessary revisions and submissions detailed in Mr. Errico's comments is suggested as a **condition of approval**.

b) Public Transit Access

The site is served by bus service on Brighton Avenue, which is one reason cited by the applicant for the location of this proposed development. A transit shelter serving inbound buses is located within a quarter mile of the development, so provision of a shelter is not required per City code.

The City's transportation program manager, Bruce Hyman, suggested the applicant could upgrade curb ramps to ADA compliance at several locations to facilitate pedestrian movements to nearby bus stops (Attachment 4). Particularly, the applicant should improve the curb ramps at / between Wessex Street and to / across Cabot Street at Brighton Road. *While the applicant include the curb ramps at / between Wessex on their site plan, staff is not aware of documents detailing improvements to the curb ramps to / across Cabot Street at Brighton Road.* These improvements, and related documentation, are suggested as **conditions of approval**.

2. Environmental Quality Standards

a) Preservation of Significant Natural Features

As noted above, the project impacts a wetland and the applicant submitted a permit from the Department of Environmental Protection allowing its alteration. The applicant's original requests pertaining to drive aisle width and percentage of compact spaces cited their desire to minimize these wetland impacts.

The applicant reduced the project's parking spaces to 28, from 32 in the original submission. Staff indicated that additional parking lot modifications to reduce wetland impact were necessary, so the applicant submitted an updated site plan with further parking lot revision and less parking spaces in the wetland area.

b) Landscaping and Landscape Preservation

The project is subject to the street tree requirements of the Technical Manual, which direct multifamily residential projects to provide a minimum of one tree per unit. City staff interpret the plan to include 24 trees, which leaves 16 trees unaccounted for. The applicant can provide the remaining trees, or pay into the City's street tree fund at a cost of $400 per unaccounted tree, totaling $6,400. Satisfactory resolution of this issue is suggested as a **condition of approval**.

Jeff Tarling, the City's arborist, provided comments on the submitted landscape plan (Attachment 5). *He suggested the following items which have yet to be addressed:*

- Street trees:
  - *Along the non-wire side of Wessex Street, recommendation for shade trees such as 'Bowhall' or 'Armstrong' Red Maple*

- Interior landscape:
  - *Greenery should be a high priority for residents both for therapeutic reasons and to improve the livability of the project – consideration is recommended in this area*
  - *The back side of the building lacks any type of landscape feature, thus plantings and possible fencing should be better defined*

- Parking lot landscaping:
  - *The project lacks the standard number of plants for a parking lot. Recommend that additional landscape plantings be added – many groups of plants can survive in the often damp and regraded areas around the parking lot edge*

An updated landscape plan, to be reviewed and accepted by the City's Arborist and Planning Authority, is suggested as a **condition of approval**.

c) Water Quality, Stormwater Management and Erosion Control

Consulting civil engineer Lauren Swett's comments regarding these topics are addressed above, and her comments are attached (Attachment 3).

3. Public Infrastructure and Community Safety Standards

a) Public Safety and Fire Prevention

Division Chief Mike Thompson noted that the Fire Department has adequate capacity in the area for this project, and that emergency access for fire apparatus is available (attachment 6). He also noted that the building will need a sprinkler system.

b) Availability and Adequate Capacity of Public Utilities

As noted above, additional information confirming adequate water capacity is required. The applicant submitted a wastewater capacity authorization letter for the project.

The proposed project includes underground utilities from an existing utility pole on Wessex Street to the proposed

building, but does not underground the existing utility poles along its frontage on Wessex Street or Brighton Avenue. Staff supports a waiver from this requirement.

4. Site Design Standards

a) Snow and Ice Loading

The proposed project is anticipated to have adequate capacity for snow and ice loading. Snow storage areas are noted on the submitted subdivision plat.

b) Historic Resources

The applicant submitted a finding by the Maine Historic Preservation Commission that no historic properties will be impacted by the proposed project (as defined in Section 106 of the National Historic Preservation Act). Deb Andrews, Historic Preservation Program Manager, advised that the buildings to be demolished are not eligible for historic designation.

c) Exterior Lighting

The applicant provided a lighting plan, and states in a zoning analysis that all lighting will be shielded. *The plan anticipates spillage of .2 foot candles onto properties adjacent the parking lot to the east, and spillage of .2 foot candles onto Wessex Street. This does not meet the Technical Standard requirement of spillage limited to .1 foot candles, and should be revised. Additionally, insufficient photometrics are provided regarding proposed exterior lighting / building frontages.* A revised lighting plan is suggested as a condition of approval.

Please also note the public comment pertaining to concerns about exterior lighting, described above.

d) Noise and Vibration

The applicant states that mechanical equipment will meet appropriate noise limits.

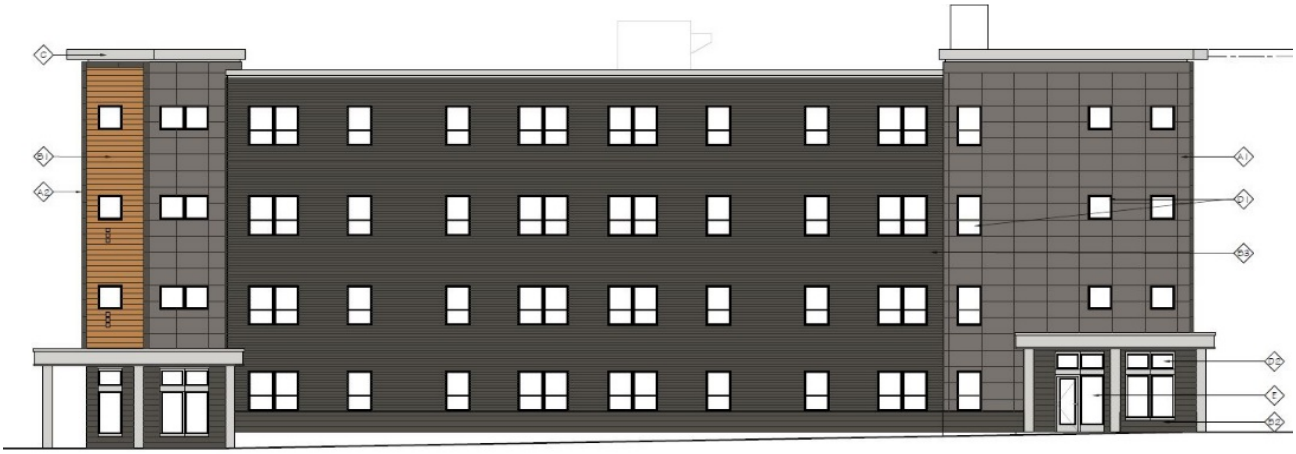
e) Materials & Waste

The applicant states that all waste will be handled in an interior trash room and picked up by a private waste hauler.

f) Zoning Related Design Standards

Caitlin Cameron, Urban Designer, provided review comments (attachment 7) responding to the applicant's updated designs:

- Revisions submitted 7/18/18 – comments revised to reflect final design
- Overall supportive of the scale, massing, and height of the project for this context and street
- *Concern about the durability of fiber cement material at the ground – consider a base with a more durable material*
- *Prefer seating added to the site; landscape between inactive portions of building and street.*
- *Landscape design could enhance the less active portions of the buildings such as the stair towers*



Western elevation of proposed 977 Brighton Project (image: provided by applicant)

XII. PROPOSED MOTIONS

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the planning board report for the public hearing on July 24, 2018 for application 2017-299 relevant to Portland's technical and design standards and other regulations; and the testimony presented at the Planning Board hearing:

1. The Planning Board **[finds / does not find]**, based upon the consulting transportation engineer's review (Attachment 1), that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Section 1.14) which requires that aisle width for right-angle parking be 24 feet per Figure I-27 . The Planning Board **[waives / does not waive]** the Technical Manual standard (Section 1.14) to allow a 21 foot-wide aisle for a portion of the aisle within the proposed surface parking lot;

2. The Planning Board **[finds / does not find]**, based upon the consulting transportation engineer's review (Attachment 1), that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Section 1.14) which allows parking lots with greater than 10 spaces to be comprised of 20% parking spaces. The Planning Board **[waives / does not waive]** the Technical Manual standard (Section 1.14) to allow 35% of the spaces to be compact.

3. The Planning Board **[finds / does not find],** based upon the Planning Department's review that a new sidewalk will be installed along their Wessex Street frontage and that Wessex is a dead end street, the following criteria (specifically 1 and 3) [**do / do not apply**] and therefore **[waives / does not waive]** the requirement for a sidewalk along the westerly side of Wessex Street.

4. The Planning Board [**finds/does not find**], based upon the Planning Department's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Site Plan standard *(Section 14-526(c)(3)(b),* which requires that electrical service be placed underground unless otherwise specified for industrial uses, or if it is determined to be unfeasible due to extreme cost. The Planning Board [**waives / does not waive]** the Site Plan standard *(Section 14-526(c)(3)(b))* to allow overhead utilities to serve the existing structures along Wessex Street.

B. SUBDIVISION

On the basis of the application, plans, reports, and other information submitted by the applicant; findings and recommendations contained in the Planning Board report for the public hearing on Jul7 24, 2018 for application 2017-299 (977 Brighton Avenue) relevant to the subdivision regulations; and the testimony presented at the Planning Board hearing, the Planning Board finds that the plan **[is / is not]** in conformance with the subdivision standards of the land use code.

C. DEVELOPMENT REVIEW

On the basis of the application, plans, reports, and other information submitted by the applicant; findings and recommendations contained in the Planning Board report for the public hearing on July 24, 2018 for application 2017-299 (977 Brighton Avenue) relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board finds that the plan [is / is not] in conformance with the site plan standards of the land use code, subject to the following conditions of approval:

CONDITIONS WHICH MUST BE MET PRIOR TO SUBMITTAL OF A BUILDING PERMIT APPLICATION:

1. The applicant shall provide updated documents addressing the necessary revisions and submissions detailed in Attachment 1, T ERRICO COMMENTS 6-21-18, for review and approval by the Planning Authority and the City's consulting traffic engineer.

2. The applicant shall provide a revised construction management plan for review and approval by the Planning Authority and the City's consulting traffic engineer.

3. The applicant shall provide updated documents addressing the necessary revisions and submissions detailed in Attachment 3, L SWETT COMMENTS 7-19-18 & 6-20-18, for review and approval by the Planning Authority and the City's consulting civil engineer.

4. The applicant shall provide an ability to serve letter from the Portland Water District for review and approval by the Planning Authority.

5. The applicant shall provide an updated landscape plan addressing the necessary revisions and submissions detailed in Attachment 5, J TARLING COMMENTS 6-21-18, to be reviewed and accepted by the Planning Authority and City Arborist.

6. The applicant shall upgrade curb ramps to ADA compliance at / between Wessex Street and to / across Cabot Street at Brighton Road. Sufficient plans and documentation to this effect shall be submitted to the Planning Authority and Transportation Program Manager for review and approval.

CONDITIONS WHICH MUST BE MET PRIOR TO ISSUANCE OF A BUILDING PERMIT:

7. The applicant shall submit a revised lighting plan in conformance with the City's Technical Manual, for review and approval by the Planning Authority and Department of Public Works.

8. The applicant shall provide the street trees required in the City's Technical Manual, or shall pay $400 into the City's Street Tree fund for each required tree that is not provided.

D. INCLUSIONARY ZONING CONDITIONAL USE

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on June 26, 2018 for application 2018-013 (977 Brighton Avenue) relevant to the Conditional Use as authorized by Division 30, Section 14-487 Ensuring Workforce Housing; and the testimony presented at the planning board hearing, the planning board finds that the Conditional Use [is / is not] in conformance with the standards of the land use code and [approves / does not approve] the application, subject to the following condition of approval:

1. The applicant shall maintain a minimum of four units of housing at or below 100% AMI. Should the Applicant fail to maintain these minimum housing guidelines then the Applicant and the City should enter into an agreed upon Affordable Housing Agreement (AHA). The Affordable Housing Agreement will outline the details of the affordability restrictions placed on four (4) Workforce Units and will be filed as covenant to the property's deed with the Cumberland County Registry of Deeds.

PLANNING BOARD REPORT ATTACHMENTS

1. T ERRICO COMMENTS 6-21-18
2. V VOLENT MEMO 6-20-18
3. L SWETT COMMENTS 7-19-18 & 6-20-18
4. B HYMAN COMMENTS 6-21-18
5. J TARLING COMMENTS 6-21-18
6. DC THOMPSON COMMENTS 4-4-18 & 6-6-18
7. C CAMERON COMMENTS 7-18-18 & 6-20-18

PUBLIC COMMENT

PC1. JOE MARTELL 2-12-18
PC2. GENE LEIGHTON 3-18-18
PC3. BILL MONTGOMERY 4-6-18
PC4. JUDITH STANHOPE 4-18-18
PC5. BILL MONTGOMERY 4-25-18
PC6. ROBERT KUNI 5-15-18

APPLICANT'S SUBMITTALS

A. COVER LETTER
B. LEVEL III SITE PLAN APPLICATION
C. COMPREHENSIVE PLAN GOALS
D. FINANCIAL AND TECHNICAL CAPACITY
E. EVIDENCE OF RIGHT TITLE & INTEREST
F. DEP SUBMITTAL DOCUMENTS
G. FIRE DEPT. SUMMARY & CODE REVIEW
H. NRPA PERMIT
I. LIGHTING
J. MDI & W RESPONSE
K. MHPC RESPONSE
L. DAC & F RESPONSE
M. STORMWATER REPORT
N. NEIGHBORHOOD MEETING DOCUMENTATION
O. CONSTRUCTION MANAGEMENT PLAN NARRATIVE
P. TEST BORINGS DOCUMENTS
Q. WASTEWATER CAPACITY LETTER & APPLICATION
R. WETLAND REPORT
S. WAIVER REQUESTS
T. ZONING ANALYSIS
U. COMMENTS RESPONSE LETTERS 7-18-18 & 6-4-18
V. TRAFFIC IMPACT STUDY
W. PARKING ASSESSMENT AND SUPPLEMENTAL INFO
X. ACF DESIGN REVIEW LETTER
Y. SHADOW STUDY
Z. EXTERIOR MATERIALS

PLANS

P1. FLOOR PLANS
P2. BOUNDARY & TOPOGRAPHIC SURVEY
P3. EXTERIOR ELEVATIONS
P4. SUBDIVISION RECORDING PLAT
P5. SITE PLAN
P6. EXISTING CONDITIONS & DEMOLITION PLAN
P7. GRADING AND UTILITIES PLAN
P8. EROSION CONTROL PLAN
P9. LANDSCAPE
P10. LIGHTING
P11. SITE DETAILS
P12. STORMWATER TREATMENT DETAILS
P13. DRAINAGE ANALYSIS
P14. REDEVELOPMENT CALCULATIONS
P14. CONSTRUCTION MANAGEMENT PLAN

Portland Maine | Yes. Google's good here.

Christian Roadman <croadman@portlandmaine.gov>

977 Brighton Avenue - Final Traffic Comments

Tom Errico <thomas.errico@tylin.com> Thu, Jun 21, 2018 at 11:45 AM
To: Christian Roadman <croadman@portlandmaine.gov>
Cc: Keith Gray <kgray@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Hyman, Bruce" <bhyman@portlandmaine.gov>, Lauren Swett <lswett@woodardcurran.com>

Hi Christian – The following presents my final traffic comments (as a status update of prior comments) following a review of updated application materials.

- The Wessex Street cross-section shall meet City standards or 28 feet in width. This width will permit on-street parking on one side of the street.

Status: The plans have been revised and I find them to be acceptable. I would note that I support a waiver for providing a sidewalk on both sides of the street given that it is a dead-end street, one sidewalk will provide reasonable conditions, and a second sidewalk would impact landscape areas on the opposite side of the street.

- The sidewalk on Wessex Street shall extend along the entire property frontage.

Status: The plans have been revised and I find them to be acceptable.

- Supporting documentation on the number of handicap parking spaces shall be provided.

Status: The applicant has noted that the number of spaces is based upon their experience with similar project and I find conditions to be acceptable. The applicant should provide a van accessible parking space or provide documentation that it is not required. I would note that some of the handicap parking spaces have a depth of 15 feet. ADA standards do not note a parking space length requirement, but the applicant should provide documentation that the spaces meet ADA requirements.

- Supporting documentation on the number of parking spaces provided for the site shall be provided.

Status: The applicant has conducted a parking study and I find the estimate to be reasonable. I support providing 28 parking spaces and suggest the removed spaces correspond with the goal of minimizing wetland impacts.

- Supporting documentation on the number of compact parking spaces shall be provided.

Status: Given the goal of minimizing wetland impacts and limited vehicle turnover, I support a waiver from City standards for the percent of compact spaces.

Additional Comments

- **The applicant has conducted a detailed trip generation estimate based on a review of a similar land use facility. Based upon the results, the project is not expected to generate a significant amount of traffic and thus traffic impacts at the Brighton Avenue and Wessex Street intersection is expected to be minimal. No mitigation action is required of the applicant.**
- **The current parking lot has an aisle width that does not meet City standards (21 feet versus 24 feet). Given low traffic generation and parking maneuvers, I support a waiver from the standard.**
- **I have reviewed the Construction Management Plan and I generally find it to be acceptable. The plan notes installing a fence in Brighton Avenue if the sidewalk is closed. This condition is not acceptable and the applicant shall coordinate sidewalk closure detour plans for review and approval by the City.**
- **It is my understanding that Bruce Hyman is reviewing and identifying potential infrastructure improvements to ensure safe access from the site to the Metro bus stop at Rand Road.**

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
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"One Vision, One Company"

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

To: Christian Roadman Planner, Planning & Urban Development Department

From: Victoria Volent, Housing Program Manager, Housing & Community Development Division

Date: June 20, 2018

Subject: 977 Brighton Avenue- Inclusionary Zoning

All developments of ten (10) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Division 30, Section 14-487 of the Zoning Ordinance.

Division 30, Section 14-487, Ensuring Workforce Housing, requires at least ten percent (10%) of the dwelling units in the development shall meet the definition of Workforce Housing units for sale or for rent. The ordinance under Section 14-487 e 3 also requires the number of bedrooms in the units shall be 10% of the total number of bedrooms in the development.

The development located at 977 Brighton Avenue proposes the creation of 40 dwelling units of rental housing consisting of forty (40) one-bedroom units. The applicant has elected to provide thirty-four (34) units of low-income housing. Of those units, twenty-four (24) are targeted towards households earning at or below 50% AMI, and ten (10) units target households earning at or below 60% AMI. Six (6) out of the 40 units will remain unrestricted. Based on the requirements outlined in Section 14-487, the development is required to provide a minimum of four (4) one-bedroom units for households earning at or below 100% AMI. The applicant has elected to provide thirty-four (34) one-bedroom units, on-site, for householders earning less than 100% AMI. As such, the project has met the minimum requirements set forth in Section 14-487.

Staff recommends the Board Approve this Conditional Use provided the Applicant maintains a minimum of four units of housing at or below 100% AMI. Should the Applicant fail to maintain these minimum housing guidelines then the Applicant and the City should enter into an agreed upon Affordable Housing Agreement (AHA). The Affordable Housing Agreement will outline the details of the affordability restrictions placed on four (4) Workforce Units and will be filed as covenant to the property's deed with the Cumberland County Registry of Deeds.

Sincerely,

Victoria Volent
Housing Program Manager

Portland Maine | Yes. Google's good here.

Christian Roadman <croadman@portlandmaine.gov>

977 Brighton

Lauren Swett <lswett@woodardcurran.com> Thu, Jul 19, 2018 at 10:35 AM
To: Christian Roadman <croadman@portlandmaine.gov>

Hi Christian,

I reviewed the submittal for 977 Brighton. The response to comments didn't provide much detail.

- They have addressed the redevelopment/new impervious area calculation in a figure, so I am OK with the level of treatment they have provided.
- They have not addressed my comment: "Storage is modeled in a pond referred to Pond 21P: Culvert at Parking. It is unclear where this storage is located on the plans. Please clarify."
- They still need PWD ability to serve.

Any other questions, let me know!

Thanks,

Lauren

Lauren Swett, P.E.*

Technical Manager

Woodard & Curran

41 Hutchins Drive

Portland, Maine 04102

Phone: (207)558-3763 (direct)

(207)219-3591 (cell)

(800)426-4262 (office)

Email: lswett@woodardcurran.com

*Licensed in Maine and Wisconsin

Commitment & Integrity Drive Results

www.woodardcurran.com

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

MEMORANDUM

TO: Christian Roadman, Planner
FROM: Lauren Swett, PE & Amy LeBel, EIT
DATE: June 21, 2018
RE: 977 Brighton Avenue Elderly Apartments, Level III Site Plan Application Response to Comments

---

Woodard & Curran has reviewed the Level III Site Plan Response to Comments for the proposed 40-unit senior housing project located at 977 Brighton Avenue in Portland, Maine. The project involves construction of a 4-story building and associated site improvements. We have reviewed the project for compliance with applicable City of Portland Land Use Codes and Technical Manuals and general engineering practices.

Documents Reviewed by Woodard & Curran

- Response to Comments and attachments, dated June 4, 2018, prepared by Pinkham & Greer Civil Engineers, on behalf of Avesta Housing Development Corporation.
- Engineering Plans, dated June 4 and June 19, 2018, prepared by Pinkham & Greer Civil Engineers, on behalf of Avesta Housing Development Corporation.

Comments

1) Stormwater Management Standards (Section 5)
   a) In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. The Applicant proposes four FocalPoint systems and storage chambers. We offer the following comments:
      - Basic Standard: Plans, notes, and details have been provided to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in accordance with Appendix A, B, & C of MaineDEP Chapter 500.
      - General Standard: *The Applicant needs to distinguish between new impervious surface and redeveloped non-roof impervious surface. New impervious surface (if greater than 1,000 SF) shall comply with the Maine Chapter 500 General Standard by providing treatment of no less than 95% of the impervious area and 80% of the developed area. Areas of redeveloped non-roof impervious area shall comply to the redevelopment standard, providing treatment of 50% of the area.* The Applicant has not addressed this prior comment. The calculations have been done for overall treatment of 60% which does not appear to meet the standards as noted above. Based on the City's standards of 95% for new impervious and 50% for redeveloped non-roof, approximately 23,070 SF of impervious surface must be treated, and treatment is currently provided for 20,532 SF.
      - Flooding Standard: The Applicant has noted that post-development peak flows are smaller than pre-development peak flows for the 2-, 10- and 25-year storm events.
         (a) Storage is modeled in a pond referred to Pond 21P: Culvert at Parking. It is unclear where this storage is located on the plans. Please clarify.
2) The Applicant has noted that an ability to serve letter from Portland Water District will be provided when available.

Please contact our office if you have any questions.

Portland Maine Yes. Google's good here.

Christian Roadman <croadman@portlandmaine.gov>

977 Brighton Avenue - Final Traffic Comments

Bruce Hyman <bhyman@portlandmaine.gov> Thu, Jun 21, 2018 at 1:25 PM
To: Tom Errico <thomas.errico@tylin.com>
Cc: Christian Roadman <croadman@portlandmaine.gov>, Keith Gray <kgray@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Lauren Swett <lswett@woodardcurran.com>, Caitlyn C Abbott <cabbott@portlandmaine.gov>

So attached is the plan sheet with the conceptual roadway, sidewalk and streetscape modifications for safety, accessibility and mobility for vehicular, bicyclist, pedestrian and transit users for Brighton Avenue from Rand Road to Warwick Street (where the transit stops in the vicinity are).

The only thing I can think of that would be applicable and of scale to this level of project would be to make the upgrades to the curb ramps at/between Wessex Street (part of their project) and Warwick Street/Rowe Ave and CabotSt/Rand Rd to get to those bus stops to make them ADA-compliant. That generally means adding detectable warning panels. The City will be having a project here in the next few years from now as well but these would be a bite-size project that could be tied to their parking reduction due to demographics, vehicle ownership levels and anticipated transit usage by the residents.

Bruce

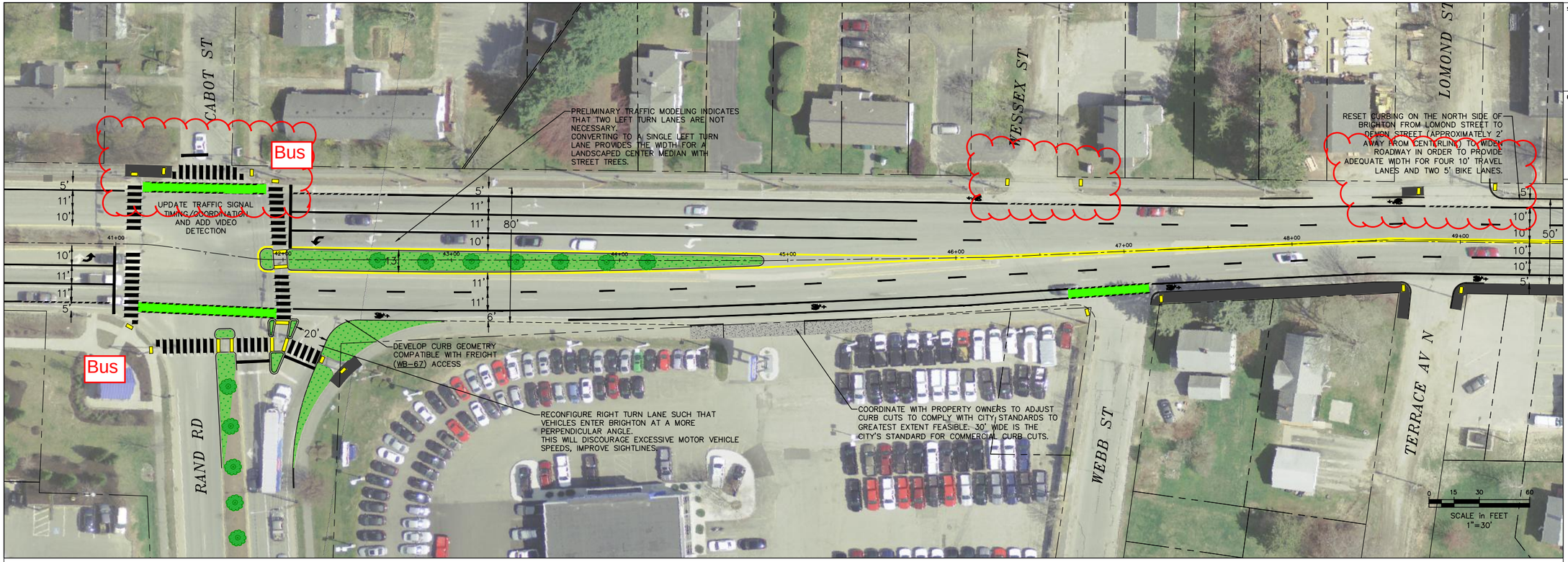
On Thu, Jun 21, 2018 at 11:45 AM, Tom Errico <thomas.errico@tylin.com> wrote:
[Quoted text hidden]

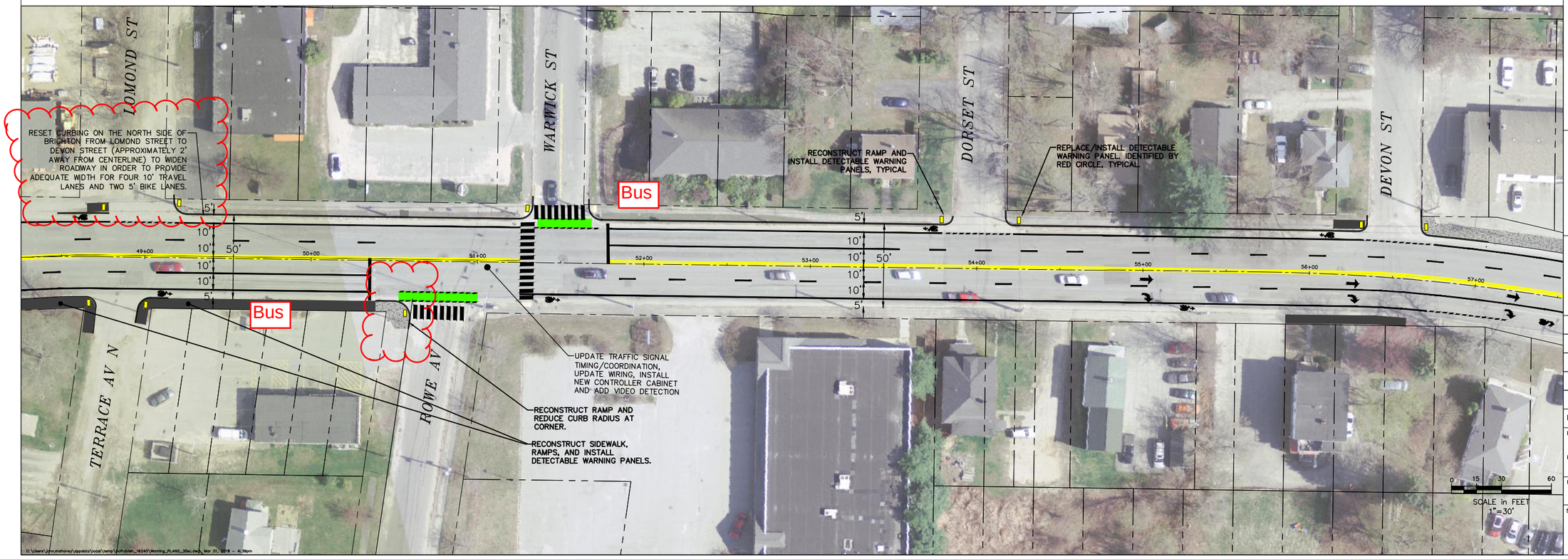
--
Bruce Hyman
Transportation Program Manager
Transportation Division

Department of Planning & Urban Development
389 Congress Street
Portland, Maine 04101
(207) 874-8717 phone

bhyman@portlandmaine.gov
http://www.portlandmaine.gov/1363/Transportation-Division
Yes! Transportation's Good Here ....

Rand2Warwick_Appendix I - 11x17 BrightonAveConcept Plans NTS.pdf
758K





Site:

BRIGHTON AVENUE TRANSPORTATION AND STREETSCAPE MASTER PLAN.

Prepared for:

CITY OF PORTLAND
PORTLAND, MAINE

RANSOM Consulting, Inc.
400 Commercial Street
Portland, ME 04101
Tel. (207) 772-2891
www.ransomenv.com
with offices in:
ME, NH, MA, RI, & NJ

DRAFT IMPROVEMENTS: RAND ROAD TO DEVON STREET

No.	Revision/Issue	Date
D	FINAL MASTER PLAN	2-21-18
C	NEAR TERM UPGRADES	12-12-16
B	DRAFT FOR CITY REVIEW	08-08-16
A	DRAFT FOR REVIEW	07-20-16

Design by: TGN	Checked by: JIM
Drawn by: TGN	Approved by: JIM
Project: 161.06078	Date: 2016-09-28

Sheet: C-103

Portland Maine | Yes. Google's good here.

Christian Roadman <croadman@portlandmaine.gov>

Checking in Re: 977 Brighton

Jeff Tarling <jst@portlandmaine.gov> Wed, Jun 20, 2018 at 5:29 PM
To: Christian Roadman <croadman@portlandmaine.gov>, Barbara Barhydt <bab@portlandmaine.gov>

Hi Christian -

377 Brighton Avenue Tree & Landscape Review -

In looking at the proposed landscape plan we have the following proposed conditions for approval :

a) Street trees - We recommend the following changes: along the Wessex Street we would like to see a more upright form of Flowering Crabapple then the 'Snowdrift' variety, 'Adirondack', 'Spring Snow', might be some suggestions. Along Brighton Avenue it would be good to use 6 other species type of trees these could be Hawthorn, Flowering Cherry, European Hornbeam, Upright shaped Oak trees like 'Regal Prince'. On the non-wire side we would like to see taller shade trees, such as 'Bowhall' or 'Armstrong' Red Maple. ALL street trees should be 2" caliper size.

The planting of Arborvitae in the public right of way is not advised. We can not have a public sidewalk screened by tall vegetation for safety and maintenance reasons.

b) Interior Landscape - The interior landscape plan does not contain the useful landscape elements that one would like to see on a residential project of this size, which is unfortunate. Space for residents to grow small container vegetable or ornamental flowers should be provided near the plaza area or side lawn. This could include raised beds or planters. Greenery should be a high priority for residents both for therapeutic and to improve the livability of the project. We would recommend consideration in this area. The project lacks the standard parking lot number of plants and we would recommend as a condition that additional landscape plantings be added, there are many groups of plants that could survive in the often damp and regrade areas around the parking lot edge.

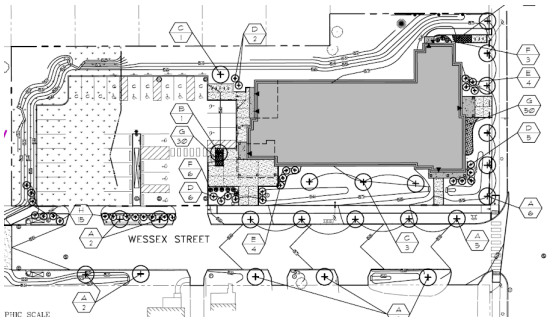
The back side of the building lacks any type of landscape feature, future development in this area could change how things look, thus adding plantings and possible fencing if the property boundary should be better defined.

Overall, the street-tree concepts look good and with a second look at the parking lot, side lawn and back lawn area landscape knowing that space could be greener. Elements for raised beds or containers should be considered for the sake of the future residents who will call this home.

I can meet with the project team to review these suggestions.

Thanks,

Jeff



PLANT LIST (A 12 SYMBOL QUANTITY)

SYMBOL	COMMON NAME/BOTANICAL NAME	SIZE	QUANTITY	ROOT	NOTES
A	FLOWERING CRAB / malus 'Snowdrift'	1 1/2" cal.	18	B4B	X
B	SILVER MAPLE / Acer saccharinum	2 1/2" cal.	1	B4B	X
C	PAPERBARK MAPLE / Acer Griseum	7'-8' tall	4	B4B	X
D	AMUR PRIVET / L. Amurense	4' tall	13	B4B	3 Canes min.
E	CORNELIAN CHERRY DOGWOOD / C. Mas	5'-6' tall	8	B4B	3 Trunks
F	BLUE BILLOW HYDRANGEA / H. Serrata 'Blue billow'	#3	9	Cont.	
G	DAYLILY VARIETIES / Hemerocallis	1 gal.	110	Cont.	select for bloom Early Summer to Fall
H	ARBORVITAE / 'Techny' Mission Arborvitae	4'-5' tall	15	B4B	

Jeff Tarling
City Arborist - City of Portland Maine
Parks, Recreation & Facilities Department
Forestry & Horticulture
212 Canco Road
Portland, ME. 04103
(207) 808-5446
jst@portlandmaine.gov

On Wed, Jun 20, 2018 at 4:21 PM, Christian Roadman <croadman@portlandmaine.gov> wrote:
[Quoted text hidden]

MEMORANDUM

To: FILE

From: Christian Roadman

Subject: Application ID: 2017-299

Date: 6/22/2018

Comments Submitted by: Robert Thompson/Fire on 4/4/2018

Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer.

Comments Submitted by: Robert Thompson/Fire on 4/4/2018

The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.

Comments Submitted by: Robert Thompson/Fire on 4/4/2018

Emergency access for fire apparatus is available with the plans.

Comments Submitted by: Robert Thompson/Fire on 4/4/2018

Adequate water supply is available for the building.

Comments Submitted by: Robert Thompson/Fire on 6/6/2018

This building will be required to be sprinklered.

Planning and Urban Development Department
Planning Division

Subject: Design Review – 977 Brighton Avenue

Written by: Caitlin Cameron, Urban Designer

Date of Review: Monday, June 18 2018; Revised July 18, 2018

The project at 977 Brighton Avenue was reviewed according to the *City of Portland Design Manual* standards by Caitlin Cameron, Urban Designer, Christian Roadman, Planner, and Shukria Wiar, Planner against the *City of Portland Design Manual*: *R-P Residential Professional Zone* and the *Multiple-Family Standards*.

Design Review Comments*:*

- Revisions submitted 7/18/18 – comments revised to reflect final design
- Overall supportive of the scale, massing, and height of the project for this context and street
- Concern about the durability of fiber cement material at the ground – consider a base with a more durable material.
- Prefer seating added to site; landscape between inactive portions of building and street.

(a) R-P Residential Professional Zone

Standard (1) . For development within the R-P zone where there is a consistent established architectural style or character to the existing structures in the immediate vicinity tin which the development is proposed, that the concurrently visible architectural style or character of the proposed development would not be incongruous to that established style or character.

Staff determined that there is not a consistent, established architectural style or character to the immediate vicinity to apply this standard.

(i) Two-Family, Special Needs Independent Living Units, Multiple-Family . . . :

Standard (1) . Exterior Design – Building is multi-family and its 4-story scale relates that use. The context includes one-story commercial buildings and many small-scale vernacular residential buildings; other than the Barron Center, there is not much in the way of multi-family buildings in this area. Most of the residential context is from the early 20th century with the commercial corridor on Brighton Avenue having more recent buildings. The street width and character of the street can handle taller, medium-scale buildings and a mix of uses. The project varies the massing somewhat on the sides and rear of the building - this helps to mitigate the scale of this multi-family building which is larger than the single-family homes nearby.

Previous design comments had the following concerns:

- Overall character of building as residential building – **Building was revised per staff comment to become more residential in character.** This is achieved with some revisions:

- The central entrance emphasized with a canopy.
- Materials were simplified consistent with the predominant character of surrounding buildings. The use of clapboard especially contributes to tying the building into the vernacular. **Accent color is a warm tone (revised from blue) – more residential in character.**

- Window proportion and character - The windows were changed slightly to address the concern regarding proportion and character.
- Articulation and visual interest of the street-facing façade – Initial review had concern about the flat and boxy nature of the street-facing façade. Renderings clarify that there is some depth given to the façade with the window reveals and the cornice line. The front canopy adds to that articulation. **Additional revisions were made to address articulation concerns:**
  - Fine-grain material (clapboard) was added to front façade accent area
  - Box frame transitions between grey and brown areas of material change with dimension/shadow line
  - Jog in cornice line at box frame creating façade variation

Standard (2). Relationship to Street –Building relationship to the street varies in this context – some buildings face the street, some are set back from the street, some turn the side to the street. The front orientation is to Brighton Street with a 17' front setback from the busy street and an entry porch. Staff find the scale and relationship to the street to be appropriate given the width and commercial nature of the streetscape in this location. Project will set a precedent for new projects on this street in terms of scale and placement to street.

Standard (3). Open Space – Open spaces provided on property – covered entry porch and landscape buffer surrounding building but no seating or yard space proposed. Staff strongly encourage seating opportunities provided for residents on the property. Landscape design could enhance the less active portions of the buildings such as the stair towers.

Standard (4). Light and Air – All units provided with ample windows, some storage space.

Standard (5). Parking – Parking is away from Brighton Avenue, hidden by the building. The applicant added landscape screening.

Standard (6). Not applicable

Planning and Urban Development Department
Planning Division

Subject: Design Review – 977 Brighton Avenue

Written by: Caitlin Cameron, Urban Designer

Date of Review: Monday, June 18 2018

The project at 977 Brighton Avenue was reviewed according to the *City of Portland Design Manual* standards by Caitlin Cameron, Urban Designer, Christian Roadman, Planner, and Shukria Wiar, Planner against the *City of Portland Design Manual*: *R-P Residential Professional Zone* and the *Multiple-Family Standards*.

Design Review Comments*:*

- Materials must be labeled on the elevations
- Overall supportive of the scale, massing, and height of the project for this context and street

(a) R-P Residential Professional Zone

Standard (1) . For development within the R-P zone where there is a consistent established architectural style or character to the existing structures in the immediate vicinity tin which the development is proposed, that the concurrently visible architectural style or character of the proposed development would not be incongruous to that established style or character.

Staff determined that there is not a consistent, established architectural style or character to the immediate vicinity to apply this standard.

(i) Two-Family, Special Needs Independent Living Units, Multiple-Family . . . :

Standard (1) . Exterior Design – Building is multi-family and its 4-story scale relates that use. The context includes one-story commercial buildings and many small-scale vernacular residential buildings; other than the Barron Center, there is not much in the way of multi-family buildings in this area. Most of the residential context is from the early 20th century with the commercial corridor on Brighton Avenue having more recent buildings. The street width and character of the street can handle taller, medium-scale buildings and a mix of uses. The project varies the massing somewhat on the sides and rear of the building - this helps to mitigate the scale of this multi-family building which is larger than the single-family homes nearby.

Previous design comments had the following concerns:

- Overall character of building as residential building – Staff requested the building become more residential in character. This is achieved with some revisions:
    - The central entrance emphasized with a canopy – Canopy character is a little bulky; staff suggest the vertical elements of the canopy could become slimmer.

- Materials were simplified consistent with the predominant character of surrounding buildings. The use of clapboard especially contributes to tying the building into the vernacular. Staff suggest the blue tiled panel on the façade creates an institutional character of the building and that a different color (dark grey, darker blue, etc) and/or clapboard scale might make the building more timeless and residential in character.

- Window proportion and character - The windows were changed slightly to address the concern regarding proportion and character.
- Articulation and visual interest of the street-facing façade – Initial review had concern about the flat and boxy nature of the street-facing façade. Renderings clarify that there is some depth given to the façade with the window reveals and the cornice line. The front canopy adds to that articulation. Staff propose additional articulation elements would address the concern about giving the building a residential, rather than institutional, character and visual interest. Suggested strategies to accomplish that:
    - Fine-grain material such as clapboard where blue panel is currently shown
    - Dimensional trim or edge transitions between grey and blue panels/areas of material change
    - Dimensional trim or edge transitions at horizontal panel joint to delineate the floors
    - Windows on the street side of the stair tower rather than the side

Standard (2). Relationship to Street –Building relationship to the street varies in this context – some buildings face the street, some are set back from the street, some turn the side to the street. The front orientation is to Brighton Street with a 17' front setback from the busy street and an entry porch. Staff find the scale and relationship to the street to be appropriate given the width and commercial nature of the streetscape in this location. Project will set a precedent for new projects on this street in terms of scale and placement to street.

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Standard (4). Light and Air – All units provided with ample windows, some storage space.

Standard (5). Parking – Parking is away from Brighton Avenue, hidden by the building. The applicant added landscape screening.

Standard (6). Not applicable

File: 16150

PINKHAM & GREER
CIVIL ENGINEERS
28 VANNAH AVE. PORTLAND, ME. 04103
Tel: 207.781.5242 Fax: 207.781.4245

December 22, 2017

Ms. Barbara Barhydt, Planning
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

RE: 977 BRIGHTON AVENUE ELDERLY APARTMENTS
AVESTA HOUSING

Dear Barbara,

We are pleased to submit the attached application for Avesta's 40 unit senior housing project located at 977 Brighton Avenue. This project will provide affordable housing for Portland's senior citizens, a growing population segment.

The building will be four stories with a main entrance facing Brighton Avenue. A secondary entrance will be off the parking lot, which will be accessed off Wessex Street. Wessex Street will be upgraded with new curbs, sidewalk and paving.

This is a relative easy site to construct our project on. There is adequate room to stage the project off Wessex Street, a dead end street. We have included a Construction Management Plan as part of the Application.

The utilities will come off Wessex Street except for the sewer. This will come from Brighton Avenue.

This site is particularly well suited for this project. The retail businesses in the area will provide services to our residents as well as employment opportunities. The project is also located on the bus route, providing easy access for our residents to Portland and Westbrook.

We are at the transition of the neighborhood from residential uses to commercial. Our multi-story residential building will help make that transition. We believe this site will also provide easy pedestrian access to the service centers, making it a friendly neighborhood.

We are providing 32 parking spaces for the 40 units. This is a ratio of 0.8 spaces per unit, above other recently approved projects. We hope the Board agrees with our conclusion.

PINKHAM & GREER
CIVIL ENGINEERS

We look forward to meeting with the City Staff, Planning Board and our neighbors. Thank you for your consideration of our project.

Sincerely,

PINKHAM & GREER,
CIVIL ENGINEERS

Thomas S. Greer, P.E.

Enclosures

cc: Ben Walter, Greg Payne, File

TSG/rjs

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), Design Manual and Technical Manual.

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719
planning@portlandmaine.gov

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

I. Project Information (Please enter n/a on those fields that are not applicable)

Project Name:	977 Brighton Avenue Elderly Apartments
Proposed Development Address:	977 Brighton Ave
Project Description:	40 unit senior housing
Chart/Block/Lot:	Map 275 / Block C / Lots 1, 2, 3, 6, 7, 8 and 9
Preliminary Plan	12/21/17
Final Plan	

II. Contact Information (Please enter n/a on those fields that are not applicable)

APPLICANT

Name:	Greg Payne
Business Name:	Avesta Housing Development Corporation
Address:	307 Cumberland Avenue
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207) 553-7780 x3341
Home #:	
Cell #:	
Fax #:	
E-mail:	gpayne@avestahousing.org

OWNER

Name:	Same as Applicant
Address:	
City/State:	
Zip Code:	
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	

AGENT/REPRESENTATIVE

Name:	Walsh Engineering Associates, Inc.
Address:	One Karen Drive, Suite 2A
City/State:	Westbrook, ME
Zip Code:	04092
Work #:	(207) 553-9898
Home #:	
Cell #:	
Fax #:	(207) 692-2273
E-mail:	tgreer@walsh-eng.com

BILLING (to whom invoices will be forwarded to)

Name:	Avesta Housing Development Corporation
Address:	307 Cumberland Avenue
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207) 553-7780 x3341
Home #:	
Cell #:	
Fax #:	
E-mail:	gpayne@avestahousing.org

ENGINEER

Name:	Walsh Engineering Associates, Inc.
Address:	One Karen Drive, Suite 2A
City/State:	Westbrook, ME
Zip Code:	04092
Work #:	(207) 553-9898
Home #:	
Cell #:	
Fax #:	(207) 692-2273
E-mail:	tgreer@walsh-eng.com

SURVEYOR

Name:	Owen Haskell, Inc.
Address:	390 US Route One #10
City/State:	Falmouth, ME
Zip Code:	04105
Work #:	(207) 774-0424
Home #:	
Cell #:	
Fax #:	(207) 774-0511
E-mail:	

ARCHITECT

Name:	CWS Architects-Ben Walter
Address:	264 U.S. Route OneBuilding 100, Suite 2A
City/State:	Scarborough, ME
Zip Code:	04074
Work #:	(207) 774-4441
Home #:	
Cell #:	
Fax #:	
E-mail:	bwalter@cwsarch.com

ATTORNEY

Name:	
Address:	
City/State:	
Zip Code:	
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	

DESIGNATED PERSON(S) FOR UPLOADING INTO e-PLAN

Name:	Thomas Greer
E-mail:	tgreer@pinkhamandgreer.com
Name:	Rita Sawyer
E-mail:	rsawyer@pinkhamandgreer.com
Name:	Jody Cady
E-mail:	jcady@pinhamandgreer.com

III. APPLICATION FEES

LEVEL III DEVELOPMENT (check applicable review)

☑	Less than 50,000 sq. ft.	$750.00
☐	50,000 – 100,000 sq. ft.	$1,000.00
☐	100,000 – 200,000 sq. ft.	$2,000.00
☐	200,000 – 300,000 sq. ft.	$3,000.00
☐	Over 300,000 sq. ft.	$5,000.00
☐	Parking lots over 100 spaces	$1,000.00
☐	After-the-fact Review	$1,000.00 + applicable application fee above

PLAN AMENDMENTS (check applicable review)

☐	Planning Staff Review	$250.00
☐	Planning Board Review	$500.00

OTHER REVIEWS (check applicable review)

☐	Traffic Movement	$1,500.00
☑	Stormwater Quality	$250.00
☑	Subdivision	$500.00 + applicable fee for lots/units below
	# of Subdivision Lots/Units [40] x $25.00 each	$ 1,000.00
☐	Site Location	$3,500.00 + applicable fee for lots/units below
	# of Site Location Lots/Units [ ] x $200.00 each	$
☐	Change of Use	
☐	Flood Plain	
☐	Shoreland	
☐	Design Review	
☐	Housing Replacement	
☐	Historic Preservation	
	TOTAL APPLICATION FEE DUE:	$ 2,000.00

IV. FEES ASSESSED AND INVOICED SEPARATELY

- Notices to abutters (receipt of application, workshop and public hearing meetings) ($.75 each)
- Legal Ad in the Newspaper (% of total ad)
- Planning Review ($52.00 hour)
- Legal Review ($75.00 hour)
- Third Party Review (all outside reviews or analysis, eg. Traffic/Peer Engineer, are the responsibility of the applicant and will be assessed and billed separately)

V. PROJECT DATA (Please enter n/a on those fields that are not applicable)

TOTAL AREA OF SITE	32,000	sq. ft.
PROPOSED DISTURBED AREA OF THE SITE	30,500	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
IMPERVIOUS SURFACE AREA		
Impervious Area (Total Existing)	8,168	sq. ft.
Impervious Area (Total Proposed)	18,275	sq. ft.
Building Ground Floor Area and Total Floor		
Building Footprint (Total Existing)	3,128	sq. ft.
Building Footprint (Total Proposed)	7,825	sq. ft.
Building Floor Area (Total Existing)	3,740	sq. ft.
Building Floor Area (Total Proposed)	31,300	sq. ft.
ZONING		
Existing	R-P / R-3	
Proposed, if applicable	R-P / R-3	
LAND USE		
Existing	Single Family Home	
Proposed	Residential - 40 units	
RESIDENTIAL, IF APPLICABLE		
# of Residential Units (Total Existing)	1	
# of Residential Units (Total Proposed)	40	
# of Lots (Total Proposed)	1	
# of Affordable Housing Units (Total Proposed)	34	
PROPOSED BEDROOM MIX		
# of Efficiency Units (Total Proposed)	0	
# of One-Bedroom Units (Total Proposed)	40	
# of Two-Bedroom Units (Total Proposed)	0	
# of Three-Bedroom Units (Total Proposed)	0	
PARKING SPACES		
# of Parking Spaces (Total Existing)	5	
# of Parking Spaces (Total Proposed)	28	
# of Handicapped Spaces (Total Proposed)	12	
BICYCLE PARKING SPACES		
# of Bicycle Spaces (Total Existing)	0	
# of Bicycle Spaces (Total Proposed)	16	
ESTIMATED COST OF THE PROJECT	$7,100,000.00	

VI. APPLICANT SIGNATURE

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	Thomas S. Hunt AGENT
Date:	6/19/18

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST**
x		1	Completed Application form
x		1	Application fees
x		1	Written description of project
x		1	Evidence of right, title and interest
n/a		1	Evidence of state and/or federal approvals, if applicable
x		1	Written assessment of proposed project's compliance with applicable zoning requirements
n/a		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
x		1	Written requests for waivers from site plan or technical standards, if applicable.
x		1	Evidence of financial and technical capacity
n/a		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST**
x		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
x		1	**Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)**
x		Proposed grading and contours;	
x		Existing structures with distances from property line;	
x		Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;	
x		Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);	
x		Preliminary infrastructure improvements;	
x		Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;	
x		Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);	
x		Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);	
x		Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;	
x		Exterior building elevations.	

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Completed Application form
		1	* Application fees
		1	* Written description of project
		1	* Evidence of right, title and interest
		1	* Evidence of state and/or federal permits
		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
		1	* Evidence of financial and technical capacity
		1	Construction Management Plan
		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
		1	Stormwater management plan and stormwater calculations
		1	Written summary of project's consistency with related city master plans
		1	Evidence of utility capacity to serve
		1	Written summary of solid waste generation and proposed management of solid waste
		1	A code summary referencing NFPA 1 and all Fire Department technical standards
		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
		1	**Final Site Plans including the following:**
		Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);	
		Existing and proposed structures on parcels abutting site;	
		All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;	
		Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;	
		Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;	
		Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;	
		Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;	
		Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;	
		Location of all snow storage areas and/or a snow removal plan;	
		A traffic control plan as detailed in Section 1 of the Technical Manual;	
		Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);	
		Location and proposed alteration to any watercourse;	
		A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;	
		Proposed buffers and preservation measures for wetlands;	
		Existing soil conditions and location of test pits and test borings;	
		Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;	
		A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;	
		Grading plan;	
		Ground water protection measures;	
		Existing and proposed sewer mains and connections;	

- Continued on next page -

		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant
2.
3. Name address, telephone number of architect

4. Proposed uses of any structures [NFPA and IBC classification]
5.
6. Square footage of all structures [total and per story]

7. Elevation of all structures

8. Proposed fire protection of all structures
   - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***

9. Hydrant locations

10. Water main[s] size and location

11. Access to all structures [min. 2 sides]

12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division

Date: December 20, 2017

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 977 Brighton Avenue, Portland, ME

Chart Block Lot Number: 275/C/1, 2, 3, 6, 7, 8 & 9

Proposed Use: Rresidential

Previous Use: Residential

Existing Sanitary Flows: 300 +/- GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to receive the proposed building sewer lateral.

Brighton Avenue

Site Category		
	Commercial *(see part 4 below)*	
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	x
	Other *(specify)*	

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Barbara Barhydt Phone: 207-874-8699

Owner/Developer Name: Avesta Housing Development Corporation

Owner/Developer Address: 307 Cumberland Avenue, Portland, ME 04101

Phone: 207-553-7780 Fax: E-mail: gpayne@avestahousing.org

Engineering Consultant Name: Pinkham & Greer, Civil Engineers (Thomas S. Greer)

Engineering Consultant Address: 28 Vannah Avenue, Portland, ME 04103

Phone: 207-781-5242 Fax: 207-781-4245 E-mail: tgreer@pinkhamandgreer.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 3,600 GPD

Peaking Factor/ Peak Times: 4 at 7-8 am, 6-8 pm

Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," __ "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, Other (specify)* 40 units, 1.5 people/unit x 60 gpd/person

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: n/a

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: n/a GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

A Guide to Holding Neighborhood Meetings
Portland, Maine

Planning and Urban Development Department
Planning Division and Planning Board

In order to improve communication between applicants and neighbors, the City of Portland requires applicants who are proposing certain types of development review projects, to hold a neighborhood meeting.

Developments requiring a neighborhood meeting

- Proposed map amendments, contract zones and zoning text amendments that would result in major development;
- Subdivisions of five or more units or lots;
- Master Development Plans; and
- Level III site plan proposals as defined in Section 14-523.

(The Land Use Code, including Article II (Planning Board) and Article V (Site Plan – which contains the neighborhood meeting requirements), are available on the City's web site at www.portlandmaine.gov/citycode/chapter014.pdf)

Timing of meeting

- **Subdivisions of 5 or more units or lots, zone changes, contract zones, zoning text amendments and Level III site plans:**
  - Preliminary Site Plan - The meeting should be held within 30 calendar days of filing the application.
  - Final Site Plan – If only a final plan is submitted, the meeting should be held within 21 calendar days of filing the application and no less than 7 calendar days before the public hearing.
- **Master Plan Development:**
  - The meeting should be held within 30 calendar days of filing the application.
  - The meeting should be held on a date no less than 7 calendar days before a public workshop or public hearing.
  - The meeting shall not be combined with any required neighborhood meeting for the Level III applications.

Location of meeting

- The meeting should be held in the evening, during the week, at a convenient location within the Portland neighborhood surrounding the proposed site. Community meeting spaces at libraries, schools or other places of assembly are recommended. Neighborhood schools are usually available for evening meetings.
- Meetings should not be held on the same day as scheduled Planning Board or City Council meetings. The City Council generally meets on the 1st and 3rd Monday of each month and the Planning Board generally meets on the 2nd and 4th Tuesday of each month; however additional meetings may be scheduled. An updated schedule may be found on the City's website: www.portlandmaine.gov

Invitation List

- Property owners within 500 feet of the proposed development (1000 feet for proposed industrial subdivisions and industrial zone changes)
- Interested citizens and neighborhood groups.

The Planning Division provides the mailing labels. We require at least 48 hours notice to generate the mailing labels and a charge of $1.00 per sheet will be payable upon receipt of the labels. An electronic version (excel or word format) of the labels can also be e-mailed upon request.

A digital copy of the notice must be provided to the Planning Office (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner, which will then be forwarded to those on the interested citizen list who receive e-mail notices.

When to Send Invitations

- Invitations must be sent **no less than 10 days (to include weekends)** prior to the neighborhood meeting.
- Notices may be sent by regular mail and do not need to be sent by certified mail.

Notice Description

A recommended invitation format is included in this packet of material.

Attendance Sheet and Meeting Minutes

- Sign-in sheet must be circulated for those in attendance.
- Applicant shall take accurate minutes of the meeting.
- The sign-in sheet and minutes shall be submitted to the Planning Division.

A public hearing will not be scheduled until the meeting minutes and sign-up sheet are submitted to the Planning Division.

A Certification form is included with this packet to be completed and signed by the applicant.

Please call the Planning Division at 874-8721 or 874-8719 if you have any questions.

Attachments

1. Neighborhood Meeting Invitation Format
2. Neighborhood Meeting Certification

EXAMPLE: Neighborhood Meeting Invitation Format

Applicant/Consultant
Letterhead

(Date)

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a (development proposal) located at (location/number and street address).

Meeting Location: _____
Meeting Date: _____
Meeting Time: _____

(The City code requires that property owners within 500 feet (1000 feet for proposed industrial subdivisions and industrial zone changes) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.)

If you have any questions, please call (telephone number of applicant or consultant).

Sincerely,

(Applicant)

Note:
Under Section 14-32(C) and 14-524(a)d of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within 30 days of submitting a preliminary application or 21 days of submitting a final site plan application, if a preliminary plans was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street Portland, ME 04101 or by email: to bab@portlandmaine.gov

EXAMPLE: Neighborhood Meeting Certification

I, (applicant/consultant) hereby certify that a neighborhood meeting was held on (date) at (location) at (time).

I also certify that on (date at least ten (10) days prior to the neighborhood meeting), invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1000 feet of a proposed industrial subdivision or industrial zone change.

2. Residents on the "interested parties" list.

3. A digital copy of the notice was also provided to the Planning Division (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive e-mail notices.

Signed,

_____ _____ (date)

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

Comprehensive Plan Goals
977 Brighton Avenue

Housing: A Livable City

State Goals: To encourage and promote affordable decent, housing opportunities for all Maine citizens

Local Goals:

- *Increase, preserve, and modify the overall supply of housing City-wide to meet the needs, preferences and financial capabilities of all Portland households.*
- *Encourage additional contextually-appropriate housing density in and proximate to neighborhood centers, concentrations of services, and transit nodes and corridors as a means of supporting complete neighborhoods.*
- *Pursue policies to enable people who work in Portland to have the option to live in Portland.*
- *Encourage quality, sustainable design in new housing development.*

Goals from Future Strategies

9. *Adopt Affordable Housing*
    - *Pursue new opportunities for increased energy efficiency, increased densities, mixed incomes, and greater connectivity to surrounding neighborhoods.*

This project is located adjacent a residential neighborhood and walking distance to retail establishments. These establishments will provide as a service center to the residents as well as employment opportunities. The site is located on a bus route providing regional access.

AVESTA HOUSING

977 Brighton Apartments
977 Brighton Ave
Financial and Technical Capacity

Founded in 1972, Avesta Housing has grown to become one of the country's most innovative and respected leaders in affordable housing. With steady growth over the subsequent four decades, Avesta has assets of $195 million, an annual operating budget of $26 million and a staff of approximately 100 employees. Avesta owns or manages more than 2,200 apartments and operates two assisted living facilities. Today, Avesta is one of the largest nonprofit developers of affordable housing in New England. Avesta receives consistently high marks from its many state, federal and private-sector partners, and is recognized nationally for groundbreaking work in bringing together nonprofit, for-profit, private and public-sector organizations for the benefit of Maine communities.

Our professional team brings decades of cumulative experience in the development of affordable housing to the 977 Brighton Apartments project. CWS Architects, led by principal Ben Walter, have partnered with Avesta on many projects, including most recently Huston Commons in Portland and Steeple Square in Westbrook. The firm has also designed a wide range of other residential projects, affordable and market-rate, built recently in and around Portland. Pinkham & Greer Civil Engineers, led by principal Tom Greer, also have extensive experience across New England, including with Avesta in Portland, Paris and Livermore Falls, ME. Other members of the team, including our attorneys at Curtis Thaxter and tax professionals at Otis Atwell, have similarly deep, varied experience with Avesta and other affordable housing developers.

Avesta has a proven track record of securing funding and frequently utilizes a variety of funding resources to complete our many projects. We will utilize Low Income Housing Tax Credit funding for a significant portion of the equity required for the proposed rental project. The remainder of the funding required is anticipated come from a mix of sources as listed below.

Source	*Amount*	*Anticipated Confirmation*
Federal Low Income Housing Tax Credit (LIHTC)	$4,294,760	September 2018
MaineHousing subsidy	$327,249	September 2018
Federal Home Loan Bank Affordable Housing Program (AHP) Subsidy	$500,000	December 2017
AHP subsidized advance	$2,070,000	December 2017
Developer Fee Loan	$138,600	confirmed
Bangor Savings Bank Construction Loan	[up to $4,100,000, if necessary]	Term sheet received August 2017

307 Cumberland Avenue • Portland, Maine 04101
207-553-7777 • 1-800-339-6516 Voice/TTY
207-553-7778 Fax • www.avestahousing.org

NeighborWorks® CHARTERED MEMBER

QUITCLAIM DEED with COVENANT

KNOW ALL BY THESE PRESENTS,

THAT I, **PHUONG T. NGUYEN**, of South Portland, Cumberland County, Maine in consideration of ONE DOLLAR and other valuable consideration paid by **AVESTA HOUSING DEVELOPMENT CORPORATION**, a Maine nonprofit corporation with a place of business in Portland, Cumberland County, Maine, and whose mailing address is 307 Cumberland Avenue, Portland ME 04101, hereby grant to Avesta Housing Development Corporation, its successors and assigns forever, WITH QUITCLAIM COVENANT, the land in Portland, Cumberland County, Maine, more fully described on Exhibit A attached hereto and made a part hereof.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to Avesta Housing Development Corporation, its successors and assigns, to its and their use and behoof forever.

IN WITNESS WHEREOF, Phuong T. Nguyen has hereunto set her hand and seal this 6th day of October, 2015.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF:

(Witness)

PHUONG T. NGUYEN

MAINE REAL ESTATE TAX PAID

STATE OF MAINE
CUMBERLAND, ss.

October 6, 2015

Then personally appeared Phuong T. Nguyen and acknowledged the foregoing instrument to be her free act and deed.

Before me: _____
~~Notary Public~~/Attorney at Law

NOTARY PRINT NAME: Amy W. Devin

EXHIBIT A

A certain lot or parcel of land, together with any buildings and improvements thereon, situated in the City of Portland, County of Cumberland, and State of Maine, being more particularly described as follows:

Two certain lots or parcels of land, situated in the City of Portland, County of Cumberland and State of Maine, and described as "Land east side of Wessex Street, Lots 358 and 359, on plan of "Glenwood" by Jordan and Richardson, dated May 1895 and recorded in the Registry of Deeds of said County of Cumberland, Plan Book 8, Page 11, area 8,000 square feet."

Being the same premises conveyed to Martin T. Dinh and Phuong T. Nguyen by warranty deed from Chase ME, LLC, dated July 27, 2012 and recorded in the Cumberland County Registry of Deeds in Book 29796, Page 84. For Grantor's source of title further reference is made to the Quitclaim Deed With Covenant of Martin T. Dinh to Phuong T. Nguyen, dated February 14, 2014, and recorded in the Cumberland County Registry of Deeds in Book 31398, Page 296.

Received
Recorded Register of Deeds
Oct 06,2015 11:55:26A
Cumberland County
Nancy A. Lane

Doc#: 53187 Bk:32645 Pg: 302

WARRANTY DEED

Maine Statutory Short Form

KNOW ALL BY THESE PRESENTS, that **Chase ME, LLC**, a Maine Limited Liability Company, with a principal place of business in the City of South Portland, County of Cumberland and State of Maine, for consideration paid, **GRANTS** to **Avesta Housing Development Corporation**, whose mailing address is 307 Cumberland Avenue, Portland, Maine 04101, with **WARRANTY COVENANTS,** all of the Grantor's interest in real property commonly known as 977 Brighton Avenue, and located in the City of Portland, County of Cumberland and State of Maine, described as follows:

SEE SCHEDULE A ATTACHED HERETO AND MADE A PART HEREOF.

MAINE REAL ESTATE TAX PAID

Meaning and intending to convey and hereby conveying the same premises described in a deed from Wise Investment Properties, Inc. to Chase ME, LLC dated November 14, 2005 and recorded in the Cumberland County Registry of Deeds in Book 23402, Page 40.

IN WITNESS WHEREOF, it, the said Chase ME, LLC has caused these presents to be signed by Judith A. Chase and Mark C. Chase, its Members thereunto duly authorized this 28th day of September, 2015.

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

WITNESS

Chase ME, LLC

Judith A. Chase

WITNESS

Chase ME, LLC

Mark C. Chase

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. September 28, 2015

Then personally appeared the above named Judith A. Chase and Mark C. Chase and acknowledged the foregoing instrument to be their free act and deed in their said capacity, before me

Jerome J. Gamache, Notary Public
My Commission Expires June 23, 2020

SCHEDULE A

Certain lots or parcels of land together with the buildings and improvements thereon, located in the City of Portland, County of Cumberland and State of Maine, and being more particularly bounded and described as follows:

Being three lots of land, 352, 353 and 354 as delineated on plan called Glenwood, said plan having been prepared by Jordan and Richardson, dated May 1895, and recorded in the Cumberland County Registry of Deeds in Plan Book 8, Page 11. Said lots containing 12,000 square feet of land, more or less.

Also another certain lot or parcel of land, with any buildings thereon, located in said Portland, bounded and described as follows:

Commencing at a stake set in the easterly side line of Wessex Street, one hundred (100') feet distant north of the intersection of the said easterly line of Wessex Street and the northerly side line of Brighton Street; thence running along the said easterly line of Wessex Street in a northeasterly direction forty (40') feet to a stake; thence at right angles with Wessex Street in a southeasterly direction of one hundred (100') feet to a stake; thence at right angles with last named boundary in a southwesterly direction forty (40') feet to a stake; thence at right angles with last named boundary in a northwesterly direction one hundred (100') feet to the point of beginning. Containing four thousand (4,000) square feet of land. Said measurements are more or less.

Being Lot No. 355 on the plan of "Glenwood" by Jordan and Richardson dated May 1895, and recorded in the Registry of Deeds for said County of Cumberland, Plan Book 8, Page 11.

Also another certain lot or parcel of land, with any buildings thereon, located in said Portland, bounded and described as follows:

Lots 356 and 357 as shown on said Plan of Glenwood recorded in said Registry of Deeds in Plan Book 8, Page 11.

Received
Recorded Register of Deeds
Oct 06,2015 11:52:45A
Cumberland County
Nancy A. Lane

WALSH
ENGINEERING ASSOCIATES, INC.

File 16150

January 26, 2018

Ms. Alison Sirois
Maine DEP
312 Canco Rd
Portland, ME 04103

RE: 977 Brighton Avenue Elderly Apartments, Portland, Avesta Housing

Dear Alison,

Attached is the NRPA Application for a 40 unit senior housing project by Avesta Housing. This project located at the corner of Wessex Street and Brighton Avenue in Portland will require filing 6,085 sq. ft. of wetland and putting a culvert in a small section of channelized water.

The channel starts at Wessex Street and ends at Lomond Street, a distance of 250 feet. At Lomond Street the channel is picked up in the City's storm drain. The Wetlands Report by Albert Frick Inc., determined this is not a stream.

Please review the application and let me know if you need any additional information.

Respectfully,

Thomas S. Greer, P.E.
Walsh Engineering Associates, Inc.

cc. Greg Payne, Ben Walters, File
Enc.

APPLICATION FOR A NATURAL RESOURCES PROTECTION ACT PERMIT

➔PLEASE TYPE OR PRINT IN *BLACK INK ONLY*

1. Name of Applicant:	Avesta Housing Development Corp. (Greg Payne)	**5.Name of Agent:**	Walsh Engineering Associates, Inc. (Thomas S. Greer, P.E.)
2. Applicant's Mailing Address:	307 Cumberland Ave Portland, ME 04101	**6. Agent's Mailing Address:**	28 Vannah Avenue Portland, ME 04101
3. Applicant's Daytime Phone #:	207-553-7780	**7. Agent's Daytime Phone #:**	207-781-5242
4. Applicant's Email Address: Required from *either* applicant or agent:	gpayne@avestahousing.org	**8.Agent's E-mail Address:**	tgreer@walsh-eng.com

9. Location of Activity: (Nearest Road, Street, Rt.#)	977 Brighton Ave & Wessex St	**10. Town:**	Portland	**11. County:**	Cumberland

12. Type of Resource: (Check all that apply)	❑ River, stream or brook ❑ Great Pond ❑ Coastal Wetland ☒ Freshwater Wetland ❑ Wetland Special Significance ❑ Significant Wildlife Habitat ❑ Fragile Mountain	**13. Name of Resource:**	wetland / unnamed stream
		14. Amount of Impact: (Sq.Ft.)	**Fill:** 6,085 sq. ft. **Dredging/Veg Removal/Other:**

15. Type of Wetland: (Check all that apply)	❑ Forested ❑ Scrub Shrub ❑ Emergent ❑ Wet Meadow ❑ Peatland ❑ Open Water ❑ Other_____	**FOR FRESHWATER WETLANDS**	*Tier 1*	*Tier 2*	*Tier 3*
			❑ 0 - 4,999 sq ft. ☒ 5,000-9,999 sq ft ❑ 10,000-14,999 sq ft	❑ 15,000 – 43,560 sq. ft.	❑ > 43,560 sq. ft. or ❑ smaller than 43,560 sq. ft., not eligible for Tier 1

16. Brief Activity Description	Construction of a 40 unit senior housing building with associated parking.

17. Size of Lot or Parcel & UTM Locations:	❑ _____square feet, or ☒ .734 acres	UTM Northing: _____	UTM Easting: _____
18. Title, Right or Interest:	☒ own ❑ lease ❑ purchase option ❑ written agreement		

19. Deed Reference Numbers:	Book#: 32645 Page: 302 & 310	**20. Map and Lot Numbers:**	Map #: 275/C	Lot #: 1,2,3,6,7,8 & 9	
21. DEP Staff Previously Contacted:	Alison Sirois	**22. Part of a larger project:**	❑ Yes ☒ No	**After-the-Fact:**	❑ Yes ☒ No
23. Resubmission of Application?	❑ Yes➔ ☒ No	**If yes, previous application #**		**Previous project manager:**	
24. Written Notice of Violation?	❑ Yes ➔ ☒ No	**If yes, name of DEP enforcement staff involved:**		**25. Previous Wetland Alteration:**	❑ Yes ❑ No

26. Detailed Directions to the Project Site:	Take Brighton Avenue to Wessex Street. The project is on the corner.

27. TIER 1	**TIER 2/3 AND INDIVIDUAL PERMITS**	
☒ Title, right or interest documentation ☒ Topographic Map ☒ Narrative Project Description ☒ Plan or Drawing (8 1/2" x 11") ☒ Photos of Area ☒ Statement of Avoidance & Minimization ☒ Statement/Copy of cover letter to MHPC	❑ Title, right or interest documentation ❑ Topographic Map ❑ Copy of Public Notice/Public Information Meeting Documentation ❑ Wetlands Delineation Report (Attachment 1) that contains the Information listed under Site Conditions ❑ Alternatives Analysis (Attachment 2) including description of how wetland impacts were Avoided/Minimized	❑ Erosion Control/Construction Plan ❑ Functional Assessment (Attachment 3), if required ❑ Compensation Plan (Attachment 4), if required ❑ Appendix A and others, if required ❑ Statement/Copy of cover letter to MHPC ❑ Description of Previously Mined Peatland, if required

28. FEES Amount Enclosed:	$75.00

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

DEP SIGNATORY REQUIREMENT

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor a permit be issued.

CORPS SIGNATORY REQUIREMENT

USC Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry shall be fines not more than $10,000 or imprisoned not more than five years or both. I authorize the Corps to enter the property that is subject to this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

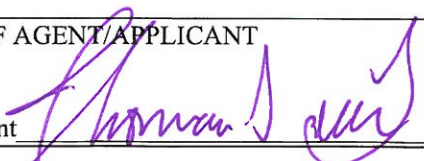
DEP SIGNATORY REQUIREMENT

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #4 for the applicant and #8 for the agent)."

_____ Date: _____

SIGNATURE OF AGENT/APPLICANT

Signature of Agent  Date: 1/26/18

NOTE: Any changes in activity plans must be submitted to the DEP and the Corps in writing and must be approved by both agencies prior to implementation. Failure to do so may result in enforcement action and/or the removal of the unapproved changes to the activity.

(yellow)

Doc#: 53187 Bk:32645 Pg: 302

WARRANTY DEED

Maine Statutory Short Form

KNOW ALL BY THESE PRESENTS, that **Chase ME, LLC**, a Maine Limited Liability Company, with a principal place of business in the City of South Portland, County of Cumberland and State of Maine, for consideration paid, **GRANTS** to **Avesta Housing Development Corporation**, whose mailing address is 307 Cumberland Avenue, Portland, Maine 04101, with **WARRANTY COVENANTS,** all of the Grantor's interest in real property commonly known as 977 Brighton Avenue, and located in the City of Portland, County of Cumberland and State of Maine, described as follows:

SEE SCHEDULE A ATTACHED HERETO AND MADE A PART HEREOF.

MAINE REAL ESTATE TAX PAID

Meaning and intending to convey and hereby conveying the same premises described in a deed from Wise Investment Properties, Inc. to Chase ME, LLC dated November 14, 2005 and recorded in the Cumberland County Registry of Deeds in Book 23402, Page 40.

IN WITNESS WHEREOF, it, the said Chase ME, LLC has caused these presents to be signed by Judith A. Chase and Mark C. Chase, its Members thereunto duly authorized this 28th day of September, 2015.

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

WITNESS

Chase ME, LLC

Judith A. Chase

WITNESS

Chase ME, LLC

Mark C. Chase

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. September 28, 2015

Then personally appeared the above named Judith A. Chase and Mark C. Chase and acknowledged the foregoing instrument to be their free act and deed in their said capacity, before me

Jerome J. Gamache, Notary Public
My Commission Expires June 23, 2020

SCHEDULE A

Certain lots or parcels of land together with the buildings and improvements thereon, located in the City of Portland, County of Cumberland and State of Maine, and being more particularly bounded and described as follows:

Being three lots of land, 352, 353 and 354 as delineated on plan called Glenwood, said plan having been prepared by Jordan and Richardson, dated May 1895, and recorded in the Cumberland County Registry of Deeds in Plan Book 8, Page 11. Said lots containing 12,000 square feet of land, more or less.

Also another certain lot or parcel of land, with any buildings thereon, located in said Portland, bounded and described as follows:

Commencing at a stake set in the easterly side line of Wessex Street, one hundred (100') feet distant north of the intersection of the said easterly line of Wessex Street and the northerly side line of Brighton Street; thence running along the said easterly line of Wessex Street in a northeasterly direction forty (40') feet to a stake; thence at right angles with Wessex Street in a southeasterly direction of one hundred (100') feet to a stake; thence at right angles with last named boundary in a southwesterly direction forty (40') feet to a stake; thence at right angles with last named boundary in a northwesterly direction one hundred (100') feet to the point of beginning. Containing four thousand (4,000) square feet of land. Said measurements are more or less.

Being Lot No. 355 on the plan of "Glenwood" by Jordan and Richardson dated May 1895, and recorded in the Registry of Deeds for said County of Cumberland, Plan Book 8, Page 11.

Also another certain lot or parcel of land, with any buildings thereon, located in said Portland, bounded and described as follows:

Lots 356 and 357 as shown on said Plan of Glenwood recorded in said Registry of Deeds in Plan Book 8, Page 11.

Received
Recorded Register of Deeds
Oct 06,2015 11:52:45A
Cumberland County
Nancy A. Lane

QUITCLAIM DEED with COVENANT

KNOW ALL BY THESE PRESENTS,

THAT I, **PHUONG T. NGUYEN**, of South Portland, Cumberland County, Maine in consideration of ONE DOLLAR and other valuable consideration paid by **AVESTA HOUSING DEVELOPMENT CORPORATION**, a Maine nonprofit corporation with a place of business in Portland, Cumberland County, Maine, and whose mailing address is 307 Cumberland Avenue, Portland ME 04101, hereby grant to Avesta Housing Development Corporation, its successors and assigns forever, WITH QUITCLAIM COVENANT, the land in Portland, Cumberland County, Maine, more fully described on Exhibit A attached hereto and made a part hereof.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to Avesta Housing Development Corporation, its successors and assigns, to its and their use and behoof forever.

IN WITNESS WHEREOF, Phuong T. Nguyen has hereunto set her hand and seal this 6th day of October, 2015.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF:

(Witness)

PHUONG T. NGUYEN

MAINE REAL ESTATE TAX PAID

STATE OF MAINE
CUMBERLAND, ss.

October 6, 2015

Then personally appeared Phuong T. Nguyen and acknowledged the foregoing instrument to be her free act and deed.

Before me: _____
~~Notary Public~~/Attorney at Law

NOTARY PRINT NAME: Amy W. Devin

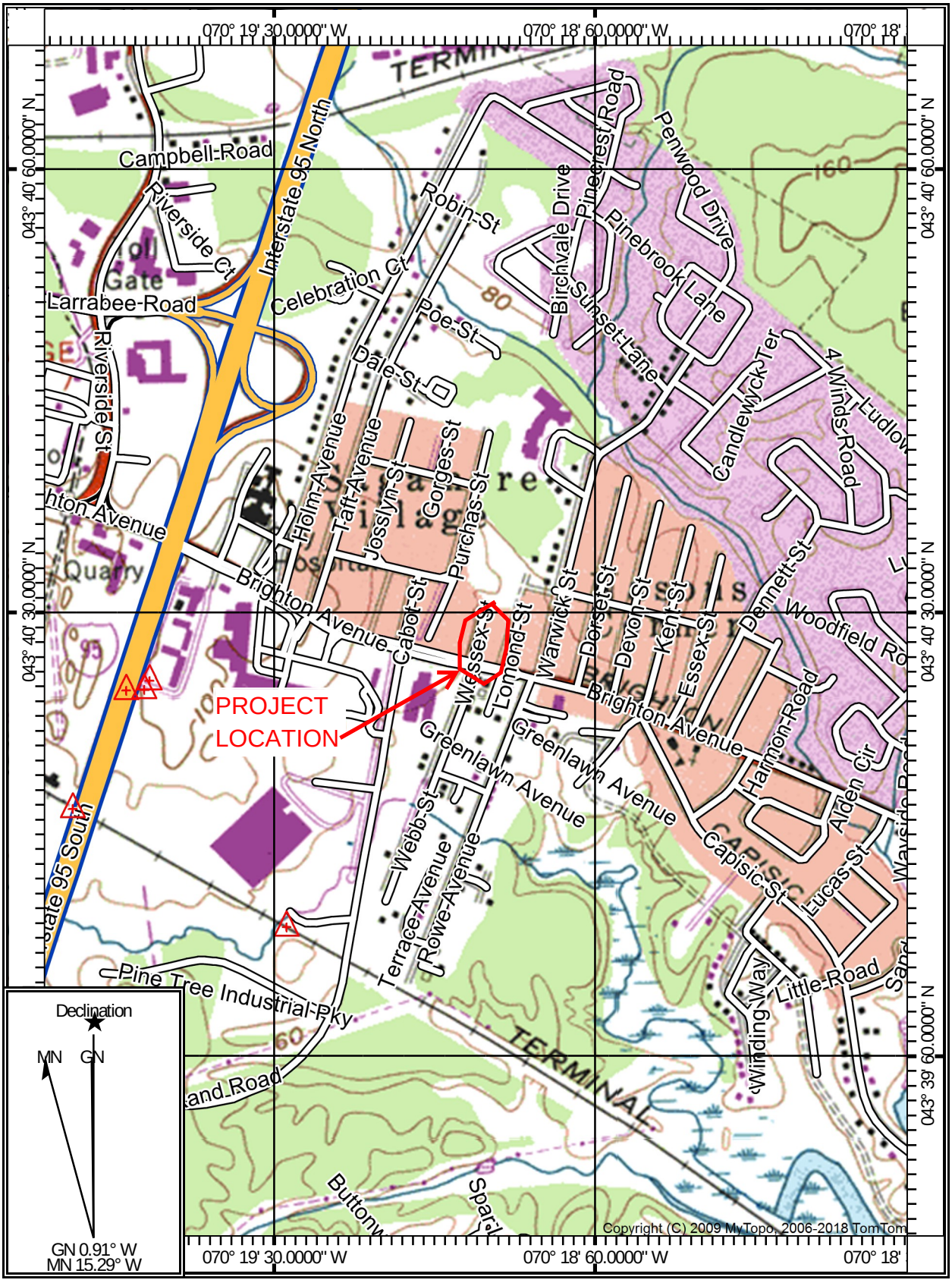
EXHIBIT A

A certain lot or parcel of land, together with any buildings and improvements thereon, situated in the City of Portland, County of Cumberland, and State of Maine, being more particularly described as follows:

Two certain lots or parcels of land, situated in the City of Portland, County of Cumberland and State of Maine, and described as "Land east side of Wessex Street, Lots 358 and 359, on plan of "Glenwood" by Jordan and Richardson, dated May 1895 and recorded in the Registry of Deeds of said County of Cumberland, Plan Book 8, Page 11, area 8,000 square feet."

Being the same premises conveyed to Martin T. Dinh and Phuong T. Nguyen by warranty deed from Chase ME, LLC, dated July 27, 2012 and recorded in the Cumberland County Registry of Deeds in Book 29796, Page 84. For Grantor's source of title further reference is made to the Quitclaim Deed With Covenant of Martin T. Dinh to Phuong T. Nguyen, dated February 14, 2014, and recorded in the Cumberland County Registry of Deeds in Book 31398, Page 296.

Received
Recorded Register of Deeds
Oct 06,2015 11:55:26A
Cumberland County
Nancy A. Lane



SCALE 1:12000

0 1000 2000 3000

Feet

16150-977 Brighton Avenue, Portland
January 22, 2018

977 Brighton Avenue
Avesta Housing
File: 16150

Project Description. This project is the construction of a 4 story building for 40 senior housing units and parking for 32 automobiles. This project will have 3 units that are affordable.

Avoidance & Minimization. This site has been selected due to the zoning allowing the density required for the project. This eliminated other sites in the City with different zoning. The project is asking the City to allow reduced parking which minimizes site impacts. The current code requires 40 spaces, we are requesting 32 spaces.

Grading around the edge of the parking are reduced to 2:1 to avoid additional impacts.

N

GRAPHIC SCALE

40 0 20 40

1 inch = 40 ft.

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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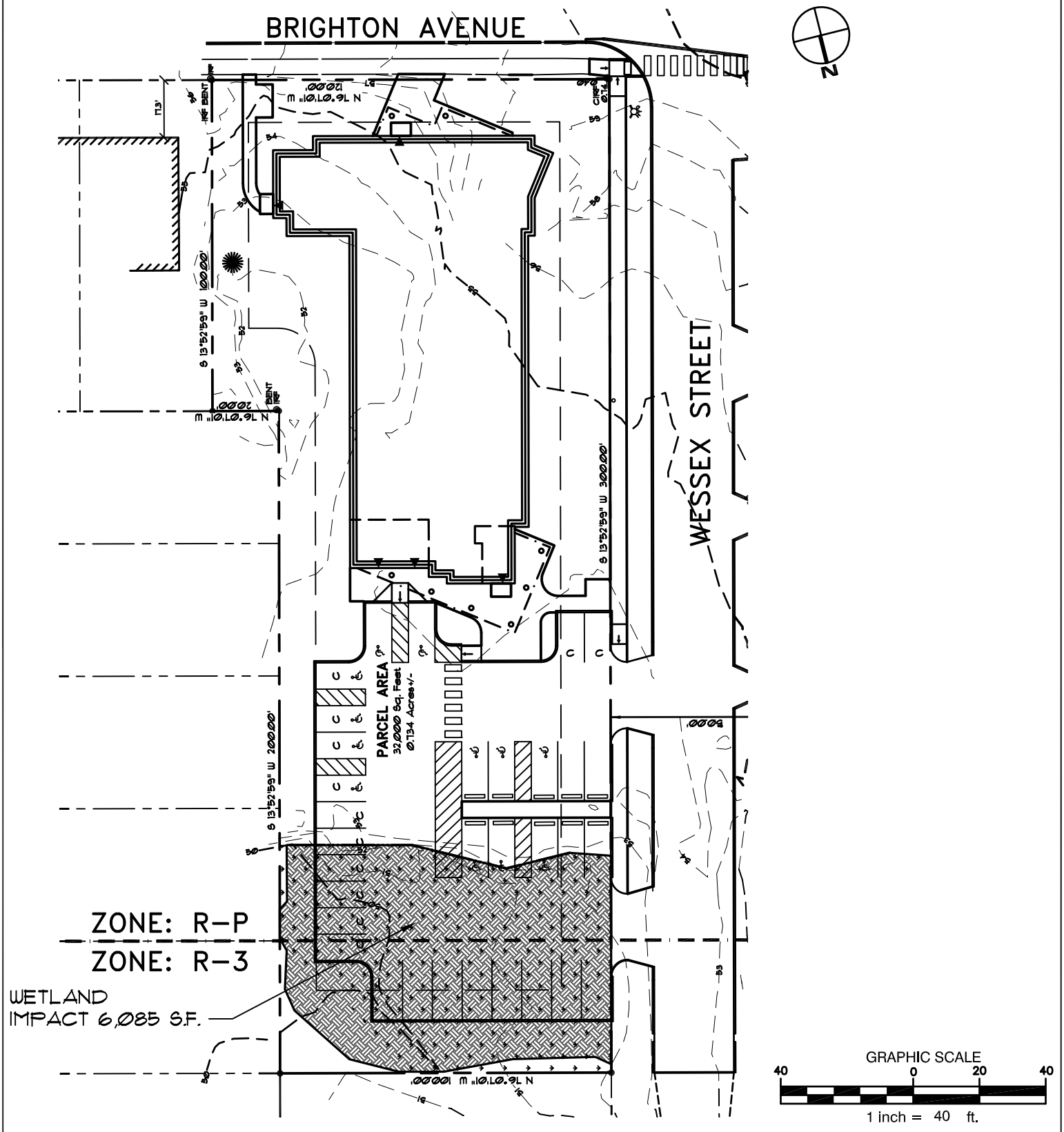
977 BRIGHTON AVENUE ELDERLY APARTMENTS

AVESTA 977 BRIGHTON LP
307 CUMBERLAND AVENUE
PORTLAND, MAINE 04101

Sheet Title:
AERIAL

Job No.:	16150
Date:	1/23/18
Scale:	AS SHOWN
Drawn:	RJS
Checked:	TSG



WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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977 BRIGHTON AVENUE ELDERLY APARTMENTS

AVESTA 977 BRIGHTON LP
307 CUMBERLAND AVENUE
PORTLAND, MAINE 04101

Sheet Title:
WETLAND IMPACT AREA

Job No.:	16150
Date:	1/23/18
Scale:	AS SHOWN
Drawn:	RJS
Checked:	TSG

977 Brighton Avenue, Portland Taken 11/24/17

977 Brighton Avenue, Portland Taken 11/24/17

977 Brighton Avenue, Portland Taken 11/24/17

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Mr. Kirk F. Mohney
Maine Historic Preservation Commission
55 Capitol Street, 65 State House Station
Augusta, ME, 04333-0065

RE: 977 Brighton Avenue, Portland

Dear Mr. Mohney:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us of any impact that this construction may have on historic, archaeological or architectural properties.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

SEP - 8 2016

Albert Frick Associates, Inc.
Environmental Consultants
95A County Road Gorham, ME 04038
Office: (207)839-5563 Fax: (207)839-5564
www.albertfrick.com info@albertfrick.com

Albert Frick, CSS, LSE
Chris Coppi, CWS, LSE
Brady Frick, LSE
Bryan Jordan, LSE
Matthew Logan, LSE
Jamie Latorre, Office Manager

September 6, 2016

Seth Parker
Director of Real Estate Development
Avesta Housing
307 Cumberland Avenue
Portland, ME 04101

Re: Wetlands Report, 977 Brighton Ave, Portland.

Dear Mr. Parker:

On April 13th and August 25th, Albert Frick Associates, Inc. (AFA) conducted a wetland review of the above-mentioned property for the purpose of determining permitting requirements for a potential parking area. Initially, AFA visited the property on April 13th and identified a small freshwater, shrub/wet meadow wetland which was delineated with blue flagging. The delineated wetland was located with a GPS Trimble, Geo 7x unit in order to illustrate the extent of the wetland which is shown on the site plan attached with this report. The proposed parking area is located within the wetland impacting approximately 3,633 square feet of the shrub/wet meadow as shown on the attached plan. This plan is a conceptual in nature and should not be used for permitting purposes since actual grading elevations have not been completed by site engineering at this time.

No vernal pools, as defined by Maine's Natural Resources Protection Act (NRPA), were observed on the property.

Jurisdictional Natural Resources:

Wetlands
The freshwater wetland is classified as a Palustrine Scrub-Shrub/Emergent Wetland (PSS/EM1) "shrub and wet meadow" because it is dominated by shrubs and low growing herbaceous plant species, namely flowering herbs (goldenrod- *Solidago*). The wetland was observed in the northern corner of the property.

A drainage way, originating from the Wessex Street road culvert, was observed at the northwest corner of the property. The drainage way conveys stormwater west of Wessex Street to the property

which then flows diagonally south across the property and eventually discharging through another culvert on Lomond Street to the east. Upon entering the property, the drainage way quickly becomes a flat, drainage way without defined banks and little mineral deposition along its course. Therefore, this drainage way would **not** be considered to be a river, stream or brook as defined by the Natural Resources Protection Act, 38 M.R.S. 480 (B) (9).

Permitting:

Maine Department of Environmental Protection (DEP)

Research of the property and review of DEP records has revealed that the wetland on the property is eligible for the wetland alteration exemption which allows up to, but not to exceed, 4,300 square feet of wetland alteration pursuant to the Natural Resources Protection Act, 38 M.R.S. 480 (Q) (17). Wetland alterations result from regulated activities which cause a direct or indirect impact to the wetland which include, but are not limited to, filling, soil displacement, vegetation removal and the construction of permanent structures. If a proposed activity on the property results in 4,300 square feet or less of wetland impact, then a permit from the Department is not required in accordance with 480 (Q) (17).

Since the proposed parking area results in less than 4,300 square feet of wetland impact, then a DEP permit is not required. See the attached site plan which illustrates the extent of fill tentatively proposed in the wetland. **Please note that this conceptual plan assumes that the edge of the wetland alteration is the bottom of the fill slope and not the edge of the parking surface. Furthermore, wetland impacts required to redirect the drainage way, namely the area of the excavation ditch, must be included when determining the total wetland impact.**

If a proposed project results in over 4,300 square feet of wetland impact on the property, in total, then a Natural Resources Protection Act Permit (Tier permit) from the Maine Department of Environmental Protection (DEP) is required.

Lastly, the wetlands on the property do not require a setback to the regulated activities mentioned above, in accordance with the NRPA, 480 (C).

City of Portland

The wetland on the property is not shown on the shoreland zoning map in accordance with the City of Portland's Zoning Map.

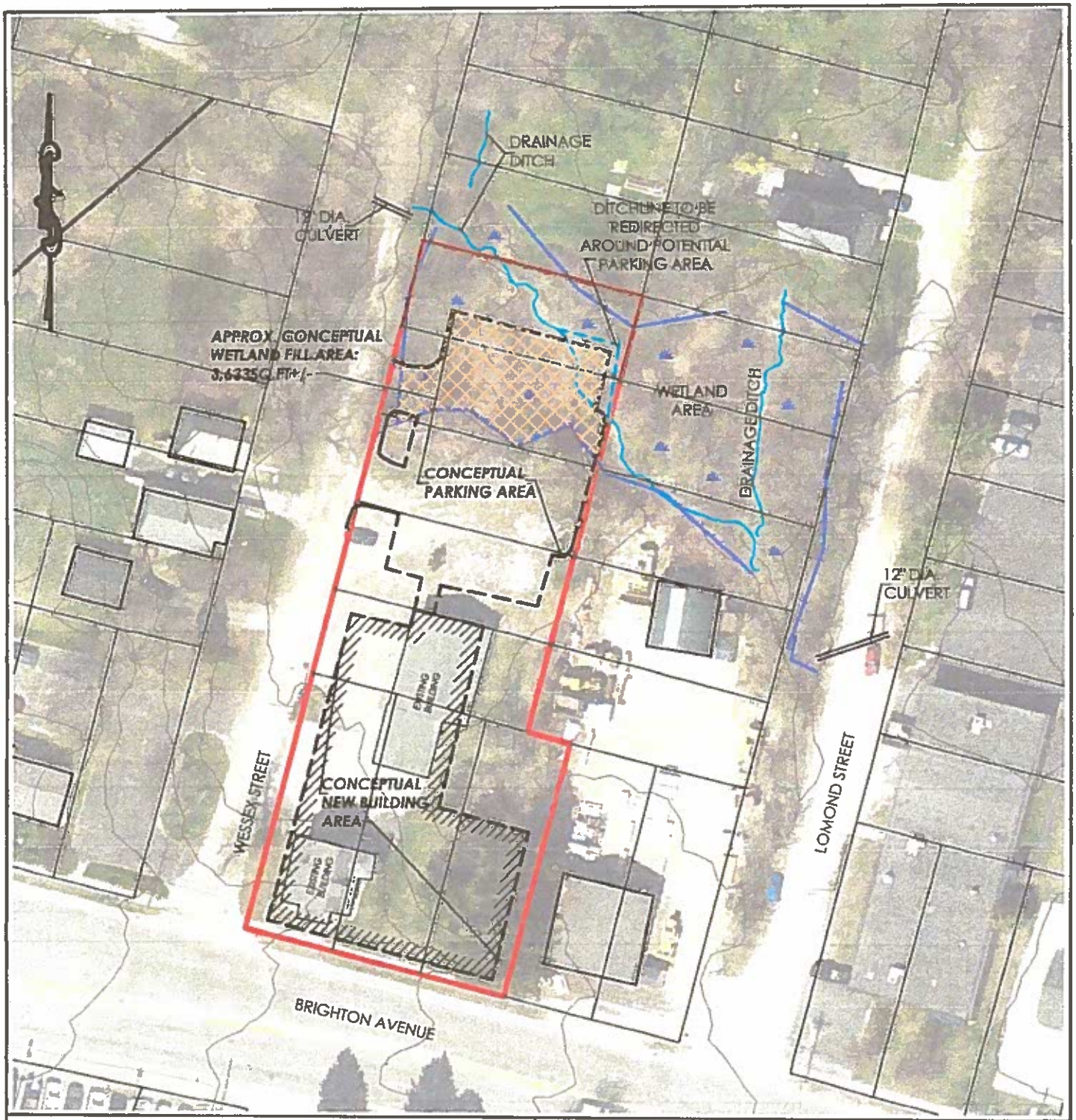
Please contact me if you have any questions or matters for further discussion. If the parking project requires DEP review, we can certainly assist you with the preparation of a Tier permit if necessary. I can be reached by phone at 839-5563 or by email at chris@albertfrick.com.

Sincerely,

Chris Coppi

Chris Coppi, CWS
Wetland Scientist
Licensed Site Evaluator

Enc. Site Plan and photos



SITE PLAN

PREPARED FOR

AVESTA HOUSING

977 BRIGHTON AVE

PORTLAND, MAINE

Albert Frick Associates, Inc.

Environmental Consultants

Gorham, Maine

Date:	Revision Description

Drawn By: B.J.	Checked By: A.F
Date: 4/18/16	Scale: 1" = 60'

8/25/16 Site Photos- 977 Brighton Ave, Portland

Photo 1: View of shrub/wet meadow wetland consisting of flowering herbs and shrubs.

Photo 2: View of drainage way channel moving onto the property (and wetland boundary in blue). Notice the absence of a mineral bottom soon after the drainage way enters the wetland.

8/25/16 Site Photos- 977 Brighton Ave, Portland

Photo 3: View of drainage way inside wetland- Very flat channel, with little mineral deposition. Lack of aquatic or obligate wetland plants (Likely Thyme-leaved Speedwell, FAC-*Veronica serpyllifolia shown in channel)* suggest an ephemeral (resulting from rain events) drainage course.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Ms. Lisa St. Hilaire
Information Manager, Maine Natural Areas Program
22 State House Station
Augusta, ME 04333-0022

RE: 977 Brighton Avenue, Portland

Dear Ms. St. Hilaire:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and inform us of any impact that it may have on important and significant natural features in the area.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Mr. John Perry
Maine Department of Inland Fisheries and Wildlife
284 State St
41 State House Station
Augusta, ME 04333

RE: 977 Brighton Avenue, Portland

Dear Mr. Perry:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and inform us of any impact that it may have on wildlife or important and significant wildlife habitat.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588
http://www.fws.gov/mainefieldoffice/index.html

In Reply Refer To:
Consultation Code: 05E1ME00-2018-SLI-0293
Event Code: 05E1ME00-2018-E-00610
Project Name: 977 Brighton Avenue Elderly Apartments

January 22, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC Web site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the Endangered Species Consultation Handbook at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan: http://www.fws.gov/windenergy/eagle_guidance.html Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site: http://www.fws.gov/mainefieldoffice/Project%20review4.html

Additionally, wind energy projects should follow the wind energy guidelines: http://www.fws.gov/windenergy/ for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g.,

cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm and at: http://www.towerkill.com; and at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

Project Summary

Consultation Code: 05E1ME00-2018-SLI-0293

Event Code: 05E1ME00-2018-E-00610

Project Name: 977 Brighton Avenue Elderly Apartments

Project Type: DEVELOPMENT

Project Description: Construction of a 4 story, 41 unit apartment building.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.67456123571125N70.31900414278903W

Counties: Cumberland, ME

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Aroostook Band of Micmacs
ATTN: Tribal Historic Preservation Officer
7 Northern Road
Presque Isle, Maine 04769

RE: 977 Brighton Avenue, Portland

Dear Sir or Madam:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us if you have any comments related to this project.

Thank you in advance for your consideration.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Houlton Band of Maliseet Indians
ATTN: Tribal Historic Preservation Officer
88 Bell Road
Littleton, Maine 04730

RE: 977 Brighton Avenue, Portland

Dear Sir or Madam:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us if you have any comments related to this project.

Thank you in advance for your consideration.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Passamaquoddy Tribe of Indians
Indian Township Reservation
ATTN: Tribal Historic Preservation Officer
P.O. Box 301
Princeton, Maine 04668

RE: 977 Brighton Avenue, Portland

Dear Sir or Madam:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us if you have any comments related to this project.

Thank you in advance for your consideration.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Passamaquoddy Tribe of Indians
Pleasant Point Reservation
ATTN: Tribal Historic Preservation Officer
P.O. Box 343
Perry, Maine 04667

RE: 977 Brighton Avenue, Portland

Dear Sir or Madam:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us if you have any comments related to this project.

Thank you in advance for your consideration.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

January 22, 2018

Penobscot Nation
ATTN: Tribal Historic Preservation Officer
Cultural and Historic Preservation Department
12 Wabanaki Way
Indian Island, Maine 04468

RE: 977 Brighton Avenue, Portland

Dear Sir or Madam:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us if you have any comments related to this project.

Thank you in advance for your consideration.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

Proposed
977 Brighton Avenue Apartments
Portland, Maine

Statement of Fire Department Project Review Data

Attached is a preliminary Code Review of the proposed 977 Brighton Avenue Apartments (on the corner of Brighton Avenue and Wessix Street) to be developed, owned and managed by Avesta Housing of Portland.

In summary, the 40 1-BR unit Residential Apartment Building will be design to Type 5A construction (protected wood frame) requirements, 4 stories in height, protected by a monitored fire alarm and 13R sprinkler system. The building is approximately 44' at Brighton Avenue and 46' at the rear due to grade changes.

The building has a gross area of 30,736 SF approximately equally spread of four floors. In addition to the residential units, the remainder of the space included residential support and circulation spaces such as utility, laundry, community, rental office, telemed room, mail services, etc. There are not non-residential primary uses in the building.

Vehicle access to the building can be achieved by on three sides of the buildings and the forth side is easily accessible by foot. There is an existing fire hydrant on the corner of Brighton and Wessex and domestic/sprinkler water supply will likely come off Wessex Street. See site plans for size and location.

To date, hydrant flow data has not been secured to determine NFPA 1 location requirements.

Benedict B. Walter, AIA
President
Licensed Architect ME NH GA
bwalter@cwsarch.com

977 Brighton Ave Apartments **December 21, 2017**
Portland, ME

Code Analysis

	IBC 2009		NFPA 101 - 2009		
Category	**Reference**	**Code Requirements**	**Reference**	**Code Requirements**	**Proposed**
Use Group	310.1	R-2 (Senior) Apartments	6.1.8.1.5	Residential - New Apartment Building	Apartments
Building Construction	Table 601	Type 5A - Combustible Protected Foundation - Concrete frost wall and slab Exterior walls - 2x6 wood frame with GWB finish. Exterior siding. Interior walls - Wood frame with GWB surfacing Roof - Wood trusses and EPDM Roof	NFPA 220	Construction Type V (111)	
Height & Area Limitations	Table 503	12,000 SF per floor 3 Stories / 50'			
Height Modifications	504.2	Sprinklered NFPA 13 - add 1 story and 20'			Sprinklered - NFPA13
Maximum allowable height		4 stories / 70'			4 stories / 48'-4" height from lowest grade to high point of roof
Area Modifications	506.3	Sprinklered NFPA 13 [I_s = 2]			
	506.2	Not Used			
	506.1	$\{A_t+[A_t x T_f]+[A_t x I_s]\} = A_a$ {12000+[NA]+[12000x2]} =36,000			
Maximum allowable area	506.1	36,000 SF Per Floor			1st Floor = 7,684 SF 2nd Floor = 7,684 SF 3rd Floor = 7,684 SF 4th Floor = 7,684 SF Total Area: 30,736 SF
Fire ratings	Table 602	Loadbearing Ext walls >30' = 1 hr Loadbearing Ext walls 10'-30' = 1 hr Nonloadbearing Ext walls >30' = 0 hr Nonloadbearing Ext walls 10'-30' = 1 hr			1 hour 1 Hour 0 hour 1 hour
Fire ratings - cont.	Table 1018.1	Exit access corridors - 1/2 hour (with sprinkler system)	30.3.6.1.2	Exit access corridors - 1/2 hour	1/2 hour
			30.3.6.2	Exit access corridor doors - 20-minute self-closing & latching	20 minute doors, spring hinges
	1022.1	Fire Enclosure of 4 story Vertical Exit Enclosures - 2 hour	30.2.2.1.2	Exits: 1 Hour (Sprinklered)	2 hour
	708.4	4 story Shafts & Elevator Hoistways - 2 hr	30.3.1.1.4	Shafts: 1 Hour (Sprinklered) and 1-hour doors	2 hour
	709.3	Dwelling Unit Separation - 1 hour	30.3.7.2	Dwelling Unit Separation - 1/2 hour	1 hour
	Table 601	Interior loadbearing walls - 1 hour			1 hour
	Table 601	Int. nonloadbearing walls - 0 hour			0 Hour
	Table 601	Floor Construction - 1 hour			1 hour
	Table 601	Roof construction - 1 hour			1 hour
	Table508.2.5	Boiler Rooms over 10 HP - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Boiler Rooms - 1 Hour and sprinkler	1 Hour & Sprinklered
	Table508.2.5	Waste Collection Room over 100 sf - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Trash Collection Rooms - 1 Hour and sprinkler	1 Hour & Sprinklered
	Table508.2.5	Laundry Rooms over 100 s.f. - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Laundries over 100 s.f. - 1 hour and sprinklers with smoke partitions	1 Hour & Sprinklered
	Table508.2.5	Storage Rooms over 100 s.f. - 1 hour or automatic fire extinguishing	T 30.3.2.1.1	Storage rooms outside of dwelling units - 1 hour OR sprinklers with smoke partitions	Sprinklered
Opening Protectives	Table 715.4	1/2 Hour Rated Exit access corridors - 20 min.	30.3.6.2	Exit access corridor doors - 20-minute self-closing & latching	20 min.

977 Brighton Ave Apartments **December 21, 2017**
Portland, ME

Code Analysis

Category	IBC 2009 Reference	IBC 2009 Code Requirements	NFPA 101 - 2009 Reference	NFPA 101 - 2009 Code Requirements	Proposed
	Table 715.4	1 Hour Barriers - 45 min.			45 min.
	Table 715.4	1 Hour Shafts & Exits - 60 min.			60 min.
	Table 715.4	2 Hour Barriers - 90 min.			90 min.
Wired Glass Panels	Table 715.5.4	20 min. opening = Not limited			As required
		3/4 hour opening = 1296 sq in			As required
		1 and 1 1/2 hour opening = 100 sq in			As required
Fire Damper Rating	Table 716.3.2.1	Less than 3 hour rated assembly - 1-1/2 hour.			As required
Interior Flame Spread Index	Table 803.9	Required vertical exits and passageways - C	30.3.3.2	In exits - Class A	As required
	Table 803.9	Corridors providing exit access - C	30.3.3.2	Lobbies and corridors - Class A or B	As required
	Table 803.9	Rooms or enclosed spaces - C	30.3.3.2	Other Spaces - Class A, B or C	As required
			30.3.3.3.2	Exit enclosures and corridor floors - Not less than Class II	
Occupant Load	T 1004.1.1	Residential Occupancy = 1/200 GSF	T7.3.1.2	Residential Apartment occupant load = 1/200 SF	
	T 1004.1.1	Storage areas, mechanical equipment rooms = 1/300 GSF		Storage areas, mechanical equipment rooms = 1/500 GSF	
	T 1004.1.1	Assembly, Unconcentrated (Tables & Chairs) = 1/15 NSF		Assembly, Unconcentrated (Tables & Chairs) = 1/15 NSF	
		1st floor 6949 / 200 = 34.7 1st Community Room 735/15 = 49 2nd floor 7684 / 200 = 38.4 3rd floor 7684 / 200 = 38.4 4th floor 7684 / 200 = 38.4		1st floor 6949 / 200 = 34.7 1st Community Room 735/15 = 49 2nd floor 7684 / 200 = 38.4 3rd floor 7684 / 200 = 38.4 4th floor 7684 / 200 = 38.4	
		Total = 199		Total = 199	
Means of Egress					
	1005.1	Egress width per occupant @ stairways = 0.3" x 84 = 25.2"	T7.3.3.1	Egress width per occupant @ stairways = 0.3" x 76= 23"	(2) two stairs @ 50" = 100"
	105.1	Minimum stair width: 44" unless serving less than 50 occupants			
	1005.1	Egress width capacity per occupant @ doors and corridors = .2 x 84 = 16.8"	T7.3.3.1	Egress width capacity = 0.2" per occupant @ level components & ramps .2 x 76 = 15.2"	(Typ.) 36" Doors = 34" net clear opening
	1008.1.1	Minimum door opening width = 32"	7.2.1.2.3.2	Minimum door opening width = 32"	34"
	1014.3	Common path of travel < 125'	30.2.5.3.2	Common path of travel = 50' max. (sprinklered)	12'-6"
	T 1016.1	Length of travel < 250' (sprinklered)	30.2.6.4	Max travel from non-unit areas to exit = 250' (sprinklered)	73'-4"
	1018.2	Minimum corridor width = 44"	7.3.4.1	Minimum corridor width = 36"	57" Min
	1018.4	Dead ends < 50' w/ NFPA 13	30.2.5.4.2	Dead ends = 50' max (sprinklered)	25'-9"
	T 1021.1	Number of exits <500 occupants = 2	30.2.4	Minimum number of exits = 2	2
			30.2.6.2	Max travel within unit = 125'	35'-11"
			30.2.6.3.2	Max travel from unit entrance to exit = 200'	63'-0"
Emergency Lighting	1006.1	Emergency lighting is required except in dwelling units	30.2.9	Emergency lighting is required	Provided
	1011.1	Exit Signs are required	7.10.1.2	Exit Signs are required	Provided
Fire Suppression Systems	903.2.8	Sprinkler System Required	30.3.5	NFPA 13 or 13R Required	NFPA13 Provided
Standpipes	905.3	Class III Required			Provided
Extinguishment requirements	906	Portable fire extinguishers shall be installed as per NFPA 10 (IFC 2009)	30.3.5.12	Not Required	Provided
Fire Alarm Systems	907.2.9	Required	30.3.4.1	Required	Provided
			30.3.4.2	Manual initiation required	Provided
			30.3.4.2.3	Automatic initiation required	Provided
			30.3.4.3	Annunciators required	Provided

977 Brighton Ave Apartments
Portland, ME

December 21, 2017

Code Analysis

	IBC 2009		NFPA 101 - 2009		
Category	**Reference**	**Code Requirements**	**Reference**	**Code Requirements**	**Proposed**
Smoke Detetectors	907.2.9.2	Required	30.3.4.5	Required within and outside every sleeping area	Provided in sleeping and living areas

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

AVESTA HOUSING DEVELOPMENT	) NATURAL RESOURCES PROTECTION ACT
Portland, Cumberland County	) FRESHWATER WETLAND ALTERATION
PARKING LOT	) WATER QUALITY CERTIFICATION
L-27816-TB-A-N (approval)	) FINDINGS OF FACT AND ORDER

Project Description: The applicant proposes to alter 6,085 square feet of scrub-shrub and wet meadow freshwater wetlands to construct a parking lot to serve a 4-story, 40-unit apartment building. The project is shown on a set of plans, the first of which is titled "Subdivision Recording Plat Sheet 1 of 2, 977 Brighton Ave Elderly Apartments," prepared by Pinkham and Greer Civil Engineers and dated December 21, 2017. The applicant has avoided and minimized wetland impacts to the greatest extent practicable by reducing the number of parking spaces and by installing 2H:1V side slopes around the parking lot. According to the Department's Geographic Information System (GIS), there are no mapped essential or significant wildlife habitats associated with the project site. The proposed project is located at 977 Brighton Avenue in the City of Portland.

Permit for:	[X]	Tier 1
DEP Decision:	[X]	Approved [ ] Denied (see attached letter)
CORPS Action:	[X]	The Corps has been notified of your application. The following are subject to Federal screening: (1) projects with previously authorized or unauthorized work, in combination with a Tier 1 permit for a single and complete project, which total more than 15,000 square feet of altered area; (2) projects with multiple state permits and/or state exemptions which apply to a single and complete project that total more than 15, 000 square feet of altered area; and (3) projects that may impact a vernal pool, as determined by the State of Maine or the Corps. If your activity is listed above, *Corps approval is required for your project*. For information regarding the status of your application contact the Corps' Maine Project Office at (207) 623-8367.

Standard Conditions:

1) If construction or operation of the activity is not begun within four (4) years from the date signed, this permit shall lapse and the applicant shall reapply to the Department for a new permit. This permit is transferable only with prior approval from the Department. If the activity is associated with a larger project, starting any aspect of that project constitutes start of construction.
2) The project shall be completed according to the plans in the application. Any change in the project plans must be reviewed and approved by the Department.
3) Properly installed erosion control measures shall be installed prior to beginning the project, and all disturbed soil should be stabilized immediately upon project completion.

4) A copy of this approval will be sent to the City of Portland. Department approval of your activity does not supersede or substitute the need for any necessary local approvals.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 27TH DAY OF MARCH, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Paul Mercer, Commissioner

Filed
MAR 28 2018
State of Maine
Board of Environmental Protection

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

JM/L27816AN/ATS#82730

Natural Resources Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCES PROTECTION ACT, 38 M.R.S.A. § 480-A ET SEQ., UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised (4/92) DEP LW0428

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION, AUGUSTA, MAINE 04333

Erosion Control for Homeowners

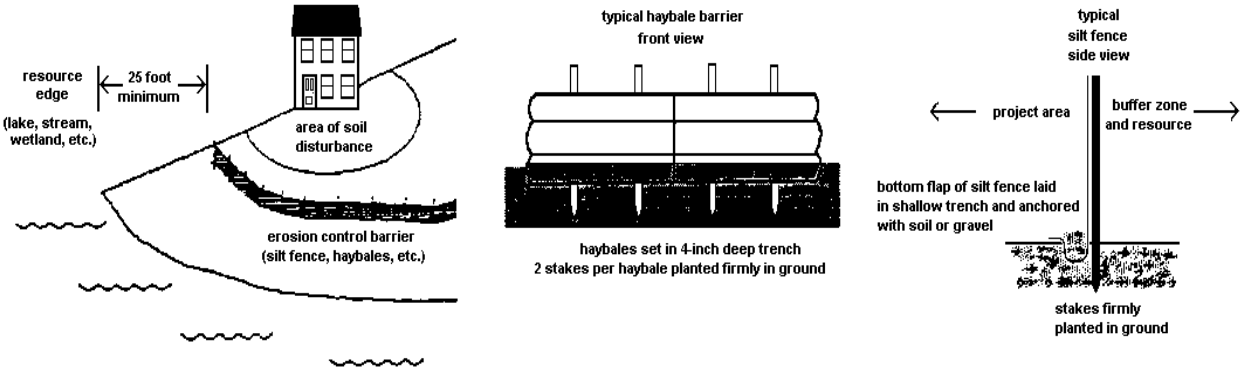
Before Construction

1. If you have hired a contractor, make sure you discuss your permit with them. Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is, and where it is located. Most people can identify the edge of a lake or river. However, the edges of wetlands are often not so obvious. Your contractor may be the person actually pushing dirt around, but you are both responsible for complying with the permit.

2. Call around to find where erosion control materials are available. Chances are your contractor has these materials already on hand. You probably will need silt fence, hay bales, wooden stakes, grass seed (or conservation mix), and perhaps filter fabric. Places to check for these items include farm & feed supply stores, garden & lawn suppliers, and landscaping companies. It is not always easy to find hay or straw during late winter and early spring. It also may be more expensive during those times of year. Plan ahead -- buy a supply early and keep it under a tarp.

3. Before any soil is disturbed, make sure an erosion control barrier has been installed. The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement. The barrier should be placed as close as possible to the soil-disturbance activity.

4. If a contractor is installing the erosion control barrier, double check it as a precaution. Erosion control barriers should be installed "on the contour", meaning at the same level or elevation across the land slope, whenever possible. This keeps stormwater from flowing to the lowest point along the barrier where it can build up and overflow or destroy the barrier.



During Construction

1. Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops hitting the bare ground that makes the soil begin to move downslope with the runoff water, and cause erosion. More than 90% of erosion is prevented by keeping the soil covered.

2. Inspect your erosion control barriers frequently. This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended. You or your contractor then need to figure out what can be done to prevent more soil from getting past the barrier.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

After Construction

1. After your project is finished, seed the area. Note that all ground covers are not equal. For example, a mix of creeping red fescue and Kentucky bluegrass is a good choice for lawns and other high-maintenance areas. But this same seed mix is a poor selection for stabilizing a road shoulder or a cut bank that you don't intend to mow. Your contractor may have experience with different seed mixes, or you might contact a seed supplier for advice.

2. Do not spread grass seed after September 15. There is the likelihood that germinating seedlings could be killed by a frost before they have a chance to become established. Instead, mulch the area with a thick layer of hay or straw. In the spring, rake off the mulch and then seed the area. Don't forget to mulch again to hold in moisture and prevent the seed from washing away or being eaten by birds or other animals.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

Why Control Erosion?

To Protect Water Quality

When soil erodes into protected resources such as streams, rivers, wetlands, and lakes, it has many bad effects. Eroding soil particles carry phosphorus to the water. An excess of phosphorus can lead to explosions of algae growth in lakes and ponds called blooms. The water will look green and can have green slime in it. If you are near a lake or pond, this is not pleasant for swimming, and when the soil settles out on the bottom, it smothers fish eggs and small animals eaten by fish. There many other effects as well, which are all bad.

To Protect the Soil

It has taken thousands of years for our soil to develop. It usefulness is evident all around us, from sustaining forests and growing our garden vegetables, to even treating our septic wastewater! We cannot afford to waste this valuable resource.

To Save Money ($$)

Replacing topsoil or gravel washed off your property can be expensive. You end up paying twice because State and local governments wind up spending your tax dollars to dig out ditches and storm drains that have become choked with sediment from soil erosion.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status*. The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error*. Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge*. If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

Site Lighting
977 Brighton Avenue

Brighton Avenue has street lights all along this section of the street. No lighting is planned for Wessex Street.

The site lighting will consist of a single pole light in the parking lot and canister lights under the canopies. A single wall mounted fixture will be adjacent the side entry on the east side.

PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

February 8, 2018

Rita Sawyer
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, ME 04092

RE: Information Request - 977 Brighton Avenue Residential Building, Portland

Dear Rita:

Per your request received January 25, 2018, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *977 Brighton Avenue Residential Building Project* in Portland.

Our information indicates no locations of Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential or Significant Wildlife Habitats or fisheries habitats that would be directly affected by your project.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

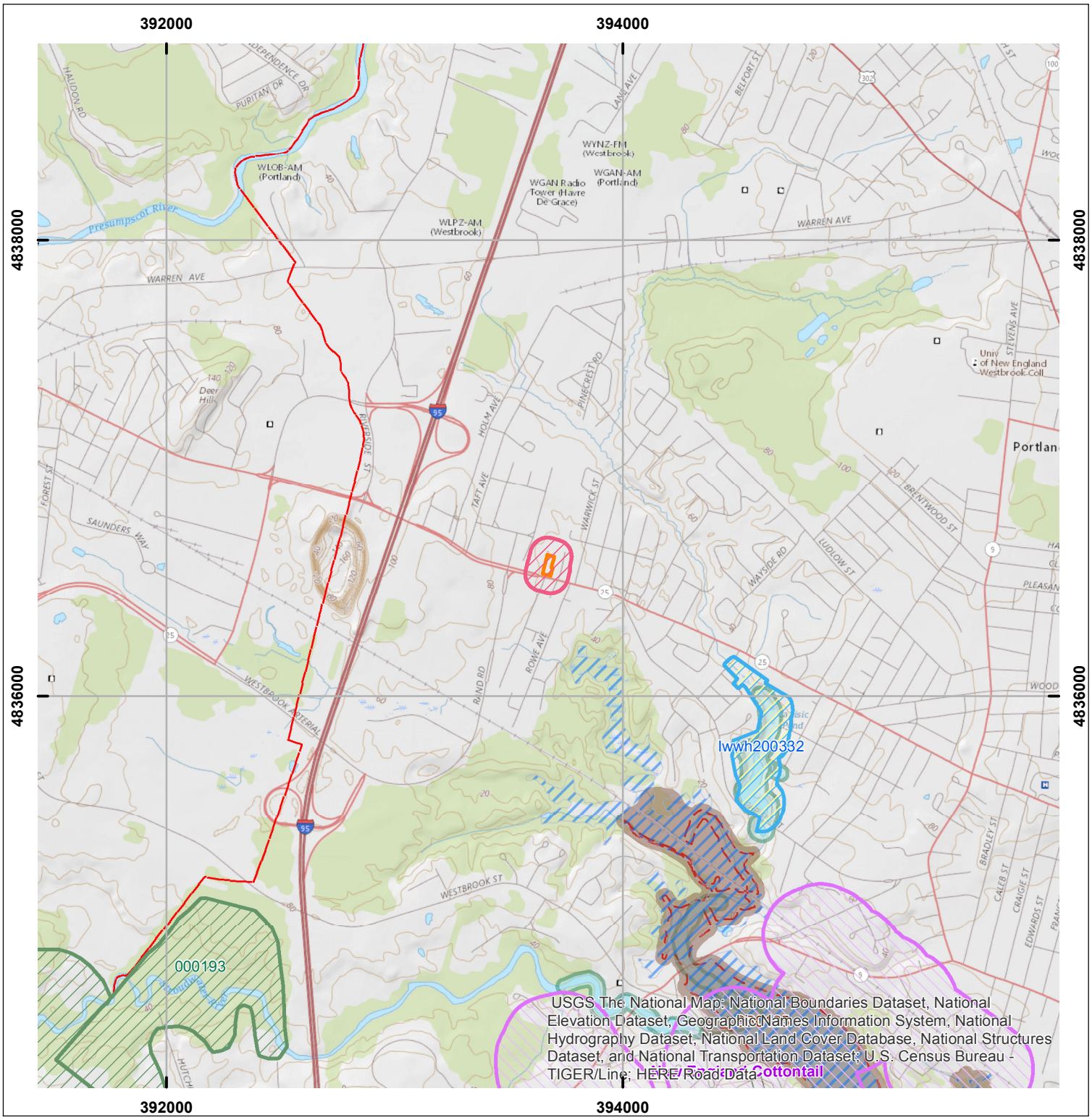
Best regards,

John Perry
Environmental Review Coordinator

PHONE: (207) 287-5254

FISH AND WILDLIFE ON THE WEB:
www.maine.gov/ifw

EMAIL ADDRESS:
John.Perry@maine.gov



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: raremussels (Version 1)

Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 1/28/2018

- ProjectPolys
- ProjectSearchAreas
- Deer Winter Area
- Shorebird Areas
- Inland Waterfowl/Wading Bird
- Tidal Waterfowl/Wading Bird
- ETSc Environmental Review Polygons
- Special Concern-occupied habitats(100ft buffer)

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

RECEIVED
JAN 24 2018
By 0084-17

January 22, 2018

Mr. Kirk F. Mohney
Maine Historic Preservation Commission
55 Capitol Street, 65 State House Station
Augusta, ME, 04333-0065

RE: 977 Brighton Avenue, Portland

Dear Mr. Mohney:

Enclosed please find material relating to a proposed new Residential Building to be located at 977 Brighton Avenue in Portland. Please review this material and your files and inform us of any impact that this construction may have on historic, archaeological or architectural properties.

Respectfully,

Rita J. Sawyer
Walsh Engineering Associates, Inc.

cc: File
Enc.

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney
Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

2/1/18
Date

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

January 31, 2018

Rita Sawyer
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, ME 04092

Via email: rita@walsh-eng.com

Re: Rare and exemplary botanical features in proximity to: 977 Brighton Ave, Portland, Maine

Dear Ms. Sawyer:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received January 25, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT
977 BRIGHTON AVENUE ELDERLY APARTMENTS
PORTLAND, MAINE

December 22, 2017
(Revised June 4, 2018)

Project Description:

This project located at the corner of Brighton Avenue and Wessex Street will be the construction of a four story building for 40 senior apartments. Avesta Housing is the Applicant. The existing home and garage on site will be removed.

Existing Conditions:

The site slopes from Brighton Avenue down along Wessex Street to a small stream at the back of the site. The existing site has a single family home near Brighton Avenue, a garage in the middle of the site and a wetland in the back along Wessex Street.

Developed Conditions:

The developed site will consist of a 4 story building with a footprint of 7,825 sq. ft. The rear of the site will have 32 parking spaces of which 12 area ADA compliant. The building will be accessed off Brighton Avenue by a walkway and in the rear with a small walkway and patio. The total impervious area on site is 19,395 sq. ft.

Stormwater Treatment:

This site is the redevelopment of the existing site. Under Chapter 500 Redevelopment Guidelines the project must treat 60% of the runoff. This is obtained by using Focal Point Systems for Wessex Street side of the site and for the parking lot area. These are proprietary systems. Once reviewed by the manufacturer a letter of adequacy will be generated. The Wessex Street improvements will be treated as well.

Methodology:

This stormwater analysis was performed using HydroCad Software based on TR-55 modeling conditions. This model requires assumptions as to the land cover, slopes and soils. These are enhanced by the topography mapping, soils mapping, and on-site observations. The flows were determined using a Type III coastal storm and rainfall totals for the 24 hour period for a 1 year storm, 2.6", for

a 2 year storm, 3.1", for a 10 year storm, 4.6", and for a 25 year storm, 5.8". These data are published in the manual for Stormwater Management for Maine: Best Management Practices, published by the Maine Department of Environmental Protection.

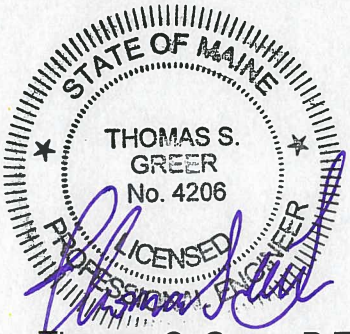
Peak flows: The peak flows are controlled by using a storage system under the parking lot. It will reduce the peak flows from the existing peak flows as shown in the table below.

Table

Peak Flows Cubic Feet Per Second (cfs)			
Storm Event	2 Year	10 Year	25 Year
Existing	4.48	8.37	11.02
Developed	4.38	7.76	9.70

Conclusion:

This parcel provides flow control and treatment of stormwater. It will have no unreasonable impacts on downstream abutters or environments.



Thomas S. Greer, P.E.

6/3/18

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

February 2, 2017

Stormwater Systems ACF-Convergent Water Technologies Alliance
23 Faith Drive
Gorham, ME 04038
ATTN: Robert Woodman and Scott Gorneau

Dear Mr. Woodman and Mr. Gorneau:

This letter replaces the May 16, 2016 approval from the Department of Environmental Protection (Department) that authorized the use of the FocalPoint system. The FocalPoint system (a high performance modular biofiltration system), when installed in series with a subsurface chamber-based treatment row, meets the requirements of the General Standards (Section 4.C.) of the Stormwater Management Rules (Chapter 500), provided that the system is filled with the FocalPoint engineered filter media; it is sized to meet the requirements of the General Standards (Section 4.B.); and it is installed, operated and maintained in accordance with the following provisions:

1. The FocalPoint system must be sized in accordance with the manufacturer's latest field test results with the goal of treating 90% of the annual runoff volume. To accomplish this, the system must be modelled in HydroCAD (or similar TR-55 modelling software) to demonstrate that the entire volume of a 0.95 inch Type III 24-hr storm is treated prior to activation of the bypass/overflow (typically set at 6" to 12" above the mulch surface). When sizing the FocalPoint system to meet Chapter 500, note that runoff from the entire contributing drainage area, including pervious areas, must be included in the modeled runoff values.

2. The surface area of the media within the FocalPoint must be a minimum of 174 square feet per 1 acre of impervious area treated (26 sq. ft. per 0.15 acres). The thickness of the media is to be no less than 1.5 ft. (18 inches) and the ratio of the surface area of the filter media bed in square feet to the ponding volume in cubic feet must be no less than 1 to 5.

3. The FocalPoint system consists of five components that include: 1) an open cell underdrain; 2) a wide aperture separation mesh wrap around the underdrain; 3) a layer of clean washed, 3/8" diameter bridging stone; 4) advanced high flow rate engineered media with an infiltration rate of 100 inches per hour; and 5) double shredded hardwood mulch. These components are built from the bottom up to create a mostly permeable profile that measures 3 feet from bottom of underdrain to top of mulch. The ponding

depth above the mulch surface is typically 6 to 12 inches and varies based on site conditions. An overflow outlet should be placed above the ponding depth.

4. The FocalPoint system requires the establishment of vegetation that is tolerant of wet and dry conditions. Plants that are not performing as desired should be replaced as needed. A list of appropriate plants for use in the FocalPoint system is provided at: http://www.acfenvironmental.com/products/stormwater-management/filtration/focal-point/.

5. The FocalPoint biofiltration system must be placed in-line with a subsurface chamber-based treatment row that is approved by the Department such that both the treated discharge and the bypass discharge from the FocalPoint system drain to the treatment row. The treatment row must be sized to treat the peak flow from a 1-year, 24-hour storm event. The treatment row structure must be continuous and without obstacle for cleaning, and must have access at both ends for the removal of accumulated sediment and debris. The treatment row must be underlain with a bottom surface consisting of 2 layers of woven geotextile (e.g., ACF S300) that extends 18 to 24 inches beyond all sides of the bottom of the structure.

6. Additional storage downstream of the FocalPoint and treatment row will be required to store at least the sum of 1.0 inch of runoff from the impervious areas and 0.4 inches of runoff from the lawn and landscaped areas that drain to the system unless attenuation of the channel protection volume is not required (i.e. direct discharge to a lake, tidal waters, or a major river). An external outlet control structure must control the flow out of a downstream storage system, sized for the entire channel protection volume, and drain in no less than 24 hours or more than 48 hours.

7. If required for flooding control, the storage system can be sized to provide for the storage and release of the peak flow with a regulated flow rate from 24-hour storms of the 2, 10, and 25-year frequencies such that the peak flows from the project site do not exceed the peak flow prior to undertaking the project.

8. The applicant must demonstrate that the design meets all the manufacturer's specifications and shall be reviewed by the manufacturer prior to submission to the Department for approval. Review and approval of the design by the manufacturer will be sufficient to demonstrate conformance with the manufacturer's specifications. The FocalPoint system must be installed by a manufacturer's certified installer or under the supervision of a manufacturer's representative.

9. Components of the system that are delivered in bulk (i.e., mulch, high flow media and clean washed bridging stone), should be contained in nylon super sacks to promote ease of storage and protection during on-site construction activities.

10. The FocalPoint and treatment row system should be inspected and maintained if necessary at least once every six months to maintain the established efficiency for pollutant removal. Prior to construction, a five-year binding inspection and maintenance contract must be provided prior to the Department for review and approval, and must be renewed before contract expiration. The contract will be with a professional with knowledge of erosion and stormwater control, including experience with the proposed system.

11. The overall stormwater management design must meet all Department criteria and sizing specifications and will be reviewed and approved by the Department prior to use.

12. This approval is conditional on full-scale, cold climate field testing results, performed in accordance with the Department's protocols, confirming that the pollutant removal efficiency and sizing of the FocalPoint system are appropriate. The "permit shield" provision (Section 14) of the Chapter 500 rules will apply, and the Department will not require the replacement of the system if, with proper maintenance, pollutant removals do not satisfy the General Standard Best Management Practices.

Questions concerning this decision should be directed to David Waddell at (207) 215-6932 or Jeff Dennis at (207) 215-6376.

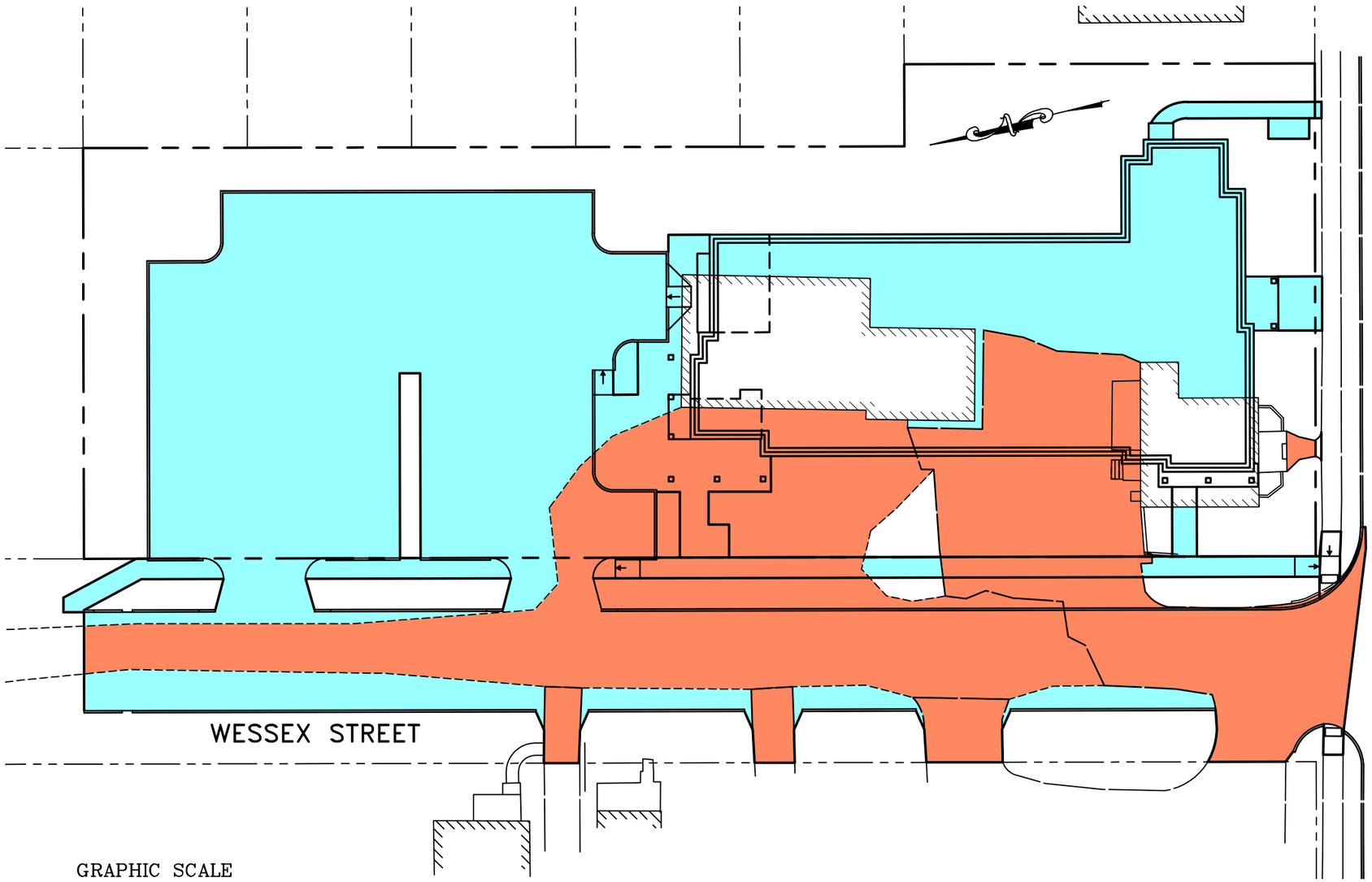
Sincerely,

Mark R Bergeron

Mark Bergeron, P.E.
Director
Bureau of Land Resources

cc: Don Witherill, Maine DEP

6/4/2018 3:53 PM



GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

EXISTING REDEVELOPED NON-ROOF IMPERVIOUS SURFACE = 13,426 S.F.

PROPOSED IMPERVIOUS SURFACE = 17,217 S.F.

IMPERVIOUS TREATMENT: 4,114 + 5,138 + 11,280 = 20,532 S.F.

TOTAL IMPERVIOUS: 29,785 S.F.

TOTAL TREATMENT OF IMPERVIOUS: 69%

DRAWING NUMBER: 01

SCALE: AS SHOWN

DATE: JUNE 4, 2018

DRAWING TITLE: REDEVELOPMENT CALCULATIONS

PROJ. No.: 15.040 / 16150

PROJECT TITLE: 977 BRIGHTON AVE SENIOR APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

264 US Route One Box 6, Suite 100-2A
Scarborough ME 04074
OFFICE: 207 774 4441 CWSARCH.COM

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com

JOB 977 BRIGHTON AVE
PREPARED BY TJC DATE 5/31/18
CHECKED BY _____ DATE _____
SHEET NO. _____ OF _____

SIZING OF FOCAL POINTS

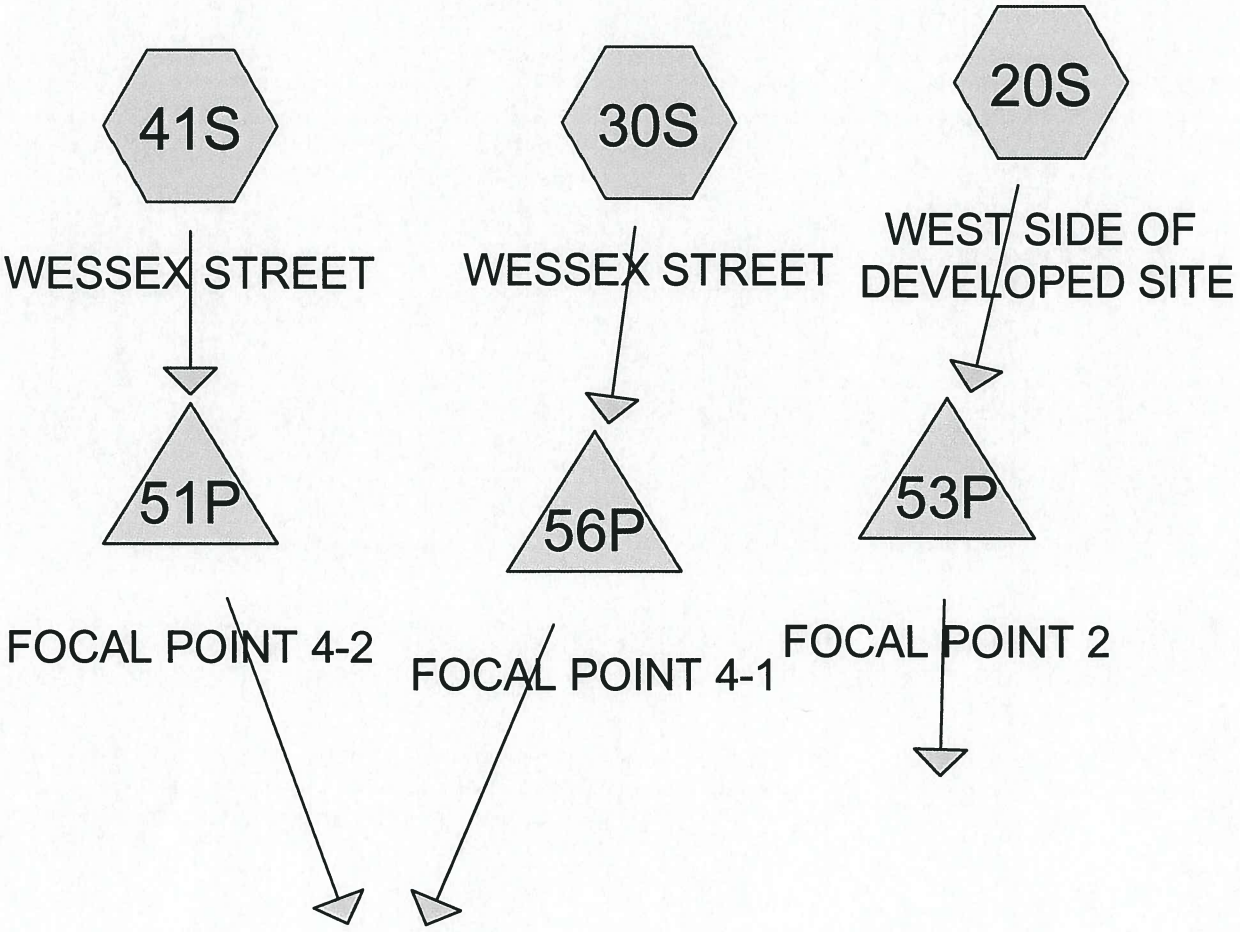
REQUIRED
26 SQFT / 0.15 AC of IMPERVIOUS

FOCAL POINT

		REQUIRED	PROVIDED
# 1	NOT USED		
# 2	0.439A / 0.15 x 26 =	76 SQFT	76 SQFT
# 4-1	0.12A / 0.15 x 26 =	21 SQFT	21 SQFT
# 4-2	0.10 / .15 x 26 =	17 SQFT	21 SQFT

SMART RESOLUTION (888) 309-5267
Ref. No: G 034018690

FOCAL POINT SIZING



Subcat Reach Pond Link

Routing Diagram for SENIOR APARTMENTS 16150 TSG
Prepared by Hewlett-Packard Company, Printed 6/4/2018
HydroCAD® 10.00-16 s/n 01454 © 2015 HydroCAD Software Solutions LLC

Summary for Subcatchment 20S: WEST SIDE OF DEVELOPED SITE

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Depth> 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV1 Rainfall=0.95"

	Area (sf)	CN	Description
*	11,280	98	PAVED
*	7,825	98	BUILDING
	19,105	98	Weighted Average
	19,105		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 30S: WESSEX STREET

Runoff = 0.07 cfs @ 12.07 hrs, Volume= 0.004 af, Depth> 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV1 Rainfall=0.95"

	Area (sf)	CN	Description
*	5,183	98	PAVED
*	2,255	75	LANDSCAPED
	7,438	91	Weighted Average
	2,255		30.32% Pervious Area
	5,183		69.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 41S: WESSEX STREET

Runoff = 0.08 cfs @ 12.06 hrs, Volume= 0.005 af, Depth> 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV1 Rainfall=0.95"

	Area (sf)	CN	Description
*	4,114	98	PAVED
*	100	75	LANDSCAPED
	4,214	97	Weighted Average
	100		2.37% Pervious Area
	4,114		97.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Pond 51P: FOCAL POINT 4-2

Inflow Area = 0.097 ac, 97.63% Impervious, Inflow Depth > 0.62" for WQV1 event
Inflow = 0.08 cfs @ 12.06 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.09 hrs, Volume= 0.005 af, Atten= 8%, Lag= 1.9 min
Primary = 0.07 cfs @ 12.09 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.30' @ 12.09 hrs Surf.Area= 31 sf Storage= 3 cf
< 54.60 OK

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (771.0 - 770.9)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

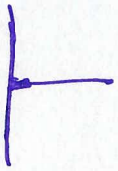
Primary OutFlow Max=0.07 cfs @ 12.09 hrs HW=54.30' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.07 cfs)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 53P: FOCAL POINT 2

Inflow Area = 0.439 ac,100.00% Impervious, Inflow Depth > 0.70" for WQV1 event
Inflow = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.31 cfs @ 12.14 hrs, Volume= 0.026 af, Atten= 13%, Lag= 2.9 min
Primary = 0.31 cfs @ 12.14 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 54.58' @ 12.14 hrs Surf.Area= 135 sf Storage= 29 cf
< 55.0 OK
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.3 min (760.2 - 759.9)



Volume	Invert	Avail.Storage	Storage Description
#1	54.30'	818 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.30	75	0	0
55.00	225	105	105
56.00	1,200	713	818

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.75'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	55.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.31 cfs @ 12.14 hrs HW=54.57' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.31 cfs)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 56P: FOCAL POINT 4-1

Inflow Area = 0.171 ac, 69.68% Impervious, Inflow Depth > 0.30" for WQV1 event
Inflow = 0.07 cfs @ 12.07 hrs, Volume= 0.004 af
Outflow = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 6%, Lag= 1.5 min
Primary = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.26' @ 12.09 hrs Surf.Area= 27 sf Storage= 1 cf
< 54.60 OK
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (814.4 - 814.3)

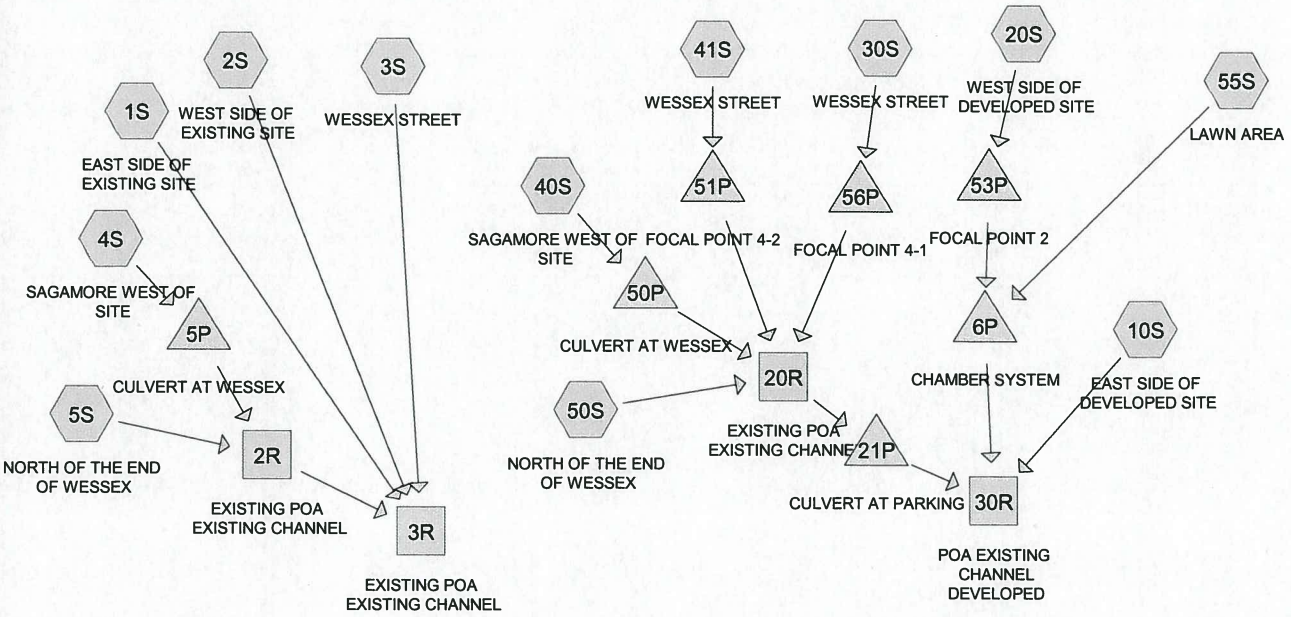
Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.06 cfs @ 12.09 hrs HW=54.25' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.06 cfs)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

2, 10 & 25 YEAR SUMMAY SHEETS



Subcat Reach Pond Link

977 BRIGHTON AVE

Routing Diagram for SENIOR APARTMENTS 16150 TSG
Prepared by Hewlett-Packard Company, Printed 6/4/2018
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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EAST SIDE OF Runoff Area=13,155 sf 19.07% Impervious Runoff Depth>1.16"
Tc=5.0 min CN=79 Runoff=0.44 cfs 0.029 af

Subcatchment 2S: WEST SIDE OF Runoff Area=18,709 sf 17.07% Impervious Runoff Depth>1.42"
Tc=6.0 min CN=83 Runoff=0.75 cfs 0.051 af

Subcatchment 3S: WESSEX STREET Runoff Area=6,710 sf 77.94% Impervious Runoff Depth>2.22"
Tc=4.0 min CN=93 Runoff=0.43 cfs 0.029 af

Subcatchment 4S: SAGAMORE WEST OF Runoff Area=169,980 sf 25.17% Impervious Runoff Depth>1.10"
Flow Length=400' Tc=18.6 min CN=78 Runoff=3.70 cfs 0.357 af

Subcatchment 5S: NORTH OF THE END OF Runoff Area=93,646 sf 8.59% Impervious Runoff Depth>0.64"
Flow Length=400' Tc=44.1 min CN=69 Runoff=0.74 cfs 0.114 af

Subcatchment 10S: EAST SIDE OF Runoff Area=8,533 sf 2.81% Impervious Runoff Depth>0.99"
Tc=5.0 min CN=76 Runoff=0.24 cfs 0.016 af

Subcatchment 20S: WEST SIDE OF Runoff Area=19,105 sf 100.00% Impervious Runoff Depth>2.68"
Tc=6.0 min CN=98 Runoff=1.29 cfs 0.098 af

Subcatchment 30S: WESSEX STREET Runoff Area=7,438 sf 69.68% Impervious Runoff Depth>2.04"
Tc=4.0 min CN=91 Runoff=0.45 cfs 0.029 af

Subcatchment 40S: SAGAMORE WEST Runoff Area=170,635 sf 25.45% Impervious Runoff Depth>1.10"
Flow Length=400' Tc=18.6 min CN=78 Runoff=3.71 cfs 0.358 af

Subcatchment 41S: WESSEX STREET Runoff Area=4,214 sf 97.63% Impervious Runoff Depth>2.59"
Tc=4.0 min CN=97 Runoff=0.30 cfs 0.021 af

Subcatchment 50S: NORTH OF THE END Runoff Area=93,646 sf 8.59% Impervious Runoff Depth>0.64"
Flow Length=400' Tc=44.1 min CN=69 Runoff=0.74 cfs 0.114 af

Subcatchment 55S: LAWN AREA Runoff Area=5,100 sf 0.00% Impervious Runoff Depth>0.94"
Tc=3.0 min CN=75 Runoff=0.15 cfs 0.009 af

Reach 2R: EXISTING POA EXISTING Avg. Flow Depth=0.46' Max Vel=2.88 fps Inflow=3.91 cfs 0.471 af
n=0.035 L=120.0' S=0.0200 '/' Capacity=76.61 cfs Outflow=3.89 cfs 0.470 af

Reach 3R: EXISTING POA EXISTING Avg. Flow Depth=0.60' Max Vel=2.34 fps Inflow=4.48 cfs 0.579 af
n=0.035 L=10.0' S=0.0100 '/' Capacity=54.17 cfs Outflow=4.48 cfs 0.578 af

Reach 20R: EXISTING POA EXISTING Avg. Flow Depth=0.48' Max Vel=2.94 fps Inflow=4.17 cfs 0.522 af
n=0.035 L=120.0' S=0.0200 '/' Capacity=76.61 cfs Outflow=4.16 cfs 0.521 af

Reach 30R: POA EXISTING CHANNEL Avg. Flow Depth=0.59' Max Vel=2.33 fps Inflow=4.38 cfs 0.642 af
n=0.035 L=10.0' S=0.0100 '/' Capacity=54.17 cfs Outflow=4.38 cfs 0.642 af

Pond 5P: CULVERT AT WESSEX Peak Elev=52.43' Storage=366 cf Inflow=3.70 cfs 0.357 af
Outflow=3.52 cfs 0.356 af

Pond 6P: CHAMBER SYSTEM Peak Elev=51.40' Storage=403 cf Inflow=1.41 cfs 0.107 af
Outflow=0.75 cfs 0.107 af

Pond 21P: CULVERT AT PARKING Peak Elev=50.91' Storage=2,127 cf Inflow=4.16 cfs 0.521 af
Outflow=3.62 cfs 0.519 af

Pond 50P: CULVERT AT WESSEX Peak Elev=52.43' Storage=369 cf Inflow=3.71 cfs 0.358 af
Outflow=3.53 cfs 0.358 af

Pond 51P: FOCAL POINT 4-2 Peak Elev=54.65' Storage=20 cf Inflow=0.30 cfs 0.021 af
Outflow=0.31 cfs 0.021 af

Pond 53P: FOCAL POINT 2 Peak Elev=54.93' Storage=90 cf Inflow=1.29 cfs 0.098 af
Outflow=1.29 cfs 0.098 af

Pond 56P: FOCAL POINT 4-1 Peak Elev=54.68' Storage=22 cf Inflow=0.45 cfs 0.029 af
Outflow=0.45 cfs 0.029 af

Total Runoff Area = 14.024 ac Runoff Volume = 1.225 af Average Runoff Depth = 1.05"
76.78% Pervious = 10.767 ac 23.22% Impervious = 3.257 ac

Summary for Subcatchment 1S: EAST SIDE OF EXISTING SITE

Runoff = 0.44 cfs @ 12.08 hrs, Volume= 0.029 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	1,744	98	BUILDING
*	10,646	75	LANDSCAPED
*	765	98	PAVED
	13,155	79	Weighted Average
	10,646		80.93% Pervious Area
	2,509		19.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, DIRECT**

Summary for Subcatchment 2S: WEST SIDE OF EXISTING SITE

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.051 af, Depth> 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	1,560	98	PAVED
*	10,903	75	LANDSCAPED
*	4,612	93	GRAVEL
*	1,634	98	BUILDING
	18,709	83	Weighted Average
	15,515		82.93% Pervious Area
	3,194		17.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 3S: WESSEX STREET

Runoff = 0.43 cfs @ 12.06 hrs, Volume= 0.029 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	720	98	PAVED
*	1,480	75	LANDSCAPED
*	4,510	98	GRAVEL
	6,710	93	Weighted Average
	1,480		22.06% Pervious Area
	5,230		77.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 4S: SAGAMORE WEST OF SITE

Runoff = 3.70 cfs @ 12.27 hrs, Volume= 0.357 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	94,385	75	landscaped
*	32,815	60	woods
*	27,460	98	paved
*	1,340	98	GRAVEL
*	13,980	98	BUILDINGS
	169,980	78	Weighted Average
	127,200		74.83% Pervious Area
	42,780		25.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0300	0.14		**Sheet Flow, SHEET** Grass: Dense n= 0.240 P2= 3.10"
2.5	200	0.0700	1.32		**Shallow Concentrated Flow, SHALLOW 1** Woodland Kv= 5.0 fps
3.8	100	0.0300	0.43		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
18.6	400	Total			

Summary for Subcatchment 5S: NORTH OF THE END OF WESSEX

Runoff = 0.74 cfs @ 12.69 hrs, Volume= 0.114 af, Depth> 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	33,406	75	LANDSCAPED
*	52,200	60	WOODS
*	3,340	98	PAVED
*	1,340	98	GRAVEL
*	3,360	98	BUILDING
	93,646	69	Weighted Average
	85,606		91.41% Pervious Area
	8,040		8.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.3	100	0.0300	0.05		**Sheet Flow, SHEET** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	100	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW 1** Forest w/Heavy Litter Kv= 2.5 fps
9.4	200	0.0200	0.35		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
44.1	400	Total			

Summary for Subcatchment 10S: EAST SIDE OF DEVELOPED SITE

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	240	98	PAVED
*	8,293	75	LANDSCAPED
	8,533	76	Weighted Average
	8,293		97.19% Pervious Area
	240		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, DIRECT**

Summary for Subcatchment 20S: WEST SIDE OF DEVELOPED SITE

Runoff = 1.29 cfs @ 12.09 hrs, Volume= 0.098 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	11,280	98	PAVED
*	7,825	98	BUILDING
	19,105	98	Weighted Average
	19,105		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 30S: WESSEX STREET

Runoff = 0.45 cfs @ 12.06 hrs, Volume= 0.029 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	5,183	98	PAVED
*	2,255	75	LANDSCAPED
	7,438	91	Weighted Average
	2,255		30.32% Pervious Area
	5,183		69.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 40S: SAGAMORE WEST OF SITE

Runoff = 3.71 cfs @ 12.27 hrs, Volume= 0.358 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	94,385	75	landscaped
*	32,815	60	woods
*	25,295	98	paved
*	4,160	98	GRAVEL
*	13,980	98	BUILDINGS
	170,635	78	Weighted Average
	127,200		74.55% Pervious Area
	43,435		25.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0300	0.14		**Sheet Flow, SHEET** Grass: Dense n= 0.240 P2= 3.10"
2.5	200	0.0700	1.32		**Shallow Concentrated Flow, SHALLOW 1** Woodland Kv= 5.0 fps
3.8	100	0.0300	0.43		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
18.6	400	Total			

Summary for Subcatchment 41S: WESSEX STREET

Runoff = 0.30 cfs @ 12.06 hrs, Volume= 0.021 af, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	4,114	98	PAVED
*	100	75	LANDSCAPED
	4,214	97	Weighted Average
	100		2.37% Pervious Area
	4,114		97.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 50S: NORTH OF THE END OF WESSEX

Runoff = 0.74 cfs @ 12.69 hrs, Volume= 0.114 af, Depth> 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	33,406	75	LANDSCAPED
*	52,200	60	WOODS
*	3,340	98	PAVED
*	1,340	98	GRAVEL
*	3,360	98	BUILDING
	93,646	69	Weighted Average
	85,606		91.41% Pervious Area
	8,040		8.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.3	100	0.0300	0.05		**Sheet Flow, SHEET** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	100	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW 1** Forest w/Heavy Litter Kv= 2.5 fps
9.4	200	0.0200	0.35		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
44.1	400	Total			

Summary for Subcatchment 55S: LAWN AREA

Runoff = 0.15 cfs @ 12.06 hrs, Volume= 0.009 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	5,100	75	LAWN
	5,100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0					**Direct Entry, DIRECT**

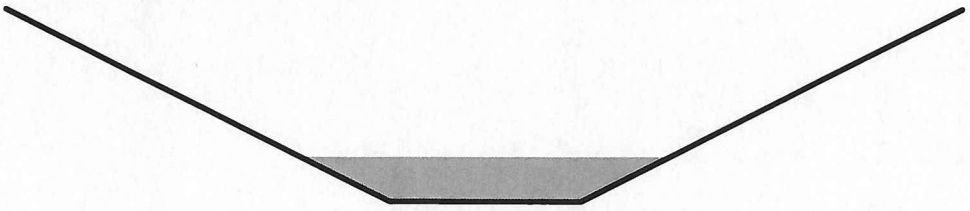
Summary for Reach 2R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.052 ac, 19.28% Impervious, Inflow Depth > 0.93" for 2 YEAR event
Inflow = 3.91 cfs @ 12.36 hrs, Volume= 0.471 af
Outflow = 3.89 cfs @ 12.38 hrs, Volume= 0.470 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.88 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 1.5 min

Peak Storage= 163 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 76.61 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 120.0' Slope= 0.0200 '/'
Inlet Invert= 0.00', Outlet Invert= -2.40'



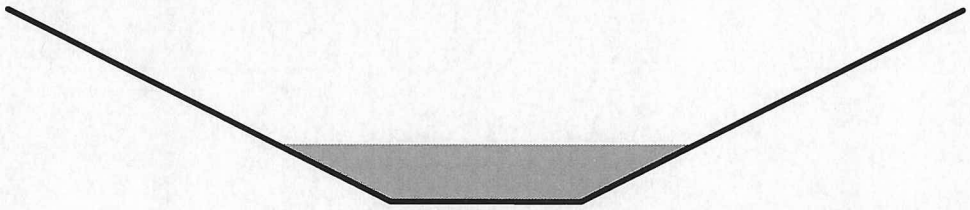
Summary for Reach 3R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.938 ac, 20.43% Impervious, Inflow Depth > 1.00" for 2 YEAR event
Inflow = 4.48 cfs @ 12.35 hrs, Volume= 0.579 af
Outflow = 4.48 cfs @ 12.36 hrs, Volume= 0.578 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.34 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.88 fps, Avg. Travel Time= 0.2 min

Peak Storage= 19 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 54.17 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



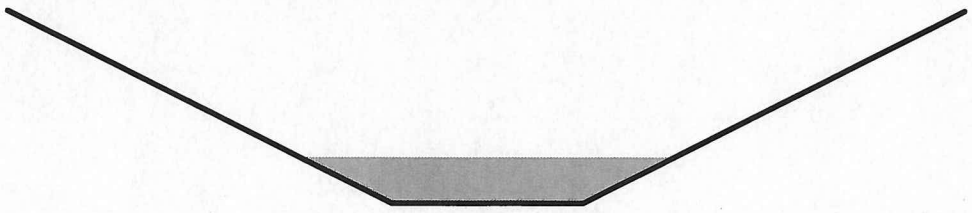
Summary for Reach 20R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.335 ac, 22.02% Impervious, Inflow Depth > 0.99" for 2 YEAR event
Inflow = 4.17 cfs @ 12.35 hrs, Volume= 0.522 af
Outflow = 4.16 cfs @ 12.37 hrs, Volume= 0.521 af, Atten= 0%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.94 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.09 fps, Avg. Travel Time= 1.8 min

Peak Storage= 170 cf @ 12.36 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 76.61 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 120.0' Slope= 0.0200 '/'
Inlet Invert= 0.00', Outlet Invert= -2.40'



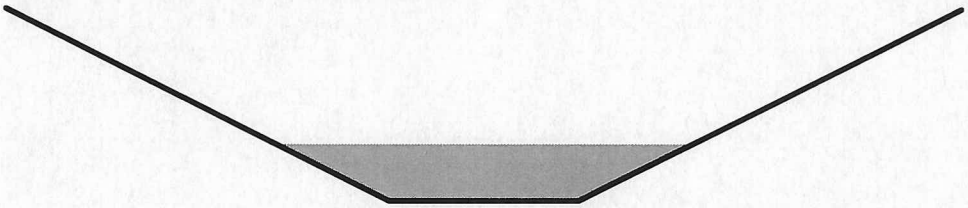
Summary for Reach 30R: POA EXISTING CHANNEL DEVELOPED

Inflow Area = 7.086 ac, 25.96% Impervious, Inflow Depth > 1.09" for 2 YEAR event
Inflow = 4.38 cfs @ 12.51 hrs, Volume= 0.642 af
Outflow = 4.38 cfs @ 12.51 hrs, Volume= 0.642 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.33 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.96 fps, Avg. Travel Time= 0.2 min

Peak Storage= 19 cf @ 12.51 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 54.17 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



Summary for Pond 5P: CULVERT AT WESSEX

Inflow Area = 3.902 ac, 25.17% Impervious, Inflow Depth > 1.10" for 2 YEAR event
Inflow = 3.70 cfs @ 12.27 hrs, Volume= 0.357 af
Outflow = 3.52 cfs @ 12.33 hrs, Volume= 0.356 af, Atten= 5%, Lag= 3.7 min
Primary = 3.52 cfs @ 12.33 hrs, Volume= 0.356 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 52.43' @ 12.33 hrs Surf.Area= 1,154 sf Storage= 366 cf

Plug-Flow detention time= 1.5 min calculated for 0.355 af (100% of inflow)
Center-of-Mass det. time= 1.1 min (820.7 - 819.6)

Volume	Invert	Avail.Storage	Storage Description
#1	51.30'	18,663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.30	100	0	0
52.00	150	88	88
53.00	2,500	1,325	1,413
54.00	10,000	6,250	7,663
55.00	12,000	11,000	18,663

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**15.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.05' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 1.23 sf
#2	Primary	54.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.50 cfs @ 12.33 hrs HW=52.42' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.50 cfs @ 3.98 fps)
└—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: CHAMBER SYSTEM

Inflow Area = 0.556 ac, 78.93% Impervious, Inflow Depth > 2.31" for 2 YEAR event
Inflow = 1.41 cfs @ 12.09 hrs, Volume= 0.107 af
Outflow = 0.75 cfs @ 12.23 hrs, Volume= 0.107 af, Atten= 47%, Lag= 8.5 min
Primary = 0.75 cfs @ 12.23 hrs, Volume= 0.107 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 51.40' @ 12.23 hrs Surf.Area= 1,246 sf Storage= 403 cf

Plug-Flow detention time= 2.9 min calculated for 0.107 af (100% of inflow)
Center-of-Mass det. time= 2.7 min (748.8 - 746.1)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	5,368 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.00	780	0	0
52.00	1,950	1,365	1,365
53.00	1,950	1,950	3,315
53.50	780	683	3,998
54.00	100	220	4,218
55.00	100	100	4,318
56.00	2,000	1,050	5,368

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**6.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.50' S= 0.0050 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Primary	55.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.75 cfs @ 12.23 hrs HW=51.40' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.75 cfs @ 3.81 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 21P: CULVERT AT PARKING

Inflow Area = 6.335 ac, 22.02% Impervious, Inflow Depth > 0.99" for 2 YEAR event
Inflow = 4.16 cfs @ 12.37 hrs, Volume= 0.521 af
Outflow = 3.62 cfs @ 12.52 hrs, Volume= 0.519 af, Atten= 13%, Lag= 9.3 min
Primary = 3.62 cfs @ 12.52 hrs, Volume= 0.519 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 50.91' @ 12.52 hrs Surf.Area= 4,590 sf Storage= 2,127 cf

Plug-Flow detention time= 9.2 min calculated for 0.519 af (100% of inflow)
Center-of-Mass det. time= 7.6 min (832.6 - 825.0)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	100	0	0
52.00	10,000	10,100	10,100

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**18.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.00' S= 0.0100 '/' Cc= 0.900 n= 0.010, Flow Area= 1.77 sf
#2	Primary	51.80'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.61 cfs @ 12.52 hrs HW=50.91' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.61 cfs @ 3.24 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 50P: CULVERT AT WESSEX

Inflow Area = 3.917 ac, 25.45% Impervious, Inflow Depth > 1.10" for 2 YEAR event
Inflow = 3.71 cfs @ 12.27 hrs, Volume= 0.358 af
Outflow = 3.53 cfs @ 12.33 hrs, Volume= 0.358 af, Atten= 5%, Lag= 3.7 min
Primary = 3.53 cfs @ 12.33 hrs, Volume= 0.358 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 52.43' @ 12.33 hrs Surf.Area= 1,160 sf Storage= 369 cf

Plug-Flow detention time= 1.5 min calculated for 0.357 af (100% of inflow)

Center-of-Mass det. time= 1.1 min (820.7 - 819.6)

Volume	Invert	Avail.Storage	Storage Description
#1	51.30'	18,663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.30	100	0	0
52.00	150	88	88
53.00	2,500	1,325	1,413
54.00	10,000	6,250	7,663
55.00	12,000	11,000	18,663

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**15.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.05' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 1.23 sf
#2	Primary	54.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.52 cfs @ 12.33 hrs HW=52.43' (Free Discharge)
└**1=Culvert** (Barrel Controls 3.52 cfs @ 3.99 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 51P: FOCAL POINT 4-2

Inflow Area = 0.097 ac, 97.63% Impervious, Inflow Depth > 2.59" for 2 YEAR event
Inflow = 0.30 cfs @ 12.06 hrs, Volume= 0.021 af
Outflow = 0.31 cfs @ 12.06 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.2 min
Primary = 0.31 cfs @ 12.06 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.65' @ 12.06 hrs Surf.Area= 79 sf Storage= 20 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.6 min (743.2 - 742.6)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.30 cfs @ 12.06 hrs HW=54.65' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.18 cfs)
- **2=Orifice/Grate** (Weir Controls 0.12 cfs @ 0.74 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 53P: FOCAL POINT 2

Inflow Area = 0.439 ac,100.00% Impervious, Inflow Depth > 2.68" for 2 YEAR event
Inflow = 1.29 cfs @ 12.09 hrs, Volume= 0.098 af
Outflow = 1.29 cfs @ 12.10 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.6 min
Primary = 1.29 cfs @ 12.10 hrs, Volume= 0.098 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.93' @ 12.10 hrs Surf.Area= 211 sf Storage= 90 cf

Plug-Flow detention time= 0.8 min calculated for 0.098 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (739.7 - 738.9)

Volume	Invert	Avail.Storage	Storage Description
#1	54.30'	818 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.30	75	0	0
55.00	225	105	105
56.00	1,200	713	818

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.75'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	55.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.27 cfs @ 12.10 hrs HW=54.93' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.49 cfs)
- **2=Orifice/Grate** (Weir Controls 0.79 cfs @ 1.39 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 56P: FOCAL POINT 4-1

Inflow Area = 0.171 ac, 69.68% Impervious, Inflow Depth > 2.04" for 2 YEAR event
Inflow = 0.45 cfs @ 12.06 hrs, Volume= 0.029 af
Outflow = 0.45 cfs @ 12.06 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.3 min
Primary = 0.45 cfs @ 12.06 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.68' @ 12.06 hrs Surf.Area= 89 sf Storage= 22 cf

Plug-Flow detention time= 0.7 min calculated for 0.029 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (770.8 - 770.2)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.43 cfs @ 12.06 hrs HW=54.68' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.20 cfs)
- **2=Orifice/Grate** (Weir Controls 0.23 cfs @ 0.92 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EAST SIDE OF Runoff Area=13,155 sf 19.07% Impervious Runoff Depth>2.29"
Tc=5.0 min CN=79 Runoff=0.87 cfs 0.058 af

Subcatchment 2S: WEST SIDE OF Runoff Area=18,709 sf 17.07% Impervious Runoff Depth>2.64"
Tc=6.0 min CN=83 Runoff=1.38 cfs 0.094 af

Subcatchment 3S: WESSEX STREET Runoff Area=6,710 sf 77.94% Impervious Runoff Depth>3.60"
Tc=4.0 min CN=93 Runoff=0.68 cfs 0.046 af

Subcatchment 4S: SAGAMORE WEST OF Runoff Area=169,980 sf 25.17% Impervious Runoff Depth>2.20"
Flow Length=400' Tc=18.6 min CN=78 Runoff=7.51 cfs 0.715 af

Subcatchment 5S: NORTH OF THE END OF Runoff Area=93,646 sf 8.59% Impervious Runoff Depth>1.51"
Flow Length=400' Tc=44.1 min CN=69 Runoff=1.90 cfs 0.270 af

Subcatchment 10S: EAST SIDE OF Runoff Area=8,533 sf 2.81% Impervious Runoff Depth>2.05"
Tc=5.0 min CN=76 Runoff=0.51 cfs 0.033 af

Subcatchment 20S: WEST SIDE OF Runoff Area=19,105 sf 100.00% Impervious Runoff Depth>4.05"
Tc=6.0 min CN=98 Runoff=1.93 cfs 0.148 af

Subcatchment 30S: WESSEX STREET Runoff Area=7,438 sf 69.68% Impervious Runoff Depth>3.40"
Tc=4.0 min CN=91 Runoff=0.73 cfs 0.048 af

Subcatchment 40S: SAGAMORE WEST Runoff Area=170,635 sf 25.45% Impervious Runoff Depth>2.20"
Flow Length=400' Tc=18.6 min CN=78 Runoff=7.54 cfs 0.718 af

Subcatchment 41S: WESSEX STREET Runoff Area=4,214 sf 97.63% Impervious Runoff Depth>3.98"
Tc=4.0 min CN=97 Runoff=0.45 cfs 0.032 af

Subcatchment 50S: NORTH OF THE END Runoff Area=93,646 sf 8.59% Impervious Runoff Depth>1.51"
Flow Length=400' Tc=44.1 min CN=69 Runoff=1.90 cfs 0.270 af

Subcatchment 55S: LAWN AREA Runoff Area=5,100 sf 0.00% Impervious Runoff Depth>1.97"
Tc=3.0 min CN=75 Runoff=0.32 cfs 0.019 af

Reach 2R: EXISTING POA EXISTING Avg. Flow Depth=0.66' Max Vel=3.48 fps Inflow=7.63 cfs 0.985 af
n=0.035 L=120.0' S=0.0200 '/' Capacity=76.61 cfs Outflow=7.62 cfs 0.984 af

Reach 3R: EXISTING POA EXISTING Avg. Flow Depth=0.83' Max Vel=2.78 fps Inflow=8.37 cfs 1.182 af
n=0.035 L=10.0' S=0.0100 '/' Capacity=54.17 cfs Outflow=8.37 cfs 1.182 af

Reach 20R: EXISTING POA EXISTING Avg. Flow Depth=0.67' Max Vel=3.52 fps Inflow=7.92 cfs 1.068 af
n=0.035 L=120.0' S=0.0200 '/' Capacity=76.61 cfs Outflow=7.91 cfs 1.067 af

Reach 30R: POA EXISTING CHANNEL Avg. Flow Depth=0.79' Max Vel=2.72 fps Inflow=7.76 cfs 1.264 af
n=0.035 L=10.0' S=0.0100 '/' Capacity=54.17 cfs Outflow=7.76 cfs 1.264 af

Pond 5P: CULVERT AT WESSEX Peak Elev=53.17' Storage=1,957 cf Inflow=7.51 cfs 0.715 af
Outflow=6.06 cfs 0.715 af

Pond 6P: CHAMBER SYSTEM Peak Elev=51.84' Storage=1,060 cf Inflow=2.20 cfs 0.167 af
Outflow=0.86 cfs 0.167 af

Pond 21P: CULVERT AT PARKING Peak Elev=51.40' Storage=4,968 cf Inflow=7.91 cfs 1.067 af
Outflow=6.90 cfs 1.063 af

Pond 50P: CULVERT AT WESSEX Peak Elev=53.18' Storage=1,975 cf Inflow=7.54 cfs 0.718 af
Outflow=6.07 cfs 0.717 af

Pond 51P: FOCAL POINT 4-2 Peak Elev=54.68' Storage=22 cf Inflow=0.45 cfs 0.032 af
Outflow=0.45 cfs 0.032 af

Pond 53P: FOCAL POINT 2 Peak Elev=55.01' Storage=108 cf Inflow=1.93 cfs 0.148 af
Outflow=1.93 cfs 0.148 af

Pond 56P: FOCAL POINT 4-1 Peak Elev=54.73' Storage=27 cf Inflow=0.73 cfs 0.048 af
Outflow=0.72 cfs 0.048 af

Total Runoff Area = 14.024 ac Runoff Volume = 2.452 af Average Runoff Depth = 2.10"
76.78% Pervious = 10.767 ac 23.22% Impervious = 3.257 ac

Summary for Subcatchment 1S: EAST SIDE OF EXISTING SITE

Runoff = 0.87 cfs @ 12.08 hrs, Volume= 0.058 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	1,744	98	BUILDING
*	10,646	75	LANDSCAPED
*	765	98	PAVED
	13,155	79	Weighted Average
	10,646		80.93% Pervious Area
	2,509		19.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, DIRECT**

Summary for Subcatchment 2S: WEST SIDE OF EXISTING SITE

Runoff = 1.38 cfs @ 12.09 hrs, Volume= 0.094 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	1,560	98	PAVED
*	10,903	75	LANDSCAPED
*	4,612	93	GRAVEL
*	1,634	98	BUILDING
	18,709	83	Weighted Average
	15,515		82.93% Pervious Area
	3,194		17.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 3S: WESSEX STREET

Runoff = 0.68 cfs @ 12.06 hrs, Volume= 0.046 af, Depth> 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	720	98	PAVED
*	1,480	75	LANDSCAPED
*	4,510	98	GRAVEL
	6,710	93	Weighted Average
	1,480		22.06% Pervious Area
	5,230		77.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 4S: SAGAMORE WEST OF SITE

Runoff = 7.51 cfs @ 12.26 hrs, Volume= 0.715 af, Depth> 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	94,385	75	landscaped
*	32,815	60	woods
*	27,460	98	paved
*	1,340	98	GRAVEL
*	13,980	98	BUILDINGS
	169,980	78	Weighted Average
	127,200		74.83% Pervious Area
	42,780		25.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0300	0.14		**Sheet Flow, SHEET** Grass: Dense n= 0.240 P2= 3.10"
2.5	200	0.0700	1.32		**Shallow Concentrated Flow, SHALLOW 1** Woodland Kv= 5.0 fps
3.8	100	0.0300	0.43		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
18.6	400	Total			

Summary for Subcatchment 5S: NORTH OF THE END OF WESSEX

Runoff = 1.90 cfs @ 12.64 hrs, Volume= 0.270 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	33,406	75	LANDSCAPED
*	52,200	60	WOODS
*	3,340	98	PAVED
*	1,340	98	GRAVEL
*	3,360	98	BUILDING
	93,646	69	Weighted Average
	85,606		91.41% Pervious Area
	8,040		8.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.3	100	0.0300	0.05		**Sheet Flow, SHEET** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	100	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW 1** Forest w/Heavy Litter Kv= 2.5 fps
9.4	200	0.0200	0.35		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
44.1	400	Total			

Summary for Subcatchment 10S: EAST SIDE OF DEVELOPED SITE

Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.033 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	240	98	PAVED
*	8,293	75	LANDSCAPED
	8,533	76	Weighted Average
	8,293		97.19% Pervious Area
	240		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, DIRECT**

Summary for Subcatchment 20S: WEST SIDE OF DEVELOPED SITE

Runoff = 1.93 cfs @ 12.09 hrs, Volume= 0.148 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	11,280	98	PAVED
*	7,825	98	BUILDING
	19,105	98	Weighted Average
	19,105		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 30S: WESSEX STREET

Runoff = 0.73 cfs @ 12.06 hrs, Volume= 0.048 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	5,183	98	PAVED
*	2,255	75	LANDSCAPED
	7,438	91	Weighted Average
	2,255		30.32% Pervious Area
	5,183		69.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 40S: SAGAMORE WEST OF SITE

Runoff = 7.54 cfs @ 12.26 hrs, Volume= 0.718 af, Depth> 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	94,385	75	landscaped
*	32,815	60	woods
*	25,295	98	paved
*	4,160	98	GRAVEL
*	13,980	98	BUILDINGS
	170,635	78	Weighted Average
	127,200		74.55% Pervious Area
	43,435		25.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0300	0.14		**Sheet Flow, SHEET** Grass: Dense n= 0.240 P2= 3.10"
2.5	200	0.0700	1.32		**Shallow Concentrated Flow, SHALLOW 1** Woodland Kv= 5.0 fps
3.8	100	0.0300	0.43		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
18.6	400	Total			

Summary for Subcatchment 41S: WESSEX STREET

Runoff = 0.45 cfs @ 12.06 hrs, Volume= 0.032 af, Depth> 3.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	4,114	98	PAVED
*	100	75	LANDSCAPED
	4,214	97	Weighted Average
	100		2.37% Pervious Area
	4,114		97.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 50S: NORTH OF THE END OF WESSEX

Runoff = 1.90 cfs @ 12.64 hrs, Volume= 0.270 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	33,406	75	LANDSCAPED
*	52,200	60	WOODS
*	3,340	98	PAVED
*	1,340	98	GRAVEL
*	3,360	98	BUILDING
	93,646	69	Weighted Average
	85,606		91.41% Pervious Area
	8,040		8.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.3	100	0.0300	0.05		**Sheet Flow, SHEET** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	100	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW 1** Forest w/Heavy Litter Kv= 2.5 fps
9.4	200	0.0200	0.35		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
44.1	400	Total			

Summary for Subcatchment 55S: LAWN AREA

Runoff = 0.32 cfs @ 12.05 hrs, Volume= 0.019 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	5,100	75	LAWN
	5,100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0					**Direct Entry, DIRECT**

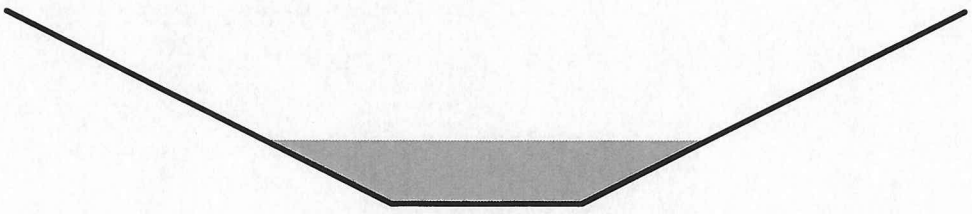
Summary for Reach 2R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.052 ac, 19.28% Impervious, Inflow Depth > 1.95" for 10 YEAR event
Inflow = 7.63 cfs @ 12.47 hrs, Volume= 0.985 af
Outflow = 7.62 cfs @ 12.49 hrs, Volume= 0.984 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.48 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 1.2 min

Peak Storage= 263 cf @ 12.48 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 76.61 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 120.0' Slope= 0.0200 '/'
Inlet Invert= 0.00', Outlet Invert= -2.40'



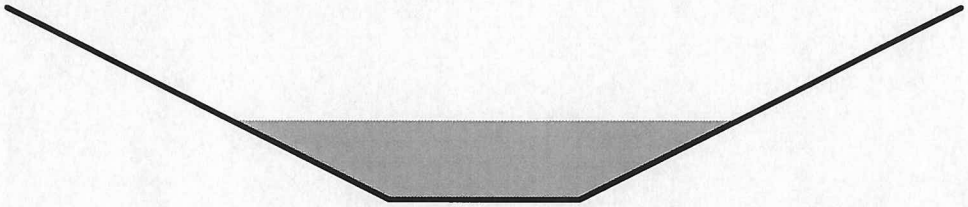
Summary for Reach 3R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.938 ac, 20.43% Impervious, Inflow Depth > 2.04" for 10 YEAR event
Inflow = 8.37 cfs @ 12.44 hrs, Volume= 1.182 af
Outflow = 8.37 cfs @ 12.44 hrs, Volume= 1.182 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.78 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 0.1 min

Peak Storage= 30 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.83'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 54.17 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



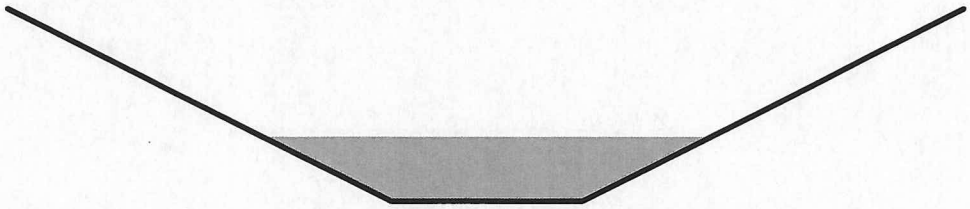
Summary for Reach 20R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.335 ac, 22.02% Impervious, Inflow Depth > 2.02" for 10 YEAR event
Inflow = 7.92 cfs @ 12.46 hrs, Volume= 1.068 af
Outflow = 7.91 cfs @ 12.47 hrs, Volume= 1.067 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.52 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 1.5 min

Peak Storage= 270 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.67'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 76.61 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 120.0' Slope= 0.0200 '/'
Inlet Invert= 0.00', Outlet Invert= -2.40'



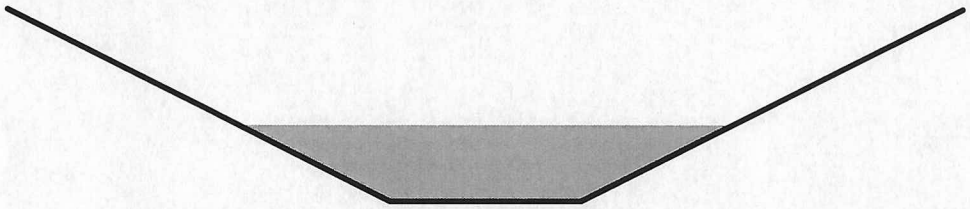
Summary for Reach 30R: POA EXISTING CHANNEL DEVELOPED

Inflow Area = 7.086 ac, 25.96% Impervious, Inflow Depth > 2.14" for 10 YEAR event
Inflow = 7.76 cfs @ 12.67 hrs, Volume= 1.264 af
Outflow = 7.76 cfs @ 12.67 hrs, Volume= 1.264 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.72 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 0.1 min

Peak Storage= 29 cf @ 12.67 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 54.17 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



Summary for Pond 5P: CULVERT AT WESSEX

Inflow Area = 3.902 ac, 25.17% Impervious, Inflow Depth > 2.20" for 10 YEAR event
Inflow = 7.51 cfs @ 12.26 hrs, Volume= 0.715 af
Outflow = 6.06 cfs @ 12.41 hrs, Volume= 0.715 af, Atten= 19%, Lag= 8.7 min
Primary = 6.06 cfs @ 12.41 hrs, Volume= 0.715 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 53.17' @ 12.41 hrs Surf.Area= 3,798 sf Storage= 1,957 cf

Plug-Flow detention time= 2.5 min calculated for 0.715 af (100% of inflow)
Center-of-Mass det. time= 2.2 min (806.4 - 804.3)

Volume	Invert	Avail.Storage	Storage Description
#1	51.30'	18,663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.30	100	0	0
52.00	150	88	88
53.00	2,500	1,325	1,413
54.00	10,000	6,250	7,663
55.00	12,000	11,000	18,663

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**15.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.05' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 1.23 sf
#2	Primary	54.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.05 cfs @ 12.41 hrs HW=53.17' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 6.05 cfs @ 4.93 fps)
└—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: CHAMBER SYSTEM

Inflow Area = 0.556 ac, 78.93% Impervious, Inflow Depth > 3.62" for 10 YEAR event
Inflow = 2.20 cfs @ 12.09 hrs, Volume= 0.167 af
Outflow = 0.86 cfs @ 12.33 hrs, Volume= 0.167 af, Atten= 61%, Lag= 14.2 min
Primary = 0.86 cfs @ 12.33 hrs, Volume= 0.167 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 51.84' @ 12.33 hrs Surf.Area= 1,757 sf Storage= 1,060 cf

Plug-Flow detention time= 6.6 min calculated for 0.167 af (100% of inflow)
Center-of-Mass det. time= 6.4 min (749.9 - 743.5)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	5,368 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.00	780	0	0
52.00	1,950	1,365	1,365
53.00	1,950	1,950	3,315
53.50	780	683	3,998
54.00	100	220	4,218
55.00	100	100	4,318
56.00	2,000	1,050	5,368

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**6.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.50' S= 0.0050 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Primary	55.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.86 cfs @ 12.33 hrs HW=51.83' (Free Discharge)
1=Culvert (Barrel Controls 0.86 cfs @ 4.37 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 21P: CULVERT AT PARKING

Inflow Area = 6.335 ac, 22.02% Impervious, Inflow Depth > 2.02" for 10 YEAR event
Inflow = 7.91 cfs @ 12.47 hrs, Volume= 1.067 af
Outflow = 6.90 cfs @ 12.68 hrs, Volume= 1.063 af, Atten= 13%, Lag= 12.7 min
Primary = 6.90 cfs @ 12.68 hrs, Volume= 1.063 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 51.40' @ 12.68 hrs Surf.Area= 7,014 sf Storage= 4,968 cf

Plug-Flow detention time= 10.0 min calculated for 1.059 af (99% of inflow)
Center-of-Mass det. time= 8.6 min (820.9 - 812.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	100	0	0
52.00	10,000	10,100	10,100

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**18.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.00' S= 0.0100 '/' Cc= 0.900 n= 0.010, Flow Area= 1.77 sf
#2	Primary	51.80'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.89 cfs @ 12.68 hrs HW=51.39' (Free Discharge)
1=Culvert (Inlet Controls 6.89 cfs @ 4.02 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 50P: CULVERT AT WESSEX

Inflow Area = 3.917 ac, 25.45% Impervious, Inflow Depth > 2.20" for 10 YEAR event
Inflow = 7.54 cfs @ 12.26 hrs, Volume= 0.718 af
Outflow = 6.07 cfs @ 12.41 hrs, Volume= 0.717 af, Atten= 19%, Lag= 8.7 min
Primary = 6.07 cfs @ 12.41 hrs, Volume= 0.717 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 53.18' @ 12.41 hrs Surf.Area= 3,832 sf Storage= 1,975 cf

Plug-Flow detention time= 2.5 min calculated for 0.715 af (100% of inflow)

Center-of-Mass det. time= 2.2 min (806.4 - 804.3)

Volume	Invert	Avail.Storage	Storage Description
#1	51.30'	18,663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.30	100	0	0
52.00	150	88	88
53.00	2,500	1,325	1,413
54.00	10,000	6,250	7,663
55.00	12,000	11,000	18,663

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**15.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.05' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 1.23 sf
#2	Primary	54.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.07 cfs @ 12.41 hrs HW=53.18' (Free Discharge)
└─**1=Culvert** (Barrel Controls 6.07 cfs @ 4.94 fps)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 51P: FOCAL POINT 4-2

Inflow Area = 0.097 ac, 97.63% Impervious, Inflow Depth > 3.98" for 10 YEAR event
Inflow = 0.45 cfs @ 12.06 hrs, Volume= 0.032 af
Outflow = 0.45 cfs @ 12.06 hrs, Volume= 0.032 af, Atten= 1%, Lag= 0.4 min
Primary = 0.45 cfs @ 12.06 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.68' @ 12.06 hrs Surf.Area= 89 sf Storage= 22 cf

Plug-Flow detention time= 0.6 min calculated for 0.032 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (738.2 - 737.6)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.43 cfs @ 12.06 hrs HW=54.68' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.20 cfs)
- **2=Orifice/Grate** (Weir Controls 0.23 cfs @ 0.92 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 53P: FOCAL POINT 2

Inflow Area = 0.439 ac,100.00% Impervious, Inflow Depth > 4.05" for 10 YEAR event
Inflow = 1.93 cfs @ 12.09 hrs, Volume= 0.148 af
Outflow = 1.93 cfs @ 12.09 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.5 min
Primary = 1.93 cfs @ 12.09 hrs, Volume= 0.148 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 55.01' @ 12.09 hrs Surf.Area= 238 sf Storage= 108 cf

Plug-Flow detention time= 0.8 min calculated for 0.148 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (736.4 - 735.6)

Volume	Invert	Avail.Storage	Storage Description
#1	54.30'	818 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.30	75	0	0
55.00	225	105	105
56.00	1,200	713	818

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.75'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	55.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.90 cfs @ 12.09 hrs HW=55.01' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.54 cfs)
- **2=Orifice/Grate** (Weir Controls 1.36 cfs @ 1.67 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 56P: FOCAL POINT 4-1

Inflow Area = 0.171 ac, 69.68% Impervious, Inflow Depth > 3.40" for 10 YEAR event
Inflow = 0.73 cfs @ 12.06 hrs, Volume= 0.048 af
Outflow = 0.72 cfs @ 12.06 hrs, Volume= 0.048 af, Atten= 1%, Lag= 0.3 min
Primary = 0.72 cfs @ 12.06 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.73' @ 12.06 hrs Surf.Area= 105 sf Storage= 27 cf

Plug-Flow detention time= 0.6 min calculated for 0.048 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (758.9 - 758.3)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.69 cfs @ 12.06 hrs HW=54.73' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.24 cfs)
- **2=Orifice/Grate** (Weir Controls 0.45 cfs @ 1.16 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EAST SIDE OF Runoff Area=13,155 sf 19.07% Impervious Runoff Depth>3.28"
Tc=5.0 min CN=79 Runoff=1.24 cfs 0.082 af

Subcatchment 2S: WEST SIDE OF Runoff Area=18,709 sf 17.07% Impervious Runoff Depth>3.67"
Tc=6.0 min CN=83 Runoff=1.91 cfs 0.131 af

Subcatchment 3S: WESSEX STREET Runoff Area=6,710 sf 77.94% Impervious Runoff Depth>4.70"
Tc=4.0 min CN=93 Runoff=0.88 cfs 0.060 af

Subcatchment 4S: SAGAMORE WEST OF Runoff Area=169,980 sf 25.17% Impervious Runoff Depth>3.17"
Flow Length=400' Tc=18.6 min CN=78 Runoff=10.79 cfs 1.030 af

Subcatchment 5S: NORTH OF THE END OF Runoff Area=93,646 sf 8.59% Impervious Runoff Depth>2.33"
Flow Length=400' Tc=44.1 min CN=69 Runoff=2.98 cfs 0.417 af

Subcatchment 10S: EAST SIDE OF Runoff Area=8,533 sf 2.81% Impervious Runoff Depth>2.99"
Tc=5.0 min CN=76 Runoff=0.74 cfs 0.049 af

Subcatchment 20S: WEST SIDE OF Runoff Area=19,105 sf 100.00% Impervious Runoff Depth>5.15"
Tc=6.0 min CN=98 Runoff=2.43 cfs 0.188 af

Subcatchment 30S: WESSEX STREET Runoff Area=7,438 sf 69.68% Impervious Runoff Depth>4.50"
Tc=4.0 min CN=91 Runoff=0.95 cfs 0.064 af

Subcatchment 40S: SAGAMORE WEST Runoff Area=170,635 sf 25.45% Impervious Runoff Depth>3.17"
Flow Length=400' Tc=18.6 min CN=78 Runoff=10.83 cfs 1.034 af

Subcatchment 41S: WESSEX STREET Runoff Area=4,214 sf 97.63% Impervious Runoff Depth>5.07"
Tc=4.0 min CN=97 Runoff=0.57 cfs 0.041 af

Subcatchment 50S: NORTH OF THE END Runoff Area=93,646 sf 8.59% Impervious Runoff Depth>2.33"
Flow Length=400' Tc=44.1 min CN=69 Runoff=2.98 cfs 0.417 af

Subcatchment 55S: LAWN AREA Runoff Area=5,100 sf 0.00% Impervious Runoff Depth>2.90"
Tc=3.0 min CN=75 Runoff=0.46 cfs 0.028 af

Reach 2R: EXISTING POA EXISTING Avg. Flow Depth=0.77' Max Vel=3.78 fps Inflow=10.26 cfs 1.446 af
n=0.035 L=120.0' S=0.0200 '/' Capacity=76.61 cfs Outflow=10.26 cfs 1.445 af

Reach 3R: EXISTING POA EXISTING Avg. Flow Depth=0.95' Max Vel=2.99 fps Inflow=11.02 cfs 1.719 af
n=0.035 L=10.0' S=0.0100 '/' Capacity=54.17 cfs Outflow=11.02 cfs 1.719 af

Reach 20R: EXISTING POA EXISTING Avg. Flow Depth=0.78' Max Vel=3.81 fps Inflow=10.53 cfs 1.555 af
n=0.035 L=120.0' S=0.0200 '/' Capacity=76.61 cfs Outflow=10.52 cfs 1.554 af

Reach 30R: POA EXISTING CHANNEL Avg. Flow Depth=0.89' Max Vel=2.89 fps Inflow=9.71 cfs 1.814 af
n=0.035 L=10.0' S=0.0100 '/' Capacity=54.17 cfs Outflow=9.70 cfs 1.814 af

Pond 5P: CULVERT AT WESSEX Peak Elev=53.62' Storage=4,411 cf Inflow=10.79 cfs 1.030 af
Outflow=7.45 cfs 1.029 af

Pond 6P: CHAMBER SYSTEM Peak Elev=52.18' Storage=1,720 cf Inflow=2.83 cfs 0.216 af
Outflow=0.94 cfs 0.216 af

Pond 21P: CULVERT AT PARKING Peak Elev=51.80' Storage=8,241 cf Inflow=10.52 cfs 1.554 af
Outflow=8.75 cfs 1.549 af

Pond 50P: CULVERT AT WESSEX Peak Elev=53.63' Storage=4,449 cf Inflow=10.83 cfs 1.034 af
Outflow=7.47 cfs 1.033 af

Pond 51P: FOCAL POINT 4-2 Peak Elev=54.70' Storage=24 cf Inflow=0.57 cfs 0.041 af
Outflow=0.57 cfs 0.041 af

Pond 53P: FOCAL POINT 2 Peak Elev=55.06' Storage=120 cf Inflow=2.43 cfs 0.188 af
Outflow=2.44 cfs 0.188 af

Pond 56P: FOCAL POINT 4-1 Peak Elev=54.76' Storage=31 cf Inflow=0.95 cfs 0.064 af
Outflow=0.94 cfs 0.064 af

Total Runoff Area = 14.024 ac Runoff Volume = 3.542 af Average Runoff Depth = 3.03"
76.78% Pervious = 10.767 ac 23.22% Impervious = 3.257 ac

Summary for Subcatchment 1S: EAST SIDE OF EXISTING SITE

Runoff = 1.24 cfs @ 12.08 hrs, Volume= 0.082 af, Depth> 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	1,744	98	BUILDING
*	10,646	75	LANDSCAPED
*	765	98	PAVED
	13,155	79	Weighted Average
	10,646		80.93% Pervious Area
	2,509		19.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, DIRECT**

Summary for Subcatchment 2S: WEST SIDE OF EXISTING SITE

Runoff = 1.91 cfs @ 12.09 hrs, Volume= 0.131 af, Depth> 3.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	1,560	98	PAVED
*	10,903	75	LANDSCAPED
*	4,612	93	GRAVEL
*	1,634	98	BUILDING
	18,709	83	Weighted Average
	15,515		82.93% Pervious Area
	3,194		17.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 3S: WESSEX STREET

Runoff = 0.88 cfs @ 12.06 hrs, Volume= 0.060 af, Depth> 4.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	720	98	PAVED
*	1,480	75	LANDSCAPED
*	4,510	98	GRAVEL
	6,710	93	Weighted Average
	1,480		22.06% Pervious Area
	5,230		77.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 4S: SAGAMORE WEST OF SITE

Runoff = 10.79 cfs @ 12.26 hrs, Volume= 1.030 af, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	94,385	75	landscaped
*	32,815	60	woods
*	27,460	98	paved
*	1,340	98	GRAVEL
*	13,980	98	BUILDINGS
	169,980	78	Weighted Average
	127,200		74.83% Pervious Area
	42,780		25.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0300	0.14		**Sheet Flow, SHEET** Grass: Dense n= 0.240 P2= 3.10"
2.5	200	0.0700	1.32		**Shallow Concentrated Flow, SHALLOW 1** Woodland Kv= 5.0 fps
3.8	100	0.0300	0.43		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
18.6	400	Total			

Summary for Subcatchment 5S: NORTH OF THE END OF WESSEX

Runoff = 2.98 cfs @ 12.62 hrs, Volume= 0.417 af, Depth> 2.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	33,406	75	LANDSCAPED
*	52,200	60	WOODS
*	3,340	98	PAVED
*	1,340	98	GRAVEL
*	3,360	98	BUILDING
	93,646	69	Weighted Average
	85,606		91.41% Pervious Area
	8,040		8.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.3	100	0.0300	0.05		**Sheet Flow, SHEET** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	100	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW 1** Forest w/Heavy Litter Kv= 2.5 fps
9.4	200	0.0200	0.35		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
44.1	400	Total			

Summary for Subcatchment 10S: EAST SIDE OF DEVELOPED SITE

Runoff = 0.74 cfs @ 12.08 hrs, Volume= 0.049 af, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	240	98	PAVED
*	8,293	75	LANDSCAPED
	8,533	76	Weighted Average
	8,293		97.19% Pervious Area
	240		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, DIRECT**

Summary for Subcatchment 20S: WEST SIDE OF DEVELOPED SITE

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.188 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	11,280	98	PAVED
*	7,825	98	BUILDING
	19,105	98	Weighted Average
	19,105		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, DIRECT**

Summary for Subcatchment 30S: WESSEX STREET

Runoff = 0.95 cfs @ 12.06 hrs, Volume= 0.064 af, Depth> 4.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	5,183	98	PAVED
*	2,255	75	LANDSCAPED
	7,438	91	Weighted Average
	2,255		30.32% Pervious Area
	5,183		69.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 40S: SAGAMORE WEST OF SITE

Runoff = 10.83 cfs @ 12.26 hrs, Volume= 1.034 af, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	94,385	75	landscaped
*	32,815	60	woods
*	25,295	98	paved
*	4,160	98	GRAVEL
*	13,980	98	BUILDINGS
	170,635	78	Weighted Average
	127,200		74.55% Pervious Area
	43,435		25.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0300	0.14		**Sheet Flow, SHEET** Grass: Dense n= 0.240 P2= 3.10"
2.5	200	0.0700	1.32		**Shallow Concentrated Flow, SHALLOW 1** Woodland Kv= 5.0 fps
3.8	100	0.0300	0.43		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
18.6	400	Total			

Summary for Subcatchment 41S: WESSEX STREET

Runoff = 0.57 cfs @ 12.06 hrs, Volume= 0.041 af, Depth> 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	4,114	98	PAVED
*	100	75	LANDSCAPED
	4,214	97	Weighted Average
	100		2.37% Pervious Area
	4,114		97.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					**Direct Entry, DIRECT**

Summary for Subcatchment 50S: NORTH OF THE END OF WESSEX

Runoff = 2.98 cfs @ 12.62 hrs, Volume= 0.417 af, Depth> 2.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	33,406	75	LANDSCAPED
*	52,200	60	WOODS
*	3,340	98	PAVED
*	1,340	98	GRAVEL
*	3,360	98	BUILDING
	93,646	69	Weighted Average
	85,606		91.41% Pervious Area
	8,040		8.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.3	100	0.0300	0.05		**Sheet Flow, SHEET** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.4	100	0.0800	0.71		**Shallow Concentrated Flow, SHALLOW 1** Forest w/Heavy Litter Kv= 2.5 fps
9.4	200	0.0200	0.35		**Shallow Concentrated Flow, SHALLOW 2** Forest w/Heavy Litter Kv= 2.5 fps
44.1	400	Total			

Summary for Subcatchment 55S: LAWN AREA

Runoff = 0.46 cfs @ 12.05 hrs, Volume= 0.028 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	5,100	75	LAWN
	5,100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0					**Direct Entry, DIRECT**

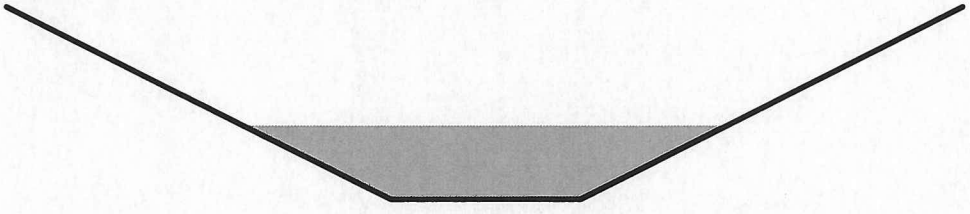
Summary for Reach 2R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.052 ac, 19.28% Impervious, Inflow Depth > 2.87" for 25 YEAR event
Inflow = 10.26 cfs @ 12.55 hrs, Volume= 1.446 af
Outflow = 10.26 cfs @ 12.56 hrs, Volume= 1.445 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.78 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.74 fps, Avg. Travel Time= 1.2 min

Peak Storage= 326 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.77'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 76.61 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 120.0' Slope= 0.0200 '/'
Inlet Invert= 0.00', Outlet Invert= -2.40'



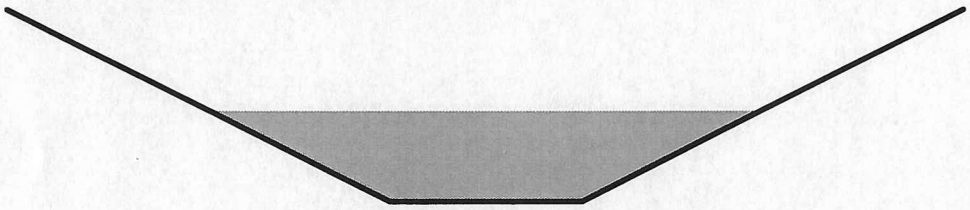
Summary for Reach 3R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.938 ac, 20.43% Impervious, Inflow Depth > 2.97" for 25 YEAR event
Inflow = 11.02 cfs @ 12.48 hrs, Volume= 1.719 af
Outflow = 11.02 cfs @ 12.49 hrs, Volume= 1.719 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.99 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 0.1 min

Peak Storage= 37 cf @ 12.48 hrs
Average Depth at Peak Storage= 0.95'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 54.17 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



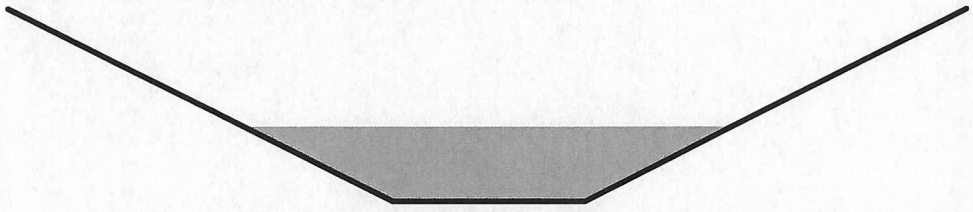
Summary for Reach 20R: EXISTING POA EXISTING CHANNEL

Inflow Area = 6.335 ac, 22.02% Impervious, Inflow Depth > 2.95" for 25 YEAR event
Inflow = 10.53 cfs @ 12.53 hrs, Volume= 1.555 af
Outflow = 10.52 cfs @ 12.54 hrs, Volume= 1.554 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.81 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.57 fps, Avg. Travel Time= 1.3 min

Peak Storage= 332 cf @ 12.53 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 76.61 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 120.0' Slope= 0.0200 '/'
Inlet Invert= 0.00', Outlet Invert= -2.40'



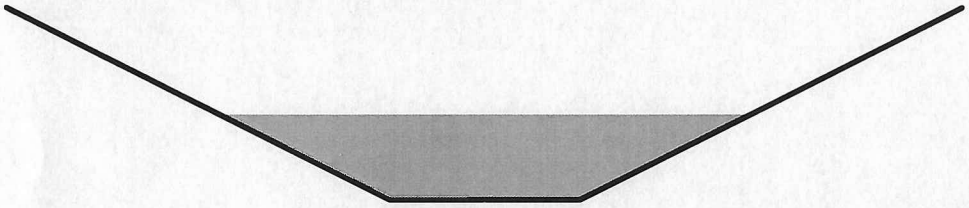
Summary for Reach 30R: POA EXISTING CHANNEL DEVELOPED

Inflow Area = 7.086 ac, 25.96% Impervious, Inflow Depth > 3.07" for 25 YEAR event
Inflow = 9.71 cfs @ 12.80 hrs, Volume= 1.814 af
Outflow = 9.70 cfs @ 12.81 hrs, Volume= 1.814 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.89 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 0.1 min

Peak Storage= 34 cf @ 12.81 hrs
Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 54.17 cfs

2.00' x 2.00' deep channel, n= 0.035
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 0.00', Outlet Invert= -0.10'



Summary for Pond 5P: CULVERT AT WESSEX

Inflow Area = 3.902 ac, 25.17% Impervious, Inflow Depth > 3.17" for 25 YEAR event
Inflow = 10.79 cfs @ 12.26 hrs, Volume= 1.030 af
Outflow = 7.45 cfs @ 12.47 hrs, Volume= 1.029 af, Atten= 31%, Lag= 12.5 min
Primary = 7.45 cfs @ 12.47 hrs, Volume= 1.029 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 53.62' @ 12.47 hrs Surf.Area= 7,157 sf Storage= 4,411 cf

Plug-Flow detention time= 4.0 min calculated for 1.026 af (100% of inflow)
Center-of-Mass det. time= 3.7 min (799.7 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	51.30'	18,663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.30	100	0	0
52.00	150	88	88
53.00	2,500	1,325	1,413
54.00	10,000	6,250	7,663
55.00	12,000	11,000	18,663

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**15.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.05' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 1.23 sf
#2	Primary	54.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=7.44 cfs @ 12.47 hrs HW=53.62' (Free Discharge)
└**1=Culvert** (Barrel Controls 7.44 cfs @ 6.07 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: CHAMBER SYSTEM

Inflow Area = 0.556 ac, 78.93% Impervious, Inflow Depth > 4.67" for 25 YEAR event
Inflow = 2.83 cfs @ 12.09 hrs, Volume= 0.216 af
Outflow = 0.94 cfs @ 12.38 hrs, Volume= 0.216 af, Atten= 67%, Lag= 17.7 min
Primary = 0.94 cfs @ 12.38 hrs, Volume= 0.216 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 52.18' @ 12.38 hrs Surf.Area= 1,950 sf Storage= 1,720 cf

Plug-Flow detention time= 10.2 min calculated for 0.216 af (100% of inflow)
Center-of-Mass det. time= 10.0 min (752.2 - 742.2)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	5,368 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.00	780	0	0
52.00	1,950	1,365	1,365
53.00	1,950	1,950	3,315
53.50	780	683	3,998
54.00	100	220	4,218
55.00	100	100	4,318
56.00	2,000	1,050	5,368

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**6.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.50' S= 0.0050 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Primary	55.50'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.94 cfs @ 12.38 hrs HW=52.18' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.94 cfs @ 4.77 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 21P: CULVERT AT PARKING

Inflow Area = 6.335 ac, 22.02% Impervious, Inflow Depth > 2.94" for 25 YEAR event
Inflow = 10.52 cfs @ 12.54 hrs, Volume= 1.554 af
Outflow = 8.75 cfs @ 12.82 hrs, Volume= 1.549 af, Atten= 17%, Lag= 16.3 min
Primary = 8.75 cfs @ 12.82 hrs, Volume= 1.549 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 51.80' @ 12.82 hrs Surf.Area= 9,033 sf Storage= 8,241 cf

Plug-Flow detention time= 11.3 min calculated for 1.544 af (99% of inflow)
Center-of-Mass det. time= 10.0 min (816.0 - 806.1)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	10,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	100	0	0
52.00	10,000	10,100	10,100

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**18.0" Round Culvert** L= 100.0' Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.00' S= 0.0100 '/' Cc= 0.900 n= 0.010, Flow Area= 1.77 sf
#2	Primary	51.80'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=8.74 cfs @ 12.82 hrs HW=51.80' (Free Discharge)
└**1=Culvert** (Inlet Controls 8.73 cfs @ 4.94 fps)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.00 cfs @ 0.13 fps)

Summary for Pond 50P: CULVERT AT WESSEX

Inflow Area = 3.917 ac, 25.45% Impervious, Inflow Depth > 3.17" for 25 YEAR event
Inflow = 10.83 cfs @ 12.26 hrs, Volume= 1.034 af
Outflow = 7.47 cfs @ 12.47 hrs, Volume= 1.033 af, Atten= 31%, Lag= 12.5 min
Primary = 7.47 cfs @ 12.47 hrs, Volume= 1.033 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 53.63' @ 12.47 hrs Surf.Area= 7,197 sf Storage= 4,449 cf

Plug-Flow detention time= 4.0 min calculated for 1.033 af (100% of inflow)

Center-of-Mass det. time= 3.7 min (799.7 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	51.30'	18,663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.30	100	0	0
52.00	150	88	88
53.00	2,500	1,325	1,413
54.00	10,000	6,250	7,663
55.00	12,000	11,000	18,663

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**15.0" Round Culvert** L= 26.0' Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.05' S= 0.0096 '/' Cc= 0.900 n= 0.015, Flow Area= 1.23 sf
#2	Primary	54.00'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=7.46 cfs @ 12.47 hrs HW=53.62' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 7.46 cfs @ 6.08 fps)
└—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 51P: FOCAL POINT 4-2

Inflow Area = 0.097 ac, 97.63% Impervious, Inflow Depth > 5.07" for 25 YEAR event
Inflow = 0.57 cfs @ 12.06 hrs, Volume= 0.041 af
Outflow = 0.57 cfs @ 12.06 hrs, Volume= 0.041 af, Atten= 1%, Lag= 0.3 min
Primary = 0.57 cfs @ 12.06 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.70' @ 12.06 hrs Surf.Area= 97 sf Storage= 24 cf

Plug-Flow detention time= 0.6 min calculated for 0.041 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (736.1 - 735.5)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.55 cfs @ 12.06 hrs HW=54.70' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.22 cfs)
- **2=Orifice/Grate** (Weir Controls 0.33 cfs @ 1.04 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 53P: FOCAL POINT 2

Inflow Area = 0.439 ac,100.00% Impervious, Inflow Depth > 5.15" for 25 YEAR event
Inflow = 2.43 cfs @ 12.09 hrs, Volume= 0.188 af
Outflow = 2.44 cfs @ 12.09 hrs, Volume= 0.188 af, Atten= 0%, Lag= 0.5 min
Primary = 2.44 cfs @ 12.09 hrs, Volume= 0.188 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 55.06' @ 12.09 hrs Surf.Area= 284 sf Storage= 120 cf

Plug-Flow detention time= 0.8 min calculated for 0.187 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (735.1 - 734.3)

Volume	Invert	Avail.Storage	Storage Description
#1	54.30'	818 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.30	75	0	0
55.00	225	105	105
56.00	1,200	713	818

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.75'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	55.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.40 cfs @ 12.09 hrs HW=55.06' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.65 cfs)
- **2=Orifice/Grate** (Weir Controls 1.75 cfs @ 1.81 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 56P: FOCAL POINT 4-1

Inflow Area = 0.171 ac, 69.68% Impervious, Inflow Depth > 4.50" for 25 YEAR event
Inflow = 0.95 cfs @ 12.06 hrs, Volume= 0.064 af
Outflow = 0.94 cfs @ 12.06 hrs, Volume= 0.064 af, Atten= 1%, Lag= 0.3 min
Primary = 0.94 cfs @ 12.06 hrs, Volume= 0.064 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 54.76' @ 12.06 hrs Surf.Area= 117 sf Storage= 31 cf

Plug-Flow detention time= 0.6 min calculated for 0.064 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (753.2 - 752.6)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	68 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.20	21	0	0
54.60	60	16	16
55.00	200	52	68

Device	Routing	Invert	Outlet Devices
#1	Primary	54.20'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	54.60'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	54.82'	**2.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.91 cfs @ 12.06 hrs HW=54.76' (Free Discharge)
- **1=Exfiltration** (Exfiltration Controls 0.27 cfs)
- **2=Orifice/Grate** (Weir Controls 0.64 cfs @ 1.30 fps)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

977 BRIGHTON AVENUE ELDERLY APARTMENTS
PORTLAND, MAINE

INSPECTION AND MAINTENANCE
OF STORMWATER MANAGEMENT FACILITIES

Stormwater Management Facilities include swales, paved surfaces, drain pipe, riprapped aprons, level spreaders, buffers detention basins/treatment ponds. Periodic inspection and maintenance of these site features and devices is necessary to prevent erosion, protect roadways and other paved areas, and remove pollutants from stormwater runoff.

The operation and maintenance will be the responsibility of the developer.

POST CONSTRUCTION MONITORING:

32-38. Post-construction stormwater management plan compliance.

Any person owning, operating, or otherwise having control over a BMP required by a post Construction stormwater management plan shall maintain the BMPs in accordance with the approved plan and shall demonstrate compliance with that plan as follows:

(a) Inspections. The owner or operator of a BMP shall hire a qualified post-construction stormwater inspector to at least annually, inspect the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.

(b) Maintenance and repair. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the department of public services (“DPW”) in the annual report.

(c) Annual report. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

(d) Filing fee. Any persons required to file and annual certification under this section shall include with the annual certification a filing fee established by DPW to pay the administrative and technical costs of review of the annual certification.

(e) Right of entry. In order to determine compliance with this article and with the post-construction stormwater management plan, DPW may enter upon property at reasonable hours with the consent of the owner, occupant or agent to inspect the BMPs.

(Ord. No. 35-09/10, 8-17-09; Ord. 108-15/16, 11-16-2015)

SWALES, DITCHES, CURBS AND PAVED AREAS:

Swales, ditches, curbs and paved areas are easily inspected during a site walk or even a ride-by. Since visual inspection is easy, their condition should be assessed during and/or after significant rainfall events such as thunder showers and periods of heavy or extended rainfall and during periods of significant snowmelt. Any damage or unusual condition such as sedimentation of a ditch, erosion, damaged curb or dying vegetation should be recorded, dated and initialed by the inspector when observed. Even if there is no damage, the inspector should make record of these inspections at least twice annually.

Paved areas should be visually inspected monthly during the winter. The inspector should pay particular attention to the build up of sand around catch basin grates and remove accumulations that block the free flow of surface runoff to the catch basins. The date and initials of the inspector should be recorded on the forms provided as well as a notation of any cleanup effort that was made and the approximate volume of sand that was removed.

CATCH BASINS, FIELD INLETS AND DRAIN MANHOLES:

Catch Basins and field inlets are precast concrete structures with sumps and cast iron grates used to collect stormwater and trap heavy sediments. Drain Manholes are similar structures constructed with a channel instead of a sump and a solid cast iron cover instead of a grate. Drain Manholes exist at changes in direction and/or size of storm drain pipe. Catch Basins, field inlets and drain manholes provide access to the closed storm drain system for inspection and maintenance.

Throughout the winter / spring sanding period, inspect catch basins and field inlets monthly and after every significant rainfall event or period of heavy snowmelt. Clean catch basin and field inlet sumps when sediment level is within 3 inches of the outlet pipe invert. Record dates of inspections, observations and maintenance measures implemented (if any) on the forms provided and initial the entry.

Confined space entry safety procedures should be practiced when entering these structures.

DRAIN PIPES:

Drain pipes are road culverts and pipes connecting drain manholes. Inspect drain pipes when inspecting other stormwater maintenance facilities. At least annually make a visual inspection of the pipe. During the daylight you should be able to see light through most pipes as they have been laid to a straight line and grade. In some cases (e.g. pipe runs to a drain

manhole, or is blocked) you will need a light to inspect pipes.

Clean pipes as necessary. Record inspections on the forms provided noting condition of pipe and any maintenance procedures implemented.

FOCAL POINT SYSTEMS:

Manufacturer's Maintenance Requirements

1. Each correctly installed HPMBS is to be maintained by the supplier for a mm1mum period of one year. The cost of this service is to be included in the supplier's price of the system.
2. Annual maintenance consists of two (2) scheduled visits unless otherwise specified.

3. Each maintenance visit consists of the following:

    a. Complete system inspection

    b. Removal of foreign debris, silt, plant material, trash and mulch (if needed)

    c. Evaluation of biofiltration media

    d. Evaluation of plant health

    e. Inspection of underdrain/storage system via Observation/Maintenance Port

    f. Properly dispose of all maintenance refuse items (trash, mulch, etc.)

    g. Take photographs documenting plant growth and general system health

    h. Update and store maintenance records

    i. To ensure long term performance of the HPM BS, continuing annual maintenance should be performed per the supplier's Operations and Maintenance Manual.

4. If sediment accumulates beyond an acceptable level in the underdrain/ storage system, it will be necessary to flush the underdrain. This can be done by pumping water into the Observation/Maintenance Port or adjacent overflow structure, allowing the turbulent flows through the underdrain to re- suspend the fine sediments. If multiple Observation/Maintenance Ports have been installed, water should be pumped into each port to maximize flushing efficiency.

    Sediment-laden water can be pumped out and either captured for disposal or filtered through a Dirtbag filter bag, if permitted by the locality.

CHAMBER SYSTEM:

The chamber system is designed to temporarily store runoff, which will drain through the Focal Points into the underdrains.

Sediment Removal: Sediment and plant debris should be removed from the catch basins at least annually.

Inspection and Maintenance

Step 1 Inspect Isolator Row for Sediment

A. Inspection Ports

A.1 Remove/open lid on clean out pipe inline drain.

A.2 Using a flashlight and stadia rod, measure depth of sediment and record on maintenance log.

A.3 Lower a camera into isolator row for visual inspection of sediment levels (Optional)

A.4 If sediment is at, or above, 3" (80 mm) Proceed to Step 2. If not, Proceed to Step 3.

B. All Isolator Rows

B.1 Remove cover from structure at the upstream end of isolator row.

B.2 Using a flashlight, inspect down the isolator row through outlet pipe.

i) Mirrors on poles or cameras may be used to avoid a confined space entry.

ii) Follow OSHA Regulations for confined space entry if entering cleanout Structure.

B.3 If Sediment is at, or above, 3” (80 mm) Proceed to Step 2. If not, Proceed to Step 3.

Step 2 Clean out Isolator Row using JETVAC process.

A. Fixed culvert cleaning nozzle with rear facing spread of 45” (1.1 m) or more is preferred.

B. Apply multiple passes of JETVAC until backflush water is clean.

C. Vacuum structure sump as required.

Step 3 Replace all covers, grates, filters, and lids. Record observations and actions.

Step 4 Inspect and clean basins upstream of the Chamber System.

General Notes

1. Inspect every 6 months during the first year of operation. Adjust the inspection interval based on previous observations of sediment accumulation and high water elevations.
2. Conduct jetting and vactoring annually or when inspection shows that maintenance

is necessary.

Record all maintenance on forms provided.

977 BRIGHTON AVENUE ELDERLY APARTMENTS PORTLAND, MAINE			
INSPECTION / MAINTENANCE LOG			
SWALES, DITCHES, CURBS AND PAVED SURFACES			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
10-2-17	TSG	I, C	EXAMPLE: removed sand around CB's 1, 2 and 3. Heavy rain over the weekend.

977 BRIGHTON AVENUE ELDERLY APARTMENTS
PORTLAND, MAINE

INSPECTION / MAINTENANCE LOG

CATCH BASIN, FIELD INLETS & DRAIN MANHOLES

I: INSPECTED - C: CLEANED - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
10/2/17	JKL	I, C	EXAMPLE: Called ACME to clean catch basins, cleaned debris from culvert inlets along access road.

977 BRIGHTON AVENUE ELDERLY APARTMENTS PORTLAND, MAINE			
INSPECTION / MAINTENANCE LOG			
DRAIN PIPES			
I: INSPECTED - C: CLEANED - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
10-2-17	TSG	I, C	EXAMPLE: Called ACME to clean catch basins, cleaned debris from culvert inlets along access road.

977 BRIGHTON AVENUE ELDERLY APARTMENTS PORTLAND, MAINE			
INSPECTION / MAINTENANCE LOG			
FOCAL POINT FILTERS			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
10-2-17	TSG	I, C	EXAMPLE: Unit cleaned by ACME, 2 truckloads to Pike

977 BRIGHTON AVENUE ELDERLY APARTMENTS PORTLAND, MAINE			
INSPECTION / MAINTENANCE LOG			
CHAMBER SYSTEM			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
10-2-17	TSG	I, C	EXAMPLE: Unit cleaned by ACME, 2 truckloads to Pike

STORMWATER MANAGEMENT SYSTEM MAINTENANCE PROGRAM SUMMARY CHECKLIST					
		Frequency			
Item	Commentary	Month	Semi-Annual	Annual	Long-Term
Open Swale, Ditches & Inlet Structures	Inspect for debris accumulation, erosion and excessive vegetation. Mow monthly, remove debris, repair and revegetate any area of erosion	**X Mow**		**X**	
Pavement	Review for damage and buildup of debris and sand.	**X**	**X Sweep**		
Pipelines	Inspect for sediment build-up in pipe. Flush and remove as required.			**X**	
Focal Point Filters	The filter should be inspected after every major storm in the first few months to ensure proper function			**X Sediment Removal**	**X Weed, Repl. Media**
Chamber System			**X**		

HOUSEKEEPNG REPORT

977 BRIGHTON AVENUE ELDERLY APARTMENTS
PORTLAND, MAINE

December 22, 2017

Housekeeping: The developer is responsible for notifying the contractor and owner of the housekeeping standards.

1. Spill Prevention: The contractor and owners need to take care with construction and waste materials such that contaminates do not enter the stormwater. The storage of materials such as paint, petroleum products, cleaning agents and the like are to be stored in watertight containers. The use of the products should be in accordance with manufacturer recommendations. When fueling equipment, including snowblowers and lawnmowers, have oil absorbent pads available below the fueling.

   Staging areas are noted on the plans for the contractor's use. Refueling of small engines by the owner should occur in the garage or on a paved surface.

   Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at: http:/www.maine.gov/dep/spills/emergspillresp/

2. Groundwater Protection: Protection of the groundwater is required by the contractor and owner. Petroleum products should be stored in manufactured cans designed for the purpose. Spill preventions procedures should be followed.

3. Fugitive Sediment and Dust: The contractor is required to minimize dust from the construction operation. The road should be swept regularly (weekly) and prior to any rain event. The gravel areas are to be watered regularly to minimize dust. Any mud that is tracked off site should be cleaned up prior to it drying and becoming a dust issue.

   Do not use oil to control dust.

   Dewatering a stream without a permit from the Department may violate state water quality standards and the Natural Resources Protection Act.

4. Debris and Other Materials: Construction materials and construction debris should be covered to prevent rainwater from washing contaminants off the site. Any fertilizers, cleaning products, herbicides should be protected from the weather and used in accordance with manufacturers recommendations.

   Note any contaminants that are washed off the site by rainwater is a violation of the Clean Waters Act.

Storage Handling and Disposal of Solid Waste items must comply with Maine's Solid Waste Management Rules. Lack of appropriate pollutant control may result in violations of the Groundwater Quality Standards.

This project has a written Erosion Control Plan and Stormwater Maintenance Plan. Modifications to the plan must be approved by the Town.

Maintenance of stormwater treatment and control systems must occur regularly. The Stormwater Maintenance Report provides inspection details and time lines for doing the inspections and reporting to the Town and DEP

WALSH
ENGINEERING ASSOCIATES, INC.

Neighborhood Meeting Certification

I, Thomas S. Greer hereby certify that a neighborhood meeting was held on April 26, 2018 at 23 Orono Road (Hall Elementary School), in Portland at 6:30PM concerning a 40 unit senior housing building on the corner of Brighton Avenue and Wessex Street.

I also certify that on April 12, 2018, invitations were mailed to all addresses on the mailing list provided by the Planning Division, including property owners within 500 feet of the proposed development and the residents on the "interested parties" list.

A digital copy of the notice was also provided to the Planning Division (jmy@portlandmaine.gov and the assigned planner to be forwarded to those on the interested citizen list who receive email notices.

Signed,

Thomas S. Greer _____ 4/30/18 (date)

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

WALSH
ENGINEERING ASSOCIATES, INC.

Neighborhood Meeting

April 12, 2018

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a 40 unit senior housing building on the corner of Brighton Avenue and Wessex Street.

Meeting Location: Hall Elementary School (Conference Room)
23 Orono Road, Portland

Meeting Date: April 26, 2018 (Thursday)
Meeting Time: 6:30-7:30pm

The purpose of this meeting is to introduce the project to our neighbors as part of the City approval process.

- The project includes the removal of the existing house and garage and replaces it with a 40 unit senior housing project with 32 parking spaces.
- The application is filed with the City.
- The developer, Avesta Housing can be contacted at:

  Address: Avesta Housing, Greg Payne
  307 Cumberland Avenue
  Portland, ME 04101
  Phone #: (207) 553-7780 x3341
  Email: gpayne@avestahousing.org

- The City Planning Authority can be contacted at :
  Website: https://www.portlandmaine.gov/314/Planning-Urban-Development
  Phone #: (207) 756-8246

ZONE: R-3
ZONE: R-P
WESSEX STREET
BRIGHTON AVENUE
MOSS STREET

NEIGHBORHOOD MEETING ATTENDEE LIST
977 Brighton Avenue Elderly Apartments
April 26, 2018

Name & Address	Name & Address
Thomas S. Greer Walsh Engineering Associates, Inc. One Karen Drive, Suite 2A Westbrook, ME 04092	
Tom / Regina Houston 14 Cedarhurst Lane Portland 04102	
Maya Lena 51 Essex Street 04102	
BILL MONTGOMERY 989 BRIGHTON AVENUE PORTLAND, ME 04103	
Mr & Mrs Paul Olsen 8 Lomond St. Pthd Me 04103	
Judith Stanhope 1001 Brighton Ave. Portland Maine 04102	
Mark Adelson 87 Essex ST. Portland, ME 04102	
Tracie Crommett Jamie Staples 6 wessex st Portland ME 04102	
Jaime Parker 73 Atlantic St. Portland 04101	

WALSH
ENGINEERING ASSOCIATES, INC.

977 Brighton Avenue
Avesta Senior Housing
April 26, 2018

SUMMARY OF PUBLIC INFORMATIONAL MEETING

The meeting began at 6:30 and ran until 7:30. There were 11 interested people in attendance. Tom Greer of Walsh Engineering Associates, Inc. presented the site plan aspects of the project and summarized the Planning Board Meeting held Tuesday the 24th. Ben Walter of CWS Architects summarized the building layout and design. Greg Payne of Avesta noted the need for senior housing and responded to questions.

The comments centered around two issues. The traffic generated by the new use and access onto Brighton Avenue at peak times. It was suggested that a turning lane would help. Many people currently turn right, do a u-turn and go left. Cutting across traffic is difficult. We noted the concerns and have a Traffic Study underway looking as this issue as well as pedestrian movements to the bus stops.

The next issue of concern is stormwater. It was noted that the area is low, flat and wet. The storm drain on Lomond Street is critical to the area. Our new pavement will increase the stress on the existing system. One neighbor noted they have a sump pump that sends water to the ditch all the time that can't be disrupted. It is likely the current discharge is in the right of way. Additional investigations need to occur to create the final plan.

Jamie Parker spoke for Portland Trails. He was encouraging a connection off Wessex Street would be appreciated. The existing trails in the area need additional work to extend them.

There was a lengthy discussion about the width of the road. The existing road is poorly maintained and plowing is an issue. Public Works does not plow the snow back far enough so mid-winter the road is very narrow. This will likely change with the upgrade.

Widening the road at the entrance with a turning lane was suggested but the remainder of the road at 24 feet seemed acceptable. Jamie Parker noted narrower roads are traffic calming as well as parked cars on the street. We noted we would ask for a waiver for the road width. That seemed ok with the neighbors.

Respectfully Submitted

Thomas S. Greer P.E.
Walsh Engineering Associates, Inc.

File: 16150

Construction Management Plan Narrative
977 Brighton Avenue
Avesta Housing Development Corporation

A construction management site plan has been prepared and is attached to this document.

The Construction Management narrative and plan depict the overall planning, coordination, and control of a construction site, including phases as applicable, from beginning to completion. The goal for the plan is to support a safe construction site and protect the public safety, accessibility (including preserving accessible pedestrian, bicycle, and vehicular modes of transport throughout the city), and welfare during construction. In addition, the construction management plan shall minimize construction impacts in their duration and magnitude to the surrounding area and develop an effective communication process for resolving concerns and conflicts.

A. Construction Management Principles

The following narrative provides an overview of the construction management principles that Avesta Housing Development Corporation and its contractor has identified to minimize impacts from the construction, such as noise, vibrations, ground movement, truck traffic, and other construction related factors to the surrounding building and communities.

The following details define the intended approach to the successful management of the project construction and the construction management plan will address the general conditions contained below.

B. Development Review of Construction Management Plan

Avesta Housing Development Corporation and its contractor shall submit a construction management plan that provides a comprehensive logistics and safety program for the construction project, which will be reviewed and approved as part of the site plan review process. The plan minimizing impacts to areas surrounding the building/construction site will be primary considerations in the process. The following details define the intended approach to the successful management of the project construction and the construction management plan will address the general conditions contained below.

C. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

Prior to scheduling a preconstruction meeting and the issuance of any city required permits, Avesta Housing Development Corporation and its contractor shall meet all of the requirements contained in Section 14-530. Development review fees and post approval requirements and 14-532.
General requirements and enforcement of Portland's Land Use Code.

Other permits, as applicable, include:

1. **Street Opening Permits:** A street opening permit will be required for all subsurface utility connections within Wessex Street (including water, gas, and electric/ communications, and curbing). Schedule and duration of work are unknown at this time.

2. **Blasting:** No blasting is anticipated for this project.

D. Construction Administration and Communication

Avesta Housing Development Corporation and its contractor will work diligently to implement a communication strategy as outlined below. The communication strategy is intended to ensure that all construction operations are performed in accordance with all agreements, ordinances and special permits applicable to this project. The Construction Manager will work closely with adjacent abutters, businesses and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust.

1. Contact Person and contact information for the Avesta Housing Development Corporation and its contractor and who is available 24 hours.
   Contractor and contact person: Unknown at this time

   Developer/owner contact person:Avesta Housing Development Corporation
   Greg Payne
   (207) 553-7780 x3341

2. Contractor will have a project sign with the contact information.
3. Phone numbers will on sign and available for issues at all times of day during the construction period
4. All construction site signage is temporary and shall be removed at project completion.

E. Construction Schedule

1. The contractor shall submit a schedule or time line for the construction project, including any Phasing.
   Construction schedule:
   - **Commencement of construction: spring/summer of 2018**
   - **Duration of construction: 12 months**
   - **Schedule of major construction events: See construction timeline at end of document**

2. Hours of Construction: **7:00 AM – 7:00 PM Monday – Friday. Construction activities shall start no earlier than 8:00 AM on Saturdays, Sundays or Holidays.** Construction may occur during the daytime hours as defined in Section 17-18. Construction Activities for Building permit and Section 25-129. Noise, dust and debris.
3. There is no anticipation of night work on this project.
4. All deliveries for materials will comply with the noise requirements listed above or will be restricted to the hours allowed for construction.

5. Material Deliveries: Schedule and designated location for delivery of materials and boxed goods.
   Deliveries may only occur during normal hours of construction and must be taken on-site. No deliveries are allowed to occur from Wessex Street.

F. Security & Public Safety

1. The site construction fence will be placed either on the property line, at back of curb, or at limit of work; as depicted on the plan to allow for construction equipment and construction employees to access the exterior walls of the building and for the site work.
2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16.
3. Demolition of the existing house and garage and other associated site items will occur. A demolition fire safety program is needed and will be prepared and supplied when a contractor is selected.
4. Avesta Housing Development Corporation and its contractor shall develop a fire safety and emergency protocol plan and contact the nearest Fire Station to advise them of the ongoing construction project.
5. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual. (not anticipated)
6. Any proposed temporary security lighting shall be shown on the CMP and all fixtures shall be full cutoffs. (not anticipated)

G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets: Will occur when making connection to utilities within the adjacent street and when new curbing is set. All required permits will be obtained at the responsibility of the general contractor. Traffic and bicycle flow will be maintained and controlled as necessary for this work to occur. Reconstruction of Wessex Street will require maintaining one way emergency traffic.

2. Sewer and Stormwater: All sewer and stormwater water system connections will be per the City's requirements/standards and are controlled by Chapters 24 and 32 of the City Code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual. Sewer connection is required for this project.

   Other utilities: All other utilities (gas, water, underground electric/communications) will be per the utility provider requirements/standards. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works.

3. Traffic Control Plans: Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. Projects that will occur along arterial and or collector streets are required to submit a satisfactory 'maintenance of traffic" (MOT) plan prior to any site plan, subdivision, or street opening permit approval. MOT plan is required for this project for reconstruction of Wessex Street.

   Maintenance of Traffic (MOT) plans shall provide for the safe passage of the public through or along the construction work zone. On a case-by-case basis, applicants may be allowed to close a street and/or detour a mode of traffic when absolutely necessary for safety. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

   - Construction speed signing may be used as needed to slow traffic
   - Traffic Control signs shall not be placed where they are an obstruction to bicycles or pedestrians.
   - Flaggers will be used during utility connection within the adjacent streets.
   - No police detail or lighted intersections are anticipated for this project.

   All existing modes of travel in work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. The MOT should also address on-street parking impacts, including deliveries and parking for adjoining businesses and property owners, analysis of roadway capacity or diversion capacity if street closure or change to roadway capacity is required, and coordination with other on-going or future construction or utility projects in the vicinity.

   - Typical construction fencing will be used to secure the site. Alternate sidewalks are available on the other side of the adjacent streets.
   - ADA compliance shall be maintained.
   - A short duration sidewalk relocation on Brighton Avenue is anticipated.

   Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works. Avesta Housing Development Corporation and its contractor shall apply for the necessary permits.

H. Site Management and Controls

The final Construction Management Plan will address maintaining the site in a safe condition and will include the following:

1. Regular trash and debris removal
2. Street cleaning and damage controls

3. Dust controls: The construction shall comply with Portland's requirements under Section 25-129 on Noise, dust and debris (Attachment 2).
4. Noise: The construction shall comply with Portland's requirements under Section 17- 18 of the City Code (Attachment 1) and Section 25-129 on Noise, dust and debris Attachment 2).
5. Rodent Control will be provided, if applicable, by a professional exterminator and consistent with Chapter 22 of the City Code.
6. Snow Removal: Pursuant to Section 25-173 Contractors to ensure a safe means of travel within the work zone.
    1) Snow/ice removal or commence automatically from (1" of snow and up) or Ice
    2) Remove snow as needed within the work zone, including parking spaces & not to block any driveways or site lines with the piles of snow.
    3) Clear all walks & ramps with the work zone
    4) Sand or Salt as needed
    5) Clear all basin or drainage to help snow melt
    6) This would include Monday-Friday Sat/Sunday/Holidays

I. Erosion Control and Preservation of Trees

1. Avesta Housing Development Corporation's selects contractors that shall install all erosion and sedimentation controls as depicted on the approved erosion and sedimentation control plan prior to the pre-construction meeting for inspection by the City. The contractor shall regularly inspect the control measures, no less than weekly and after significant storm events, and maintain any installed temporary or permanent stormwater management systems in working order. The contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection or the U.S. Environmental Protection Agency upon request.
2. The storage of materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Construction Management Plan depicts locations of the material staging areas, the location on onsite temporary construction job trailers, the location on onsite truck delivery/holding areas, the location onsite parking, the general location of the construction security fence, temporary toilets, and the general location of temporary construction dumpsters.
2. Delivery Truck Holding Areas On-Site: The delivery holding area is shown on the plan and shall not be blocked during construction. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of the trucks until they can be unloaded. Once at the site all vehicles well be brought within the fence line and will make every attempt to avoid queuing on public streets.
3. Delivery Truck Holding Areas Off-Site: In the event that adequate on-site area for holding of trucks is not available, an off-site marshaling area will be utilized for trucking. The designated off-site location will be identified in the construction management plan (side of Wessex Street).

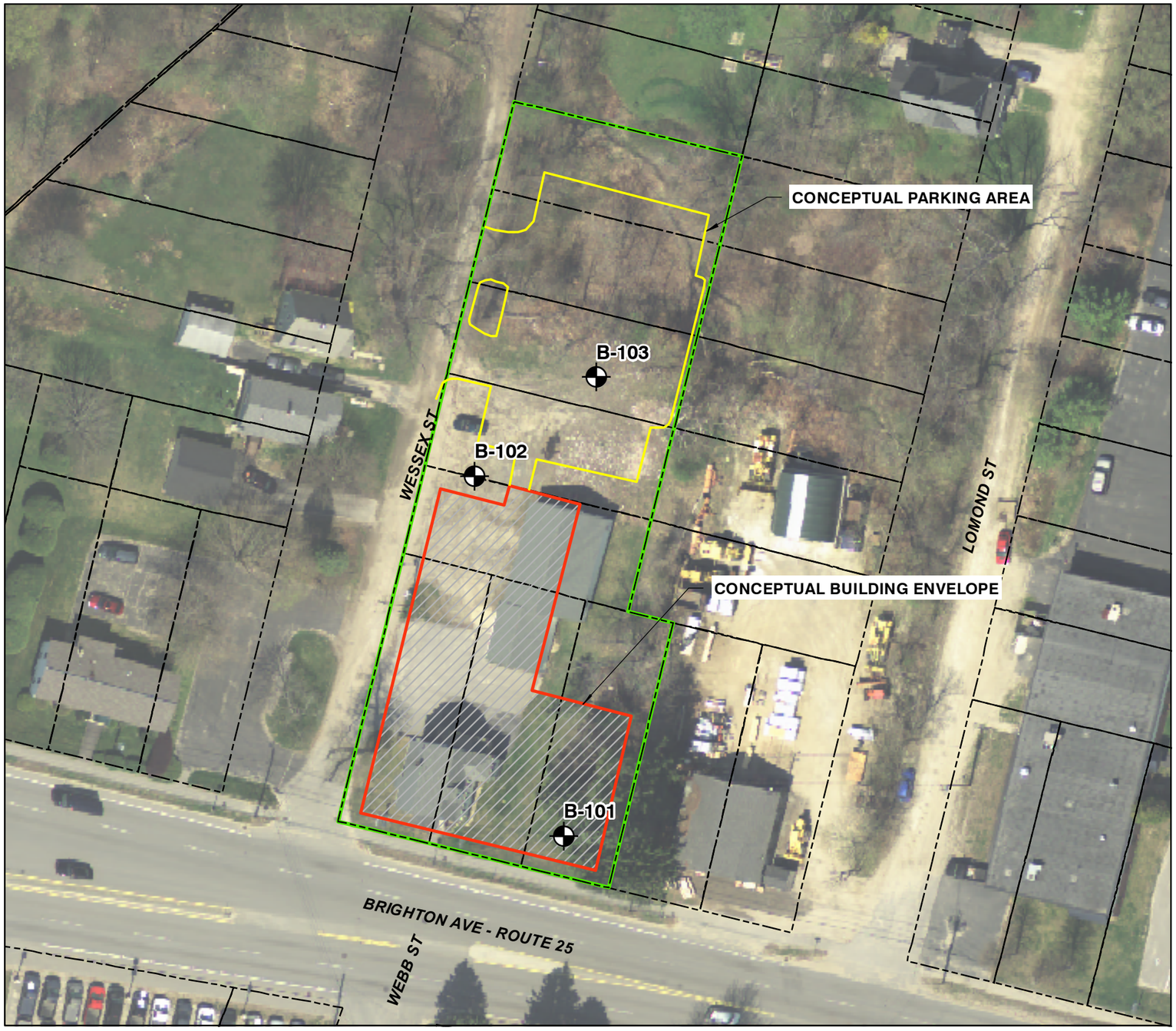
K. Parking During Construction

1. Construction Parking: Parking for construction workers is provided on site. If it is found that more parking is required separate arrangements for off-street parking at an off-site location shall be provided (at one of the many nearby private or public parking lots.
2. Parking: The existing site has parking available and will be expanded as part of the first phase of construction.
3. Truck Routes and Volumes: The Construction Management Plan shall address the designated truck routes and expected truck volumes. All deliveries to the site shall be via Wessex Street. All deliveries will be made on site within the secure construction fence. Delivery volumes will vary depending on construction sequencing but will only occur during allowable hours of operation.

L. Special Measures as Necessary

For construction work that will take place over a long period (e.g. 12 months or more), involve major demolition/deep excavation/ piling and/or special construction techniques, or are located near sensitive uses e.g. medical care facilities, schools), the Construction Management Plan should provide details and demonstrate that all appropriate special measures have been taken to avoid, minimize, or possibly compensate for potential impacts. This may include taking baseline measurements before construction, such as arranging to photograph the foundations of nearby properties upon consent of the owners, in order to assess any future impacts of vibration, noise, etc.

No special measures of construction are anticipated for this project.



50 0 50 100

Scale in Feet

TRUE

LEGEND

APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN PREPARED FROM IMAGERY FROM STATE OF MAINE AERIAL ORTHOPHOTOS ENTITLED "GEOLIBRARY_3IN_2012," PROVIDED BY THE STATE OF MAINE, MAINE OFFICE OF GIS AND MAINE GEOLIBRARY BOARD.
2. THE BORINGS WERE LOCATED IN THE FIELD BY S. W. COLE ENGINEERING, INC. USING A MAPPING GRADE TRIMBLE GPS RECEIVER AND OVERLAID ON THE ABOVE IMAGERY.
3. CONCEPTUAL BUILDING ENVELOPE AND PARKING AREA FROM A 1"=60' SCALE PLAN OF THE SITE ENTITLED "SITE PLAN," PREPARED BY ALBERT FRICK ASSOCIATES, INC., DATED 4/18/2016.
4. PARCEL LINES FROM MAINE LIBRARY OF GEOGRAPHIC INFORMATION (MLGI), MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS (MEGIS) (COMP., ED.)
5. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
6. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

S.W.COLE ENGINEERING, INC.

AVESTA HOUSING

EXPLORATION LOCATION PLAN

PROPOSED HOUSING
977 BRIGHTON AVENUE
PORTLAND, MAINE

Job No.	16-0368	Scale	1"=50'
Date:	05/18/2016	Sheet	1

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S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-101**
SHEET: 1 OF 1
PROJECT NO.: 16-0368

PROJECT / CLIENT: PROPOSED 3-STORY HOUSING BUILDING / AVESTA
LOCATION: 977 BRIGHTON AVENUE
DRILLING CO. : GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

DATE START: 5/12/2016
DATE FINISH: 5/12/2016
ELEVATION:
SWC REP.: P. OTTO

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"		
SAMPLER:	SS	1 3/8"	140 LBS.	30"
CORE BARREL:				

WATER LEVEL INFORMATION
SOILS WET AT 6'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
									1.0'	DARK BROWN SAND Y SILT WITH ORGANICS (TOPSOIL)
	1D	24"	15"	2.0'	2	2	3	8	2.0'	GRAY-BROWN CLAYEY SILT
	2D	24"	18"	4.0'	6	14	15	19		BROWN SILTY CLAY WITH SAND PARTINGS q_p = 8 to 9 ksf ~HARD TO VERY STIFF~
	3D	24"	18"	7.0'	6	7	11	11		q_p = 5.5 to 7.5 ksf
									9.0'	
	4D	24"	20"	12.0'	W O H / 12"		1	1		GRAY SILTY CLAY q_p = < 0.5 ksf
	1V			16.0'	3 5/8" X 7" TVANE					S_v = 0.35 / 0.0 ksf ~SOFT~
	1V'			16.7'	3 5/8" X 7" TVANE					S_v = 0.39 / 0.0 ksf
	2V			25.7'	3 5/8" X 7" TVANE					S_v = 0.28 / 0.0 ksf
	2V'			26.4'	3 5/8" X 7" TVANE					S_v = 0.33 / 0.0 ksf
										HYDRAULIC PUSH ROD PROBE FROM 26.4' - 70'
										PROBABLE GRAY SILTY CLAY

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-101**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-101**
SHEET: 1 OF 1
PROJECT NO.: 16-0368

PROJECT / CLIENT: PROPOSED 3-STORY HOUSING BUILDING / AVESTA
LOCATION: 977 BRIGHTON AVENUE
DRILLING CO. : GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

DATE START: 5/12/2016
DATE FINISH: 5/12/2016
ELEVATION:
SWC REP.: P. OTTO

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"		
SAMPLER:	SS	1 3/8"	140 LBS.	30"
CORE BARREL:				

WATER LEVEL INFORMATION
SOILS WET AT 6'

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										HYDRAULIC PUSH ROD PROBE FROM 26.4' - 70'
										PROBABLE GRAY SILTY CLAY
									60.0'	
										PROBABLE GRAY SILTY CLAY WITH FREQUENT SAND LAYERS
									70.0'	25 BLOWS FOR 0"
										REFUSAL AT 70.0'
										PROBABLE BEDROCK

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-101**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-102**
SHEET: 1 OF 1
PROJECT NO.: 16-0368

PROJECT / CLIENT: PROPOSED 3-STORY HOUSING BUILDING / AVESTA
LOCATION: 977 BRIGHTON AVENUE
DRILLING CO. : GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

DATE START: 5/13/2016
DATE FINISH: 5/13/2016
ELEVATION:
SWC REP.: P. OTTO

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"		
SAMPLER:	SS	1 3/8"	140 LBS.	30"
CORE BARREL:				

WATER LEVEL INFORMATION
FREE WATER AT 1.5 - 2'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										BROWN GRAVELLY SILTY SAND (FILL)
	1D	24"	5"	2.0'	8	7	7	5	1.5'	~MEDIUM DENSE~
										BROWN-GRAY SILTY SAND, SOME GRAVEL (FILL)
	2D	24"	4"	4.0'	4	2	3	2		~LOOSE~
									4.5'	
										BROWN SILTY CLAY
	3D	24"	18"	7.0'	6	10	12	14		~VERY STIFF TO HARD BECOMING… q_p = 8 to 9 ksf
	4D	24"	12"	9.0'	8	8	4	4	9.0'	...STIFF~ q_p = 3 to 4 ksf
										GRAY SILTY CLAY
	5D	24"	4"	12.0'	2	2	1	2		q_p = < 0.5 ksf
	1S	24"	24"	17.0'	PISTON SAMPLER					
	1V			17.7'	3 5/8" X 7" TVANE					S_v = 0.33 / 0.0 ksf ~SOFT~
	1V'			18.4'	3 5/8" X 7" TVANE					S_v = 0.33 / 0.0 ksf
	2S	24"	24"	27.0'	PISTON SAMPLER					
	2V			27.7'	3 5/8" X 7" TVANE					S_v = 0.43 / 0.0 ksf
	2V'			28.4'	3 5/8" X 7" TVANE					S_v = 0.41 / 0.0 ksf
										HYDRAULIC PUSH ROD PROBE FROM 28.4' - 53'
										PROBABLE GRAY SILTY CLAY

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-102**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-102**
SHEET: 1 OF 1
PROJECT NO.: 16-0368

PROJECT / CLIENT: PROPOSED 3-STORY HOUSING BUILDING / AVESTA
LOCATION: 977 BRIGHTON AVENUE
DRILLING CO. : GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

DATE START: 5/13/2016
DATE FINISH: 5/13/2016
ELEVATION:
SWC REP.: P. OTTO

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"		
SAMPLER:	SS	1 3/8"	140 LBS.	30"
CORE BARREL:				

WATER LEVEL INFORMATION
FREE WATER AT 1.5 - 2'

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										HYDRAULIC PUSH ROD PROBE FROM 28.4' - 53'
										PROBABLE GRAY SILTY CLAY
									45.0'	
										PROBABLE GRAY SILTY CLAY WITH FREQUENT SAND LAYERS
									53.0'	25 BLOWS FOR 0"
										REFUSAL AT 53.0'
										PROBABLE BEDROCK

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-102**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-103**
SHEET: 1 OF 1
PROJECT NO.: 16-0368

PROJECT / CLIENT: PROPOSED 3-STORY HOUSING BUILDING / AVESTA
LOCATION: 977 BRIGHTON AVENUE
DRILLING CO. : GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

DATE START: 5/12/2016
DATE FINISH: 5/12/2016
ELEVATION:
SWC REP.: P. OTTO

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	SSA	2 1/4"		
SAMPLER:	SS	1 3/8"	140 LBS.	30"
CORE BARREL:				

WATER LEVEL INFORMATION
FREE WATER AT 5.0' ON 5/12/2016
FREE WATER AT 2.0' ON 5/13/2016

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										BROWN SILTY GRAVELLY SAND (FILL)
	1D	24"	15"	2.0'	4	8	7	8		~MEDIUM~
									3.5'	
	2D	24"	18"	4.0'	7	8	7	3		DARK GRAY SANDY SILT
										AND CLAYEY SANDY SILT ~MEDIUM~
									5.5'	
	3D	24"	20"	7.0'	4	7	8	11		BROWN SILTY CLAY q_p = 7 to 8 ksf
										~VERY STIFF TO HARD~
									9.0'	
										GRAY SILTY CLAY
										~SOFT~ q_p = ≤ 1.0 ksf
	4D	24"	24"	12.0'	2	2	1	2	12.0'	q_p = < 0.5 ksf
										BOTTOM OF EXPLORATION AT 12.0'

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-103**

KEY TO NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
"Y"	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16" thickness
Seam:	1/16" to 1/2" thickness
Layer:	½" to 12" thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

Portland, Maine — Yes. Life's good here.

Christopher C. Branch, P.E.
Director of Public Works

Date: March 20, 2018

Re: Wastewater Capacity Authorization

Address: 977 Brighton Avenue
Applicant: Avesta Housing

Planner: Victoria Volent

Anticipated Wastewater Flow:

Estimate of Anticipated Design Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing flow to be removed				
Residential	3 Bedroom	1	270 GPD	- 270
Proposed flow				
Multiple Family Dwelling Units	1-Bedroom	40	90*	+3600
			Net Change	**+ 3330**

*Values based on EPA 2002-02 Onsite Wastewater Treatment Systems Manual – Chapter 3 – 1.5 persons/ unit x 60 GPD/ Person = 90 GPD

Comments:
The Department of Public Works, which includes the Water Resource Division, have reviewed and determined that the downstream sewers from the project address have the capacity to convey the estimated dry weather wastewater flows which will be generated from this development.

You are reminded that the sewers you are proposing to connect into convey both sanitary and stormwater (Combined Sewer) and therefore a backflow preventer is suggested.

If the City can be of further assistance, please contact me at all 874-8840 or brad@portlandmaine.gov

Sincerely,
CITY OF PORTLAND

Bradley A. Roland, P.E.
Senior Project Engineer

CC:

Jeffrey Levine, Director, Department of Planning and Urban Development, City of Portland
Stuart O'Brien, Planning Director, Department of Planning and Urban Development, City of Portland
Barbara Barhydt, Development Review Services Mgr., Dep't. of Planning and Urban Development, City of Portland

Keith Gray, City Engineer/Engineering Manager, Portland Department of Public Works

Nancy Gallinaro, Water Resources Manager, Portland Department of Public Works
Rachel Smith, Industrial Pretreatment Coordinator, Portland Department of Public Works
John Emerson, Wastewater Coordinator, Portland Department of Public Works

Lauren Swett, Woodard & Curran, DPW Development Review
Scott Firmin, Director of Wastewater, Portland Water District
Charlene Poulin, Wastewater Chief Operator – Systems

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: December 20, 2017

Bradley Roland, P.E.
Water Resources Division

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 977 Brighton Avenue, Portland, ME

Chart Block Lot Number: 275/C/1, 2, 3, 6, 7, 8 & 9

Proposed Use: Rresidential
Previous Use: Residential
Existing Sanitary Flows: 300 +/- GPD
Existing Process Flows: 0 GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
Brighton Avenue

Site Category		
	Commercial *(see part 4 below)*	
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	x
	Other *(specify)*	

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Barbara Barhydt Phone: 207-874-8699
Owner/Developer Name: Avesta Housing Development Corporation
Owner/Developer Address: 307 Cumberland Avenue, Portland, ME 04101
Phone: 207-553-7780 Fax: E-mail: gpayne@avestahousing.org
Engineering Consultant Name: Pinkham & Greer, Civil Engineers (Thomas S. Greer)
Engineering Consultant Address: 28 Vannah Avenue, Portland, ME 04103
Phone: 207-781-5242 Fax: 207-781-4245 E-mail: tgreer@pinkhamandgreer.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 3,600 GPD
Peaking Factor/ Peak Times: 4 at 7-8 am, 6-8 pm
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," __"Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, Other (specify)* 40 units, 1.5 people/unit x 60 gpd/person

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: n/a

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: n/a GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

SEP - 8 2016

Albert Frick Associates, Inc.
Environmental Consultants
95A County Road Gorham, ME 04038
Office: (207)839-5563 Fax: (207)839-5564
www.albertfrick.com info@albertfrick.com

Albert Frick, CSS, LSE
Chris Coppi, CWS, LSE
Brady Frick, LSE
Bryan Jordan, LSE
Matthew Logan, LSE
Jamie Latorre, Office Manager

September 6, 2016

Seth Parker
Director of Real Estate Development
Avesta Housing
307 Cumberland Avenue
Portland, ME 04101

Re: Wetlands Report, 977 Brighton Ave, Portland.

Dear Mr. Parker:

On April 13th and August 25th, Albert Frick Associates, Inc. (AFA) conducted a wetland review of the above-mentioned property for the purpose of determining permitting requirements for a potential parking area. Initially, AFA visited the property on April 13th and identified a small freshwater, shrub/wet meadow wetland which was delineated with blue flagging. The delineated wetland was located with a GPS Trimble, Geo 7x unit in order to illustrate the extent of the wetland which is shown on the site plan attached with this report. The proposed parking area is located within the wetland impacting approximately 3,633 square feet of the shrub/wet meadow as shown on the attached plan. This plan is a conceptual in nature and should not be used for permitting purposes since actual grading elevations have not been completed by site engineering at this time.

No vernal pools, as defined by Maine's Natural Resources Protection Act (NRPA), were observed on the property.

Jurisdictional Natural Resources:

Wetlands
The freshwater wetland is classified as a Palustrine Scrub-Shrub/Emergent Wetland (PSS/EM1) "shrub and wet meadow" because it is dominated by shrubs and low growing herbaceous plant species, namely flowering herbs (goldenrod- *Solidago*). The wetland was observed in the northern corner of the property.

A drainage way, originating from the Wessex Street road culvert, was observed at the northwest corner of the property. The drainage way conveys stormwater west of Wessex Street to the property

which then flows diagonally south across the property and eventually discharging through another culvert on Lomond Street to the east. Upon entering the property, the drainage way quickly becomes a flat, drainage way without defined banks and little mineral deposition along its course. Therefore, this drainage way would **not** be considered to be a river, stream or brook as defined by the Natural Resources Protection Act, 38 M.R.S. 480 (B) (9).

Permitting:

Maine Department of Environmental Protection (DEP)

Research of the property and review of DEP records has revealed that the wetland on the property is eligible for the wetland alteration exemption which allows up to, but not to exceed, 4,300 square feet of wetland alteration pursuant to the Natural Resources Protection Act, 38 M.R.S. 480 (Q) (17). Wetland alterations result from regulated activities which cause a direct or indirect impact to the wetland which include, but are not limited to, filling, soil displacement, vegetation removal and the construction of permanent structures. If a proposed activity on the property results in 4,300 square feet or less of wetland impact, then a permit from the Department is not required in accordance with 480 (Q) (17).

Since the proposed parking area results in less than 4,300 square feet of wetland impact, then a DEP permit is not required. See the attached site plan which illustrates the extent of fill tentatively proposed in the wetland. **Please note that this conceptual plan assumes that the edge of the wetland alteration is the bottom of the fill slope and not the edge of the parking surface. Furthermore, wetland impacts required to redirect the drainage way, namely the area of the excavation ditch, must be included when determining the total wetland impact.**

If a proposed project results in over 4,300 square feet of wetland impact on the property, in total, then a Natural Resources Protection Act Permit (Tier permit) from the Maine Department of Environmental Protection (DEP) is required.

Lastly, the wetlands on the property do not require a setback to the regulated activities mentioned above, in accordance with the NRPA, 480 (C).

City of Portland

The wetland on the property is not shown on the shoreland zoning map in accordance with the City of Portland's Zoning Map.

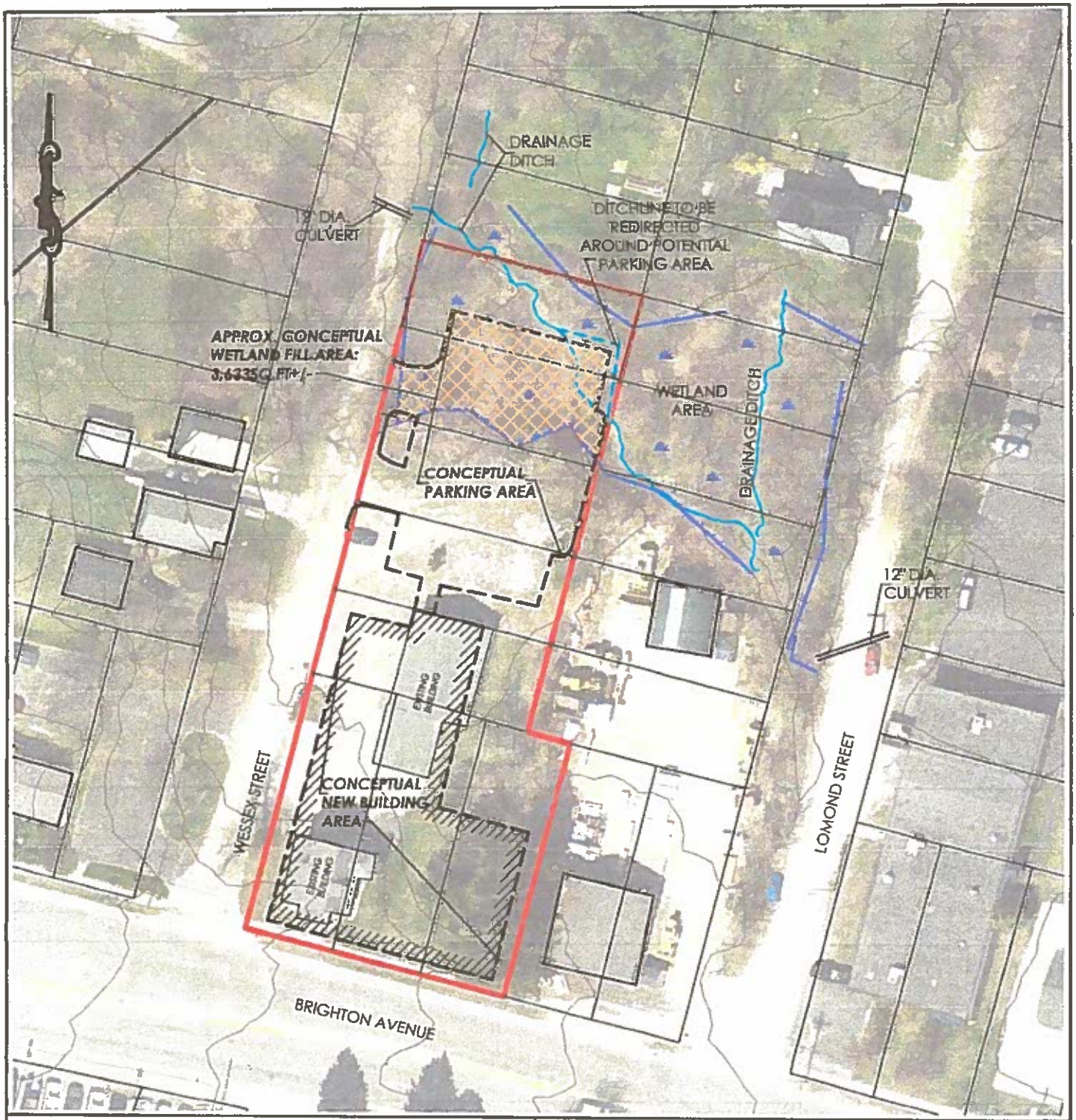
Please contact me if you have any questions or matters for further discussion. If the parking project requires DEP review, we can certainly assist you with the preparation of a Tier permit if necessary. I can be reached by phone at 839-5563 or by email at chris@albertfrick.com.

Sincerely,

Chris Coppi

Chris Coppi, CWS
Wetland Scientist
Licensed Site Evaluator

Enc. Site Plan and photos



SITE PLAN

PREPARED FOR

AVESTA HOUSING

977 BRIGHTON AVE

PORTLAND, MAINE

Albert Frick Associates, Inc.

Environmental Consultants

Gorham, Maine

Date:	Revision Description

Drawn By: B.J.	Checked By: A.F
Date: 4/18/16	Scale: 1" = 60'

8/25/16 Site Photos- 977 Brighton Ave, Portland

Photo 1: View of shrub/wet meadow wetland consisting of flowering herbs and shrubs.

Photo 2: View of drainage way channel moving onto the property (and wetland boundary in blue). Notice the absence of a mineral bottom soon after the drainage way enters the wetland.

8/25/16 Site Photos- 977 Brighton Ave, Portland

Photo 3: View of drainage way inside wetland- Very flat channel, with little mineral deposition. Lack of aquatic or obligate wetland plants (Likely Thyme-leaved Speedwell, FAC-*Veronica serpyllifolia shown in channel)* suggest an ephemeral (resulting from rain events) drainage course.

Waiver Request
977 Brighton Avenue
May 31, 2018

The building has 40 one bedroom units; 15 will be accessible units and 85% are affordable. The parking consists of 12 ADA spaces, 12 compact spaces (4 ADA), 8-9'x18' and 4-8'x18' spaces. This is 32 spaces or 0.80 spaces per unit. Based on previous Avesta parking studies this will meet the demand for parking, confirmed by the current Study by William Bray, PE, Traffic Solutions.

1. The project will require a waiver for the drive aisle width behind the compact spaces. The plan has 3 aisles, one with a 24' wide aisle, one with a row of 25' wide aisle and one with an aisle width of 21', 3' less than the required 24' width. These spaces back out toward the stripped 8' access area and crosswalk providing the ADA spaces access to the building. This will make the affective maneuvering area 29' wide for the compact spaces. The waiver is required based on the geometry of the site. The parking is adjacent the Wessex Street Right Of Way and the grading is adjacent the boundary line on the back side of the lot, this also reduces wetland impacts. The desire is to provide as much on site parking as possible.

2. The project will require a waiver for the number of compact spaces. The site's geometry and wetland impacts are the impetus for the waiver. The spaces are reduced in length to avoid wetlands in the rear. Two compact spaces are shown in the front parking area. This area is dedicated to pedestrian usage as much as possible, minimizing the area available for parking.

3. We request a waiver from the street width standard. The waiver would reduce Wessex Street pavement width from 28' to 24'. This would minimize the impact on the neighborhood, reduce stormwater runoff while providing adequate access to the neighborhood. This was discussed at the neighborhood meeting and was generally acceptable to the neighbors.

Drawings Notes:

1. The Planning Board waives / does not waive Section 14-526 (a) 4 (iv) of the City of Portland Chapter 14 Land Use Ordinance for reduction of drive aisle from 24 feet to 21 feet.
2. The Planning Board waives / does not waive Section 1.14 of the City of Portland's Technical Manual Standard that parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces, to allow 12 compact spaces which is 37.5% of the total number.
3. The Planning Board waives / does not waive Section 1 of the City of Portland's Technical Manual Standard for the reduction of Wessex Street pavement width from 28' to 24'.

ZONING ANALYSIS

DIVISION 8. R-P RESIDENCE-PROFESSIONAL ZONE

This project is located in the R-P Residential-Professional Zone. It is also an affordable housing project meeting the requirements of Division 30 Affordable Housing. The setbacks and density have been calculated using the density bonus' from Division 30.

Below are selected sections of the R-P Zone that we believe apply to the project.

Sec. 14-146. Purposes.

The purposes of the R-P residence-professional zone are:

(b) To serve as a transition or buffer zone between residential and more intensive nonresidential zones.

This project is a more intensive residential use making the transition.

Sec. 14-147. Permitted uses.

The following uses are permitted in the R-P district:

(a) Residential: Any residential use is permitted in the residential zone abutting the lot. If there is no abutting residential zone, the nearest residential zone to the lot. In the case of two (2) or more abutting residential zones, the most restrictive such zone.

This project abuts the R-3 Residential Zone.

Sec. 14-149. Dimensional requirements.

In addition to the provisions of division 25 (space and bulk regulations and exceptions) of this article, the following requirements shall apply. Residential uses permitted under section 14-147(a) shall meet the requirements of such abutting or nearest residential zone. Nonresidential uses in the R-P zone shall meet the following minimum requirements:

See Chart below comparing dimensional requirements.

(a) *Minimum lot size:* Six thousand (6,000) square feet.
(b) *Minimum street frontage:* Sixty (60) feet.
(c) *Minimum yard dimensions:*
    1. *Front yard:*
        a. *Principal or accessory structures: Twenty (20) feet, except that:*
            i. *The front yard need not exceed the average depth of immediately abutting front yards; and*
            ii. *The front yard of a lot existing as of April 4, 1988, which lot is less than one hundred (100) feet deep, need not be deeper than ten (10) percent of the depth of the lot.*
    2. *Rear yard:*
        a. *Principal structures: Twenty (20) feet.*
        b. *Accessory structures (detached): Seven (7) feet.*

3. *Side yard:*

a. *Principal structures:*

Number of Stories	*Required Side Yard*
1 story . . . . . 10 feet	
2 stories . . . . . 12 feet	
3 or more stories . . 14 feet	

The width of one (1) side yard may be reduced one (1) foot for each foot that the other side yard is correspondingly increased, provided, however, no side yard shall be reduced to less than seven (7) feet in width.

b. *Accessory structures (detached): Seven (7) feet.*

c. *Side yards on side streets (corner lot): For both principal or accessory structures:*

i. *One (1) or two (2) stories: Fifteen (15) feet; and*

ii. *Three (3) or more stories: Eighteen (18) feet.*

(d) *Minimum lot width: Sixty (60) feet.*

(e) *Maximum structure height: Forty-five (45) feet. Where the lot abuts an R-6 residential zone, the maximum permitted height shall be the maximum permitted height of the R-6 zone. If there is a difference in height between abutting R-6 zones, the least restrictive height limitation shall apply.*

(f) *Maximum impervious surface ratio: The maximum impervious surface ratio is established according to the abutting residential zone. If there is no abutting residential zone to the lot in question, the nearest residential zone to the lot. In the case of two (2) or more abutting residential zones, the least restrictive such zone. The ratios are as follows:*

Residential Zone	*Maximum Impervious Surface Ratio*
R-1/R-2	*0.60*
R-3	*0.70*
R-4/R-5/R-5A/R-6	*0.80*

(g) *Floor area ratio (F.A.R.): The maximum floor area ratio is established according to the abutting residential zone. If there is no abutting residential zone to the lot in question, the nearest residential zone to the lot. In the case of two (2) or more abutting residential zones, the least restrictive such zone. The ratios are as follows:*

Residential	*Floor Area Ratio*
R-1/R-2	*0.45*
R-3	*0.55*
R-4/R-5/R-5A/R-6	*0.65*

ZONE INFORMATION

ZONE: RESIDENTIAL 3 (R-3) & RESIDENTIAL-PROFESSIONAL
PERMITTED USE: MULTI-FAMILY RESIDENTIAL PROPOSED USE: AFFORDABLE SENIOR HOUSING

SPACE STANDARDS	R-3	R-P	14-488 BONUS	ALLOWED	PROVIDED
LOW INCOME UNITS			85%		34
WORKFORCE UNITS			0%		0
MARKET UNITS			15%		6
TOTAL NUMBER OF UNITS			100%		40
LOT AREA PER UNIT	6,500 SQ. FT.	1500/UNIT *	2.5x1500	= 600	800
MINIMUM LOT SIZE	6,500 SQ. FT.	6,500 SQ. FT.			32,000
MINIMUM STREET FRONTAGE	50 FEET	50 FEET			420 FEET
MAXIMUM FRONT YARD					10 FEET
MINIMUM FRONT YARD	25 FEET	25 FEET **	-5 FEET	= 20 FEET	17 FEET
MINIMUM REAR YARD	25 FEET	25 FEET			140 FEET
MINIMUM SIDE YARD					
2 1/2 STORY STRUCTURE	16 FEET	16 FEET	-5 FEET	= 11 FEET	20 FEET
SIDE YARD ON A SIDE STREET	20 FEET	20 FEET	-5 FEET	= 15 FEET	15 FEET
MINIMUM UNIT SIZE					528 SQ. FT.
OVERALL BUILDING AREA (GROSS)					30,089 SQ. FT.
ACTUAL LOT COVERAGE (FOOTPRINT)					7,522 SQ. FT.
MAXIMUM LOT COVERAGE	35%	35%			24%
MINIMUM LOT WIDTH	65 FEET	65 FEET			150 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	35 FEET	+15 FEET	= 50 FEET	46 FEET

* PER 14-488

** OR AVERAGE OF ABUTTING FRONT YARDS

Sec. 14-150. Other requirements.

All nonresidential uses in the R-P zone shall meet the requirements of division 25 (space and bulk regulations and exceptions) of this article in addition to the following requirements:

Not Applicable, this is a residential use.

Sec. 14-151. External effects.

Every use in a R-P zone shall be subject to the following requirements:

(a) *Enclosed structure: The use shall be operated within a completely enclosed structure, except for those customarily operated in the open air.*

Residential use, all indoors.

(b) *Noise: The volume of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American Standards Association), generated shall not exceed fifty-five (55) decibels on the A scale, on impulse (less than one (1) second), at lot boundaries, excepting air raid sirens and similar warning devices.*

Mechanical equipment to be located on the roof and meet these levels.

(c) *Vibration and heat: Vibration inherently and recurrently generated and heat*

shall be imperceptible without instruments at lot boundaries.

No items should generate heat or vibrations.

(d) *Glare, radiation or fumes: Glare, radiation or fumes shall not be emitted to an obnoxious or dangerous degree beyond lot boundaries.*

All lighting will be shielded, see Lighting Plan.

(e) *Smoke: Smoke shall not be emitted at a density in excess of twenty (20) percent opacity level, as classified in Method 9 (Visible Emissions) of the*

Opacity Evaluation System of the U.S. Environmental Protection Agency.

No items generate smoke.

(f) *Materials or wastes: No materials or wastes shall be deposited on any lot in such form or manner that they may be transferred beyond the lot boundaries by natural causes or forces. All material which might cause fumes or dust, or constitute a fire hazard if stored out-of-doors, shall be only in closed containers. Areas attracting large numbers of birds, rodents or insects are prohibited.*

All waste will be handled indoors in the trash room and picked up by a private waste hauler.

DIVISION 30. AFFORDABLE HOUSING

Sec.14-484. Purpose.

It is in the public interest to promote an adequate supply of affordable housing for the city's residents. The purpose of this division therefore is to offer incentives to developers to include units of affordable housing within development projects, thereby mitigating the impact of market rate housing construction on the limited supply of available land for suitable housing, and helping to meet the housing needs of all economic groups within the city. The city believes that this division will assist in meeting the city's comprehensive goals for affordable housing, in the prevention of overcrowding and deterioration of the limited supply of affordable housing, and by doing so promote the health, safety and welfare of its citizens.

Sec. 14-485. Definitions.

Affordable means that the percentage of income a household is charged in rent and other housing expenses, or must pay in monthly mortgage payments (including insurance and taxes), does not exceed 30% of a household's income, or other amount established in city regulations that does not vary significantly from this amount.

Low-income housing unit for rent means a dwelling unit for which:

(a) *The rent is affordable to a household earning 80% or less of Area Median Income (AMI) as defined by the United States Department of Housing and Urban Development (HUD); and*

(b) *Annual rent increases for that unit are limited in perpetuity by deed restriction or other legally binding agreement to the percentage increase in the*

U.S. Department of Housing and Urban Development moderate-income figure for metropolitan Cumberland county Maine for a household of that size.

These units will be for rent.

Dwelling unit has the same meaning as that term is defined in section 14-47.

Eligible project means a development project:

(a) *That is permissible under the provisions of this chapter in the zone in which it is proposed;*

This project qualifies as a residential project.

(b) *That will be a multi-family dwelling ,as defined in section 14-47, and will not be located in an R-1 or R-2 zone;*

This project is in the R-P Zone, qualifying for this chapter.

(c) *That creates new dwelling units, among which is at least one low-income housing unit for rent or workforce housing for sale, through new construction, substantial rehabilitation of existing structures, adaptive reuse or conversion of a non-residential use to residential use, or any combination of these elements. Affordable housing units for sale or rent may not differ in exterior design from other units within an eligible project; and*

The project will have a mix of affordable units and market rate units, all the same.

(d) *Projects shall not be considered "eligible projects" solely because they are subject to Section 14-487 ("Ensuring Workforce Housing").*

This project goes beyond the workforce housing unit numbers required.

Workforce housing unit for rent means a dwelling unit which:

(a) *Is affordable to a household earning less than 100% of HUD AMI; and*

The project will have at 24 at 50% AMI 10 at 60% AMI and 6 Market Rate units.

(b) *Annual rent increases for that unit are limited by deed restriction or other legally binding agreement to the percentage increase in the HUD Greater Portland Metropolitan Statistical Area median income figures for a household of that size.*

Avesta will manage these units and will conform to the rent restrictions.

Sec. 14-487. Ensuring Workforce Housing.

(a) *Purpose. Based on the city's Comprehensive Plan and the housing study completed in 2015, it is in the public interest to promote an adequate supply of housing that is affordable to a range of households at different income levels. The purpose of this section is to ensure that housing developments over a certain size provide a portion of workforce housing units and, by doing so, promote the health, safety, and welfare of Portland citizens.*

This project provides excess workforce housing.

(c) *All Developments of Ten Units or More Conditional Uses.*

Notwithstanding any language to the contrary in Chapter 14, all developments of ten units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements of this section, 14-487.

This project falls under this provision having 40 units.

(d) *Workforce Housing Minimum. At least ten percent (10%) of the units in the project shall meet the definition of workforce housing unit for sale or for rent. The number of units required is rounded down to a whole number if providing units as per (e)2. below, or shall include a fractional value in cases where a project prefers to pay a fee-in-lieu as per (e)3. below.*

(e) *Standards.*

1. *Projects shall not be segmented or phased to avoid compliance with these provisions. In cases where projects are completed in phases, affordable units shall be provided in proportion to the development of market rate units unless otherwise permitted through regulations.*

   This project is not phased.

2. *Workforce units are encouraged to be integrated with the rest of the development, should use a common entrance and should provide no indications from common areas that these units are workforce housing units.*

   All units will be integrated into the building.

3. *Workforce units need not be the same size as other units in the development but the number of bedrooms in such units, either on- or off-site, shall be 10 percent of the total number of bedrooms in the development. For the purposes of this section, for every 400 square feet in a market rate unit will count as a bedroom if the actual number of bedrooms in the unit is lower.*

   All units are one bedroom.

4. *As an alternative to providing workforce housing units, projects may pay a fee in lieu of some or all of the units. In-lieu fees shall be paid into the Housing Trust Fund as defined in Sec. 14-489. The fee for affordable units not provided shall be $100,000 per unit, adjusted annually in the same way as the fee under Division 29 for Housing Replacement.*

   No fees required.

5. *Workforce housing units for sale, if converted to workforce housing units for rent, shall become subject to the income limits and other requirements of such units.*

   These units will not be offered for sale.

6. *If at least 33 percent of the units in a development are workforce units, the development is eligible for subsidy through an Affordable Housing*

TIF, subject to City Council approval.

This project exceeds the 33% and is eligible for a TIF.

7. *The term of affordability for the required 10 percent workforce units provided shall be defined as follows:*

Percentage of Workforce Units Provided	*Minimum Term of Affordability for Required Workforce Units*
10%	*Longest term permitted under federal, state and local laws and ordinances*
25%	*30 years*
50%	*20 years*
100%	*10 years*

This project has 34 affordable units and 6 market rate units.

Sec. 14-488. Density, parking and dimensional bonuses and reductions.

Notwithstanding any other provision of this chapter to the contrary, in order to encourage low income and workforce units in designated growth areas, eligible projects may avail themselves of the following options.

(a) Density bonuses. The maximum number of units that would otherwise be allowed under this chapter shall be increased for an eligible project in the manner described in the following table.

Eligible projects in all B-1, B-1b, B-2, B-2b, B-2c, B-3, B-3b, B-3c, B-5, R-7, and R-P Zones

Percentage Low Income Units for Sale/Rent	*Percentage Workforce Units for Sale/Rent*	*Density Permitted**	*Additional Height Permitted***	*Setback Reductions***
10%	*20%*	*1.1 x base*	*N/A*	*N/A*
20%	*40%*	*1.2 x base*	*10 feet*	*N/A*
30%	*60%*	*1.3 x base*	*10 feet*	*5'*
50%	*100%*	*2.0 x base*	*15 feet*	*5'*
75%	*N/A*	*2.5 x base*	*25 feet*	*10'*

This project has 85% affordable units and qualifies for the maximum relief.

**: "Base" is the number of units allowed under the zoning without this bonus but with any other bonuses applied. In R-P zones, multifamily is permitted with a "base" no less than 1 unit per 1,500 sf. of land area. If an eligible project is providing both workforce and affordable housing units, the applicant shall have the option of utilizing applicable incentives, but not cumulatively.*

This project is in the R-P District.

***: Setback reductions are absolute reductions in front, side and/or rear yard setback requirements. The maximum setback reductions in the B-1, B-1b and R-P*

zones shall be 5 feet.

This project will use the maximum reduction of 5'.

**** The maximum additional height permitted in the B-1 zones and the R-P zone shall be 15 feet. In addition, the maximum structure height is 50 feet within 750 feet of the Portland Observatory.*

This project will use the maximum 15' height addition.

(b) *Off-street parking. Off-street parking is required as provided in Division 20 (off-street parking) of this article.*

The parking will be reviewed with the Board to reduce the total required.

(e) *Unit Size and Term of Affordability. In order to be eligible for this section, the low income and workforce housing units must:*

1. *Meet Section 14-487 Ensuring Workforce Housing, subsection (e) Standards 1,2 and 3; and*

2. *Be affordable for the longest term permitted under federal, state and local laws.*

Avesta will keep these units affordable long term.

(f) *Required Public Process. The developer of the project must also commit to a good faith effort to communicate openly with affected properties as their process moves forward. At a minimum, no less than 30 days prior to application for site plan review, any project that wishes to take advantage of this section must (1) hold a public meeting noticed to all properties within 500 feet of their site and (2) post a sign on the property in question describing the proposed project; intent to submit an application to the city in 30 days (cite anticipated submission date); and contact information for the developer and the Planning Authority (Department of Planning and Urban Development website link). The Planning Board may adopt regulations regarding the content and processes for noticing as part of the Technical Manual.*

This project will hold a Public Informational Meeting.

(g) *Projects under 14-487. Projects that are subject to 14-487 that choose to provide the required workforce housing units on site are eligible for a 25% increase in total permitted units. If an eligible project is also subject to 14- 487, the applicant shall have the option of utilizing either this bonus or any bonuses they are eligible for under 14-488.1 but not both.*

See the zone chart to see the bonus allowed and used.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

July 18, 2018

Mr. Christian Roadman
City of Portland, Planning
389 Congress Street 4th Floor
Portland, ME 04101

RE: Response to City Review Comments
977 Brighton Avenue Elderly Apartments, Avesta Housing

Dear Christian,

We have revised the plans in response to Staff comments. The building design is being worked out between Ben Walter and Catlin Cameron.

The site changes include the following:

1. The parking lot was revised to remove 4 parking spaces in the rear corner of the lot. This reduced the wetland impacts and eliminated the culvert under that section of the lot.
2. The Landscape Plan was revised to add some community garden species near Brighton Avenue. This section was selected due to the access to sunlight near the building.
3. The Landscape Plan was adjusted to add additional plantings along the Brighton Avenue side.
4. The screening plantings were eliminated along the parking lot, and the species of the crab trees were revised.
5. We have revised the drainage to be able to treat the amount of impervious surface runoff as noted in Lauren Swett's memo.

Please let me know if you have any questions.

Respectfully,

Thomas S. Greer, PE
Walsh Engineering Associates, Inc.

cc: Ben Walter, Greg Payne, File
Enc.

WALSH
ENGINEERING ASSOCIATES, INC.

File: 16150

June 4, 2018

Mr. Christian Roadman
City of Portland, Planning
389 Congress Street 4th Floor
Portland, ME 04101

RE: Response to City Review Comments
977 Brighton Avenue Elderly Apartments, Avesta Housing

Dear Christian,

Below are our responses to comments:

Woodard & Curran Memorandum dated April 18, 2018

1) *It is noted that this is a preliminary application. The follow comments reflect items required for the final plan submission.*
   No comment required.
2) In accordance with the City of Portland Land Use Code (Chapter 14) Subdivisions and Site Plan Standards, please address the following comments:
   a) *Note 1 on the Snow Clearance Notes on sheet C1.2 indicates that snow may be stored within the snow storage areas, but the location of the designated areas are unclear on the site plan. Please indicate snow storage locations that are sited outside of existing and proposed drainage courses.*
      Snow Storage areas are noted on Sheet C1.1.
3) *In accordance with the City of Portland Technical Manual, please address the following comments:*
   a) *Stormwater Management Standards (Section 5)*
      - *In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. The Applicant proposes four FocalPoint systems and storage chambers. We offer the following comments:*
        - *Basic Standard: Plans, notes, and details are provided to address erosion and sediment control requirements, inspection and maintenance requirements, and good*

housekeeping practices in accordance with Appendix A, B, & C of MaineDEP Chapter 500. Please address the following comments related to the Erosion Control Plan:

a. *The stone filter protection icon does not appear to align with Focal Point Systems 1, 4-1 and 4-2. Please revise accordingly.*

   The graphics have been corrected.

b. *Stone filter protection is provided northeast of the site building. Based on other sheets, it does not appear that infrastructure is proposed in this area. Please revise to reflect proposed conditions.*

   The graphics have been corrected

c. *The erosion control berm line does not appear to extend downgradient of all proposed work on the northern end of the property. Please revise accordingly.*

   Erosion Control Berm has been corrected.

d. *Please provide a detail for riprap outlet protection.*

   A detail has been added.

- *General Standard: The Applicant needs to distinguish between new impervious surface and redeveloped non-roof impervious surface. New impervious surface (if greater than 1,000 SF) shall comply with the Maine Chapter 500 General Standard by providing treatment of no less than 95% of the impervious area and 80% of the developed area. Areas of redeveloped non-roof impervious area shall comply to the redevelopment standard, providing treatment of 50% of the area. All stormwater calculations shall include the Wessex Street area.*

  a. *The Applicant should provide sizing calculations per the Maine DEP Stormwater BMP Manual for all proposed treatment BMPs.*

     The sizing for the 3 Focal Point Systems is provided as the WQV1 Calculations.

  b. *The Applicant should provide details for all proposed treatment BMPs and related infrastructure (FocalPoint System, Storage Chambers and Outlet Control Structure), including invert elevations.*

     The drainage systems have been detailed with inverts and slopes as required.

  c. *Please include a maintenance description and update tables to include the chamber system in the Inspection and Maintenance Report.*

     The Maintenance Report has been revised.

- *Flooding Standard: The Applicant has noted that post-development peak flows are smaller than pre-development peak flows for the 2-, 10- and 25-year storm events.*

  a. *Wessex Street should be included in both Drainage Plans and all stormwater calculations.*

     We have provided summaries for the water quality event and the 2, 10 and 25 year events.

  b. *Please provide the 10- and 25- year storm event models for the post-development HydroCAD model.*

     We have provided 10 and 25 year storm event models.

b) *Boundary Survey Requirements (Section 13)*

- *The submitted boundary survey date July 13, 2016 does not include a professional surveyor stamp/signature. Applicant is required to submit a Boundary Survey that has been Stamped by a Maine Licensed Professional Surveyor.*

  A stamped Boundary Plan will be provided.

4) *Please address the following comments regarding the Construction Management Plan (CMP):*
   a) *Per Section C. of the City of Portland CMP Template, please add the following under 'other applicable permits':*

      ***Building Code:** Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the International Building Code.*
   b) *The CMP Narrative references a construction timeline at end of the document in Section E. Construction Schedule. It does not appear that the timeline was attached to the document.*

      The time line will be provided once we have a firm date on the construction.
5) *General Comments*
   a) *Please reevaluate the 55 and 56 foot contours respectively on the Grading Plan in the following locations:*

      The contours have been revised.
   b) *Please provide details for the following items: driveway culvert, drainage manhole, stormwater infrastructure (see Stormwater Section above) stockade fence and concrete pavement.*

      The details have been added.
   c) *The Applicant has not provided a location for a dumpster or other solid waste receptacle. Does the applicant intend that all solid waste disposal be handled internal to the building?*

      All solid waste will be handled internally.
   d) *Please indicate locations of the extruded concrete curb (detail 4 on sheet C3.2) or describe locations in the note section for that detail.*

      Curb locations are clarified.
   e) *The Applicant submitted letters to Portland Water District and the City of Portland Department of Public Works to request utility capacity to serve documentation for the proposed project. A response letter from the Department of Public Works confirmed downstream sewers have the capacity to convey the estimated wastewater flow. Since the project is connecting into a combined sewer, a backflow preventer is recommended; a detail should be provided in the plan set. Response letters from other utilities confirming ability to serve the proposed development should be submitted to the City upon receipt.*

      A backflow preventer detail has been added. The Wastewater Capacity Letter is included. We do not have a letter from Portland Water District yet but will provide it when it becomes available.

Jeff Tarling Email dated April 20, 2018

Would recommend that the project 'street-trees' along Brighton Avenue and Wessex Street be a uniform planting of like tree types vs 'two & two', that could be 7 of the same species along Wessex Street, most likely the overhead utility wires will remain thus the trees should be ornamental types - perhaps 'Accolade' Cherry or Crabapple.

Trees have been changed to flowering crabs.

Silver Maple are not recommended near any City street, but would be OK in backyard situations. Thus we would want to see that type changed in this plan.

One silver maple remains in the backyard.

Tom Errico Traffic Comments Email dated April 19, 2018

The Wessex Street cross-section shall meet City standards or 28 feet in width. This width will permit on-street parking on one side of the street.

A waiver is requested.

The sidewalk on Wessex Street shall extend along the entire property frontage.

The sidewalk has been extended.

Supporting documentation on the number of handicap parking spaces shall be provided.

The ADA spaces are provided as required by the funding agency and exceed ADA requirements.

Supporting documentation on the number of parking spaces provided for the site shall be provided.

A Parking Study by William Bray PE, Traffic Solutions is provided.

Supporting documentation on the number of compact parking spaces shall be provided.

We anticipate the units as affordable units and will have small vehicles on average

The Traffic Study has been uploaded to Eplan for Traffic Review.

Robert Thompson/Fire on 4/4/2018

Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer.

General note 11 has been revised to include this requirement.

The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.

The address will be added to the building at the Brighton Entrance.

Emergency access for fire apparatus is available with the plans.

No comment required.

Adequate water supply is available for the building.

Portland Water District will provide a Capacity Letter.

Caitlin Cameron Design Review Comments dated April 11, 2018:

- *Applicant did not provide renderings of the project in context*
  The Applicant has provided renderings
- *More information on material finishes is requested*
  The Applicant has provided material finishes.

(a) R-P Residential Professional Zone
Standard (1) . For development within the R-P zone where there is a consistent established architectural style or character to the existing structures in the immediate vicinity tin which the development is proposed, that the concurrently visible architectural style or character of the proposed development would not be incongruous to that established style or character.

Staff determined that there is not a consistent, established architectural style or character to the immediate vicinity.

(i) Two-Family, Special Needs Independent Living Units, Multiple-Family . . . :
Standard (1) . Exterior Design – Building is multi-family and its 4-story scale relates that use. The context includes one-story commercial buildings and many small-scale vernacular residential buildings; other than the Barron Center, there is not much in the way of multi-family buildings in this area. Most of the residential context is from the early 20th century with the commercial corridor on Brighton Avenue having more recent buildings. The project varies the massing somewhat on the sides and rear of the building - this helps to mitigate the scale of this multi- family building which is larger than the single-family homes nearby. The central entrance is emphasized with a canopy. Aside from the canopy and the material variation, the façade and form appear flat and boxy. The window proportions are also inconsistent with those found in the residential context. In essence, the building does not look very residential. Staff suggests possible ways to bring more visual interest and a residential character to the building:

- *- Articulation elements*
  Refer to submitted 'Exterior Building Forms and Submission'
- *- More fine grain material than panel*
  Refer to submitted 'Exterior Building Forms and Submission'
- *- Different roofline treatment*
  Refer to submitted 'Exterior Building Forms and Submission'
- *- Depth at the windows*
  Refer to submitted 'Exterior Building Forms and Submission', see below
- *Reduce the number of materials, or adjust the placement*
  Refer to submitted 'Exterior Building Forms and Submission'

Questions:

- *What finishes on the materials are proposed?*
  Refer to submitted 'Exterior Building Forms and Submission'

- *What is the detail of the window openings? Do the windows have a reveal?*
  Refer to submitted 'Exterior Building Forms and Submission'

Additional Comments: The north side of Brighton Avenue in the vicinity of the project lot is defined by low rise, low density and low value early 20th century structures on lots that are capable of supporting higher density and more productive new structures. The south side of Brighton Avenue is defined by contemporary – mostly retail – forms and massing. 977 Brighton Avenue is designed to a) respond to residential development massing and densities permitted by the current comprehensive plan and zoning ordinance for this location, and b) establish a street wall that will relate to future residential improvements that could, over time, replace existing neighboring structures.

Standard (2). Relationship to Street –Building relationship to the street varies in this context – some buildings face the street, some are set back from the street, some turn the side to the street. The front orientation is to Brighton Street with a 17' front setback from the busy street and an entry porch.
Standard (3). Open Space – Open spaces provided on property – covered entry porch and landscape buffer surrounding building but no seating or yard space proposed.
Standard (4). Light and Air – All units provided with ample windows, some storage space.
Standard (5). Parking – Parking is away from Brighton Avenue, hidden by the building.
On the Wessex Street side, surface parking is not adequately screened from view – only two trees shown currently between parking and public ROW; no apparent screening provided between the surface parking and the neighboring properties.
A hedge of arborvitaes has been added.
Standard (6). Not applicable

Respectfully,

Thomas S. Greer, PE
Walsh Engineering Associates, Inc.

cc: Ben Walter, Greg Payne, File

Enc.

TRAFFIC IMPACT STUDY

FOR

PROPOSED

977 Brighton Ave
Elderly Apartments

Prepared For – Avesta 977 Brighton LP
Prepared By – William J. Bray, P.E.

May 2018

INTRODUCTION

Avesta 977 Brighton LP is proposing to construct a 40-unit one-bedroom elderly apartment building at 977 Brighton Avenue in the City of Portland. The proposed development site is located on the corner of Brighton Avenue and Wessex Street near the Brighton Avenue/Rand Road/Cabot Street intersection. The proposed project will provide a mix of both low income (34 units) and market rate units (6 units).

The proposed apartment building is accessed from two proposed driveway entrances that connect directly to Wessex Street, a short gravel dead-end private road.

The purpose of this study is to examine existing traffic conditions in the general vicinity of the proposed project, estimate the total number of site trips generated by the project and, make a determination as to whether the existing transportation system can safely accommodate the added traffic demand generated by the project.

EXISTING CONDITIONS

Existing Design Hour Traffic: Manual turning movement counts were conducted at both the Brighton Avenue/Warwick Street/Rowe Avenue and Brighton Avenue/Rand Road/Cabot Street intersections during the month of April, 2018. All traffic entering and exiting both intersections were recorded in 15-minute intervals between 7:00 and 9:00 AM and, again, between 3:00 and 6:00 PM (A copy of the traffic data is attached as an appendix to the report). From a summary of the data, peak hour times were established for both commuter travel periods. The "*morning*" peak hour occurs between 7:15 and 8:15 AM at the Rand Road intersection and between 7:45 and 8:45 AM at the Warwick intersection. The "*evening*" peak hour falls between 4:30 and 5:30 PM at Rand Road and between 4:45 and 5:45 PM at the Warwick Street/Brighton Avenue intersection.

Traffic data collected during the month of April requires an adjustment to reflect "*peak*" travel conditions experienced during the summer months of July and August. MaineDOT provides factors for adjusting traffic data collected during other periods of time. MaineDOT utilizes highway classifications of I, II, or III for all State and Local roadways. Group I roadways are defined as urban roadways or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Group II roadways or arterial roads are those that see a combination of commuter and recreational traffic and; therefore, experience moderate fluctuations during the year. Group III roads or recreational roadways are typically used for recreational purposes and experience significant seasonal fluctuations. MaineDOT has designated the section of Brighton Avenue a Group I roadway, which requires the collected traffic data to be adjusted by a factor of approximately 1.093. Figure 1 illustratively presents the estimated 2018 Design Hour Traffic volumes for the two study intersections.

Roadway Safety Conditions: MaineDOT's Accident Records Section provided the latest three-year (2014 through 2016) crash data for the section of Brighton Avenue between Warwick Street and Rand Road, approximately 0.27 miles. MaineDOT's report is presented as follows:

2014 -2016 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. Brighton Avenue/Warwick Street/Rowe Avenue	13	0.50
2. Brighton Avenue @ Terrace Avenue	1	0.11
3. Brighton Avenue/Rand Road/Cabot Street	18	0.54
4. Brighton Avenue btw, Rowe Avenue and Lomond Street	5	1.09
5. Brighton Avenue btw. Terrace Avenue to Webb Street	1	0.21
6. Brighton Avenue (WB Lane) Wessex Street to Cabot Street	4	0.64
7. Brighton Avenue (EB Lane) Rand Road to Wessex Street	3	0.58

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the chart shows, there are no high crash locations within the defined study area.

SITE TRAFFIC

Site Trip Generation: Trip generation was determined for the proposed elderly apartment building based upon trip tables presented in the ninth edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook and local data collected at a similar Avesta Housing project located in the City of Saco. The ITE publication provides the following trip rates for an attached senior adult housing project:

Land-Use Code 252 – Senior Adult Housing - Attached

Street Peak Hour – AM Peak	*= 0.20 trips/unit*
Street Peak Hour – PM Peak	*= 0.25 trips/unit*

Avesta Housing operates a 30-unit senior housing project in the City of Saco on Dawn Marie Drive with very similar housing characteristics as the proposed Wessex Street project. Manual traffic data was collected at the Saco site on April 17/18 between 7:00 and 9:00 AM and, again, between 3:00 and 6:00 PM recording all entry and exiting trips to the existing facility. That data was summarized with peak hour totals determined for both commuter time periods. In the morning peak hour, a total of 6 vehicle trips were recorded and a total of 8 trips were counted in the afternoon peak hour. The 30-unit Saco facility, with a total of 29 units occupied, generates approximately 0.14 trips per unit in the morning peak hour and 0.28 vehicle trips in the afternoon peak hour.

The estimate of peak hour trip generation for the proposed Wessex Street facility was determined applying the higher trip rate from both noted sources. In the AM peak hour, a trip rate of 0.20 trips per unit was used and for the PM peak hour a trip rate of 0.28 trips per unit was applied. Accordingly, the proposed 40-unit senior apartment facility can be expected to generate a total of 8 trips in the morning peak hour and 11 trips in the afternoon peak hour.

Site Trip Distribution: The Institute of Transportation Engineers handbook provides the following directional distribution rates for a residential condominium for both the AM and PM peak hours:

Land-Use Code 252 – Senior Adult Housing - Attached

Street Peak Hour – AM Peak	*= 34% enter site/66% exit site*
Street Peak Hour – PM Peak	*= 54% enter site/46% exit site*

Based upon the noted directional distribution patterns, 3 trips during the morning peak hour and 6 trips in the evening peak hour will enter the site and the remaining trips (5 AM trips and 5 PM trips) will exit the site.

Vehicle Trip Composition: This report has assumed all vehicle trips generated by the proposed project are "*primary*" or "*new*" vehicle trips to the area street network.

Vehicle Trip Assignment: Peak hour site trips generated by the proposed Avesta Housing project were assigned to the adjacent roadway system based upon existing travel patterns of Wessex Street residents and the Consultant's knowledge of travel patterns in the City of Portland. The traffic assignment model assigns a total of 5 of the 8 trips generated in the AM peak hour through the Brighton Avenue/Warwick Street intersection with the remaining

trips traveling through the Rand Road/Brighton Avenue intersection. The PM peak hour travel model assigns 7 of the 11 trips generated by the project easterly through the Brighton Avenue/Warwick Street intersection and the balance of trips (4) will circulate through the Rand Road/Brighton Avenue intersection.

Figure 2 is a "*stick*" diagram that presents the assignment of the site trips to the study intersections.

FUTURE TRAFFIC

Annual Growth: The Traffic Impact Study has been prepared based upon a project completion in 2019. MaineDOT's historical traffic data is limited in the area of the proposed project. MaineDOT's traffic count data for the outer portion of Brighton Avenue would suggest the appropriateness of a 1% per year growth in traffic.

Figure 3 presents the estimated 2019 Design Hour Traffic volumes for the study intersections.

Other Development Traffic: Traffic generated by projects that have been approved by the local Planning Board and/or the Maine Department of Transportation, yet are not open, must be included in the estimate of pre-development traffic. Trips generated by the proposed Dirigo Plaza project in the neighboring City of Westbrook and projected trip generation of the Hall School expansion project were appropriately distributed through both study intersections.

Figure 4 graphically presents the estimated other development trips impacting the two study intersections for each peak hour time period.

2019 Pre-Development Traffic: 2019 Pre-Development traffic forecasts were prepared for the study intersections by combining the estimated 2019 design hour traffic volumes highlighted on Figure 3 and the Other Development traffic values displayed on Figure 4. Figure 5 presents the 2019 pre-development traffic forecasts for the site driveway intersections.

2019 Post-Development Traffic: 2019 Post-Development traffic forecasts were prepared for the study intersections by combining the 2019 Pre-Development travel forecasts illustrated on Figure 5 with the estimated site generated trips highlighted on Figure 2. Figure 6 presents the estimated 2019 Post-Development Traffic forecasts at the study intersections.

MOBILITY ANALYSIS

Capacity analyses of 2019 post-development traffic conditions were performed utilizing the Synchro and SimTraffic computer models. Level of Service rankings are similar to the academic grading system, where an "*A*" is very good with little delay and "*F*" represents very poor conditions.

The following table summarizes the relationship between delay and Level of Service for a signalized intersection:

Level of Service Criteria for Signalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

The results of the capacity analyses for both signalized study intersections, at Rand Road and Warwick Street, is presented in the following table:

Level of Service Summary – (Signalized Intersection)
2019 Post-Development Condition

	2019 Post-Development			
	AM Peak Hour		PM Peak Hour	
Intersection/Approach	Delay (sec.)	LOS	Delay (sec.)	LOS
Brighton Avenue/Rand Road/Cabot Street				
- Brighton Avenue EB	22 sec.	C	20 sec.	C
- Brighton Avenue WB	13 sec.	B	17 sec.	B
- Rand Road NB	15 sec.	B	15 sec.	B
- Cabot Street SB	48 sec.	D	55 sec.	D
- Overall Intersection	17 sec.	B	18 sec.	B
Brighton Avenue/Warwick Street/Cabot Street				
- Brighton Avenue EB	17 sec.	B	45 sec.	D
- Brighton Avenue WB	13 sec.	B	31 sec.	C
- Warwick Street SB	47 sec.	D	47 sec.	D
- Rowe Avenue NB	40 sec.	D	53 sec.	D
- Overall Intersection	17 sec.	B	39 sec.	D

Both signalized intersections, highlighted in the preceding table, are expected to operate overall at acceptable levels of service under forecast 2019 post-development travel conditions. Vehicles entering the Brighton Avenue/Rand Road/Cabot Street intersection from the Cabot Street approach experience somewhat long delays; this is a pre-existing condition not directly impacted by the proposed project. A similar condition is forecast for both side-street approaches at the Brighton Avenue/Warwick Street/Rowe Avenue intersection. The eastbound approach of Brighton Avenue also experiences lengthy delays, resulting from left-turn movements onto Warwick Street interrupting or "*blocking*" through vehicle travel on Brighton Avenue.

A capacity analysis was also performed for the unsignalized Wessex Street/Brighton Avenue intersection for both 2019 Pre- and Post-development conditions.

The following table summarizes the relationship between delay and Level of Service for an unsignalized intersection:

Level of Service Criteria for Unsignalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The results of the capacity analysis are presented in the following table:

Unsignalized Intersection Level of Service Summary
2019 Pre- and Post-Development Conditions

	2019 Pre-Development				2019 Post-Development			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection/Approach	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
Brighton Avenue @ Wessex Street								
- Brighton Avenue EB	7 sec.		19 sec.		7 sec.		16 sec.	
- Brighton Avenue WB	2 sec.		3 sec.		2 sec.		3 sec.	
- Wessex Street SB	17 sec.		0		24 sec.		50 sec. (1)	
- Overall Intersection	5 sec.		10 sec.		5 sec.		9 sec.	

NOTE: (1) The table presents a very marked difference in vehicle delay during the PM peak hour on the Wessex Street approach for the pre- and post-development condition. In actuality, the pre-development condition assumed zero trips exiting Wessex Street, which would result in zero delay. One or two trips added to the pre-development condition would result in similar results as shown for the post-development condition.

The results of the capacity analysis completed for the Wessex Street intersection shows the intersection operates at acceptable levels of service during both travel time periods. Traffic exiting Wessex Street will encounter somewhat lengthy delays; a travel condition that generally occurs from side-streets intersecting a busy arterial highway.

VEHICLE QUEUE ASSESSMENT

Ninety-fifth (95%) percentile vehicle queues, an output of the detailed capacity analyses, were calculated for the westbound approach of Brighton Avenue at Rowe Avenue and the westbound approach of Brighton Avenue at Rand Road for both 2019 pre- and post-development conditions. The following table summarizes the queuing results:

Summary of 95th Percentile Queues
2019 Pre and Post-Development Conditions

Intersection/Approach	2019 Pre-Development Queues – AM Peak Hour	2019 Pre-Development Queues – PM Peak Hour	2019 Post-Development Queues– AM Peak Hour	2019 Post-Development Queues - PM Peak Hour
Brighton Avenue/Rand Road/Cabot Street				
- Brighton Avenue WB	184 feet	304 feet	192 feet	316 feet
Brighton Avenue/Warwick Street/Rowe Avenue				
- Brighton Avenue EB	337 feet	447 feet	349 feet	465 feet

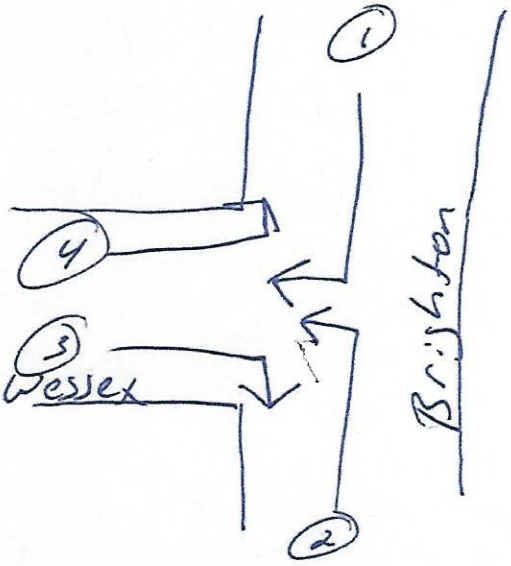
The measured distance from stop bar in the westbound lanes of Brighton Avenue at Rand Road to Wessex Street is approximately 418 feet. A similar distance (405) feet was measured in the eastbound lane of Brighton Avenue between the stop bar at Rowe Avenue to a point opposite Wessex Street. The queuing analysis of both pre- and post-development travel conditions shows the 95th percentile queues in the westbound lanes of Brighton Avenue do not block egress from the Wessex Street approach under all travel scenarios. The queuing analysis completed for the eastbound travel lanes show the 95th percentile queues very minimally block left-turn egress from the Wessex Street approach to Brighton Avenue eastbound. As highlighted in the chart this is a pre-existing condition that is reflective of the heavy through traffic volumes on Brighton Avenue and the geometry of the intersection. The proposed project has virtually no impact on the length of vehicle queues at either study intersection.

CONCLUSIONS/RECOMMENDATIONS

1. The proposed 977 Brighton Avenue apartment building project is forecast to generate a total of 8 trips during the morning peak hour and an additional 11 trips in the evening peak hour. Three (3) trips during the morning peak hour and 6 trips in the evening peak hour will enter the site and the remaining trips (5 AM trips and 5 PM trips) will exit the site.
2. Wessex Street is a very short street with a gravel surface that provides street access to a few residential properties. Existing peak hour traffic entering/exiting the street is exceptionally low, with total peak hour volumes of less than 7 vehicles recorded during both peak hour time periods.
3. MaineDOT's most recent three-year safety audit for the section of Brighton Avenue between Rand Road and the Warwick Street/Rowe Avenue intersection, a distance of 0.27 miles, shows the frequency of traffic crashes reported for each identified roadway segment and intersection is below MaineDOT's threshold criteria for identification of a high crash location.
4. Both signalized intersections (Brighton Avenue/Rand Road/Cabot Street and Brighton Avenue/Warwick Street/Rowe Avenue), located within the study area, experience heavy traffic flows during peak hour times. The Brighton Avenue/Rand Road/Cabot Street intersection presently serves a total of 2,498 vehicles in the morning peak hour and a slightly higher volume of 2,822 vehicles in the evening peak hour. The proposed project will add an additional 5 trips to the intersection in the morning peak hour and 7 trips in the afternoon peak hour. Both projected trip increases represent less than a one-quarter percent increase in traffic. The Brighton Avenue/Rand Road/Cabot Street intersection handles a total of 2,370 vehicles in the AM peak hour and a total of 2,718 vehicles in the PM peak hour. The proposed project will add a total of 3 new vehicle trips in the morning peak hour and 4 trips in the afternoon peak hour, representing increases of much less than one-quarter of a percent.
5. Intersection capacity analyses were performed for both signalized intersections for the 2019 Post-development condition, to determine the operational performance of both locations. The analysis shows both intersections operate at acceptable levels of service during peak travel times. Traffic entering the intersection from the side-street approaches at both intersections do experience somewhat lengthy levels of delay, an existing condition. Eastbound traffic on Brighton Avenue in the afternoon peak hour is slowed somewhat because of the number of drivers turning left from Brighton Avenue to Warwick Street, again, an existing operating problem at this location.
6. Ninety-fifth (95%) percentile vehicle queues, an output of the detailed capacity analyses, were calculated for the westbound lanes of Brighton Avenue at Rand Road and the eastbound lanes at Brighton Avenue and Warwick Street for both 2019 pre and post-development traffic loadings. The queuing analysis of both pre- and post-development travel conditions shows the 95th percentile queues in the westbound lanes of Brighton Avenue do not block egress from the Wessex Street approach under all travel scenarios. The queuing analysis completed for the eastbound travel lanes show the 95th percentile queues very minimally block left-turn egress from the Wessex Street approach to Brighton Avenue eastbound. As highlighted in the chart, this is a pre-existing condition that is reflective of the heavy through traffic volumes on Brighton Avenue and the geometry of the intersection. The proposed project, which adds very few trips to either intersection, has virtually no impact on the length of vehicle queues at either study intersection.

Job No._____

INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



INTERSECTION Wessex & Brighton
DATE 4/5/18
DAY OF WEEK Thursday
WEATHER Clear
REMARKS:

COUNT SUMMARY
MOVEMENT

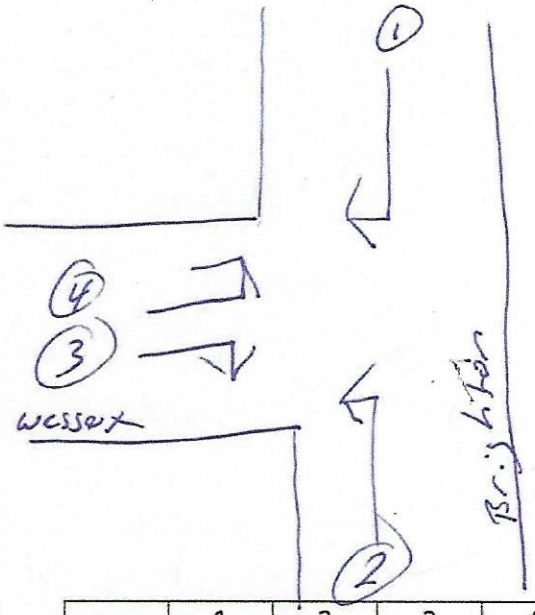
Am	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
7:00 7:15	0	1	0	0									
7:15 7:30	0	0	0	0									
7:30 7:45	0	0	0	1									1
7:45 8:00	2	0	0	1									3
8:00 8:15	0	0	0	2									2
8:15 8:30	0	0	0	0									0
8:30 8:45	0	0	0	0									
8:45 9:00	1	0	0	0									
:00 :15													
:15 :30													
:30 :45													
:45 :00													

PEAK HOUR COUNT TIME: To:

	2			4								

Job No._____

INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



INTERSECTION Wessex & Brighton
DATE 4/4/18
DAY OF WEEK Wednesday
WEATHER Rain
REMARKS:

COUNT SUMMARY
MOVEMENT

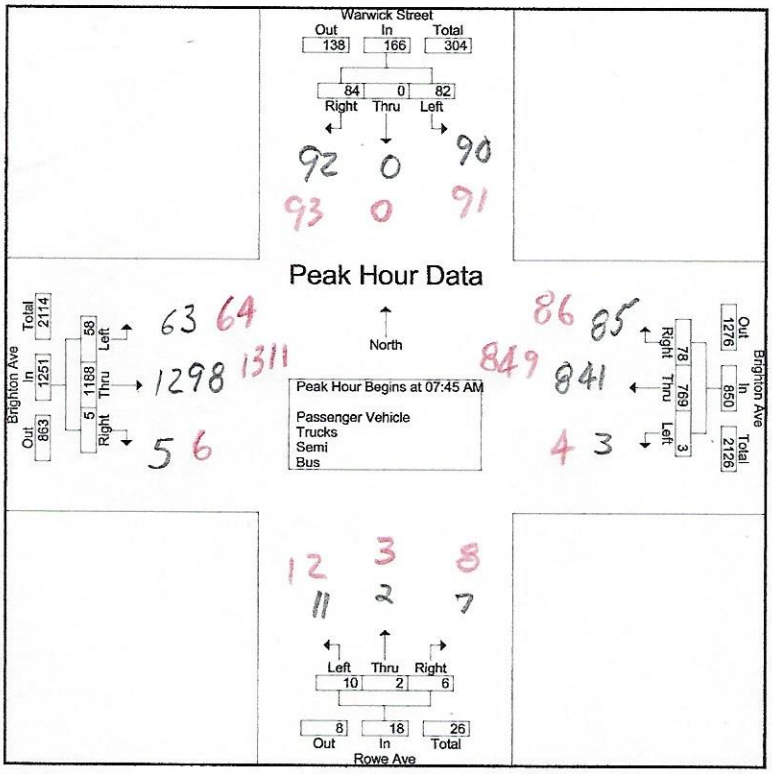
PM	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
3 :00 3 :15	0	1	0	0									
3 :15 3 :30	0	1	0	0									
3 :30 3 :45	0	0	0	0									
3 :45 4 :00	0	0	0	0									
4 :00 4 :15	0	0	0	0									
4 :15 4 :30	0	0	0	0									
4 :30 4 :45	0	0	0	0									
4 :45 5 :00	0	0	0	0									
5 :00 5 :15	0	0	1	0									
5 :15 5 :30	0	0	0	0									
5 :30 5 :45	0	0	0	0									
5 :45 6 :00	0	0	0	0									

PEAK HOUR COUNT TIME: To:

		2										

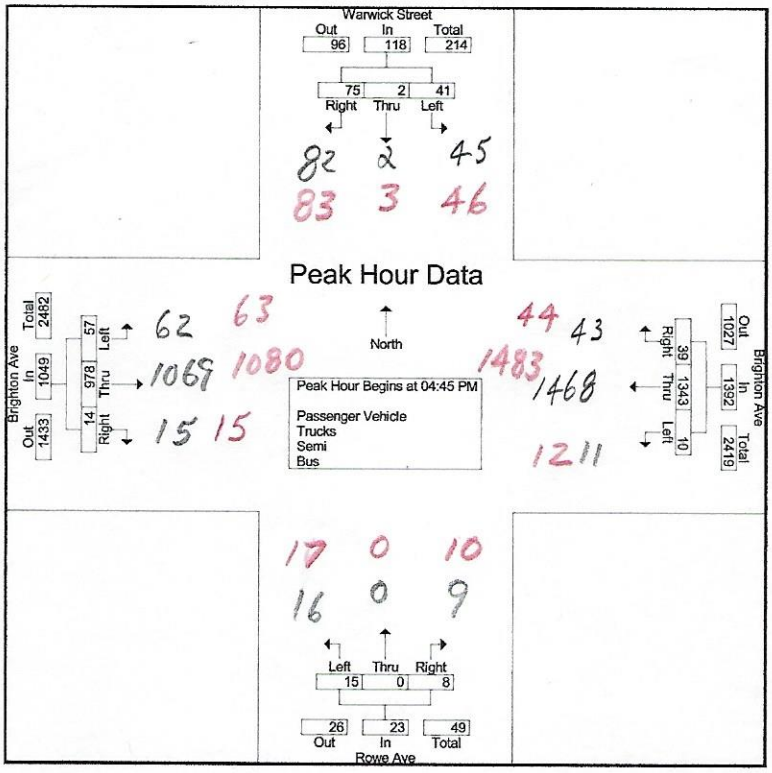
Portland Warwick, Brighton & Rowe
Tuesday April 3, 2018
Clear
Count By: Dawn-Marie Fahey

File Name : Portland Warwick & Brighton AM 040318
Site Code : 00040318
Start Date : 4/3/2018
Page No : 6



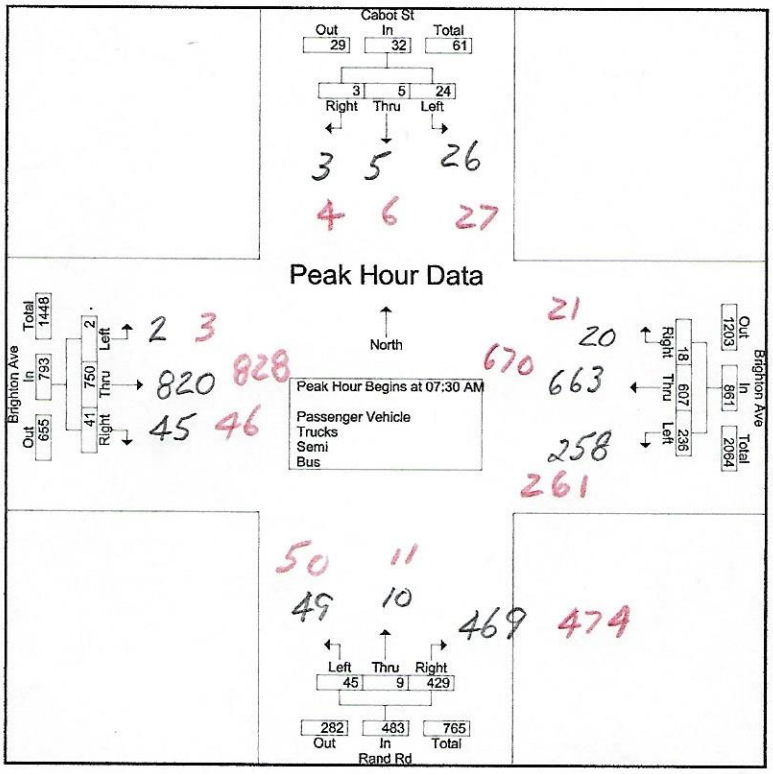
Portland: Brighton, Warwick & Rowe
Monday April 2, 2018
Partly Cloudy
Count By: Dawn-Marie Fahey

File Name : Portland Warwick & Brighton PM 040218
Site Code : 00040218
Start Date : 4/2/2018
Page No : 6



Portland: Brighton/Rand/Cabot
Friday April 27, 2018
Cloudy
Count By:Dawn-Marie Fahey

File Name : portland brighton & rand am 042718
Site Code : 00427181
Start Date : 4/27/2018
Page No : 6

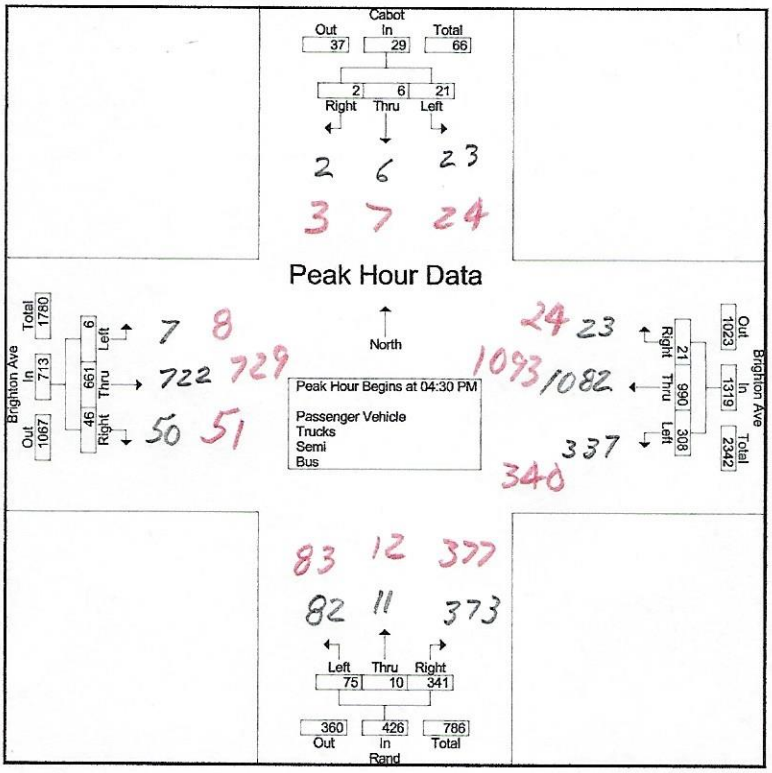


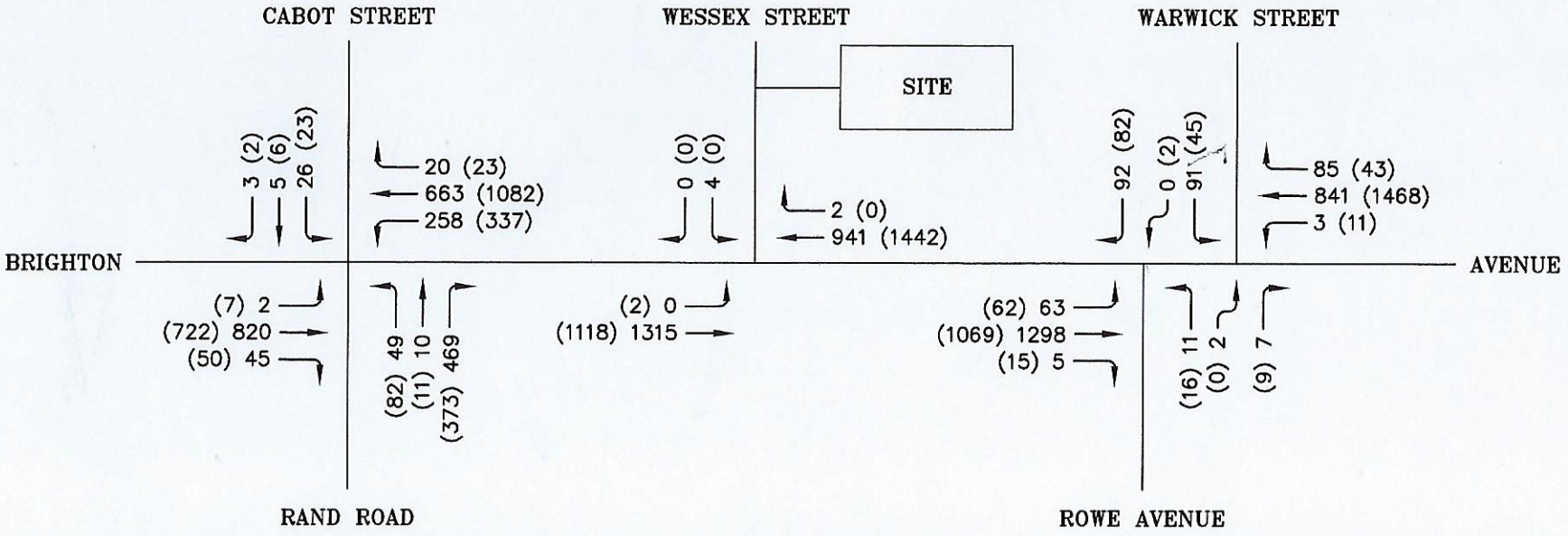
XX = Seasonal Adjustment x 1.093

XX = 2019 DHV x 1.01%

Portland: Brighton/Rand/Cabot
Thursday April 26, 2018
Clear
Count By: Dawn-Marie & James Fahey

File Name : Portland Brighton & Rand PM 042618
Site Code : 00426182
Start Date : 4/26/2018
Page No : 6





LEGEND

XX = AM PEAK HOUR

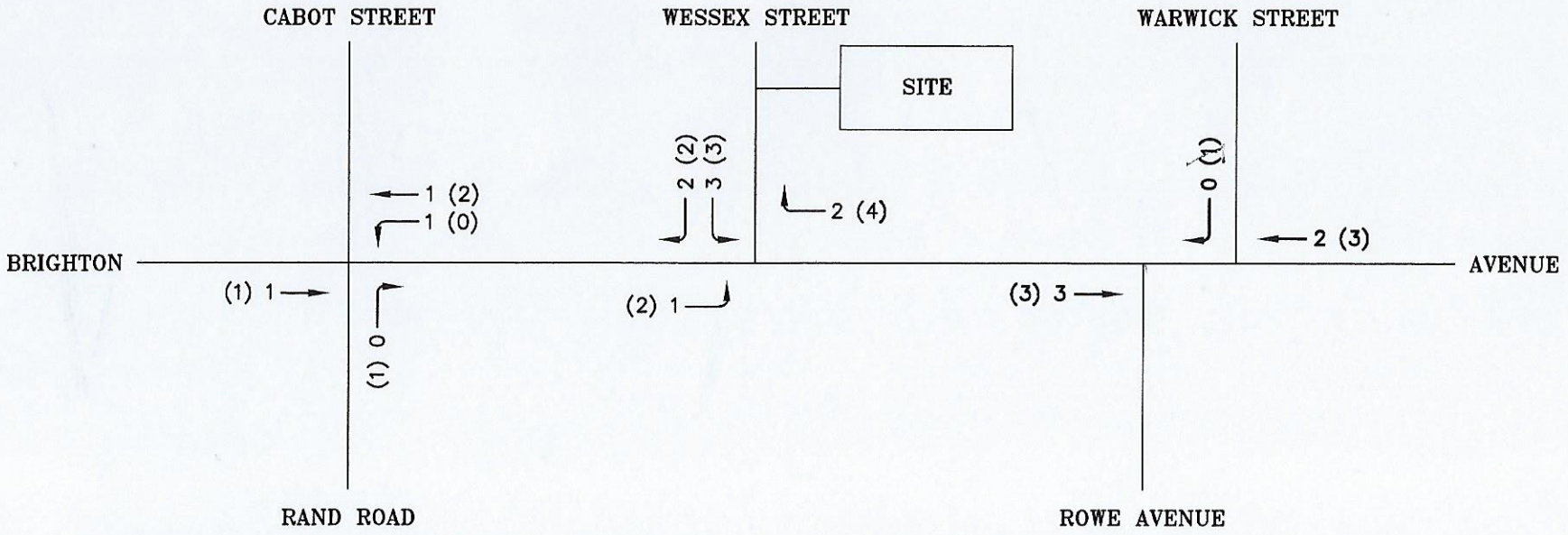
(XX) = PM PEAK HOUR

2018 DESIGN HOUR TRAFFIC

FIGURE 1

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\977 BRIGHTON AVE\PLANSET\977 BRIGHTON AVE.DWG

Project Name and Location: 977 BRIGHTON AVE – ELDERLY APTS.	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: MAY, 2018	FIGURE: 1



LEGEND

XX = AM PEAK HOUR

(XX) = PM PEAK HOUR

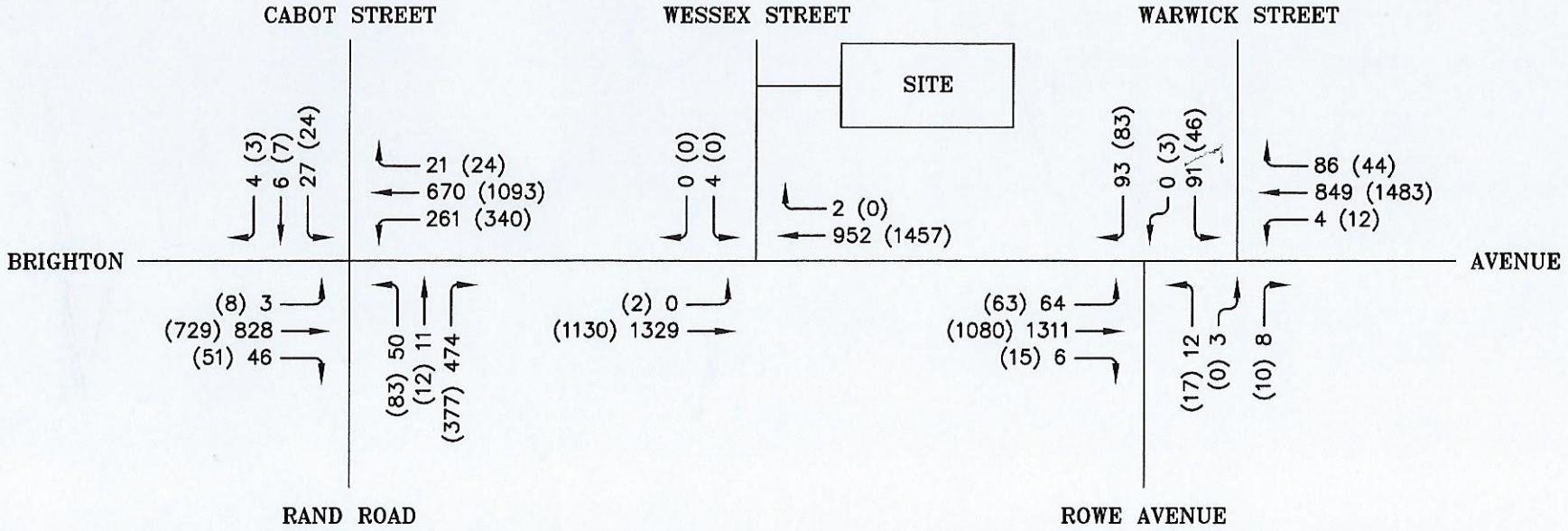
SITE TRIP ASSIGNMENT

FIGURE 2

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\977 BRIGHTON AVE\PLANSET\977 BRIGHTON AVE.DWG

Project Name and Location: 977 BRIGHTON AVE – ELDERLY APTS.	TRAFFIC SOLUTIONS
DATE: MAY, 2018	FIGURE: 2

235 BANCROFT STREET, PORTLAND, MAINE 04102-1730



LEGEND

XX = AM PEAK HOUR

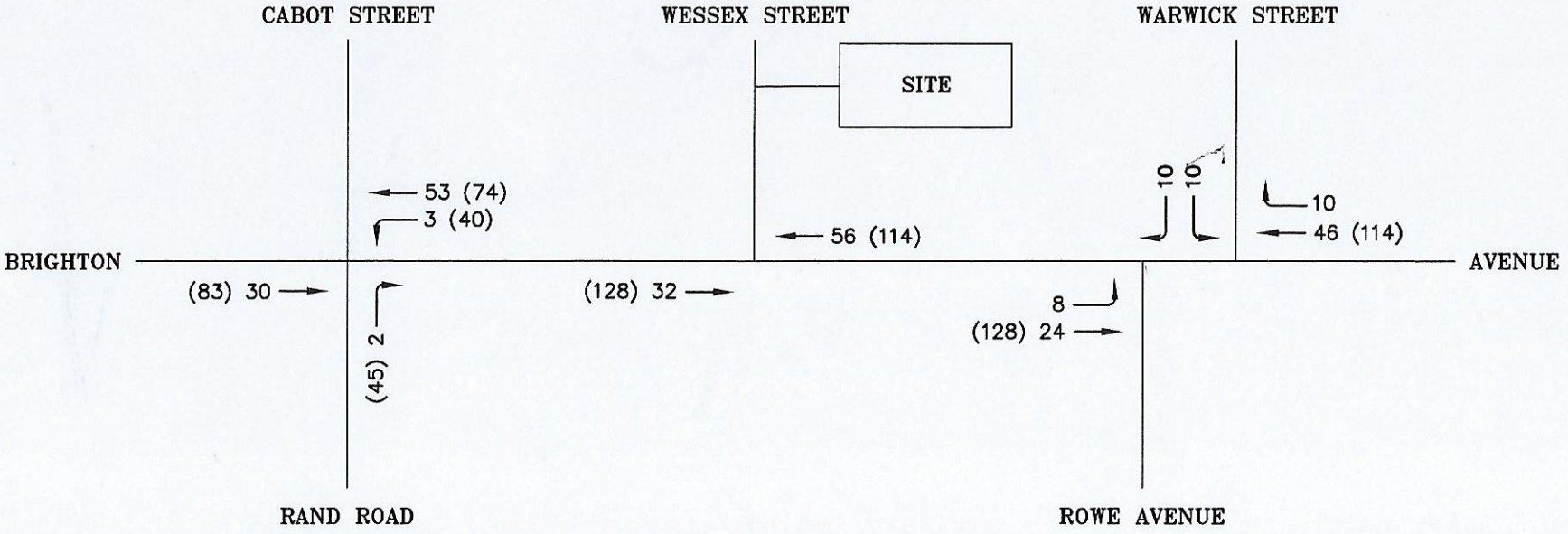
(XX) = PM PEAK HOUR

2019 DESIGN HOUR TRAFFIC

FIGURE 3

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\977 BRIGHTON AVE\PLANSET\977 BRIGHTON AVE.DWG

Project Name and Location: 977 BRIGHTON AVE – ELDERLY APTS.	TRAFFIC SOLUTIONS
DATE: MAY, 2018 / FIGURE: 3	235 BANCROFT STREET, PORTLAND, MAINE 04102-1750



LEGEND

XX = AM PEAK HOUR

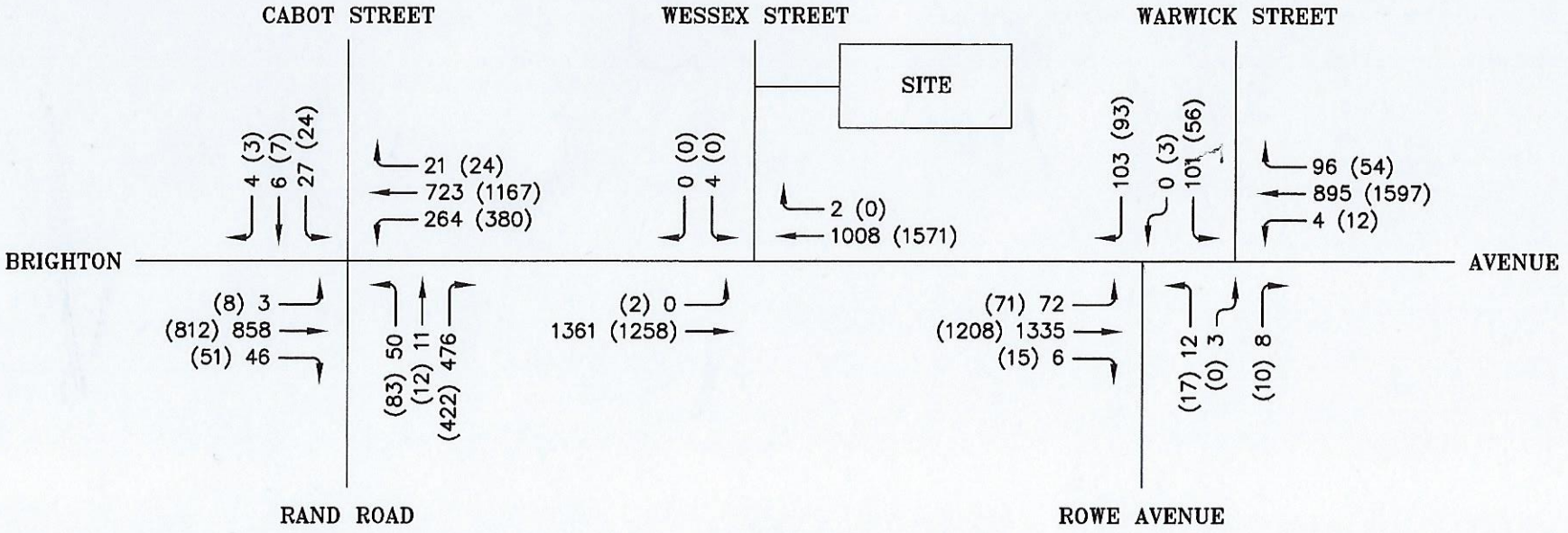
(XX) = PM PEAK HOUR

OTHER DEVELOPMENT TRAFFIC

FIGURE 4

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\977 BRIGHTON AVE\PLANSET\977 BRIGHTON AVE.DWG

Project Name and Location: 977 BRIGHTON AVE – ELDERLY APTS.	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: MAY, 2018	FIGURE: 4



LEGEND

XX = AM PEAK HOUR

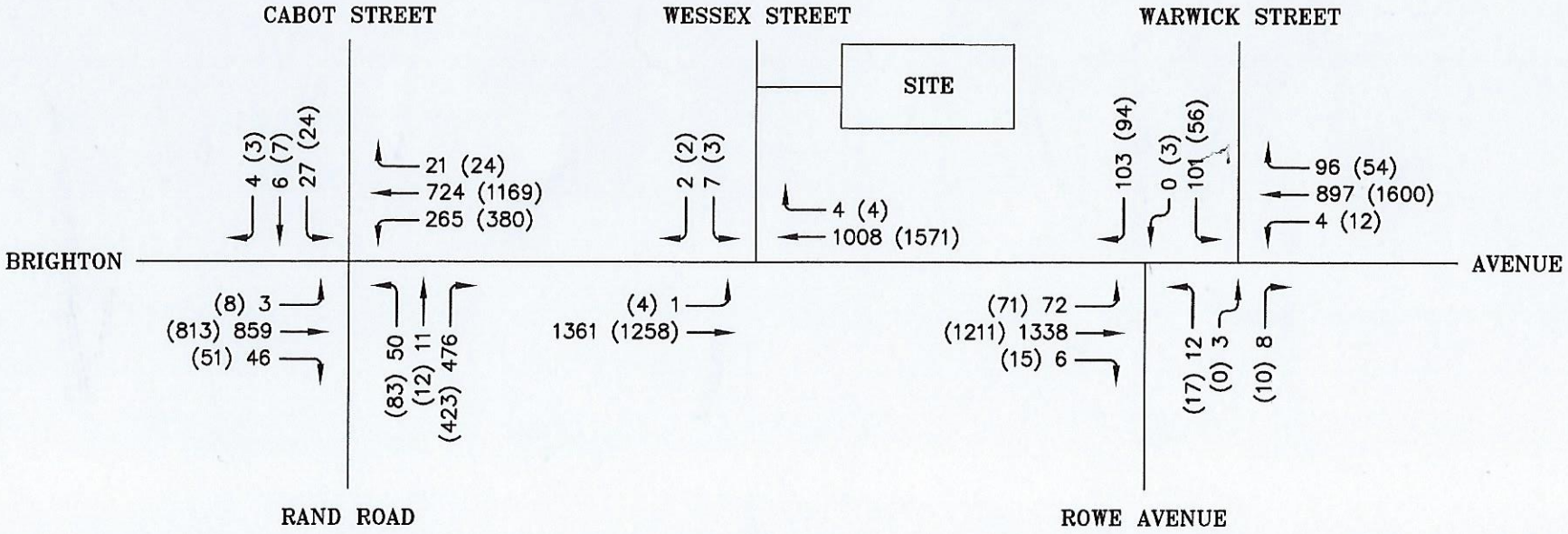
(XX) = PM PEAK HOUR

2019 PRE-DEVELOPMENT TRAFFIC

FIGURE 5

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\977 BRIGHTON AVE\PLANSET\977 BRIGHTON AVE.DWG

Project Name and Location: 977 BRIGHTON AVE – ELDERLY APTS.	TRAFFIC SOLUTIONS
DATE: MAY, 2018 FIGURE: 5	235 BANCROFT STREET, PORTLAND, MAINE 04102-1730



LEGEND

XX = AM PEAK HOUR

(XX) = PM PEAK HOUR

2019 POST-DEVELOPMENT TRAFFIC

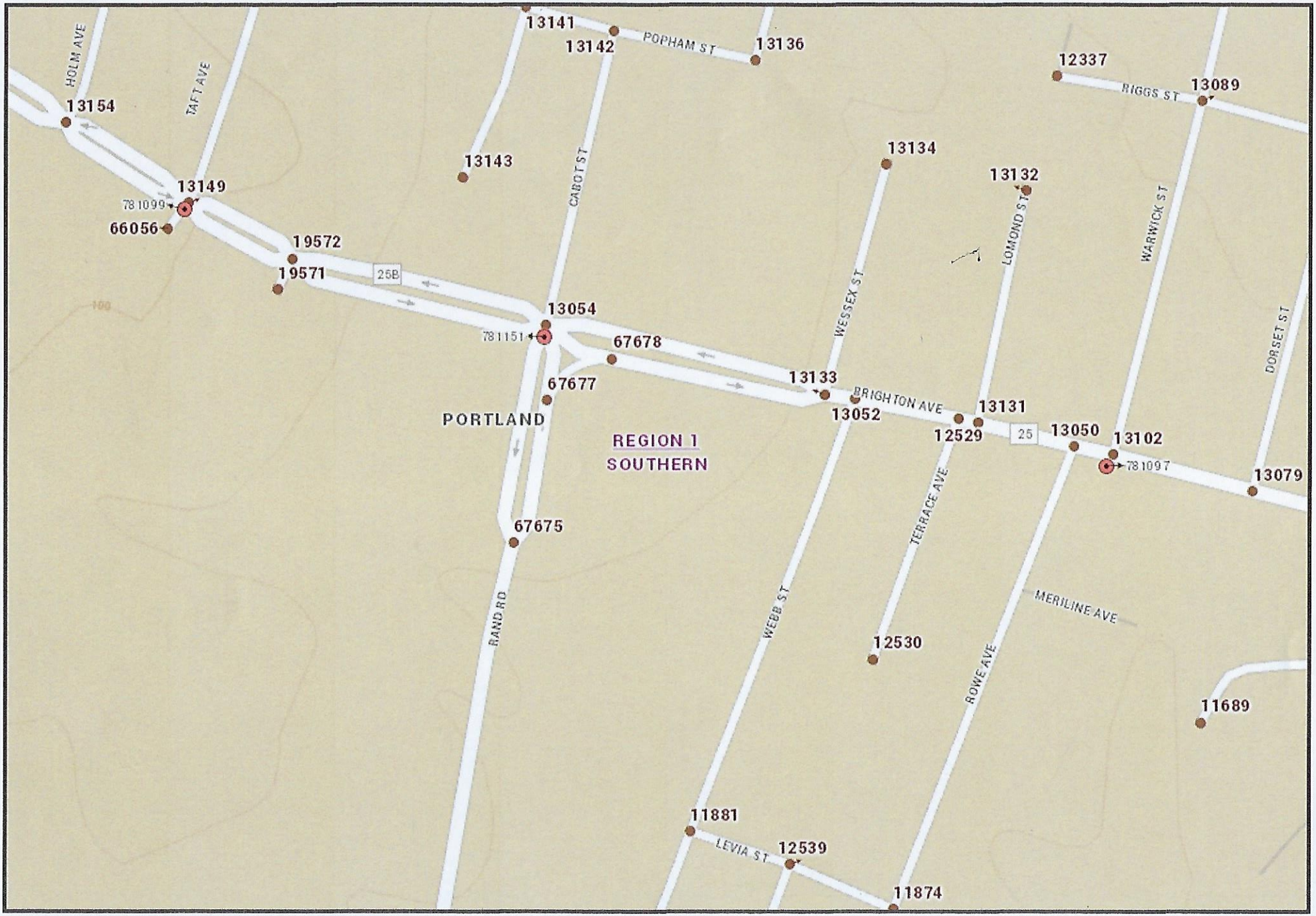
FIGURE 6

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\977 BRIGHTON AVE\PLANSET\977 BRIGHTON AVE.DWG

Project Name and Location: 977 BRIGHTON AVE – ELDERLY APTS.	TRAFFIC SOLUTIONS
DATE: MAY, 2018	FIGURE: 6

235 BANCROFT STREET, PORTLAND, MAINE 04102-1730

DEFAULT TITLE FROM MAP DOCUMENT



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.08 Miles

1 inch = 0.06 miles

Date: 3/26/2018
Time: 9:41:07 AM

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Brighton Ave in Portland

REPORT PARAMETERS

Year 2014, Start Month 1 through Year 2016 End Month: 12

Route: **0025X**	Start Node: **13102**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **13054**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0025E**	Start Node: **13054**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13133**	End Offset: **0**	☑ **Exclude Last Node**

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
P13102	0025X - 2.84	Int of BRIGHTON AV WARWICK ST	9	17	0	0	1	3	13	23.5	10.236	0.55	1.09	0.00
												Statewide Crash Rate:	0.71	
A13050	0025X - 2.85	Int of BRIGHTON AV, ROWE AV	9	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.71	
A13131	0025X - 2.88	Int of BRIGHTON AV LOMOND ST	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.13	
P12529	0025X - 2.89	Int of BRIGHTON AV TERRACE AV	2	1	0	0	0	0	1	0.0	10.053	0.03	0.28	0.00
												Statewide Crash Rate:	0.13	
13052	0025X - 2.92	Int of BRIGHTON AV WEBB ST	2	0	0	0	0	0	0	0.0	10.146	0.00	0.28	0.00
												Statewide Crash Rate:	0.13	
13133	0025X - 2.93	Int of BRIGHTON AV WESSEX ST	2	0	0	0	0	0	0	0.0	10.048	0.00	0.28	0.00
												Statewide Crash Rate:	0.13	
P13054	0025X - 3.02	Int of BRIGHTON AV CABOT ST RAND RD	9	18	0	0	0	3	15	16.7	10.372	0.58	1.08	0.00
												Statewide Crash Rate:	0.71	
A67678	0025E - 2.67	Int of BRIGHTON AV RD INV 3209763	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.13	
Study Years:	3.00	**NODE TOTALS:**		36	0	0	1	6	29	19.4	50.855	0.24	0.49	0.48

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
13050	13102	3131552	0 - 0.01	0025X - 2.84	0.01	2	0	0	0	0	0	0	0.0	0.00097	0.00	685.51	0.00
Int of BRIGHTON AV, ROWE AV				ST RTE 25											Statewide Crash Rate: 193.37		
13050	13131	3131553	0 - 0.03	0025X - 2.85	0.03	2	5	0	0	0	1	4	20.0	0.00295	565.19	517.70	1.09
Int of BRIGHTON AV, ROWE AV				ST RTE 25											Statewide Crash Rate: 193.37		
12529	13131	3120019	0 - 0.01	0025X - 2.88	0.01	2	0	0	0	0	0	0	0.0	0.00098	0.00	683.46	0.00
Int of BRIGHTON AV TERRACE AV				ST RTE 25											Statewide Crash Rate: 193.37		
12529	13052	3130457	0 - 0.03	0025X - 2.89	0.03	2	1	0	0	0	0	1	0.0	0.00306	108.90	512.74	0.00
Int of BRIGHTON AV TERRACE AV				ST RTE 25											Statewide Crash Rate: 193.37		
13052	13133	3123711	0 - 0.01	0025X - 2.92	0.01	2	0	0	0	0	0	0	0.0	0.00100	0.00	680.21	0.00
Int of BRIGHTON AV WEBB ST				ST RTE 25											Statewide Crash Rate: 193.37		
13054	13133	3139185	0 - 0.09	0025X - 2.93	0.09	2	4	0	0	0	1	3	25.0	0.00447	298.20	465.39	0.00
Int of BRIGHTON AV CABOT ST RAND RD				ST RTE 25											Statewide Crash Rate: 193.37		
13054	67678	3416044	0 - 0.02	0025E - 2.65	0.02	2	0	0	0	0	0	0	0.0	0.00068	0.00	742.17	0.00
Int of BRIGHTON AV CABOT ST RAND RD				ST RTE 25E											Statewide Crash Rate: 193.37		
67678	13133	3416045	0 - 0.07	0025E - 2.67	0.07	2	3	0	0	0	2	1	66.7	0.00351	284.77	494.91	0.00
Int of BRIGHTON AV RD INV 3209763				ST RTE 25E											Statewide Crash Rate: 193.37		
Study Years: 3.00				**Section Totals:**	0.27		13	0	0	0	4	9	30.8	0.01763	245.86	339.69	0.72
				Grand Totals:	0.27		49	0	0	1	10	38	22.4	0.01763	926.69	470.31	1.97

Summary of All Intervals

Run Number	2	3	4	5	6	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2725	2762	2759	2805	2884	2789
Vehs Exited	2726	2727	2770	2795	2864	2776
Starting Vehs	53	52	54	45	33	45
Ending Vehs	52	87	43	55	53	56
Travel Distance (mi)	999	995	1008	1021	1048	1014
Travel Time (hr)	58.1	57.2	58.9	77.9	61.3	62.7
Total Delay (hr)	26.8	26.1	27.2	45.8	28.4	30.9
Total Stops	2619	2499	2586	3317	2604	2725
Fuel Used (gal)	44.8	44.2	44.9	50.4	47.2	46.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	2	3	4	5	6	Avg
Vehs Entered	2725	2762	2759	2805	2884	2789
Vehs Exited	2726	2727	2770	2795	2864	2776
Starting Vehs	53	52	54	45	33	45
Ending Vehs	52	87	43	55	53	56
Travel Distance (mi)	999	995	1008	1021	1048	1014
Travel Time (hr)	58.1	57.2	58.9	77.9	61.3	62.7
Total Delay (hr)	26.8	26.1	27.2	45.8	28.4	30.9
Total Stops	2619	2499	2586	3317	2604	2725
Fuel Used (gal)	44.8	44.2	44.9	50.4	47.2	46.3

4: Rand/Cabot & Brighton Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.4	0.1	0.2
Total Del/Veh (s)	21.6	13.4	14.9	47.7	17.2

6: Rowe/Warwick & Brighton Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.5	3.9	0.1	0.2	1.8
Total Del/Veh (s)	16.8	12.9	47.2	39.6	17.4

9: Brighton & Development Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.9	1.8	23.6	4.8

Total Network Performance

Denied Del/Veh (s)	1.8
Total Del/Veh (s)	37.4

Intersection: 4: Rand/Cabot & Brighton

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	TR	LT	R	LTR
Maximum Queue (ft)	121	401	339	189	203	217	225	122	275	81
Average Queue (ft)	6	225	170	75	101	90	96	56	111	31
95th Queue (ft)	48	340	295	150	171	178	192	107	246	68
Link Distance (ft)		486	486			434	434	572	572	387
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (ft)	75			275	275					
Storage Blk Time (%)		37			0					
Queuing Penalty (veh)		1			0					

Intersection: 6: Rowe/Warwick & Brighton

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	354	360	361	321	57	267
Average Queue (ft)	175	183	146	101	21	124
95th Queue (ft)	336	349	331	286	50	218
Link Distance (ft)	363	363	530	530	454	530
Upstream Blk Time (%)	0	1	2	0		
Queuing Penalty (veh)	3	5	0	0		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Brighton & Development

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	93	77	38
Average Queue (ft)	12	9	7
95th Queue (ft)	77	58	28
Link Distance (ft)	434	434	154
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 10

Summary of All Intervals

Run Number	1	2	5	6	7	Avg
Start Time	4:55	4:55	4:55	4:55	4:55	4:55
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3362	3352	3210	3342	3409	3333
Vehs Exited	3337	3350	3135	3322	3413	3311
Starting Vehs	77	96	53	80	82	77
Ending Vehs	102	98	128	100	78	99
Travel Distance (mi)	1208	1209	1139	1203	1229	1197
Travel Time (hr)	114.7	104.7	108.5	96.7	109.2	106.7
Total Delay (hr)	77.2	67.1	73.1	59.4	71.0	69.6
Total Stops	4303	4154	3819	4125	4062	4094
Fuel Used (gal)	65.1	62.0	60.6	60.7	64.5	62.6

Interval #0 Information Seeding

Start Time	4:55
End Time	5:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	5	6	7	Avg
Vehs Entered	3362	3352	3210	3342	3409	3333
Vehs Exited	3337	3350	3135	3322	3413	3311
Starting Vehs	77	96	53	80	82	77
Ending Vehs	102	98	128	100	78	99
Travel Distance (mi)	1208	1209	1139	1203	1229	1197
Travel Time (hr)	114.7	104.7	108.5	96.7	109.2	106.7
Total Delay (hr)	77.2	67.1	73.1	59.4	71.0	69.6
Total Stops	4303	4154	3819	4125	4062	4094
Fuel Used (gal)	65.1	62.0	60.6	60.7	64.5	62.6

4: Rand/Cabot & Brighton Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.3	0.1	0.1
Total Del/Veh (s)	20.4	16.5	15.4	54.9	17.9

6: Rowe/Warwick & Brighton Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	3.7	22.8	0.1	0.3	13.5
Total Del/Veh (s)	45.4	31.4	47.1	53.1	38.6

9: Brighton & Development Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	15.7	3.2	49.4	8.6

Total Network Performance

Denied Del/Veh (s)	12.9
Total Del/Veh (s)	60.8

Intersection: 4: Rand/Cabot & Brighton

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	TR	LT	R	LTR
Maximum Queue (ft)	118	352	333	349	360	321	277	150	244	94
Average Queue (ft)	9	209	158	149	171	119	125	68	61	32
95th Queue (ft)	52	322	288	299	316	245	229	125	179	73
Link Distance (ft)		486	486			434	434	572	572	387
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	75			275	275					
Storage Blk Time (%)		35		2	3	0				
Queuing Penalty (veh)		3		10	16	1				

Intersection: 6: Rowe/Warwick & Brighton

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	394	416	567	548	75	304
Average Queue (ft)	307	319	400	349	21	136
95th Queue (ft)	446	465	664	634	59	250
Link Distance (ft)	363	363	530	530	454	530
Upstream Blk Time (%)	14	13	21	9		
Queuing Penalty (veh)	89	80	0	0		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Brighton & Development

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	362	370	32
Average Queue (ft)	89	86	4
95th Queue (ft)	273	289	20
Link Distance (ft)	434	434	154
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	0	6	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 205

Traffic Solutions
William J. Bray, P.E.
235 Bancroft Street
Portland, ME 04102
(207) 774-3603
(207) 400-6890 mobile
trafficsolutions@maine.rr.com

May 26, 2018

Parking Assessment
Proposed
977 Brighton Avenue
Portland, Maine

INTRODUCTION

Avesta 977 Brighton LP is proposing to construct a 40-unit one-bedroom elderly apartment building at 977 Brighton Avenue in the City of Portland. The proposed development site is located on the corner of Brighton Avenue and Wessex Street near the Brighton Avenue/Rand Road/Cabot Street intersection. The proposed project will provide a mix of both low income (34 units) and market rate units (6 units). The current site plan proposes to construct a total of 32 spaces, which includes a combination of both full size and compact parking spaces.

Parking demand requirements of the proposed 977 Brighton Avenue site were established based upon existing parking trends measured at Avesta Housing's senior housing project located in the City of Saco.

PARKING DEMAND

Avesta Housing operates a 30-unit senior apartment housing project on Dawn Marie Drive in the City of Saco with a comparative number of apartments and units as the proposed Brighton Avenue site. Currently, 29 of the 30 apartment units are occupied. A total of 30 parking spaces are provided at the Saco apartment complex.

Parking utilization data was collected at the Saco apartment site on both Monday, May 7 and again on Tuesday, May 8. The number of occupied parking spaces was recorded in the early morning and evening hours on both days. The survey results are presented as follows:

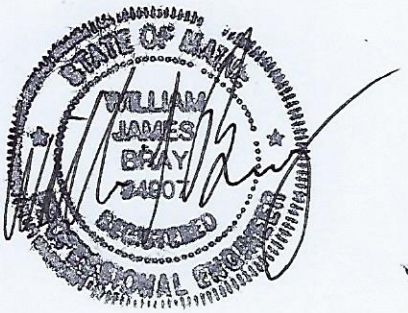
May 7, 2018
5:15 AM = 23 parked vehicles
5:50 PM = 20 parked vehicles

May 8, 2018
5:17 AM = 23 parked vehicles
5:30 PM = 17 parked vehicles

Average Occupied Parking Spaces = 20.75 spaces

Based upon the parking survey results, the existing Saco apartment site generates a per unit parking requirement of 0.72 spaces per apartment unit (20.75 ÷ 29 occupied units = 0.72 spaces).

Traffic Solutions recommends a similar per unit parking space requirement is warranted for the proposed 977 Brighton Avenue project. Accordingly, a minimum of 29 parking spaces should be provided at the project site.



AVESTA HOUSING

977 Brighton Apartments
977 Brighton Avenue
Supplemental Information on Parking

Avesta is requesting approval for a ratio of parking spaces to units in our proposed 977 Brighton Apartments project that is lower than 1:1.

The project will include 32 parking spaces in one parking lot adjacent to the building, 12 of which will be handicapped accessible. Given that we are proposing a total of 40 apartments in this project, the parking ratio would be .80 spaces per unit.

This ratio is in line with or higher than other Avesta Housing properties on the peninsula in downtown Portland. For example, our 409 Cumberland building has the equivalent of 25 spaces, accounting for a car-share vehicle, and 57 units for a .44 ratio; our Pearl Place and Pearl Place II family campus has 90 spaces and 114 units for a .79 ratio. Parking studies conducted by the City and other consultants over the past 10+ years for a range of projects developed by Avesta and others (e.g., for 58 Boyd St, Bayside Anchor, 409 Cumberland Ave), have consistently demonstrated that the level of demand for parking on the Portland peninsula is frequently less than 1 space/unit and often less than .7 spaces/unit.

In Avesta Housing properties, vehicle ownership rates are a significant driver of this lower than 1:1 demand. We collect information on vehicle ownership from our tenants during initial lease-up and on an on-going basis through resident surveys. Because we issue and monitor parking permit stickers for our parking areas, we also require that tenants inform us of any change in or addition of vehicles. Here is vehicle ownership information for four comparable Avesta Housing properties on the peninsula:

Property	Units	Parking Spaces	Parking : Unit Ratio	# of Households w/ Vehicles	% of Households w/ Vehicles
Munjoy Commons	39	39	1.00	37	95%
Pearl Place 1 & 2	114	90	0.79	76	67%
409 Cumberland	57	25	0.44	25	44%
Oak Street Lofts	37	8	0.22	17	46%

In addition to accessing the parking on-site, residents will live in close proximity to employment hubs, amenities, and services within easy walking distance or via public transportation on the Portland METRO and longer-distance bus routes (e.g., ZOOM Turnpike Express and Intercity Shuttle Bus). We have established a partnership with METRO to promote ridership among our tenants, to include informational materials and maps in building common areas, free ride tickets in resident welcome packets, and on-site educational sessions, among other efforts.

307 Cumberland Avenue • Portland, Maine 04101
207-553-7777 • 1-800-339-6516 Voice/TTY
207-553-7778 Fax • www.avestahousing.org

NeighborWorks® CHARTERED MEMBER

ACF Environmental
2831 Cardwell Rd
Richmond, VA 23234

Tom Greer, PE
Walsh Engineering Associates, Inc.

June 14, 2018,

SUBJECT: 977 Brighton Ave Elderly Apartments, Portland, Maine
Plan Review and Construction Oversight Commitment

Dear Tom,

Thank you for forwarding the permit plans and computations for the proposed 977 Brighton Ave Elderly Apartments project in Portland, Maine project to ACF environmental for review of the proposed FocalPoint biofiltration systems.

Our team has reviewed the plans (with latest revision date of 5/31/2018) and made the following observations:

- There are three FocalPoint systems as follows:
  - Focalpoint 2 – 76 sf
  - FocalPoint 4-1 – 21 sf
  - FocalPoint 4-2 – 21 sf
- The systems have the approved FocalPoint section (3" mulch, 18" media, 6" bridging stone and 9" modular underdrain.
- The systems have a peak elevation of less than 6 inches of temporary ponding volume for the 0.95" storm – which is within the recommended temporary ponding range for the system.
- The volume associated with the 0.95" 24hr storm is treated prior to activation of the overflow device (WQ goal met). Overflow catch basis convey that larger storms.
- The systems direct runoff to a downstream combined chamber system which include a "treatment" row as required by the MeDEP FocalPoint design guidance and is sized per the State guidance.
- The expanded chamber system is used for channel protection and flood control.

Overall, ACF takes no exceptions to the location and application of the FocalPoint systems for this project.

It appears that the systems have been designed in accordance with the design criteria set forth by Maine DEP in the FocalPoint system approval letter and meet the system specifications etc.

Once the final plans are prepared, ACF will review and confirm that the systems are sited correctly and that all elevations match and allow the systems to function and perform as intended.

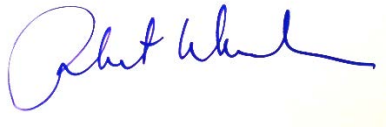
With regard to the installation, ACF Environmental will host a preconstruction meeting with the site contractor and will be on-site during the entire installation to ensure that the installation is being conducted in accordance with our standard installation procedures.

ACF Environmental will also provide the first year's maintenance on the FocalPoint bed areas.

Please review and contact me with any questions from your office.

We look forward to working with you on this project.

Sincerely,



Robert J Woodman,
Senior Stormwater Engineer
ACF Environmental

Cc: Scott Gorneau, ACF Environmental

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

977 Brighton Avenue Senior Apartments
Building Shadows

PLANNING BOARD SUBMISSION

The buildings mass is designed within the envelope permitted by the zoning ordinance for the site. Below is a series of images that illustrate the shadows of the building throughout the year and morning, noon and evening.

DEC 21st

9am

Noon

3pm

MAR 21st & SEP 21st

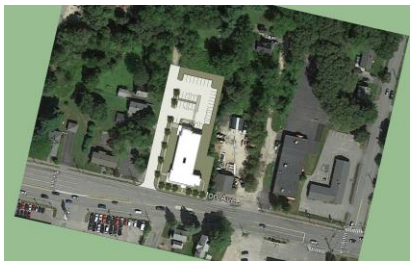
9am

Noon

5pm

JUN 21st

9am


Noon

5pm

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

977 Brighton Avenue Senior Apartments
Exterior Building Forms and Materials

PLANNING BOARD SUBMISSION

CWS has made revisions to exterior details, forms, textures and materials based on planning staff and board comments. The covered porch design was modified to provide a more formal, and traditional rectilinear appearance. The updated scheme of exterior materials is all Fiber Cement siding. Windows are proposed to be framed of a durable fibrex, fiberglass or UPVC materials. The materials are broken into several textures and colors as delineated on Drawing A3.10-1 Exterior Elevations revised 2018-07-18:

View from across Brighton Avenue

View from corner and Brighton and Essex Street

View down Essex Street Sidewalk

View from Parking Lot down Essex Street Sidewalk

Aerial Site View from Across Brighton Avenue

Portland Maine Yes. Google's good here.

Christian Roadman <croadman@portlandmaine.gov>

Re: Fe: I.D.#2017-299, proposed "Aquesta Housing Project" for 977 Brighton Avenue

3 messages

Barbara Barhydt <bab@portlandmaine.gov> Tue, Feb 13, 2018 at 12:48 PM
To: jmy <jmy@portlandmaine.gov>, Christian Roadman <croadman@portlandmaine.gov>
Cc: Victoria Volent <vvolent@portlandmaine.gov>

This is Christian's project as well. Victoria, this project is on hold. They did not hold their required meeting 30 days before submitting the application, so Jeff Levine wants us to put this on hold until they meet the requirements of Division 30.

Thanks.

Barbara

Barbara Barhydt
Development Review Services Manager
Planning Division
389 Congress Street 4th Floor
Portland, ME 04101
(207) 874-8699
Fax: (207) 756-8256
bab@portlandmaine.gov

On Tue, Feb 13, 2018 at 12:46 PM, jmy <jmy@portlandmaine.gov> wrote:

> Victoria,
>
> This is public comment for the 977 Brighton Avenue project for your files.
>
> Jen
>
> On Monday, February 12, 2018 at 4:29:15 PM UTC-5, Joe Martelle wrote:
>
> > Att: Members of the Portland Planning Board
> >
> > Re: I.D. # 2017-299, Proposed "Aquesta Housing Project" sub division of 40 housing units and proposed leveling of property
> > at 977 Brighton Avenue, Portland
> >
> > Please be advised that Portland is the city of my birth, having lived at 977 Brighton Avenue while growing up. I believe the house, now offices, should be preserved as a Portland landmark. Therefore, I am opposed to this proposed project or the following reasons.
> >
> > My late father, Ameido Martelle, known to his many friends and customers as 'Marty' operated greenhouses [since torn down] , seedling nursery and pansies garden on this land for over 30 years. The property also served as our family home. My parents worked long hours in the garden and greenhouses, usually nights and on weekends, since they both had full-time jobs. Dad';s specialty was growing native garlic and tomatoes, along with other seedlings, flowers and his beautiful pansies. Regular customers from the Greater Portland area and from all over Maine annually visited dad's greenhouses to purchase geraniums on Memorial Day. Anyone who grew-up in Portland from the 50s through the 70s will usually associate Memorial Day with my dad's geraniums which adorned the grave sites of their loved ones. I can still see the countless cars lined-up on Brighton Ave., and the smiles on the faces of his loyal customers as they returned year after year to greet him. Quite often, my dad's photo appeared in the Portland Press Herald and Evening Express praising his green thumb. He was also interviewed numerous times by the late Clif Reynolds on Ch. 6 regarding my father's ability to grow native garlic, and what a special gift "our dad" had.
> >
> > I am not sure when the house was built, but do know, I was around five years old when we moved to the house at the conclusion of WWII. Therefore, the structure is at least 73 years old and probably much older.
> >
> > I also believe our former home at 977 Brighton Avenue should not be demolished because I 'spun' records, as a future radio wannabe, in the basement of this wonderful ole home. After graduating from Cheverus High School in '59, and attending St Francis Xavier Univ. in Nova Scotia and Emerson College for Broadcasting in Boston, I went on to enjoy a 40 year career in broadcasting. I was on the air in Portland at WGAN, WLOB and WCSH. I also managed WCSH Radio in the late 70s, before heading to Boston where I was a radio-TV personality for 20 years. My other radio stops were Cincinnati, Houston and West Palm Beach. In 2013, it was my honor to be inducted to the Maine Broadcasters Hall of Fame. My successful career all began in he basement of that grand old home on Brighton Avenue. These are just a few reasons why I feel strongly that this house should not be leveled. Therefore, I am asking you in behalf of my late mom and dad, the entire Martelle family and thousands of satisfied folks who benefited from the fruits of their hard labor to block any proposed destruction of the property at 977 Brighton Avenue. I truly believe this home is a Portland Landmark and should be labeled as such.
> >
> > Please feel free to contact me for any additional information. I stand ready to assist you any way I can to hopefully preserve the integrity of this property.
> >
> > Thanking you kindly for your time and consideration,,
> >
> > I remain,
> >
> > Respectfully,
> >
> > Joe Martelle
> > Box386
> > Mesa, Colorado 81643
> > Tel: 970-268-5693
> > e-mail: joemartell@aolcom

Jennifer Munson <jmy@portlandmaine.gov> Tue, Feb 13, 2018 at 2:32 PM
To: Barbara Barhydt <bab@portlandmaine.gov>
Cc: Christian Roadman <croadman@portlandmaine.gov>, Victoria Volent <vvolent@portlandmaine.gov>

I did not send it to Christian because I noticed the project was no longer in UI and I didn't know who had the project.

Jennifer Munson, Office Manager
Planning and Urban Development
City of Portland
389 Congress St., 4th Floor
Portland ME 04101
jmy@portlandmaine.gov
(207) 874-8719
(207) 756-8258 (fax)

[Quoted text hidden]

Barbara Barhydt <bab@portlandmaine.gov> Tue, Feb 13, 2018 at 2:41 PM
To: Jennifer Munson <jmy@portlandmaine.gov>
Cc: Christian Roadman <croadman@portlandmaine.gov>, Victoria Volent <vvolent@portlandmaine.gov>

I am fairly sure I assigned it to him and I did send out the councilor note. Maybe I lost it somehow, but I worked with it.

Thank you for checking with Vicki

Barbara Barhydt
Development Review Services Manager
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389 Congress Street 4th Floor
Portland, ME 04101
(207) 874-8699
Fax: (207) 756-8256
bab@portlandmaine.gov

[Quoted text hidden]

Portland Maine | Yes. Google's good here.

Jennifer Munson <jmy@portlandmaine.gov>

Fwd: 977 Brighton Ave

1 message

Matthew Grooms <mgrooms@portlandmaine.gov> Mon, Mar 19, 2018 at 9:18 AM
To: Jennifer Munson <jmy@portlandmaine.gov>
Cc: Christian Roadman <croadman@portlandmaine.gov>

Hi Jen,

Here is a public comment for 977 Brighton Avenue. I believe this is one of Christian's projects.

Thanks,

Matt

---------- Forwarded message ----------
From: **Gene Leighton** <geno34243@outlook.com>
Date: Sun, Mar 18, 2018 at 2:55 PM
Subject: 977 Brighton Ave
To: "mgrooms@portlandmaine.gov" <mgrooms@portlandmaine.gov>

Dear Sir,

My name is Gene Leighton, I spent many years living on Brighton Avenue in Portland.

Regarding the plans for senior housing at 977 Brighton Ave, I would ask that you consider the age and history of the property being considered for development before any plans are approved.

Mr Martelle , the former owner for decades raised tomatoes, assorted flowers and the like. In its day it was as a very successful family run business.

While the property may not be within an historic district such as properties on the peninsula, I feel considering it's past has merit.

Thank you in advance for your consideration.

Gene Leighton

Sent from my iPhone

--
Matthew Grooms
Planner
Planning Division
City Hall, 389 Congress Street, 4th Floor
Portland, Maine 04101
(207) 874-8725 (T)
(207) 756-8258 (F)
mgrooms@portlandmaine.gov

977 Brighton Avenue project by Avesta

W M <wmontdmd@yahoo.com> Apr 6, 2018 4:48 PM
Posted in group: **Planning Board**

Dear Planning Board Members:

I have attended the one public meeting of which I am aware presented by Avesta about this project. I own the adjacent property across Wessex Street from 977. I have my office there and have been there since 1989.

Traffic flow could be the weakest link and may well prove to be a safety problem. It can at times be challenging to get onto Brighton from Wessex due to the high traffic volume on Brighton. If the number of vehicles trying to get out of Wessex onto Brighton at one time becomes increased substantially, which is very likely with this project, there are going to be routine back- ups and people trying to get out when perhaps they should wait. Think "rush time". Contributing to the problem is that snow clearance and sanding at the Brighton-Wessex intersection are not as they should be. Slippery winter conditions are going to make it worse. A traffic light responsive to vehicles on Wessex at the intersection would do it, but somehow I doubt that will be an option.

It will be convenient for drivers to use my parking lot to cut through and to turn around. A little of that is OK; a lot, not so much.

On a positive side, the improvement of Wessex Street itself, which is much needed, is a major plus.

I know the engineers are aware of the very wet soil conditions at the back end of the property.

Four stories will make for a large structure, unique to the immediate area. It won't affect my property this way, I believe, but it will cut off at least some morning sunlight to the property immediately adjacent me next back on Wessex. I know that is a concern for the young couple living there. They purchased their home last year.

If dogs are allowed, I suspect they will get "walked" on the grass at the edge of my parking lot as there will not be a good area on the grounds at 977. "Across the street and out of mind". That will not be welcomed. It would be good if there were severe penalties "in house" for that. The Portland leash law recognizes the problems associated with dog waste, but I doubt the law alone will do it.

No doubt you will hear from others, and I may have other thoughts. This is not an anti-project e-mail necessarily, but I wanted to get this information to you. Thank you.

Bill Montgomery, 989 Brighton Avenue

Development in vincity of 977 Brighton Ave.

Judy Stanhope <jstanhope@scarboroughschools.org> Apr 18, 2018 2:44 PM
Posted in group: **Planning Board**

I am writing to express my concern over the proposal to build a 40 unit senior housing building on the corner of Brighton Avenue an Wessex Street. I own and reside in the home at 1001 Brighton Avenue. My house would be separated from the proposed development by one building.

My concerns are as follows:

- **Traffic, traffic, traffic: Traffic at this location is heavy and it is unclear how the traffic associated with a 40 unit development can safely enter and exit Brighton Ave. At this location Brighton Avene begins to expand into 6 lanes. The residents on Wessex already have difficulty, as do I. Does the city intend to install another traffic light? This presents more problems because there are already several traffic lights in the area.**

  I

- **Scale:**

  - **The size of the building is not compatible with the residential / professional buildings in the area.**
  - **The proposed 4 story height will block sunlight to neighboring residences.**
  - **The building and associated parking seems to be too large for the lot.**

- **Impact of exterior lighting on neighboring residence**

- **Maintenance: Currently the property is not adequately maintained by Avesta. What assurances do we have the property will be well maintained?**

Thank you for considering my concerns.

Judith Stanhope
1001 Brighton Avenue
Portland, Maine 04102

Google Groups

the 977 Brighton workshop

W M <wmontdmd@yahoo.com> Apr 25, 2018 9:30 AM

Posted in group: **Planning Board**

I attended yesterday's Planning Board session about Avesta's project for senior housing at 977 Brighton Avenue. I was impressed with the presentation and the knowledgeable conversations between the Avesta representatives and members of the Board. I appreciated the efficiency of the meeting as well. Thank you. Bill Montgomery, 989 Brighton Avenue

Portland Maine Yes. Google's good here.

Christian Roadman <croadman@portlandmaine.gov>

Planning change 977 Brighton Ave

Bob Kuni <bkuni@haletrailer.com> Tue, May 15, 2018 at 1:25 PM
To: croadman@portlandmaine.gov

Good afternoon Mr. Roadman,

My name is Robert Kuni and I reside at 32 Warwick Street in Portland. I'm reaching out to you about the zoning change that Avesta has requested to put up a 4 story 40 unit building. I was out of the country and not available for the workshop that was held in April. My house is just a block behind the proposed project. There was a meeting held back in March at The Hall School where Avesta had drawing and site maps of their project. The informed the local residents that attended that the zoning change had already been done and that there was nothing that could stop them. I found that very misleading and am wondering if anyone attended the workshop.

I have some other major concerns about this project. One of the questions that I asked if they had done a traffic study. No they have not. The traffic on Brighton Ave is heavy and at times backed up depending on the time of day. Their maps showed parking off of Wessex St. How is a 40 unit affordable retirement building going to make their way onto Brighton Ave?

They are also proposing to eliminate wetlands, I was under the understanding that you could not. With the new school going up and new access road, I am seeing more run off water running past the property behind my house into a storage drain, if they intend on putting their run off into that, not sure it could handle a major storm, it would back water into my yard but worse, my next door neighbor has a septic system. I feel sorry for the people on Wessex, one of the couples that was at the meeting informed me that the building would block the sun from hitting their house.

I understand that there is a need for affordable housing, but they picked a location that really doesn't have that much space. I spoke with Mr Davis who owns the woodshop next to the property, he is against but doesn't have time to get involved. With setbacks, I'm wondering how they have the space to put up a building of that size?

It just really frustrates me that we were lied to at the meeting about zoning changes that they said were already done. Not the type of company I want near me. Is there anything that will stop this from happening?

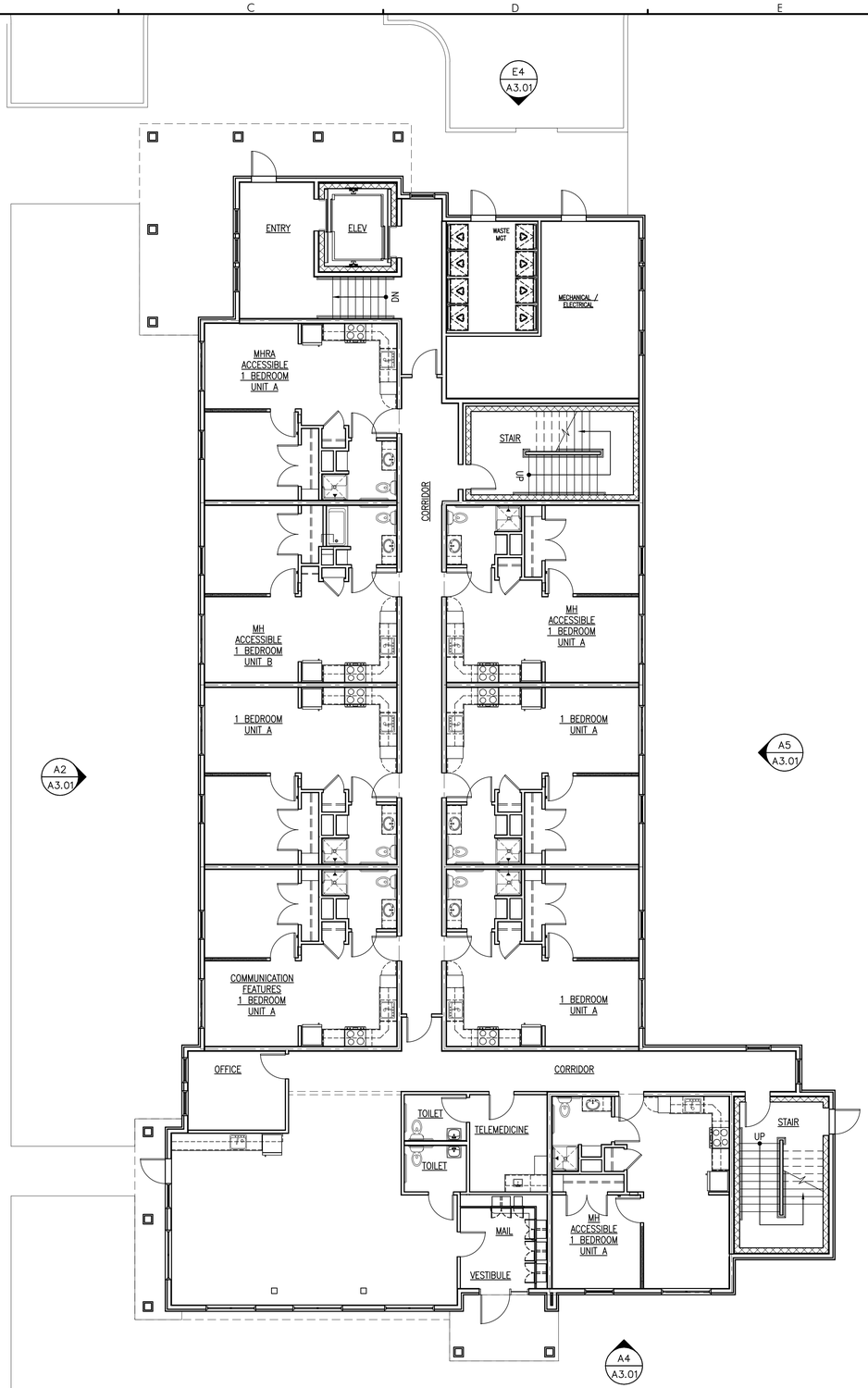
Respectfully,

Robert Kuni

32 Warwick St.

Portland, ME

207-232-9521



UNIT TOTAL	
1ST FLOOR:	8
2ND FLOOR:	11
3RD FLOOR:	11
4TH FLOOR:	10
TOTAL UNITS:	40
1-BEDROOM UNITS	

ALL UNITS DESIGNED WITH THE SAME LAYOUT FOR ADAPTABLE OR ACCESSIBLE UNIT. DESIGNATION OF ACCESSIBLE UNIT QUANTITY AND LOCATION TO BE PROVIDED WITH APPLICATION. ALL UNITS MEET DIMENSIONAL REQUIREMENTS

A5 FIRST FLOOR PLAN

REFERENCED FROM: SCALE: 1/8" = 1'-0"

W:\2015 Design Projects\15040 Avesta 977 Brighton Apartments\1-Drawings\Arch\- 1st Floor plan

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER

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OWNER

AVESTA 977 BRIGHTON LP c/o AVESTA HOUSING

307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE SENIOR APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

FIRST FLOOR PLAN

CWS PROJECT NUMBER: 15.040

REVISIONS

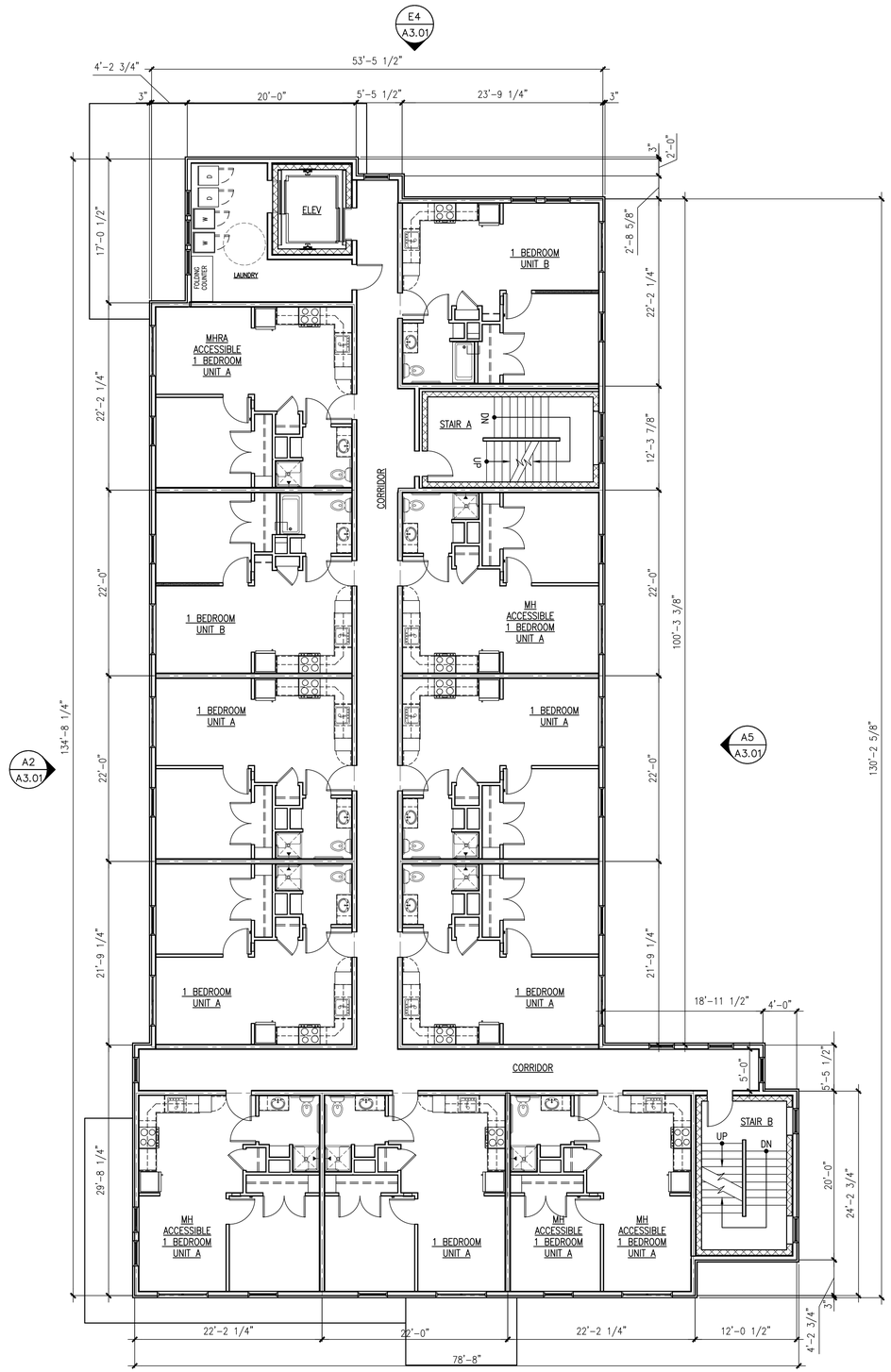
DRAWING NUMBER

A1.10

SCALE: AS NOTED

DATE: 05/30/2017

ISSUED FOR: MUNICIPAL APPROVALS



SECOND FLOOR PLAN
7684 SQ. FT.

ALL UNITS DESIGNED WITH THE SAME LAYOUT FOR ADAPTABLE OR ACCESSIBLE UNIT. DESIGNATION OF ACCESSIBLE UNIT QUANTITY AND LOCATION TO BE PROVIDED WITH APPLICATION. ALL UNITS MEET DIMENSIONAL REQUIREMENTS

A5 SECOND FLOOR PLAN
REFERENCED FROM: SCALE: 1/8" = 1'-0"

W:\2015 Design Projects\15040 Avesta 977 Brighton Apartments\1-Drawings\Arch - 2nd Floor plan

CWS ARCHITECTS
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DESIGNER

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OWNER

AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE SENIOR APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

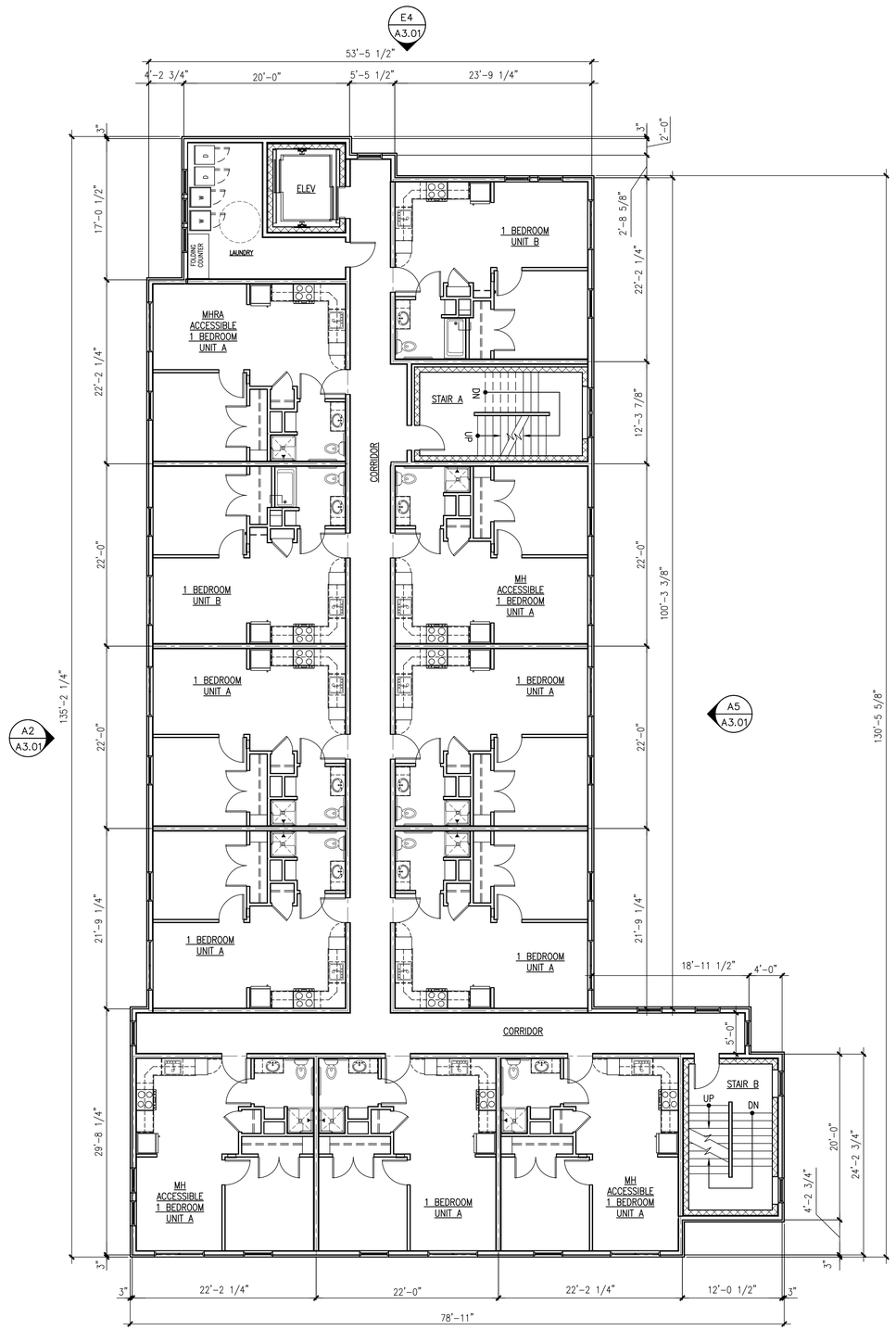
SECOND FLOOR PLAN
CWS PROJECT NUMBER: 15.040

REVISIONS

DRAWING NUMBER
A1.20

SCALE: AS NOTED
DATE: 05/30/2017

ISSUED FOR: MUNICIPAL APPROVALS



THIRD FLOOR PLAN
7684 SQ. FT.

ALL UNITS DESIGNED WITH THE SAME LAYOUT FOR ADAPTABLE OR ACCESSIBLE UNIT. DESIGNATION OF ACCESSIBLE UNIT QUANTITY AND LOCATION TO BE PROVIDED WITH APPLICATION. ALL UNITS MEET DIMENSIONAL REQUIREMENTS

A5 THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"

W:\2015 Design Projects\15040 Avesta 977 Brighton Apartment\1-Drawings\Arch - 3rd Floor plan

CWS ARCHITECTS
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DESIGNER

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OWNER

AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING

307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE SENIOR APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

THIRD FLOOR PLAN

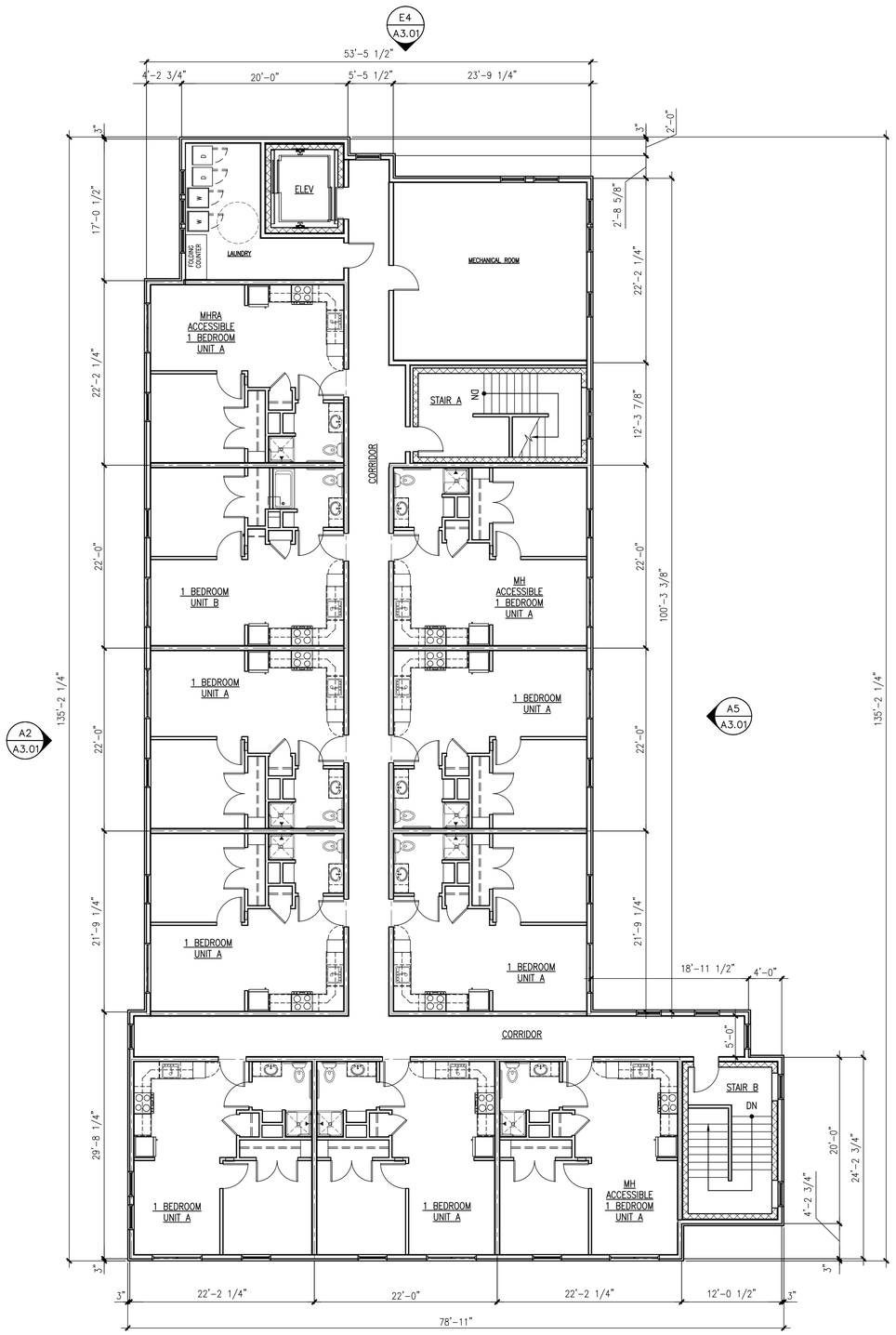
CWS PROJECT NUMBER: 15.040

REVISIONS

DRAWING NUMBER
A1.30

SCALE: AS NOTED
DATE: 05/30/2017

ISSUED FOR: MUNICIPAL APPROVALS



A4
A3.01

FOURTH FLOOR PLAN
7684 SQ. FT.

ALL UNITS DESIGNED WITH THE SAME LAYOUT FOR ADAPTABLE OR ACCESSIBLE UNIT. DESIGNATION OF ACCESSIBLE UNIT QUANTITY AND LOCATION TO BE PROVIDED WITH APPLICATION. ALL UNITS MEET DIMENSIONAL REQUIREMENTS

A5 FOURTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

W:\2015 Design Projects\15040 Avesta 977 Brighton Apartments\A-Drawings\Arch - 4th Floor plan

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OWNER
AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT
977 BRIGHTON AVE SENIOR APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

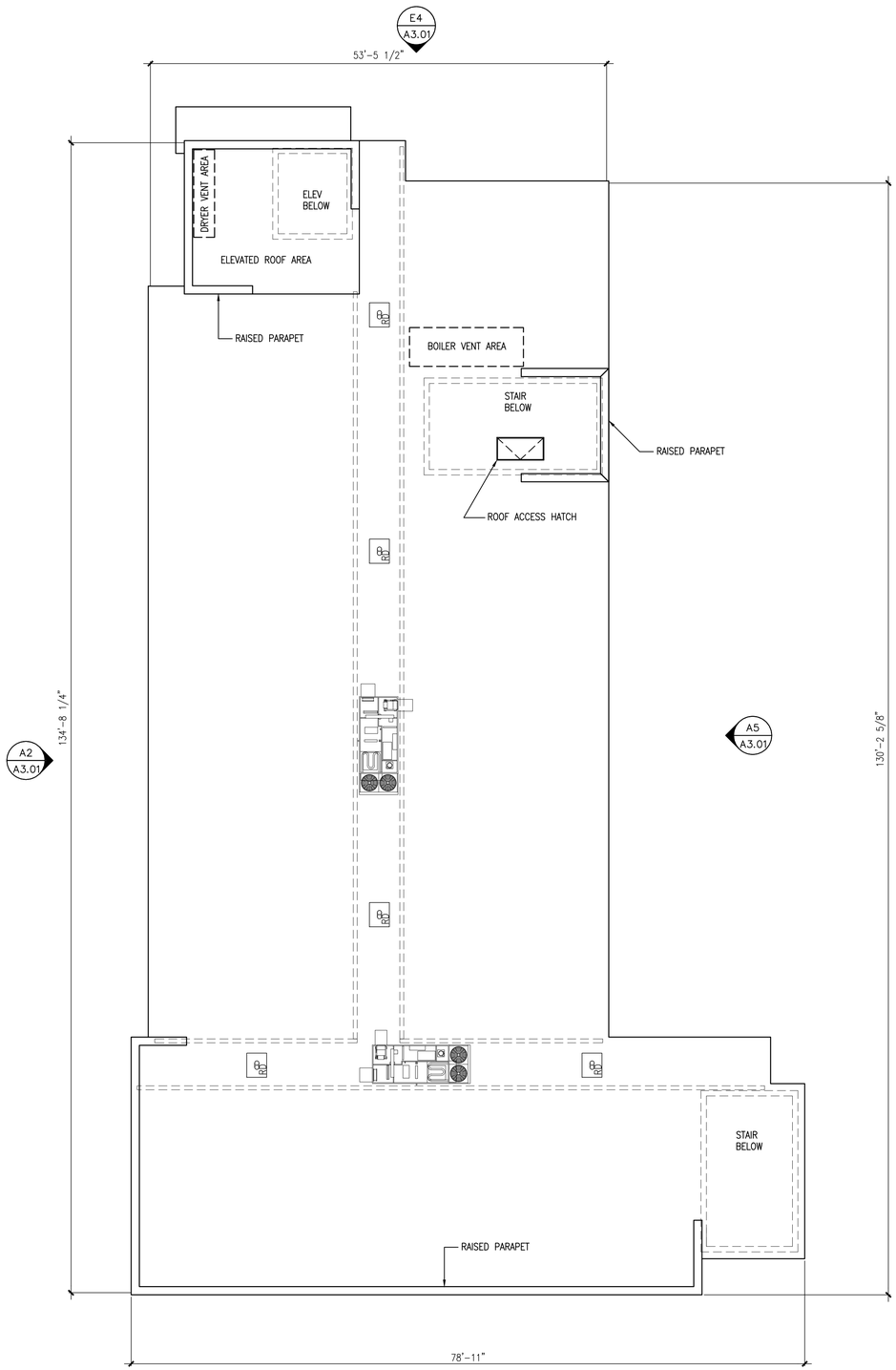
DRAWING
FOURTH FLOOR PLAN
CWS PROJECT NUMBER: 15.040

REVISIONS

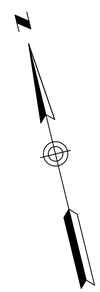
DRAWING NUMBER
A1.40

SCALE: AS NOTED
DATE: 05/30/2017

ISSUED FOR: MUNICIPAL APPROVALS



ROOF PLAN



A5 ROOF PLAN

SCALE: 1/8" = 1'-0"

W:\2015 Design Projects\15040 Avesta 977 Brighton Apartments\1-Drawings\Arch\ Roof plan

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

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DESIGNER

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OWNER

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c/o AVESTA HOUSING

307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE SENIOR APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

ROOF PLAN

CWS PROJECT NUMBER: 15.040

REVISIONS

DRAWING NUMBER

A1.R0

SCALE: AS NOTED
DATE: 05/30/2017

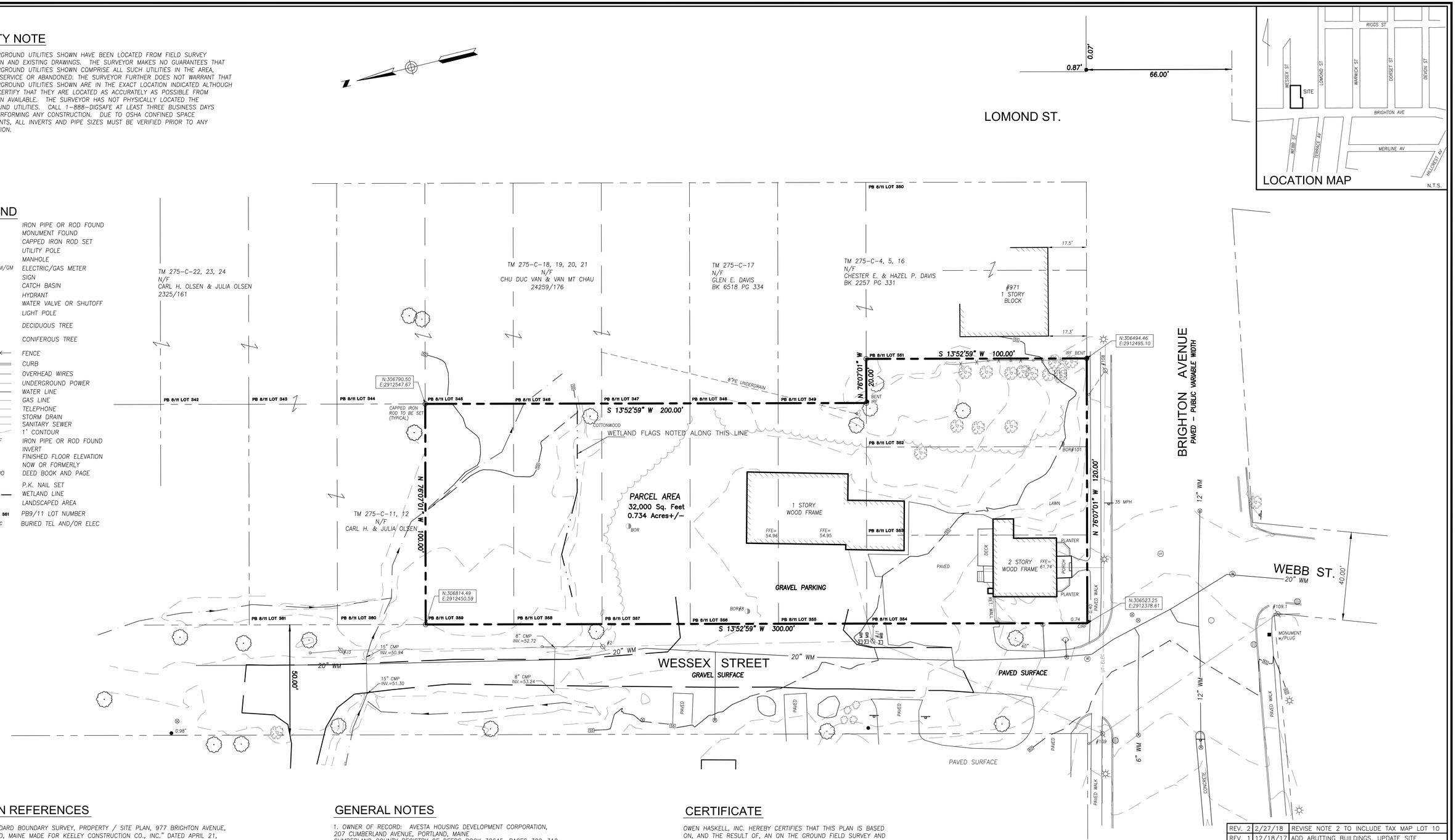
ISSUED FOR: MUNICIPAL APPROVALS

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

LEGEND

●	IRON PIPE OR ROD FOUND
■	MONUMENT FOUND
●	CAPPED IRON ROD SET
⌀	UTILITY POLE
○	MANHOLE
☒ EM/GM	ELECTRIC/GAS METER
▭	SIGN
▤ ◍	CATCH BASIN
◇	HYDRANT
⊗	WATER VALVE OR SHUTOFF
☼	LIGHT POLE
	DECIDUOUS TREE
	CONIFEROUS TREE
X X	FENCE
	CURB
OHW	OVERHEAD WIRES
E	UNDERGROUND POWER
W	WATER LINE
G	GAS LINE
T	TELEPHONE
SD	STORM DRAIN
SS	SANITARY SEWER
100	1' CONTOUR
IPF/IRF	IRON PIPE OR ROD FOUND
INV.	INVERT
FFE	FINISHED FLOOR ELEVATION
N/F	NOW OR FORMERLY
000/000	DEED BOOK AND PAGE
▲	P.K. NAIL SET
. . .	WETLAND LINE
L/S	LANDSCAPED AREA
PB 8/11 LOT 351	PB9/11 LOT NUMBER
UT-ELEC	BURIED TEL AND/OR ELEC



PLAN REFERENCES

1. *"STANDARD BOUNDARY SURVEY, PROPERTY / SITE PLAN, 977 BRIGHTON AVENUE, PORTLAND, MAINE MADE FOR KEELEY CONSTRUCTION CO., INC." DATED APRIL 21, 1989 BY TITCOMB ASSOCIATES.*

2. *"RAND ROAD SIDELINE SURVEY FROM PORTLAND TERMINAL RAILROAD TO BRIGHTON AVE. AND A PORTION OF BRIGHTON AVE., CITY OF PORTLAND, MAINE PUBLIC WORKS DEPARTMENT, ENGINEERING SECTION" DATED NOV. 13, 2003.*

3. *"SAGAMORE VILLAGE, OWNER-UNITED STATES OF AMERICA, CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE" DATED SEPTEMBER 28, 1947 BY H.B. ULLIAN, C.E. RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 34, PAGE 38.*

4. *"PLAN OF GLENWOOD, DEERING, MAINE, WOOD, HARMON & CO." DATED MAY 1895 BY JORDAN & RICHARDSON RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 8, PAGE 17.*

5. *CITY OF PORTLAND BLUE SHEETS.*

6. *PLAN OF BOUNDARY AND TOPOGRAPHIC SURVEY OF HALL SCHOOL MADE FOR OAK POINT ASSOCIATES BY OWEN HASKELL, INC. DATED 2-14-2013.*

GENERAL NOTES

1. *OWNER OF RECORD: AVESTA HOUSING DEVELOPMENT CORPORATION, 207 CUMBERLAND AVENUE, PORTLAND, MAINE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 32645, PAGES 302-310*

2. *PARCEL IS SHOWN AS LOTS 1, 2, 3, 6, 7, 8, 9 AND 10, BLOCK C, ON CITY OF PORTLAND'S ASSESSORS MAP 275.*

3. *BEARINGS ARE BASED ON GRID NORTH NAD83. CITY COORDINATES FOR MONUMENT AT NORTHWEST CORNER OF RIGGS STREET AND WARWICK STREET AND MONUMENT AT SOUTHEAST CORNER OF HALL SCHOOL PROPERTY USED.*

4. *ELEVATIONS ARE BASED ON CITY DATUM. BENCH MARK: 3' OFFSET MONUMENT AT RIGGS AND WARWICK STREET, ELEVATION 63.61 ESTABLISHED BY LEVEL RUN FROM CITY 3' OFFSET MONUMENT OPPOSITE ESSEX STREET ELEVATION 61.39 MAY 1999, PRIOR TO MONUMENT BEING CUT DOWN.*

5. *SCATTERED WETLAND FLAGS WERE FOUND, ALONG THE NOTED WETLAND LINE BY UNKNOWN WETLANDS DELINEATOR.*

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE, EXCEPT IRONS NOT SET TO DATE.

2-27-2018
DATE

JOHN C. SCHWANDA PLS 1252

ORIGINALLY PREPARED BY REGINALD S. PARKER PLS#1154

GRAPHIC SCALE

0 10' 20' 40' 80'

STATE OF MAINE
JOHN C. SCHWANDA 1252
PROFESSIONAL LAND SURVEYOR

REV.		
REV. 2	2/27/18	REVISE NOTE 2 TO INCLUDE TAX MAP LOT 10
REV. 1	12/18/17	ADD ABUTTING BUILDINGS, UPDATE SITE

BOUNDARY & TOPOGRAPHIC SURVEY

AT

977 BRIGHTON AVENUE, PORTLAND, MAINE

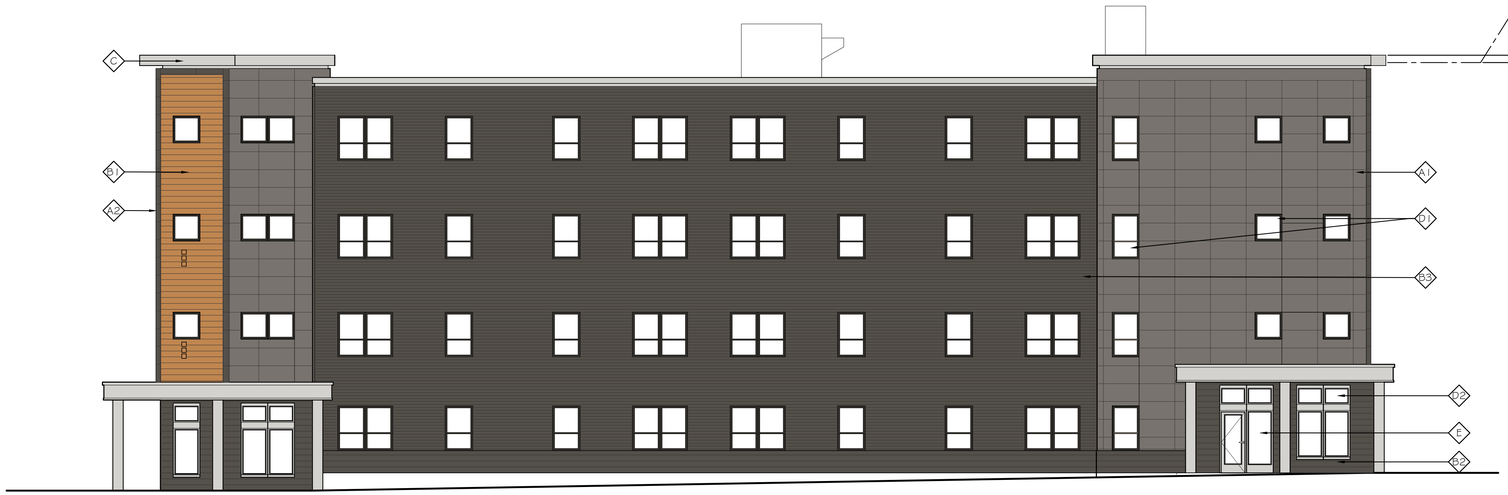
MADE FOR

AVESTA HOUSING

307 CUMBERLAND AVENUE, PORTLAND, MAINE

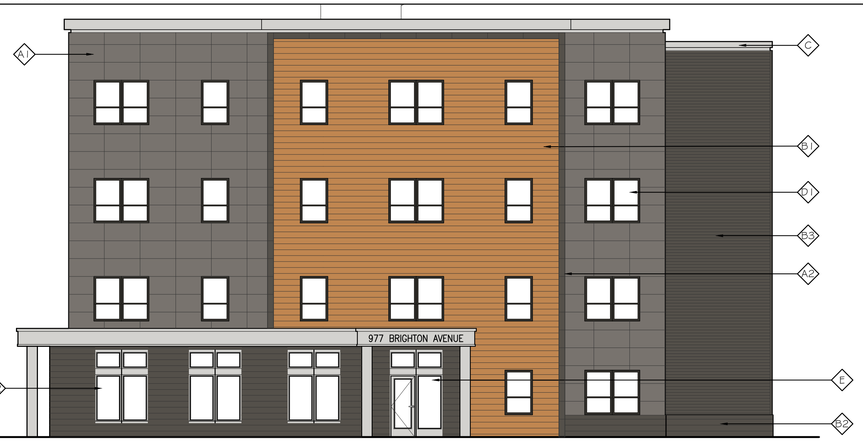
OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207)774-0424
PROFESSIONAL LAND SURVEYORS

Drwn By	TMK, RSP	Date	Job No.
Trace By	TMK/JLW	JULY 13, 2016	2016-171P
Check By	RSP	Scale	Drwg. No.
Book No.	FILE	1" = 20'	1



A2 WEST ELEVATION - WESSEX ST

REFERENCED FROM: A1 SERIES BUILDING PLANS

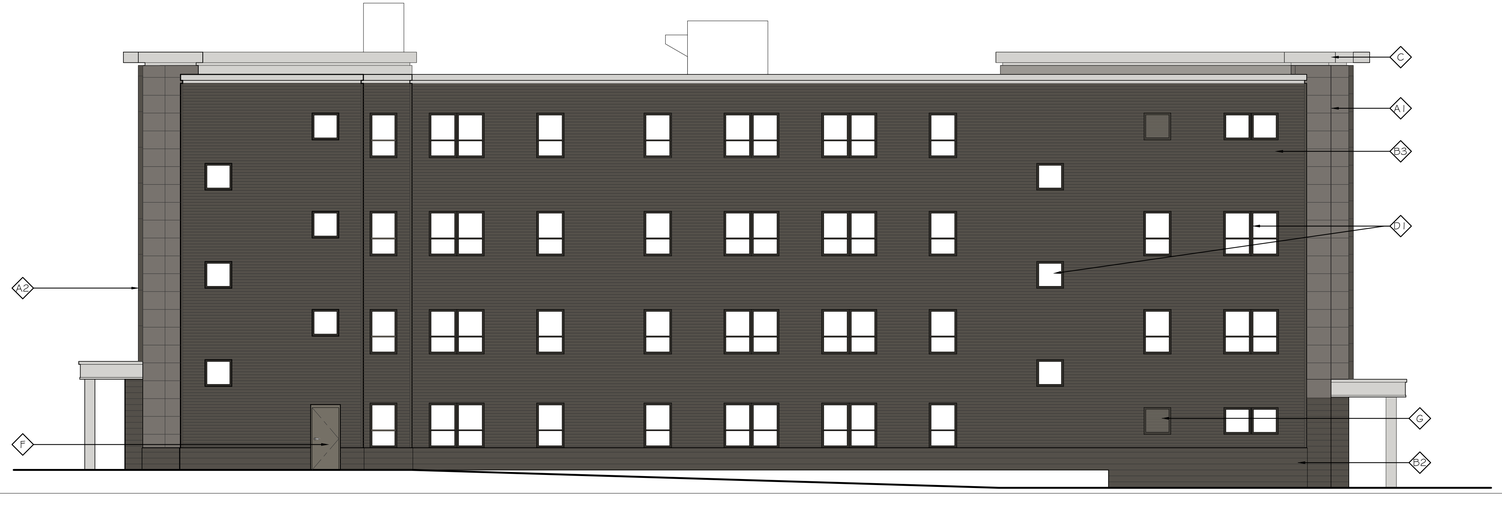


A4 SOUTH ELEVATION - BRIGHTON AVE

REFERENCED FROM: A1 SERIES BUILDING PLANS

E4 NORTH ELEVATION

REFERENCED FROM: A1 SERIES BUILDING PLANS



A5 EAST ELEVATION

REFERENCED FROM: A1 SERIES BUILDING PLANS

- A — FIBER CEMENT PANEL SIDING – STACKED LAYOUT
  SHERWIN WILLIAMS GAUNTLET GRAY
- A2 — FIBER CEMENT PANEL SIDING – STACKED LAYOUT
  SHERWIN WILLIAMS URBANE BRONZE
- B1 — 8" FIBER CEMENT CLAPBOARD
  SHERWIN WILLIAMS ROOKWOOD AMBER
- B2 — 8" FIBER CEMENT CLAPBOARD
  SHERWIN WILLIAMS URBANE BRONZE
- B3 — 4" FIBER CEMENT CLAPBOARD
  SHERWIN WILLIAMS URBANE BRONZE
- C — PVC OR BREAK METAL TRIM, PAINTED
  BASED ON ANDERSON 100 WHITE
- D1 — SINGLE HUNG WINDOWS
  BASED ON ANDERSON 100 DARK BRONZE
- D2 — PICTURE WINDOWS
  BASED ON ANDERSON 100 WHITE
- E — EXT. ENTRY DOOR
  BASED ON ANDERSON 100 WHITE
- F — HOLLOW METAL ENTRY DOOR
  COLOR TO MATCH SIDING
- G — MECHANICAL LOUVER
  COLOR TO MATCH SIDING

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DESIGNER

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OWNER

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c/o AVESTA HOUSING

307 CUMBERLAND AVE
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE SENIOR APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

EXTERIOR ELEVATIONS
OPTION 1

CWS PROJECT NUMBER: 15.040

REVISIONS

1	MODIFIED PER PLANNING BOARD COMMENTS	07/16/18

DRAWING NUMBER

A3.10-1

SCALE: 1/8" = 1'-0"

DATE: 06/18/2017

ISSUED FOR: MUNICIPAL APPROVALS

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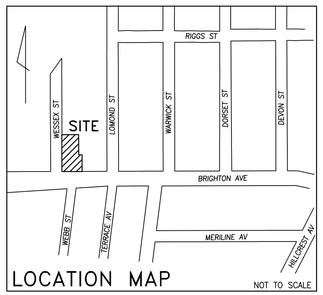
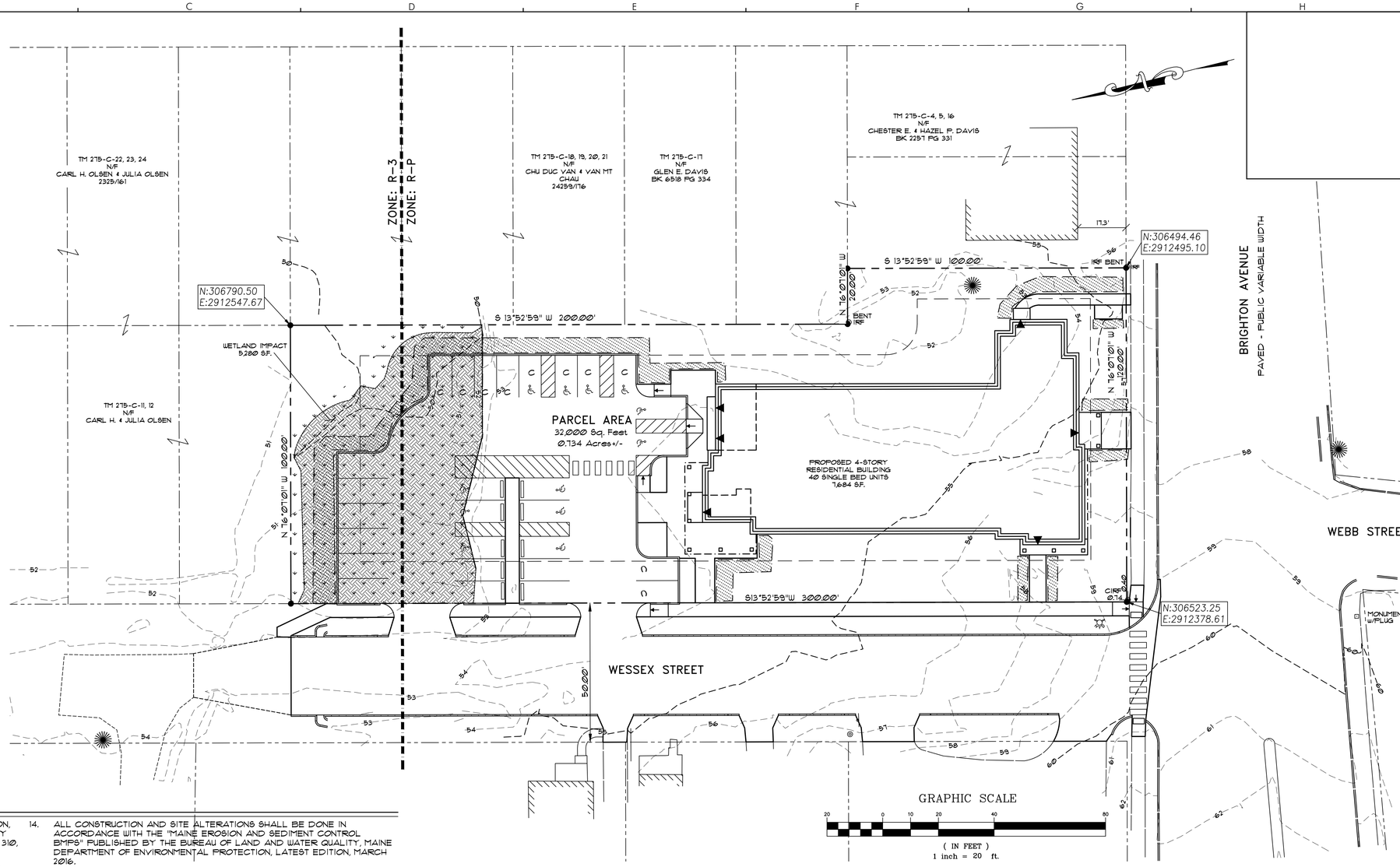
M:\2015 Design Projects\15040 Avesta 977 Brighton Apartments\1-Drawings\30-Elevations



LOCATION MAP

NOT TO SCALE



GENERAL NOTES

1. OWNER/DEVELOPER: AVESTA HOUSING DEVELOPMENT CORPORATION, 307 CUMBERLAND AVENUE, PORTLAND MAINE, CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 33190, PAGE 302 & BOOK 33190, PAGE 310, RECORDED DATES 10/6/15.
2. ENGINEER: PINKHAM & GREER CIVIL ENGINEERS, 28 VANNAH AVEUNE, PORTLAND, MAINE.
3. ARCHITECT: CWS ARCHITECTS, 264 U.S. ROUTE ONE #2A, SCARBOROUGH, MAINE.
4. TOPOGRAPHIC, UTILITY AND BOUNDARY INFORMATION TAKEN FROM "BOUNDARY & TOPOGRAPHIC SURVEY AT 977 BRIGHTON AVENUE, PORTLAND, MAINE MADE FOR AVESTA HOUSING 307 CUMBERLAND AVENUE, PORTLAND, MAINE" BY OWEN HASKELL, INC., 390 U.S. ROUTE ONE, FALMOUTH, MAINE. PLAN DATED JULY 13, 2016. BENCHMARK: 3" OFFSET MONUMENT AT RIGGS AND WARWICK STREET, ELEVATION 63.61.
5. WETLAND MAPPING PROVIDED BY ALBERT FRICK ASSOCIATES, INC., 95A GORHAM ROAD, GORHAM, MAINE.
6. SOILS MAPPING TAKEN FROM SOIL CONSERVATION STUDY OF CUMBERLAND COUNTY AND ARE SCANTIC (Sn), SILT LOAM, AT THE SOUTH HALF OF THE SITE AND ELMWOOD (EmB), FINE SANDY LOAM AT THE NORTH HALF OF THE PARCEL.
7. ZONE: RESIDENTIAL PROFESSIONAL AND RESIDENTIAL 3
   CHANGED TO AFFORDABLE SENIOR HOUSING
   PROPOSED USE: AFFORDABLE SENIOR HOUSING
8. TAX MAP REFERENCE: MAP 275 / BLOCK C / LOTS 1, 2, 3, 6, 7, 8 AND 9.
9. TOTAL PARCEL = 0.734 ACRES
10. CALL DIG-SAFE PRIOR TO COMMENCING WORK, 811 OR 1-888-DIG-SAFE.
11. BUILDING SHALL HAVE A STREET NUMBER CLEARLY VISIBLE FROM THE ROAD MARKED ON THE BUILDING. STREET NUMBER TO BE AS APPROVED BY THE CITY E-911 ADDRESSING OFFICER.
12. LOT TO BE SERVICED BY PUBLIC WATER AND SEWER. THESE SERVICES, INCLUDING HYDRANTS, ARE AS SHOWN ON SHEET C2.3, GRADING AND UTILITIES PLAN.
13. POWER, TELEPHONE AND CABLE ARE TO BE UNDERGROUND FROM AN EXISTING POLE. THESE SERVICES ARE SHOWN ON SHEET C2.3, GRADING AND UTILITIES PLAN.
14. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMPS" PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION, MARCH 2016.
15. NO CONSTRUCTION OR FILLING OF WETLANDS OTHER THAN THAT SHOWN ON THE PLAN ARE ALLOWED. NRPA PERMIT IS REQUIRED FOR THIS PROJECT.
16. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
17. THE SUBJECT PARCEL KNOWN AS 977 BRIGHTON AVENUE IS SUBJECT TO A CITY OF PORTLAND LEVEL III SITE PLAN AND SUBDIVISION PERMIT.
18. DETAILS OF STREET TREES ARE INCLUDED ON THE LANDSCAPE PLAN AS PART OF THE APPROVAL FOR 977 BRIGHTON SITE PLAN.
19. FLOODPLAIN: THIS PROPERTY IS IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 230051 0006 C, EFFECTIVE DATE DECEMBER 8, 1998. IT IS NOT IN A SPECIAL FLOOD HAZARD ZONE.
20. SNOW CLEARANCE REQUIREMENTS ARE AS NOTED ON SHEET C1.2 UNDER SNOW CLEARANCE NOTES.
21. MECHANICAL EQUIPMENT IS TO BE INSTALLED ON THE ROOF.
22. NEW PROPERTY PINS TO BE SET AT THE EXPENSE OF THE OWNER AT THE END OF CONSTRUCTION. ANY MONUMENTATION DAMAGED BY CONSTRUCTION IS TO BE REPLACED.
23. THIS PROJECT HAS A GEOTECHNICAL REPORT BY S.W. COLE ENGINEERING INC. ALL RECOMMENDATIONS OF THE REPORT ARE TO BE FOLLOWED WHILE CONDUCTING AND COMPLETING SITE EARTHWORK.

LEGEND

EXISTING

- PROPERTY LINE
- ABUTTERS PROPERTY
- BUILDING SETBACK
- ZONING DISTRICT
- EDGE OF PAVEMENT
- 200 CONTOURS
- BUILDING
- EDGE OF GRAVEL
- CURB
- WETLAND LIMIT
- WETLAND
- IRON ROD OR PIPE FOUND
- BOUND FOUND
- TREES

PROPOSED

- EDGE OF PAVEMENT
- SLOPED CONCRETE CURB
- VERTICAL GRANITE CURB
- GRADE BREAKS AT PLAZAS
- GRADE BREAKS AT SIDEWALK
- EDGE OF GRAVEL
- BUILDING
- BUILDING ENTRY/EGRESS
- BUILDING CANOPY
- CONCRETE WHEELSTOPS
- CAPPED IRON ROD TO BE SET
- HANDICAP PARKING
- "NO PARKING" AREA
- PAINTED CROSSWALK
- DETECTABLE SURFACE AT RAMP
- WETLAND IMPACT
- SNOW STORAGE AREAS

SUBDIVISION PLAT, APPROVED BY THE CITY OF PORTLAND PLANNING BOARD

DATE

Date

John C. Schwanda, PLS No. 1252

For Boundary and Existing Conditions Only

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph. 207.553.9888 | www.walsh-eng.com

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THOMAS GREER No. 4206 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE 7/17/18

OWNER

AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING

307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

SUBDIVISION RECORDING PLAT
SHEET 1 OF 2

CWS PROJECT NUMBER: 15.040

REVISIONS

1	REVD PER CITY REVIEW	5/31/18
2	WIDEN WESSEX ST TO 28'; REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
3	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER

C1.1

SCALE: AS SHOWN

DATE: 12/21/2017

CITY OF PORTLAND
CONDITIONS OF APPROVAL

IMPERVIOUS INFORMATION

	EXISTING	PROPOSED
BUILDINGS	3,128 SQ. FT.	7,825 SQ. FT.
PAVEMENT & GRAVEL	5,040 SQ. FT.	10,339 SQ. FT.
	8,168 SQ. FT.	18,164 SQ. FT.
NET IMPERVIOUS	+ 10,596 SQ. FT.	

PARKING & BICYCLES

PARKING SPACES PROVIDED:	28
STANDARD SPACES:	
9x18	6
8x18	6
8x15 (COMPACT)	4
ACCESSIBLE SPACES:	
8x18	8
8X15 (COMPACT)	4
BICYCLE SPACES PROVIDED:	16 (8 RACKS)
BIKE SPACES REQUIRED:	
2 BIKE SPACES PEER	
5 DWELLING UNITS (40/2.5):	16

UNIT ANALYSIS

UNITS:	40 1-BEDROOM UNITS
UNIT COMPOSITION:	
50% OF ANNUAL MEDIAN INCOME:	24
60% OF ANNUAL MEDIAN INCOME:	10
MARKET RATE:	6
WORKFORCE UNITS:	0

SURVEY GENERAL NOTES

1. OWNER OF RECORD: AVESTA HOUSING DEVELOPMENT CORPORATION, 307 CUMBERLAND AVENUE, PORTLAND, MAINE CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 32645, PAGES 302-310
2. PARCEL IS SHOWN AS LOTS 1, 2, 3, 6, 7, 8 AND 9, BLOCK C, ON CITY OF PORTLAND'S ASSESSORS MAP 275.
3. BEARINGS ARE BASED ON GRID NORTH NAD83. CITY COORDINATES FOR MONUMENT AT NORTHWEST CORNER OF RIGGS STREET AND WARWICK STREET AND MONUMENT AT SOUTHEAST CORNER OF HALL SCHOOL PROPERTY USED.
4. ELEVATIONS ARE BASED ON CITY DATUM. BENCH MARK: 3' OFFSET MONUMENT AT RIGGS AND WARWICK STREET, ELEVATION 63.61 ESTABLISHED BY LEVEL RUN FROM CITY 3' OFFSET MONUMENT OPPOSITE ESSEX STREET ELEVATION 61.39 MAY 1999, PRIOR TO MONUMENT BEING CUT DOWN.
5. SCATTERED WETLAND FLAGS WERE FOUND, ALONG THE NOTED WETLAND LINE BY UNKNOWN WETLANDS DELINEATOR.

SURVEY PLAN REFERENCES

1. "STANDARD BOUNDARY SURVEY, PROPERTY / SITE PLAN, 977 BRIGHTON AVENUE, PORTLAND, MAINE MADE FOR KEELEY CONSTRUCTION CO., INC." DATED APRIL 21, 1988 BY TITCOMB ASSOCIATES.
2. "RAND ROAD SIDELINE SURVEY FROM PORTLAND TERMINAL RAILROAD TO BRIGHTON AVE. AND A PORTION OF BRIGHTON AVE., CITY OF PORTLAND, MAINE PUBLIC WORKS DEPARTMENT, ENGINEERING SECTION" DATED NOV. 13, 2003.
3. "SAGAMORE VILLAGE, OLNER-UNITED STATES OF AMERICA, CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE" DATED SEPTEMBER 28, 1947 BY H.B. ULLIAN, C.E. RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 34, PAGE 38.
4. "PLAN OF GLENWOOD, DEERING, MAINE, WOOD, HARMON & CO." DATED MAY 1895 BY JORDAN & RICHARDSON RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 8, PAGE 17.
5. CITY OF PORTLAND BLUE SHEETS.
6. PLAN OF BOUNDARY AND TOPOGRAPHIC SURVEY OF HALL SCHOOL MADE FOR OAK POINT ASSOCIATES BY OWEN HASKELL, INC. DATED 2-14-2013.

SNOW CLEARANCE NOTES

1. SNOW MAY BE STORED WITHIN THE SNOW STORAGE AREAS.
2. ANY SNOW THAT CAN NOT BE STORED ON SITE SHALL BE PHYSICALLY REMOVED AND TRANSPORTED OFFSITE IF NECCESSARY.
3. SNOW TRANSPORTED OFFSITE SHALL BE BROUGHT TO A MAINE DEP APPROVED "SNOW DUMP" OR MEET THE EXEMPTION REQUIREMENTS SPECIFIED WITHIN CHAPTER 573 WHEN THE ABOVE REQUIREMENTS CANNOT BE MET DUE TO AN ABUNDANCE OF SNOW.
4. THE SNOW CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO VEGETATION, LANDSCAPING, CURBING, LIGHTING, FENCING ETC. RESULTING FROM THEIR ACTIVITIES.
5. THE SNOW CONTRACTOR SHALL USE SALT OR CHLORIDE SUBSTITUTE TO DEICE THE PARKING LOT.
6. THE OWNER IS RESPONSIBLE FOR SNOW REMOVAL BEING UNDERTAKEN IN A TIMELY FASHION.

WAIVERS REQUESTED

1. THE PLANNING BOARD WAIVES / DOES NOT WAIVE SECTION 14-526 (a) 4 (iv) OF THE CITY OF PORTLAND CHAPTER 14 LAND USE ORDINANCE FOR REDUCTION OF DRIVE AISLE FROM 24 FEET TO 21 FEET.
2. THE PLANNING BOARD WAIVES / DOES NOT WAIVE SECTION 1.14 OF THE CITY OF PORTLAND'S TECHNICAL MANUAL STANDARD THAT PARKING LOTS WITH GREATER THAN 10 SPACES MAY BE COMPRISED OF UP TO 20% COMPACT PARKING SPACES, TO ALLOW 12 COMPACT SPACES WHICH IS 37.5% OF THE TOTAL NUMBER.
3. THE PLANNING BOARD WAIVES / DOES NOT WAIVE SECTION 1 (FIGURE 1-1) OF THE CITY OF PORTLAND TECHNICAL MANUAL STANDARD FOR SIDEWALKS ON BOTH SIDES OF WESSEX STREET.

SUBDIVISION PLAT, APPROVED BY THE CITY OF PORTLAND PLANNING BOARD

_____ DATE

CITY OF PORTLAND SUBDIVISION NOTES

1. LANDSCAPING SHALL MEET THE "ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE AND LANDSCAPE GUIDELINES" OF THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
2. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATION TO OR DEVIATION FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION, TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF WOODED OR LAWN AREAS, ACCESS, SIZE, LOCATION, AND SURFACING OF PARKING AREAS AND LOCATION AND SIZE OF BUILDINGS.
3. ALL POWERLINE UTILITIES SHALL BE OVERHEAD.
4. SIDEWALKS AND CURBING SHALL BE DESIGNED AND BUILT WITH TIPDOWN RAMPS AT ALL STREET CORNERS, CROSSWALKS AND DRIVEWAYS IN CONFORMANCE WITH THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
5. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS PUBLISHED BY THE BUREAU OF LAND AND QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2003.
6. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING.
7. ALL DISTURBED AREAS ON THE SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED OR OTHER METHODS AS REQUIRED BY BEST MANAGEMENT PRACTICES (SEE ABOVE).
8. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT SITE WITH THE CONTRACTOR, DEVELOPMENT REVIEW COORDINATOR, PUBLIC WORK'S REPRESENTATIVE AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. AT THAT TIME, THE SITE/BUILDING CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A DETAILED CONSTRUCTION SCHEDULE TO THE ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
9. EXISTING VEGETATION SHALL BE CONSERVED IN AREAS SHOWN ON THIS SITE. FENCING OR OTHER PROTECTIVE BARRIERS SHALL BE ERECTED OUTSIDE THE DRIP-LINE OF INDIVIDUAL GROUPINGS OF TREES DESIGNATED FOR PRESERVATION PRIOR TO THE ONSET OF CONSTRUCTION. REGRADING SHALL NOT TAKE PLACE WITHIN THE DRIP-LINE OF TREES DESIGNATED FOR PRESERVATION. NO STORAGE OR CONSTRUCTION MATERIALS SHALL BE PERMITTED WITHIN THE DRIP-LINE OF TREES TO BE PRESERVED.
10. SUBDIVISION AT THE TIME OF APPROVAL IS DEFINED AS "SUBDIVISION SHALL MEAN THE DIVISION OF A LOT, TRACT OR PARCEL OF LAND INTO THREE (3) OR MORE LOTS, INCLUDING LOTS OF FORTY (40) ACRES OR MORE, WITHIN ANY FIVE-YEAR PERIOD WHETHER ACCOMPLISHED BY SALE, LEASE, DEVELOPMENT, BUILDINGS OR OTHERWISE AND AS FURTHER DEFINED IN 30-A M.R.S.A. SECTION 4401. THE TERM SUBDIVISION SHALL ALSO INCLUDE THE DIVISION OF A NEW STRUCTURE OR STRUCTURES ON A TRACT OR PARCEL OF LAND INTO THREE (3) OR MORE DWELLING UNITS WITHIN A FIVE-YEAR PERIOD AND THE DIVISION OF AN EXISTING STRUCTURE OR STRUCTURES PREVIOUSLY USED FOR COMMERCIAL OR INDUSTRIAL USE INTO THREE (3) OR MORE DWELLING UNITS WITHIN A FIVE-YEAR PERIOD. THE AREA INCLUDED IN THE EXPANSION OF AN EXISTING STRUCTURE IS DEEMED TO BE A NEW STRUCTURE FOR THE PURPOSE OF THIS PARAGRAPH. A DWELLING UNIT SHALL INCLUDE ANY PART OF A STRUCTURE WHICH, THROUGH SALE OR LEASE, IS INTENDED FOR HUMAN HABITATION, INCLUDING SINGLE-FAMILY AND MULTIFAMILY HOUSING CONDOMINIUMS, TIME-SHARE UNITS AND APARTMENTS."

ZONE INFORMATION

ZONE: RESIDENTIAL 3 (R-3) & RESIDENTIAL-PROFESSIONAL
PERMITTED USE: MULTI-FAMILY RESIDENTIAL PROPOSED USE: AFFORDABLE SENIOR HOUSING

SPACE STANDARDS	R-3	R-P	14-488 BONUS	ALLOWED	PROVIDED
LOW INCOME UNITS			85%		34
WORKFORCE UNITS			0%		0
MARKET UNITS			15%		6
TOTAL NUMBER OF UNITS			100%		40
LOT AREA PER UNIT	6,500 SQ. FT.	1500/UNIT *	2.5x1500	= 600	800
MINIMUM LOT SIZE	6,500 SQ. FT.	6,500 SQ. FT.			32,000
MINIMUM STREET FRONTAGE	50 FEET	50 FEET			420 FEET
MAXIMUM FRONT YARD					10 FEET
MINIMUM FRONT YARD	25 FEET	17.6 FEET**	-5 FEET	= 12.85 FEET	17 FEET
MINIMUM REAR YARD	25 FEET	25 FEET			140 FEET
MINIMUM SIDE YARD					
2 1/2 STORY STRUCTURE	16 FEET	16 FEET	-5 FEET	= 11 FEET	20 FEET
SIDE YARD ON A SIDE STREET	20 FEET	20 FEET	-5 FEET	= 15 FEET	15 FEET
MINIMUM UNIT SIZE					528 SQ. FT.
OVERALL BUILDING AREA (GROSS)					30,089 SQ. FT.
ACTUAL LOT COVERAGE (FOOTPRINT)					7,825 SQ. FT.
MAXIMUM LOT COVERAGE	35%	35%			24%
MINIMUM LOT WIDTH	65 FEET	65 FEET			150 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	35 FEET	45 FEET	= 50 FEET	46 FEET

* PER 14-488

** 25' OR AVERAGE OF ABUTTING FRONT YARDS, AVERAGE OF YARDS ABUTTING 977 = 17.85'

Date

John C. Schwanda, PLS No. 1252
For Boundary and Existing Conditions Only

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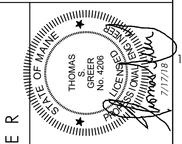
DESIGNER



WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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OWNER

AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

SUBDIVISION
RECORDING PLAT
SHEET 2 OF 2

CWS PROJECT NUMBER: 15.040

REVISIONS

1	REVD PER CITY REVIEW	5/31/18
2	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
3	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER
C1.2

SCALE: AS SHOWN
DATE: 12/21/2017

N:\2015\15100-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15100 SHOT

ZONE INFORMATION

ZONE: RESIDENTIAL 3 (R-3) & RESIDENTIAL-PROFESSIONAL
PERMITTED USE: MULTI-FAMILY RESIDENTIAL PROPOSED USE: AFFORDABLE SENIOR HOUSING

SPACE STANDARDS	R-3	R-P	14-488 BONUS	ALLOWED	PROVIDED
LOW INCOME UNITS			85%		34
WORKFORCE UNITS			0%		0
MARKET UNITS			15%		6
TOTAL NUMBER OF UNITS			100%		40
LOT AREA PER UNIT	6,500 SQ. FT.	1500/UNIT *	2.5x1500	= 600	800
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MAXIMUM BUILDING HEIGHT	35 FEET	35 FEET	+15 FEET	= 50 FEET	46 FEET

* PER 14-488

**25' OR AVERAGE OF ABUTTING FRONT YARDS, AVERAGE OF YARDS ABUTTING 977 = 17.85'

GENERAL NOTES

1. OWNER/DEVELOPER: AVESTA HOUSING DEVELOPMENT CORPORATION, 307 CUMBERLAND AVENUE, PORTLAND MAINE, CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 31390, PAGE 302 & BOOK 31390, PAGE 310, RECORDED DATES 10/6/15.
2. ENGINEER: PINKHAM & GREER CIVIL ENGINEERS, 28 VANNAH AVENUE, PORTLAND, MAINE.
3. ARCHITECT: CWS ARCHITECTS, 264 U.S. ROUTE ONE #2A, SCARBOROUGH, MAINE.
4. TOPOGRAPHIC, UTILITY AND BOUNDARY INFORMATION TAKEN FROM "BOUNDARY & TOPOGRAPHIC SURVEY AT 977 BRIGHTON AVENUE, PORTLAND, MAINE MADE FOR AVESTA HOUSING 307 CUMBERLAND AVENUE, PORTLAND, MAINE" BY OWEN HASKELL, INC., 390 U.S. ROUTE ONE, FALMOUTH, MAINE. PLAN DATED JULY 13, 2016. BENCHMARK: 3' OFFSET MONUMENT AT RIGGS AND WARWICK STREET, ELEVATION 63.61.
5. WETLAND MAPPING PROVIDED BY ALBERT FRICK ASSOCIATES, INC., 95A GORHAM ROAD, GORHAM, MAINE.
6. SOILS MAPPING TAKEN FROM SOIL CONSERVATION STUDY OF CUMBERLAND COUNTY AND ARE SCANTIC (Sn), SILT LOAM, AT THE SOUTH HALF OF THE SITE AND ELMWOOD (EmB), FINE SANDY LOAM AT THE NORTH HALF OF THE PARCEL.
7. ZONE: RESIDENTIAL PROFESSIONAL AND RESIDENTIAL 3 CHANGED TO AFFORDABLE SENIOR HOUSING PROPOSED USE: AFFORDABLE SENIOR HOUSING
8. TAX MAP REFERENCE: MAP 275 / BLOCK C / LOTS 1, 2, 3, 6, 7, 8 AND 9.
9. TOTAL PARCEL = 0.734 ACRES
10. CALL DIG-SAFE PRIOR TO COMMENCING WORK, 811 OR 1-888-DIG-SAFE.
11. BUILDING SHALL HAVE A STREET NUMBER CLEARLY VISIBLE FROM THE ROAD MARKED ON THE BUILDING. STREET NUMBER TO BE AS APPROVED BY THE CITY E-911 ADDRESSING OFFICER.
12. LOT TO BE SERVICED BY PUBLIC WATER AND SEWER. THESE SERVICES, INCLUDING HYDRANTS, ARE AS SHOWN ON SHEET C2.3, GRADING AND UTILITIES PLAN.
13. POWER, TELEPHONE AND CABLE ARE TO BE UNDERGROUND FROM AN EXISTING POLE. THESE SERVICES ARE SHOWN ON SHEET C2.3, GRADING AND UTILITIES PLAN.
14. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMPS" PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION, MARCH 2016.
15. NO CONSTRUCTION OR FILLING OF WETLANDS OTHER THAN THAT SHOWN ON THE PLAN ARE ALLOWED. NRPA PERMIT IS REQUIRED FOR THIS PROJECT.
16. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
17. THE SUBJECT PARCEL KNOWN AS 977 BRIGHTON AVENUE IS SUBJECT TO A CITY OF PORTLAND LEVEL III SITE PLAN AND SUBDIVISION PERMIT.
18. DETAILS OF STREET TREES ARE INCLUDED ON THE LANDSCAPE PLAN AS PART OF THE APPROVAL FOR 977 BRIGHTON SITE PLAN.
19. FLOODPLAIN: THIS PROPERTY IS IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 230051 0006 C, EFFECTIVE DATE DECEMBER 8, 1998. IT IS NOT IN A SPECIAL FLOOD HAZARD ZONE.
20. SNOW CLEARANCE REQUIREMENTS ARE AS NOTED ON SHEET C1.2 UNDER SNOW CLEARANCE NOTES.
21. MECHANICAL EQUIPMENT IS TO BE INSTALLED ON THE ROOF.
22. NEW PROPERTY PINS TO BE SET AT THE EXPENSE OF THE OWNER AT THE END OF CONSTRUCTION. ANY MONUMENTATION DAMAGED BY CONSTRUCTION IS TO BE REPLACED.
23. THIS PROJECT HAS A GEOTECHNICAL REPORT BY S.W. COLE ENGINEERING INC. ALL RECOMMENDATIONS OF THE REPORT ARE TO BE FOLLOWED WHILE CONDUCTING AND COMPLETING SITE EARTHWORK.

WAIVERS REQUESTED

1. THE PLANNING BOARD WAIVES / DOES NOT WAIVE SECTION 14-526 (a) 4 (iv) OF THE CITY OF PORTLAND CHAPTER 14 LAND USE ORDINANCE FOR REDUCTION OF DRIVE AISLE FROM 24 FEET TO 21 FEET.
2. THE PLANNING BOARD WAIVES / DOES NOT WAIVE SECTION 1.14 OF THE CITY OF PORTLAND'S TECHNICAL MANUAL STANDARD THAT PARKING LOTS WITH GREATER THAN 10 SPACES MAY BE COMPRISED OF UP TO 20% COMPACT PARKING SPACES, TO ALLOW 12 COMPACT SPACES WHICH IS 37.5% OF THE TOTAL NUMBER.
3. THE PLANNING BOARD WAIVES / DOES NOT WAIVE SECTION 1 (FIGURE 1-1) OF THE CITY OF PORTLAND TECHNICAL MANUAL STANDARD FOR SIDEWALKS ON BOTH SIDES OF WESSEX STREET.

IMPERVIOUS INFORMATION

	EXISTING	PROPOSED
BUILDINGS	3,128 SQ. FT.	7,825 SQ. FT.
PAVEMENT & GRAVEL	5,040 SQ. FT.	10,939 SQ. FT.
	8,168 SQ. FT.	18,764 SQ. FT.
NET IMPERVIOUS	+ 10,596 SQ. FT.	

CITY OF PORTLAND SITE PLAN NOTES

1. LANDSCAPING SHALL MEET THE "ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE AND LANDSCAPE GUIDELINES" OF THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
2. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATION TO OR DEVIATION FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION: TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF WOODED OR LAWN AREAS, ACCESS, SIZE, LOCATION, AND SURFACING OF PARKING AREAS AND LOCATION AND SIZE OF BUILDINGS.
3. ALL POWERLINE UTILITIES SHALL BE OVERHEAD.
4. SIDEWALKS AND CURBING SHALL BE DESIGNED AND BUILT WITH TIPDOWN RAMPS AT ALL STREET CORNERS, CROSSWALKS AND DRIVEWAYS IN CONFORMANCE WITH THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
5. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS PUBLISHED BY THE BUREAU OF LAND AND QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2003.
6. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING.
7. ALL DISTURBED AREAS ON THE SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED OR OTHER METHODS AS REQUIRED BY BEST MANAGEMENT PRACTICES (SEE ABOVE).
8. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT SITE WITH THE CONTRACTOR, DEVELOPMENT REVIEW COORDINATOR, PUBLIC WORK'S REPRESENTATIVE AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. AT THAT TIME, THE SITE/BUILDING CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A DETAILED CONSTRUCTION SCHEDULE TO THE ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
9. EXISTING VEGETATION SHALL BE CONSERVED IN AREAS SHOWN ON THIS SITE. FENCING OR OTHER PROTECTIVE BARRIERS SHALL BE ERECTED OUTSIDE THE DRIP-LINE OF INDIVIDUAL GROUPINGS OF TREES DESIGNATED FOR PRESERVATION PRIOR TO THE ONSET OF CONSTRUCTION. REGRADING SHALL NOT TAKE PLACE WITHIN THE DRIP-LINE OF TREES DESIGNATED FOR PRESERVATION. NO STORAGE OR CONSTRUCTION MATERIALS SHALL BE PERMITTED WITHIN THE DRIP-LINE OF TREES TO BE PRESERVED.

PARKING & BICYCLES

PARKING SPACES PROVIDED: 28

STANDARD SPACES:	
9x18	6
8x18	6
8x15 (COMPACT)	4
ACCESSIBLE SPACES:	
8x18	8
8x15 (COMPACT)	4

BICYCLE SPACES PROVIDED: 16 (8 RACKS)

BIKE SPACES REQUIRED:
2 BIKE SPACES PER 5 DWELLING UNITS (40/2.5): 16

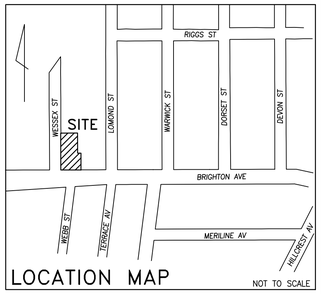
LEGEND

EXISTING

- PROPERTY LINE
- ABUTTERS PROPERTY
- BUILDING SETBACK
- EDGE OF PAVEMENT
- BUILDING
- EDGE OF GRAVEL
- CURB
- WATERCOURSE
- WETLAND LIMIT
- WETLAND
- CATCH BASIN
- DRAIN MANHOLE
- TELEPHONE MANHOLE
- WATER DISTRICT MANHOLE
- TRANSFORMER
- SEWER MANHOLE
- UTILITY POLE
- UTILITY POLE W/ GUY WIRE
- SIGN
- LIGHT POLE
- TREES

PROPOSED

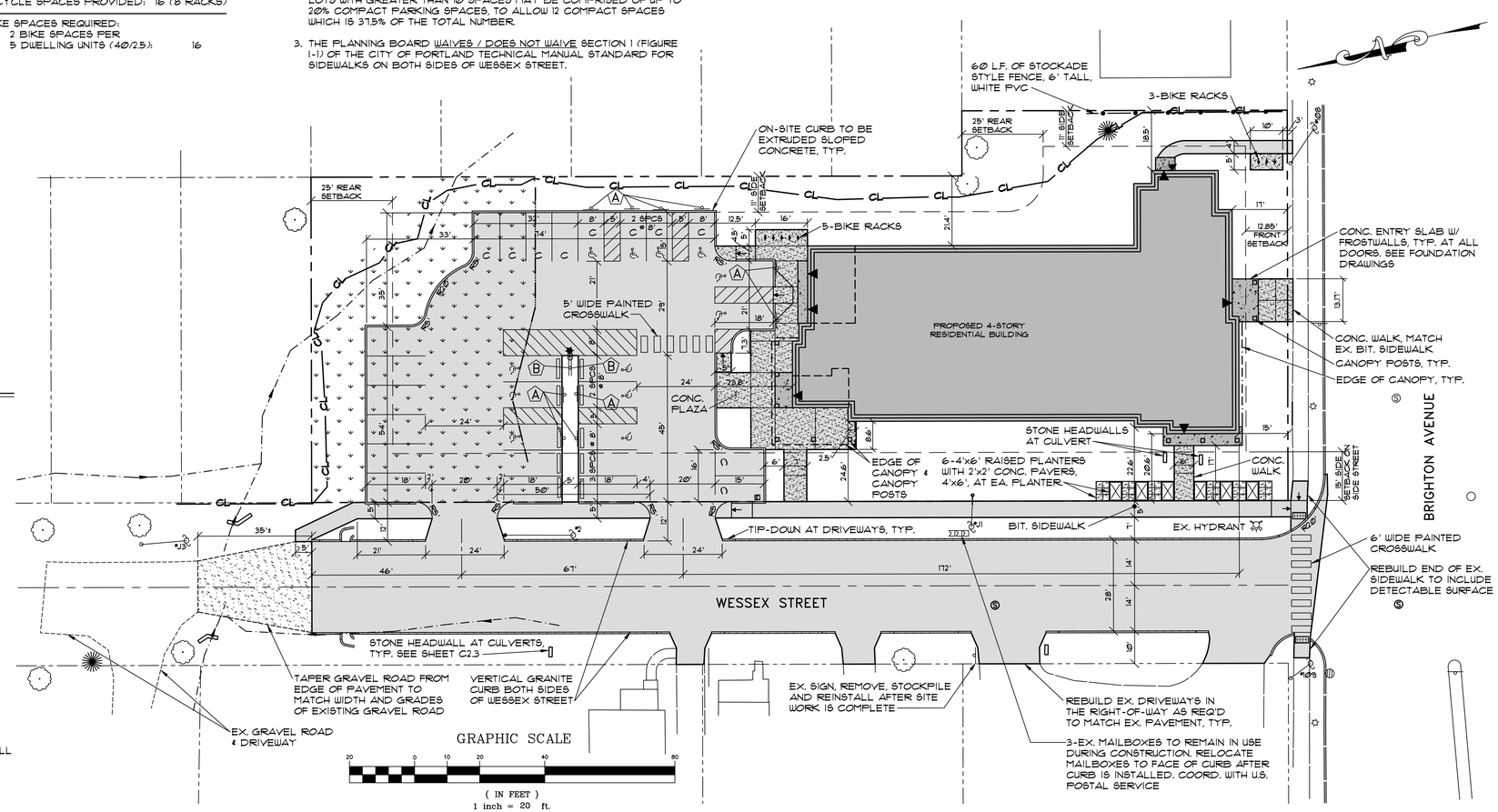
- EDGE OF PAVEMENT
- EXTRUDED CONCRETE CURB
- VERTICAL GRANITE CURB
- GRADE BREAKS AT PLAZAS
- GRADE BREAKS AT SIDEWALK
- EDGE OF GRAVEL
- BUILDING
- BUILDING ENTRY/EGRESS
- BUILDING CANOPY
- CLEARING LIMIT
- CENTERLINE
- STOCKADE FENCE
- STONE HEADWALL
- LIGHT POLE
- WALL MOUNTED LIGHT
- UTILITY POLE
- SIGN & SIGN IDENTIFICATION
- RELOCATED MAILBOX
- BIKE RACK
- CONCRETE WHEELSTOPS
- HANDICAP PARKING
- "NO PARKING" AREA
- PAINTED CROSSWALK
- DETECTABLE SURFACE AT RAMP
- RIPRAP
- CONCRETE PAVEMENT
- CONCRETE SLAB W/ FROST WALL
- BITUMINOUS PAVEMENT
- BUILDING HATCH
- RAISED PLANTER



LOCATION MAP NOT TO SCALE

PROJECT DRAWINGS

C1.1	SUBDIVISION RECORDING PLAT, SHEET 1 of 2
C1.2	SUBDIVISION RECORDING PLAT, SHEET 2 of 2
C2.1	SITE PLAN
C2.2	EXISTING CONDITIONS AND DEMOLITION PLAN
C2.3	GRADING AND UTILITIES PLAN
C2.4	EROSION CONTROL PLAN, NOTES AND DETAILS
C2.5	LANDSCAPE PLAN, NOTES AND DETAILS
C2.6	SITE LIGHTING
C3.1	SITE DETAILS
C3.2	SITE DETAILS
C3.3	SITE DETAILS
C3.4	STORMWATER TREATMENT DETAILS
C3.5	STORMWATER TREATMENT DETAILS
D1.0	DRAINAGE ANALYSIS
1	BOUNDARY & TOPOGRAPHIC SURVEY



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OWNER
AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT
977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

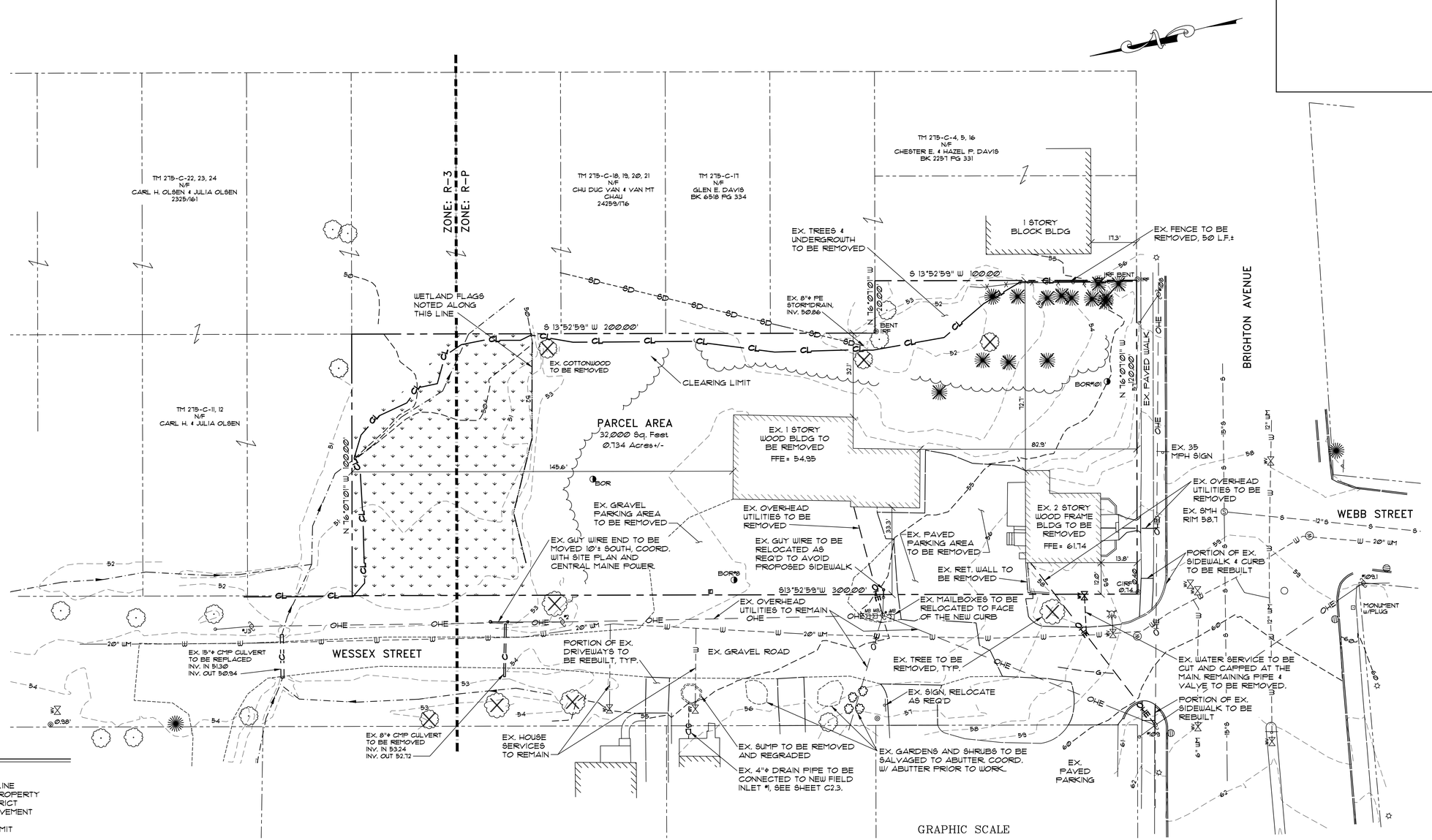
DRAWING
SITE PLAN
CWS PROJECT NUMBER: 15.040

REVISIONS

1	REV'D PER CITY REVIEW	5/31/18
2	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
3	REV'D PER CITY REVIEW	7/17/18

DRAWING NUMBER
C2.1

SCALE: AS SHOWN
DATE: 12/21/2017



LEGEND

EXISTING

- PROPERTY LINE
- ABUTTERS PROPERTY
- ZONING DISTRICT
- EDGE OF PAVEMENT
- BUILDING
- CLEARING LIMIT
- CONTOURS
- EDGE OF GRAVEL
- CURB
- WATERCOURSE
- WETLAND LIMIT
- WETLAND
- CATCH BASIN
- DRAIN MANHOLE
- TELEPHONE MANHOLE
- WATER DISTRICT MANHOLE
- TRANSFORMER
- SEWER MANHOLE
- UTILITY POLE
- UTILITY POLE W/ GUY WIRE
- SIGN
- LIGHT POLE
- GAS LINE
- STORMDRAIN
- CULVERT
- OVERHEAD UTILITY
- WATER LINE
- HYDRANT
- GATE VALVE
- FENCE
- IRON ROD OR PIPE FOUND
- BOUND FOUND
- TREES
- TREELINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

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DESIGNER

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STATE OF MAINE — THOMAS O GREER No. 4206 — LICENSED PROFESSIONAL ENGINEER — 7/17/18

OWNER

AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING

307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY
APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

EXISTING SITE &
DEMOLITION PLAN

CWS PROJECT NUMBER: 15.040

REVISIONS

1	REV'D PER CITY REVIEW	5/31/18
2	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
3	REV'D PER CITY REVIEW	7/17/18

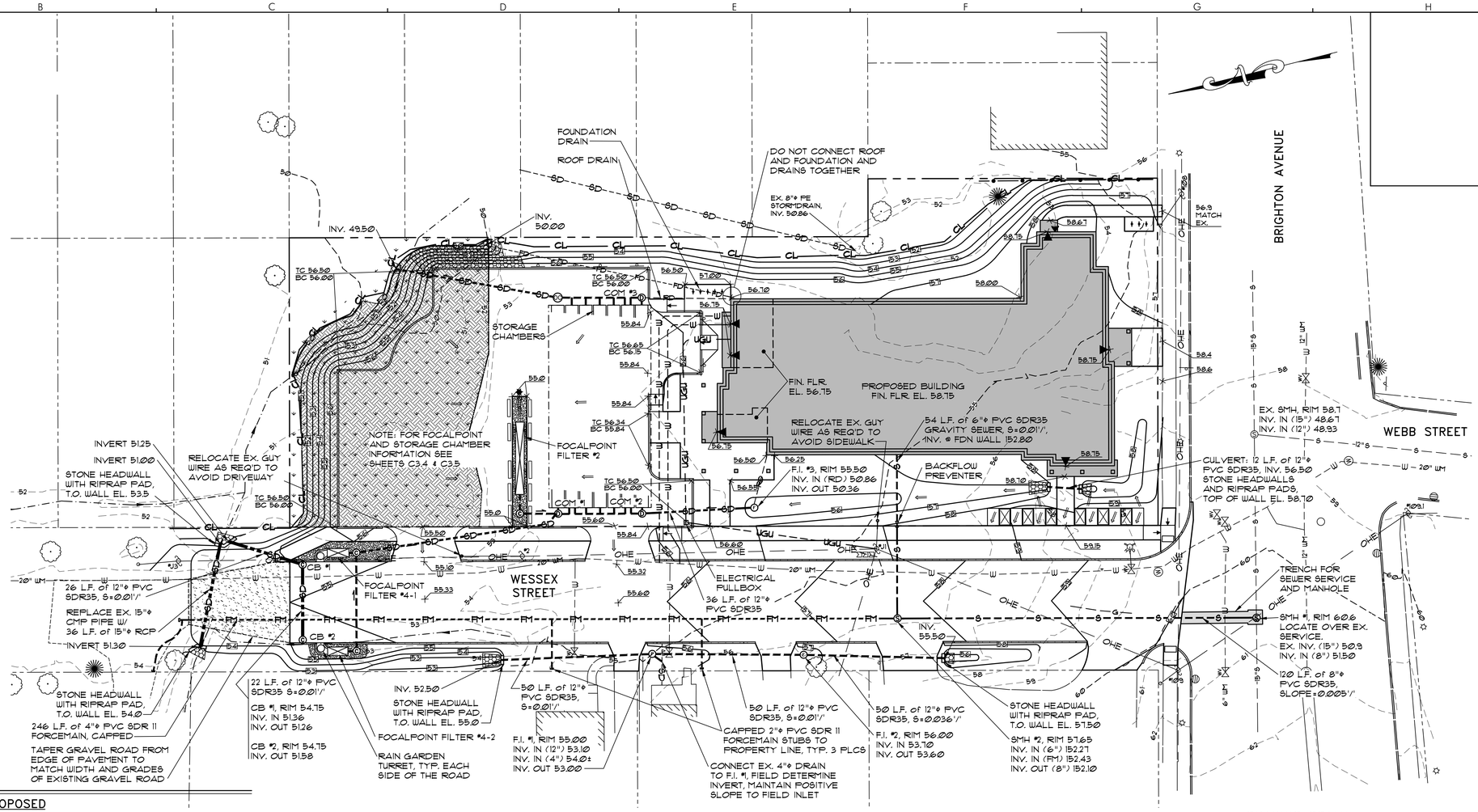
DRAWING NUMBER

C2.2

SCALE: AS SHOWN

DATE: 12/21/2017

W:\2015\15100-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15100 BASE



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND

EXISTING

- PROPERTY LINE
- ABUTTERS PROPERTY
- EDGE OF PAVEMENT
- BUILDING
- EDGE OF GRAVEL
- CURB
- WATERCOURSE
- WETLAND LIMIT
- WETLAND
- CONTOURS
- STORMDRAIN
- CULVERT
- OVERHEAD UTILITY
- WATER LINE
- GAS LINE
- HYDRANT
- GATE VALVE
- CATCH BASIN
- DRAIN MANHOLE
- TELEPHONE MANHOLE
- WATER DISTRICT MANHOLE
- SEWER MANHOLE
- UTILITY POLE
- UTILITY POLE W/ GUY WIRE
- SIGN
- LIGHT POLE
- TREES
- STOCKADE FENCE

PROPOSED

- EDGE OF PAVEMENT
- EXTRUDED CONCRETE CURB
- VERTICAL GRANITE CURB
- GRADE BREAKS AT PLAZAS
- GRADE BREAKS AT SIDEWALK
- EDGE OF GRAVEL
- BUILDING
- BUILDING ENTRY/EGRESS
- BUILDING CANOPY
- CLEARING LIMIT
- SANITARY SEWER
- STORMDRAIN
- GRAVITY SEWER
- SEWER FORCEMAIN
- WATER LINE
- UNDERGROUND UTILITY
- ROOF DRAIN
- FOUNDATION DRAIN
- CATCH BASIN (CB #)
- CLEANOUT MANHOLE (COM #)
- SANITARY MANHOLE
- FIELD INLET (FI #)
- OUTLET CONTROL MANHOLE
- FOCALPOINT TREATMENT (FP #)
- CONTOURS
- SURFACE DRAINAGE
- SPOT GRADE
- TOP OF CURB/BOTTOM OF CURB SPOT GRADE
- STOCKADE FENCE
- STONE HEADWALL
- UTILITY POLE
- LIGHT POLE
- WALL MOUNTED LIGHT
- SIGN
- RELOCATED MAILBOX
- BIKE RACK
- CONCRETE WHEELSTOPS
- DETECTABLE SURFACE AT RAMP
- RIPRAP
- CONCRETE PAVEMENT
- CONCRETE SLAB W/ FROST WALL
- BITUMINOUS PAVEMENT
- BUILDING HATCH
- WETLAND IMPACT
- ROUND RIVER STONE BARRIER
- RAISED PLANTER

SURVEYORS UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

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OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER
STATE OF MAINE — THOMAS GREER No. 4206 — LICENSED PROFESSIONAL ENGINEER — 7/17/18
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OWNER
AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT
977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING
GRADING & UTILITIES PLAN
CWS PROJECT NUMBER: 15.040

REVISIONS

1	REV'D PER CITY REVIEW	5/31/18
2	REV'D STORMWATER TREATMENT DESIGN	6/4/18
3	REV'D SW TREATMENT PER MFR REVIEW	6/8/18
4	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
5	ADDED SEWER IN WESSEX STREET	6/21/18
6	REV'D PER CITY REVIEW	7/17/18

DRAWING NUMBER
C2.3

SCALE: AS SHOWN
DATE: 12/21/2017

N:\2015\15100-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15100.DWG

EROSION CONTROL NOTES

GENERAL:

1. DURING CONSTRUCTION THE CONTRACTOR IS REQUIRED TO HAVE A MAINTENANCE AND INSPECTION PLAN FOR STORMWATER CONTROL AND EROSION CONTROL DEVICES. INSPECT THE DISTURBED AREAS ONCE PER WEEK AND BEFORE AND AFTER RAIN STORMS. REPAIR OR CORRECT ANY AREAS THAT ARE DEFICIENT WITHIN 7 CALENDAR DAYS. KEEP A LOG OF THE INSPECTIONS AND NOTE ANY CORRECTIVE ACTION TAKEN. THE LOG MUST BE AVAILABLE FOR REVIEW BY THE TOWN AND DEP. KEEP RECORDS FOR 3 YEARS.

2. THE DRAWINGS DEPICT THE REQUIRED SOIL EROSION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION SITE IN SUCH A MANNER THAT:

   1. SOIL EROSION IS KEPT TO A MINIMUM.
   2. NO SEDIMENT LEAVES THE CONSTRUCTION SITE PROPER.
   3. ALL POSSIBLE MEASURES ARE EMPLOYED TO PREVENT SEDIMENT FROM ENTERING DRAINAGE COURSES AND WETLANDS EVEN BEYOND THE DETAILS SHOWN ON THIS PLAN IF NECESSARY.

3. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2016.

4. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATERBODIES, OR WETLAND AS A RESULT OF THIS PROJECT.

5. LOAM AND SEED ALL DISTURBED AREAS AS SOON AS POSSIBLE AFTER DISTURBANCE, BUT NO LONGER THAN 7 DAYS. LOAM AND SEED ANY DISTURBED AREA WITHIN 75' OF WETLANDS OR WATERBODEIS WITHIN 48 HOURS OR PRIOR TO AND STORM EVENT. USE WINTER SEED RATES AND SPECIFICATIONS IF APPROPRIATE.

6. INSPECT SOIL EROSION MEASURES WEEKLY AND AFTER SIGNIFICANT STORM EVENTS. MAKE ALL NECESSARY REPAIRS TO FACILITIES AS SOON AS POSSIBLE, BUT NO LONGER THAN 2 DAYS. CLEAN AND RESET SILT FENCES AND STONE CHECK DAMS WHICH ACCUMULATE SEDIMENT AND DEBRIS.

7. PROTECT AND STABILIZE ALL AREAS NOT SCHEDULED FOR EROSION PREVENTION OR STABILIZATION BUT THAT SHOW SIGNS OF EROSION. NOTIFY OWNER OF ANY SIGNIFICANT EROSION PROBLEM.

8. APPLY MULCH TO BARE SOILS WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS, WITHIN 48 HOURS IF WITHIN 75' OF WETLAND OR WATERBODY, PRIOR TO ANY RAIN EVENT, OR PRIOR TO ANY WORK SHUTDOWN LASTING MORE THAN ONE DAY.

9. TEMPORARILY SEED WITHIN 7 DAYS ANY AREA WHICH WILL BE LEFT DISTURBED AND UNWORKED FOR MORE THAN 14 DAYS WITH THE TEMPORARY SEED MIX LISTED BELOW. IF AREA IS WITHIN 75' OF A WETLAND OR WATERBODY, SEED WITHIN 48 HOURS. PERMANENTLY SEED ANY AREA WHICH CAN BE LOAMED AS SOON AS POSSIBLE WITH THE PERMANENT SEED MIX LISTED BELOW. DO NOT USE PERMANENT SEED MIX AFTER SEPTEMBER 15.

10. MULCH ALL AREAS SEEDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE. DURING THE GROWING SEASON (APRIL 15 - SEPT. 30) USE EROSION CONTROL MESH (OR MULCH AND NETTING) ON:
    -THE BASE OF GRASSED WATERWAYS
    -SLOPES STEEPER THAN 15%
    -WITHIN 100 FT. OF STREAMS AND WETLANDS
    BETWEEN OCT. 1 AND APRIL 14 USE EROSION CONTROL MESH (OR MULCH AND NETTING) ON:
    -SIDE SLOPES OF GRASSED WATERWAYS
    -SLOPES STEEPER THAN 8%

11. INSTALL EROSION CONTROL MESH IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. MESH TO BE EQUAL TO NORTH AMERICAN GREEN PRODUCT C125BN.

12. FOLLOW SILT FENCE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS FOR INSTALLATION OF SILT FENCE. SECURE ENTIRE BOTTOM OF FENCE EITHER BY BURYING BOTTOM OF FENCE IN A TRENCH OR BERMING WITH SOIL OR CHIPPED GRUBBINGS. REFER TO SILT FENCE DETAILS.

13. PLACE AND GRADE LOAM IN A REASONABLY UNIFORM MANNER. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEED BED IS PREPARED. REMOVE FROM SURFACE ALL STONES LARGER THAN 2" AND ALL OTHER UNSUITABLE MATERIAL. LIME AND FERTILIZER SHOULD BE MIXED INTO SOIL PRIOR TO ROLLING EXCEPT IF INCLUDED IN HYDROSEED MIXTURE. PERMANENT STABILIZATION OF REVEGETATED AREAS IS CONSIDERED AS 85% CATCH.

14. ALL CATCH BASINS, NEW OR EXISTING, THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS MUST BE PROTECTED BY INSTALLING AND MAINTAINING SILT SACKS DURING CONSTRUCTION.

15. WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM DIVERSION WILL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE OR EROSION CONTROL MIX LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE.

TOPSOIL:

1. SUITABLE TOPSOIL SALVAGED FROM SITE OR SCREENED, LOOSE AND FRIABLE SANDY LOAM OR LOAM AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE CLASSIFICATION SYSTEM, FREE FROM ADMIXTURE OF SUBSOIL, REFUSE, LARGE STONES, CLODS, ROOTS, WEEDS, RHIZOMES OR OTHER UNDESIREABLE FOREIGN MATTER AS DETERMINED BY THE INSPECTING AUTHORITY. CONTRACTOR SHALL SUBMIT REPORTS OF LOAM TEST RESULTS PERFORMED BY AN INDEPENDENT TESTING LABORATORY FOR TOPSOIL FROM DIFFERENT SOURCES PRIOR TO PLACING. THE COST OF TESTING SHALL BE INCIDENTAL TO THE COST OF TOPSOIL. TOPSOIL SHALL MEET THE FOLLOWING SPECIFICATIONS:

2. MATERIAL

   SAND - 0.08 IN. TO 0.002 IN. DIAMETER (% BY VOLUME) . . . . . 45 - 75
   SILT - 0.002 IN. TO 0.000008 IN. DIAMETER (% BY VOLUME) . . . 20 - 40
   CLAY - LESS THAN 0.000008 IN. DIAMETER (% BY VOLUME) . . . . 5 - 15

   ORGANICS (SHALL MEET THE REQUIREMENTS OF MDOT STANDARD SPECIFICATION 717.03 PEAT HUMUS) (% BY VOLUME) . 10 - 20

   NUTRIENTS:
   CALCIUM (CA) (% SATURATION) . . . . . 60 - 80
   MAGNESIUM (MG) (% SATURATION) . . . . . 10 - 25
   POTASSIUM (K) (% SATURATION) . . . . . 2.1 - 3.0
   PHOSPHORUS (P) (POUNDS/ACRE) . . . . . 10 - 40
   PH . . . . . 6.0 - 6.5

   PERMEABILITY (INCHES PER HOUR) . . . . . 3 - 10

   MAXIMUM STONE SIZE (INCHES) 3/4

SEEDING:

USE PERMANENT SEED MIXES AND RATES BETWEEN 5/15 AND 9/30. USE TEMPORARY SEED MIXES FOR PERIODS LESS THAN 12 MONTHS. IF USING TEMPORARY SEED MIXES AND RATES BETWEEN 10/1 AND 5/14, RE-SEED WITH PERMANENT SEED MIX AFTER 5/15.

PERMANENT SEED:

MDOT 717.03(a) METHOD NUMBER 3

TEMPORARY SEED:

OATS	80.00 LBS/ACRE	4/01 - 5/14
ANNUAL RYEGRASS	40.00 LBS/ACRE	
SUDANGRASS	40.00 LBS/ACRE	5/15 - 8/14
ANNUAL RYEGRASS	80.00 LBS/ACRE	5/15 - 9/14
WINTER RYE	112.00 LBS/ACRE	9/15 - 9/30
WINTER RYE (W/ MULCH COVER)	112.00 LBS/ACRE	10/01 - 3/31

LIME AND FERTILIZER:

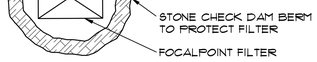
APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 POUNDS PER 1000 SQUARE FEET). APPLY FERTILIZER (10-20-20) AT A RATE OF 800 POUNDS PER ACRE (18.4 POUNDS PER 1000 SQUARE FEET).

MULCH:

STRAW OR HAY (ANCHORED)	70 - 90 LBS	PROTECTED AREAS
STRAW OR HAY (ANCHORED)	185 - 215 LBS	WINDY AREAS
SHREDDED OR CHOPPED	185 - 215 LBS	
JUTE MESH	AS REQUIRED	MODERATE TO HIGH VELOCITY AREAS & STEEP SLOPES
EXCELSIOR MAT	AS REQUIRED	

MULCH ANCHORING

PEG AND TWINE	LIQUID ASPHALT
MULCH NETTING	WOOD CELLULOSE FIBER
ASPHALT EMULSION	CHEMICAL TACK



NOTES:
1. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE DAM. SEDIMENT SHOULD BE REMOVED FROM BEHIND DAM IF IT ACCUMULATES TO ONE HALF THE ORIGINAL HEIGHT OF THE DAM.
2. STONE: 2"-3" CRUSHED STONE (MDOT 703.31)

3 STONE CHECK DAM, FILTER PROTECTION PLAN

NOT TO SCALE

HOUSEKEEPING NOTES

THE DEVELOPER IS RESPONSIBLE FOR NOTIFYING THE CONTRACTOR AND OWNER OF THE HOUSEKEEPING STANDARDS.

1. SPILL PREVENTION: THE CONTRACTOR AND OWNERS NEED TO TAKE CARE WITH CONSTRUCTION AND WASTE MATERIALS SUCH THAT CONTAMINATES DO NOT ENTER THE STORMWATER. THE STORAGE OF MATERIALS SUCH AS PAINT, PETROLEUM PRODUCTS, CLEANING AGENTS AND THE LIKE ARE TO BE STORED IN WATERTIGHT CONTAINERS. THE USE OF THE PRODUCTS SHOULD BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. WHEN FUELING EQUIPMENT, INCLUDING SNOWBLOWERS AND LAWNMOWERS, HAVE OIL ABSORBENT PADS AVAILABLE BELOW THE FUELING.

   STAGING AREAS ARE NOTED ON THE CONSTRUCTION MANAGEMENT PLAN FOR THE CONTRACTOR'S USE. REFUELING OF SMALL ENGINES BY THE OWNER SHOULD OCCUR IN THE GARAGE OR ON A PAVED SURFACE.

   ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION: PROTECTION OF THE GROUNDWATER IS REQUIRED BY THE CONTRACTOR AND OWNER. PETROLEUM PRODUCTS SHOULD BE STORED IN MANUFACTURED CANS DESIGNED FOR THE PURPOSE. SPILL PREVENTIONS PROCEDURES SHOULD BE FOLLOWED.

3. FUGITIVE SEDIMENT AND DUST: THE CONTRACTOR IS REQUIRED TO MINIMIZE DUST FROM THE CONSTRUCTION OPERATION. THE ROAD SHOULD BE SWEPT REGULARLY (WEEKLY) AND PRIOR TO ANY RAIN EVENT. THE GRAVEL AREAS ARE TO BE WATERED REGULARLY TO MINIMIZE DUST. ANY MUD THAT IS TRACKED OFF SITE SHOULD BE CLEANED UP PRIOR TO IT DRYING AND BECOMING A DUST ISSUE. DO NOT USE OIL TO CONTROL DUST. DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

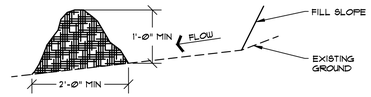
4. DEBRIS AND OTHER MATERIALS: CONSTRUCTION MATERIALS AND CONSTRUCTION DEBRIS SHOULD BE COVERED TO PREVENT RAINWATER FROM WASHING CONTAMINANTS OFF THE SITE. ANY FERTILIZERS, CLEANING PRODUCTS, HERBICIDES SHOULD BE PROTECTED FROM THE WEATHER AND USED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

   NOTE ANY CONTAMINANTS THAT ARE WASHED OFF THE SITE BY RAINWATER IS A VIOLATION OF THE CLEAN WATERS ACT.

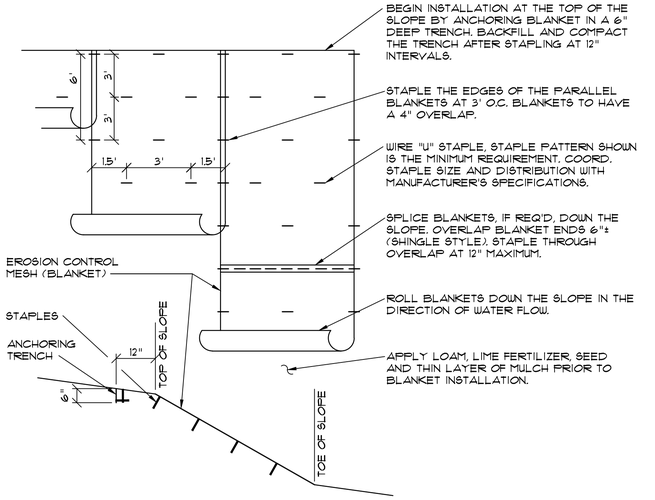
   STORAGE HANDLING AND DISPOSAL OF SOLID WASTE ITEMS MUST COMPLY WITH MAINE'S SOLID WASTE MANAGEMENT RULES. LACK OF APPROPRIATE POLLUTANT CONTROL MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARDS.

   THIS PROJECT HAS A WRITTEN EROSION CONTROL PLAN AND STORMWATER MAINTENANCE PLAN. MODIFICATIONS TO THE PLAN MUST BE APPROVED BY THE CITY.

   MAINTENANCE OF STORMWATER TREATMENT AND CONTROL SYSTEMS MUST OCCUR REGULARLY. THE STORMWATER MAINTENANCE REPORT PROVIDES INSPECTION DETAILS AND TIME LINES FOR DOING THE INSPECTIONS AND REPORTING TO THE CITY AND DEP.



NOTES:
1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS.
   WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
   EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER.
   EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROUTH.
   THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   A. ORGANIC MATERIAL: BETWEEN 20% - 100% (DRY WEIGHT BASIS)
   B. PARTICLE SIZE: BY WEIGHT, 100% PASSING 6" SCREEN, 70-85% PASSING 0.75" SCREEN
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   D. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   E. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 MMHOS/CM.
   F. PH: 5.0 - 8.0
2. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES 2:1 OR LESS UP TO 20 FEET LONG, THE BARRIER MUST CONFORM TO THE ABOVE DIMENSIONS. ON THE LONGER OR STEEPER SLOPES, THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL FLOW.



1 EROSION CONTROL MESH INSTALLATION DETAIL

NOT TO SCALE

3. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL ELEVATION. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.

4. LOCATIONS WHERE OTHER BMP'S SHOULD BE USED:
   A. AT LOW POINTS OF CONCENTRATED FLOW
   B. BELOW CULVERT OUTLET APRONS
   C. WHERE A PREVIOUS STAND-ALONE EROSION CONTROL MIX APPLICATION HAS FAILED
   D. AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM (LARGE UPGRADIENT WATERSHED)
   E. AROUND CATCH BASINS AND CLOSED STORM DRAIN SYSTEMS.

5. THE EROSION CONTROL MIX BARRIERS SHOULD BE INSPECTED REGULARLY AND AFTER EACH LARGE RAINFALL. REPAIR ALL DAMAGED SECTIONS OF BERM IMMEDIATELY BY REPLACING OR ADDING ADDITIONAL MATERIAL PLACED ON THE BERM TO THE DESIRED HEIGHT AND WIDTH.

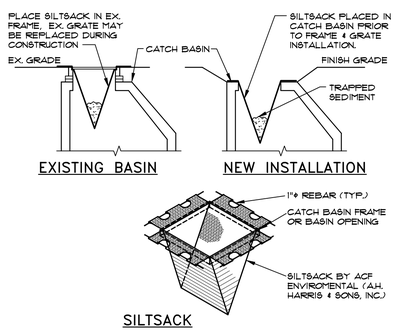
6. IT MAY BE NECESSARY TO REINFORCE THE BARRIER WITH SILT FENCE OR STONE CHECK DAMS IF THERE ARE SIGNS OF UNDERCUTTING OR THE IMPOUNDMENT OF LARGE VOLUMES OF WATER.

7. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

8. REPLACE SECTIONS OF BERM THAT DECOMPOSE, BECOME CLOGGED WITH SEDIMENT OR OTHERWISE BECOME INEFFECTIVE. THE BARRIER SHOULD BE RESHAPED AS NEEDED.

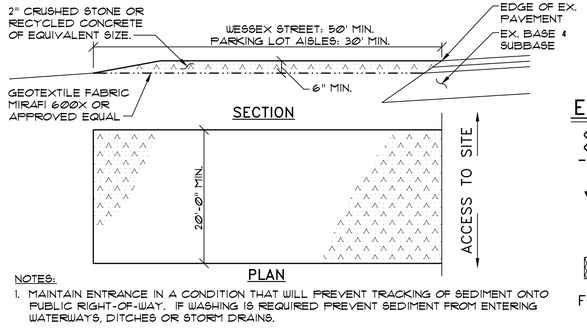
9. EROSION CONTROL MIX BARRIERS CAN BE LEFT IN PLACE AFTER CONSTRUCTION. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER BARRIER IS NO LONGER REQUIRED SHOULD BE SPREAD TO CONFORM TO THE EXISTING GRADE AND BE SEEDED AND MULCHED. WOODY VEGETATION CAN BE PLANTED INTO THE BARRIERS, OR THEY CAN BE OVER-SEEDED WITH LEGUMES. IF THE BARRIER NEEDS TO BE REMOVED, IT CAN BE SPREAD OUT INTO THE LANDSCAPE.

2 EROSION CONTROL MIX SEDIMENT BARRIER



5 CATCH BASIN PROTECTION

NOT TO SCALE



NOTES:
1. MAINTAIN ENTRANCE IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. IF WASHING IS REQUIRED PREVENT SEDIMENT FROM ENTERING WATERWAYS, DITCHES OR STORM DRAINS.
2. REMOVE STABILIZED CONSTRUCTION ENTRANCE AFTER EXCAVATION OS COMPLETE.

4 STABILIZED CONSTRUCTION ENTRANCE DETAIL

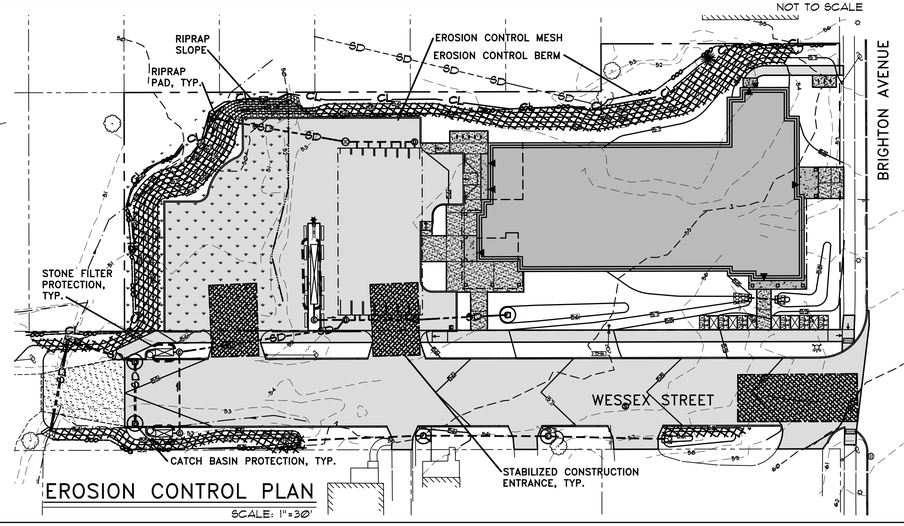
NOT TO SCALE

EROSION CONTROL LEGEND

- EROSION CONTROL MESH
- EROSION CONTROL BERM
- STONE FILTER PROTECTION
- STABILIZED CONDTRUVTION ENTRANCE
- CATCH BASIN PROTECTION WITH SILTSACK
- RIPRAP

FOR PLAN LEGEND SEE SHEET C2.3

GRAPHIC SCALE
30 0 15 30 60
1 inch = 30 ft.



EROSION CONTROL PLAN

SCALE: 1"=30'

CWS ARCHITECTS
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DESIGNER
STATE OF MAINE — THOMAS S. GREER No. 4206 — REGISTERED LANDSCAPE ARCHITECT — 7/17/18

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DRAWING
EROSION CONTROL PLAN, NOTES AND DETAILS
CWS PROJECT NUMBER: 15.040

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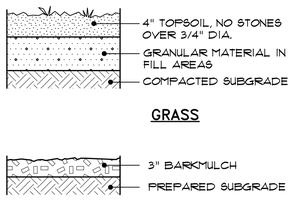
2	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
3	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER
C2.4

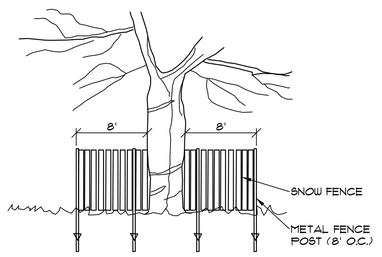
SCALE: AS SHOWN
DATE: 12/21/2017

N:\2015\15100-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15100 SHEET



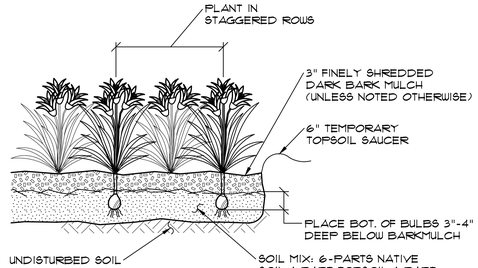
4 LANDSCAPE SURFACE FINISHES

NOT TO SCALE



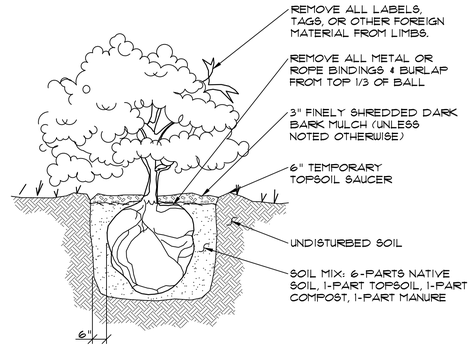
3 TREE PROTECTION FENCE

NOT TO SCALE



2 DAYLILY PLANTING DETAIL

NOT TO SCALE



1 SHRUB PLANTING DETAIL

NOT TO SCALE

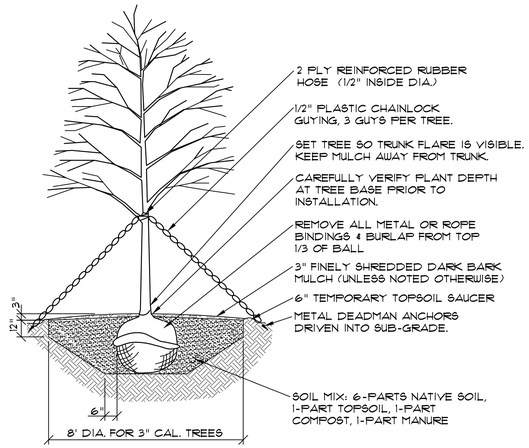
LANDSCAPE NOTES

GENERAL:

1. SAVE EXISTING TREES AS SHOWN. DO NOT CUT OR CLEAR ANY VEGETATION BEYOND THE IMPACT LIMIT LINE.
2. ALL PLANT MATERIALS INSTALLED ARE TO MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. ALL PROPOSED PLANT LOCATIONS SHALL BE AS SHOWN ON PLANS. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO PLANTING AND WILL NOTIFY OWNER'S REPRESENTATIVE IN THE EVENT OF CONFLICTS.
4. PLANT LOCATIONS ARE TO BE SCALED FROM THELANDSCAPE PLAN UNLESS NOTED OTHERWISE.
5. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
6. FINAL QUANTITY FOR EACH PLANT TYPE IS NOTED IN THE PLANT LIST. THIS NUMBER SHALL TAKE PRECEDENCE IN THE CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE LIST AND ON THE PLAN.
7. ANY PROPOSED SUBSTITUTIONS MUST BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
8. ALL DISTURBED AREAS TO BE LOAMED AND SEEDED.

MAINTENANCE:

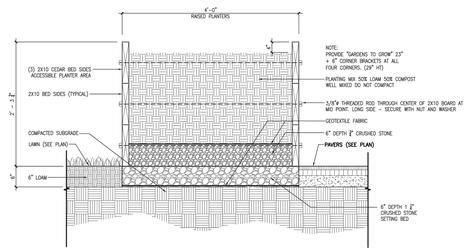
1. LAWNS: SHALL BE WATERED, FERTILIZED AND MOWN ON A REGULAR BASIS ACCORDING TO SEASON AND RAINFALL, TO PRODUCE A STRONG TURF OF 80% MIN. COVERAGE WITHIN THE FIRST YEAR, FREE FROM SIZABLE THIN OR BARE SPOTS. REGRADING AND RESEEDING WILL BE PERFORMED ON BARE SPOTS UNTIL COVERAGE IS COMPLETE.
2. TREES & SHRUBS: THE ESTABLISHMENT PERIOD SHALL BE TWO CALENDAR YEARS FROM THE DATE OF FINAL ACCEPTANCE. DURING THE ESTABLISHMENT PERIOD THE OWNER OR OWNER'S CONTRACTOR SHALL WATER, CULTIVATE AND PRUNE AS REQUIRED TO MAINTAIN A HEALTHY GROWING CONDITION.
3. AT THE END OF THE ESTABLISHMENT PERIOD AND UPON SUBSEQUENT ANNUAL INSPECTIONS, PLANTS WHICH HAVE DIED OR FAILED TO THRIVE SHALL BE REPLACED WITH EQUIVALENT SIZE AND SPECIES. AFTER THE CONTRACTOR'S GUARANTEE PERIOD HAS ENDED, IT IS THE OWNER'S RESPONSIBILITY TO MAINTAIN AND REPLACE PLANTINGS.
4. TREES, SHRUBS AND LAWNS WHICH ARE NOT IRRIGATED WITH AN AUTOMATIC SPRINKLER OR DRIP SYSTEM SHALL BE THOROUGHLY WATERED ON A REGULAR BASIS DURING PERIODS OF BELOW AVERAGE RAINFALL. SOIL SHOULD BE SAMPLED AT A DEPTH OF 12" AND IF DRY, WATER TO DEPTH OF 24".
5. MULCH IS TO BE MAINTAINED AT A DEPTH TO COMPLETELY COVER THE SOIL AND TO PRESERVE MOISTURE AND MINIMIZE WEEDS.
6. TREES, SHRUBS AND LAWNS SHALL BE FERTILIZED ANNUALLY AND TREATED WITH INSECTICIDES AND/OR FUNGICIDES AS REQUIRED FOR CONTINUED HEALTHY GROWTH.
7. SUCKERS, WEEDS, AND DEAD WOOD SHALL BE REMOVED ON A SEASONAL BASIS, AND SHRUBS SHALL BE PRUNED TWICE A YEAR ACCORDING TO THE REQUIREMENTS OF EACH SPECIES (I.E. SOME SPECIES SHOULD NOT BE PRUNED AT ALL). SHRUBS SHALL NOT BE PRUNED INTO INDIVIDUALS BUT ALLOWED TO GROW INTO A MASS.
8. WHERE TREES ARE LOCATED NEAR SIDEWALKS OR PARKING LOTS, THE CANOPY SHALL BE LIMBED UP TO PROMOTE SAFE CLEARANCE TO 8' ABOVE GRADE.
9. LAWN AREAS SHALL BE MOWN AS OFTEN AS NECESSARY TO KEEP LAWNS TO A 2 1/2 - 3" HEIGHT, AND AERATED ON A SEASONAL BASIS.
10. BEDS AND LAWN EDGES SHALL BE REGULARLY TRIMMED AND EDGED.
11. PERENNIAL AND ANNUAL BEDS SHALL BE DESIGNED, PLANTED AND MAINTAINED FOR SEASONAL COLOR AND INTEREST. ANNUALS MAY BE INCORPORATED TO A MAXIMUM LIMIT OF 25% OF THE BED AREA OF MAINTAINED BEDS FROM MAY 15 THROUGH NOVEMBER 15. PERENNIAL BEDS SHALL BE WATERED AS REQUIRED FOR HEALTHY PLANT GROWTH, AND WEEDED AND DEADHEADED ON A MONTHLY BASIS.



NOTES:
1. PRUNE ALL DEAD AND BROKEN BRANCHES. RETAIN NATURAL SHAPE, NEVER CUT LEADER.
2. IN LEDGE CONDITIONS, BLASTING SHALL BE 10' DIA AND 4' BELOW TREE HOLE BOTTOM GRADE.

5 DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



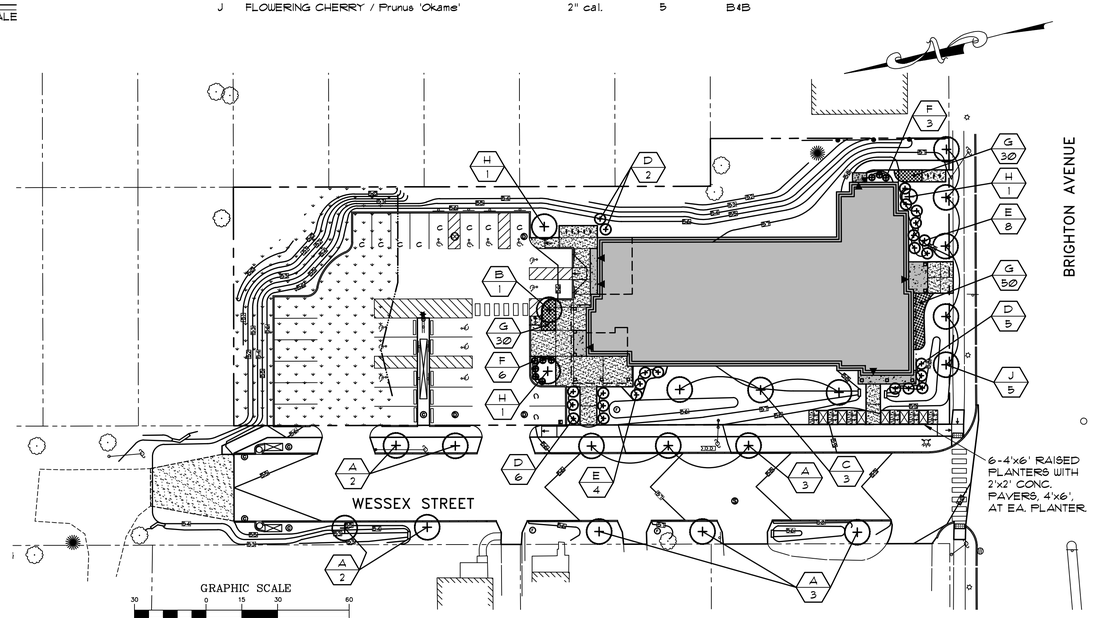
6 RAISED PLANTER DETAIL

NOT TO SCALE

PLANT LIST

(A / 12) SYMBOL / QUANTITY

SYMBOL	COMMON NAME/BOTANICAL NAME	SIZE	QUANTITY	ROOT	NOTES
A	FLOWERING CRAB / malus "Adirondack"	2" cal.	10	B&B	
B	SILVER MAPLE / acer saccharinum	2" cal.	1	B&B	
C	PAPERBARK MAPLE / acer Griseum	2" cal.	3	B&B	
D	AMUR PRIVET / L. Amurense	4' tall	13	B&B	3 Canes min.
E	SHASTA VIBURNUM / v. plicatum tomentosum 'shasta'	3'-4' tall	12	B&B	3 CANES
F	BLUE BILLOW HYDRANGEA / H. Serrata 'Blue billow'	#3	9	Cont.	
G	DAYLILY VARIETIES / Hemerocallis	1 gal.	110	Cont.	select for bloom Early Summer to Fall
H	REGAL PRINCE OAK / Quercus robur x bicolor 'Long'	2" cal.	3	B&B	
J	FLOWERING CHERRY / Prunus 'Okame'	2" cal.	5	B&B	



LANDSCAPE PLAN

SCALE: 1" = 30'

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER

STATE OF MAINE THOMAS S GREER No. 4206 LICENSED LANDSCAPE ARCHITECT 7/17/18

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ph. 207.553.9898 | www.walsh-eng.com

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OWNER

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307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

LANDSCAPE PLAN.
NOTES AND DETAILS

CWS PROJECT NUMBER: 15.040

REVISIONS

1	REV'D PER CITY REVIEW	5/31/18
2	WIDEN WESSEX ST TO 28'; REDUCE PARKING; REDUCE WETLAND IMPACT	6/18/18
3	REV'D PER CITY REVIEW	7/17/18

DRAWING NUMBER
C2.5

SCALE: AS SHOWN
DATE: 12/21/2017

McGRAW-EDISON®

energy solutions

DESCRIPTION

The IMPACT Elite family of cutoff wall luminaires is the ideal complement to site design. Incorporating modular LightBAR™ technology, Impact Elite provides outstanding uniformity and energy-conscious illumination. Combined with a rugged construction, the Impact Elite is the ideal facade and security luminaire for zones surrounding schools, office complexes, apartments, and recreational facilities. UL/cUL listed for wet locations.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Heavy-wall, die-cast aluminum housing and removable hinged door frame for precise tolerance control and repeatability. Hinged door inset for clean mating with housing surface and secured via two (2) captive fasteners. Optional tamper-resistant Torx™ -head fasteners offer vandal resistant access to the electrical chamber.

Optics
Choice of six (6) patented, high efficiency AccuLED Optics™ that maximize light collection and direction distribution onto the application region. Each optical lens is precision manufactured via injection-molding, then precisely arranged and sealed to the board media. BL optics offer backlight control to decrease wall brightness while the optional uplight glow provides soft illumination to highlight architectural surfaces. Offered standard in 4000K (+/- 275K) CCT and nominal 70 CRI.

Electrical
LED drivers mount to die-cast aluminum back casting for optimal heat sinking and operation efficiency. Impact Elite Wall Series LED operates from 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz. Shipped standard with Cooper Lighting proprietary circuit module designed to withstand 10kV of transient line surge. 90% lumen maintenance expected at 60,000 hours. The Impact Elite Wall Series LED luminaire is suitable for operation in -40°C to 40°C ambient environments. LightBARs™ feature an IP66 enclosure rating. Emergency egress options for -20°C ambient environments and optional occupancy sensor available.

Mounting
Gasketed and zinc plated rigid steel mounting attachment fits directly to 4" j-box or wall with the Impact Elite "Hook-N-Lock" mechanism for quick installation. Secured with two (2) captive corrosion resistant black oxide coated allen head set screws concealed but accessible from bottom of fixture.

Finish
Cast components finished in a 5-stage Super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum, and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

ISC
IMPACT ELITE LED CYLINDER

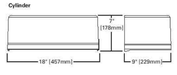
1 - 2 LightBARs
Solid State LED

WALL MOUNT LUMINAIRE

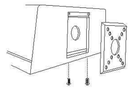
DESIGNLIGHTS CONSORTIUM

STANDARD DIMENSIONS

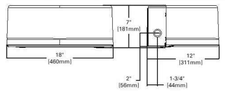
Cylinder



HOOK-N-LOCK MOUNTING



STANDARD DIMENSIONS WITH BACK BOX



CERTIFICATION DATA
UL/cUL Listed
LM79 / LM80 Compliant
IP66 LightBARs
ARRA Compliant
ISO 9001

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60hz, 347V/60hz, 480V/60hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA
Approximate Net Weight:
18 lbs. (8 kgs.)

ADH100152
2013-06-13 16:07:25

COOPER Lighting
www.cooperlighting.com

McGRAW-EDISON®

energy solutions

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics
Choice of 16 patented, high-efficiency AccuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 6000K CCT and 3000K CCT. For the ultimate level of spill light control, an optional house side shield accessory can be field or factory installed. The house side shield is designed to seamlessly integrate with the SL2, SL3, SL4 or AFL optics.

Electrical
LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. Standard with 0-10V dimming. Shipped standard with Cooper Lighting proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 530mA and 700mA drive currents.

Mounting
Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during assembly. Designed for pole or wall mounting. When mounting two or more luminaires at 90° or 120° apart, the EA extended arm may be required. Refer to the arm mounting requirement table on page 3. For wall mounting, specify wall mount bracket option. 3G vibration rated.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

GLEON
GALLEON LED

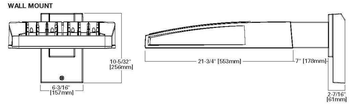
1-10 Light Squares
Solid State LED

AREA/SITE LUMINAIRE

DIMENSIONS

POLE MOUNT

WALL MOUNT



DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length [1]	Weight with Arm (lbs)	EPA with Arm [1] (Sq. Ft)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	30 (15.0 kgs)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	64 (24.5 kgs)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	83 (28.6 kgs)	1.12

NOTES: 1. Optional arm length to be used when mounting two fixtures at 90° on a single pole. 2. EPA calculated with optional arm length.

Cooper Lighting by EATON

CERTIFICATION DATA
UL+cUL 1Hot Location Listed
ISO 9001
LM79 / LM80 Compliant
3G Vibration Rated
ARRA Compliant
IP66 Rated

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V & 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

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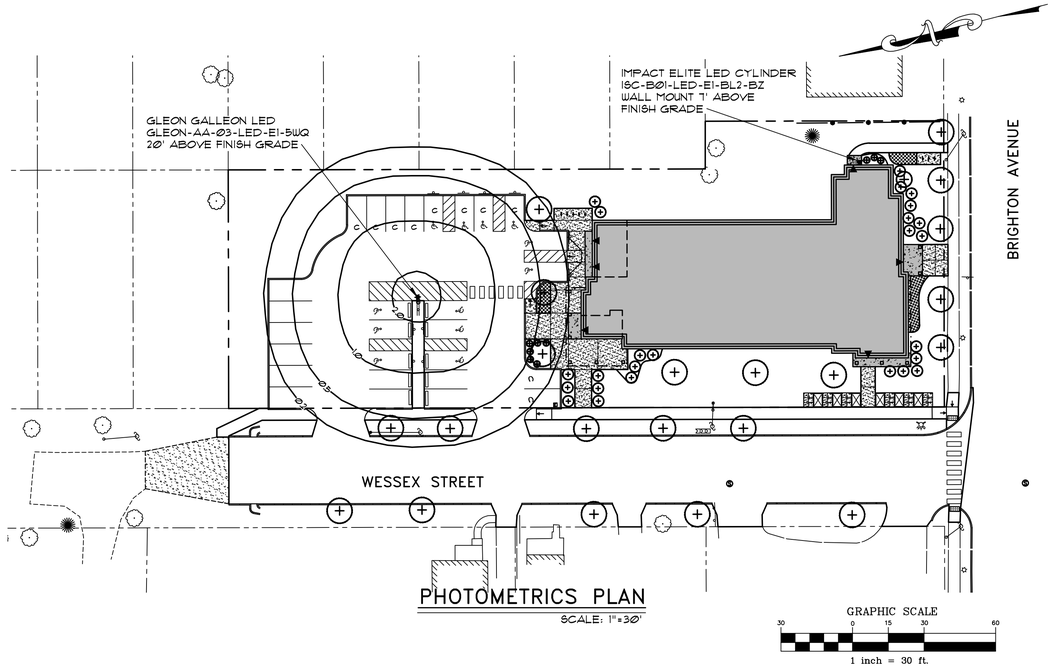

PHOTOMETRICS PLAN
SCALE: 1" = 30'

GRAPHIC SCALE
30 0 15 30 60
1 inch = 30 ft.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

STATE OF MAINE — THOMAS S. GRERER No. 4206 — REGISTERED PROFESSIONAL ENGINEER — 7/17/18

DESIGNER

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OWNER

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c/o AVESTA HOUSING

307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

SITE LIGHTING

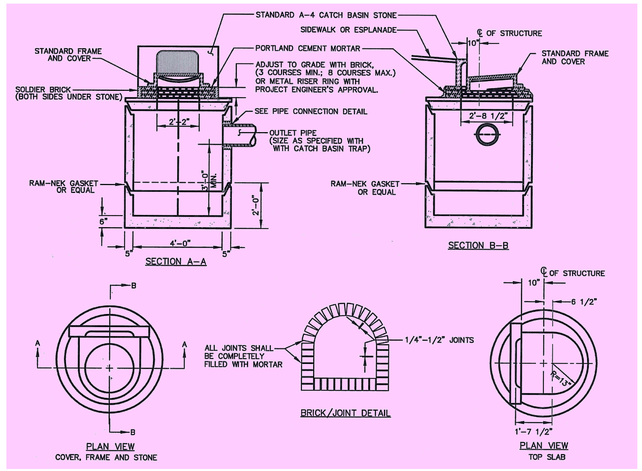
CWS PROJECT NUMBER: 15.040

REVISIONS

1	REV'D PER CITY REVIEW	5/31/18
2	REV'D PER CITY REVIEW	7/17/18

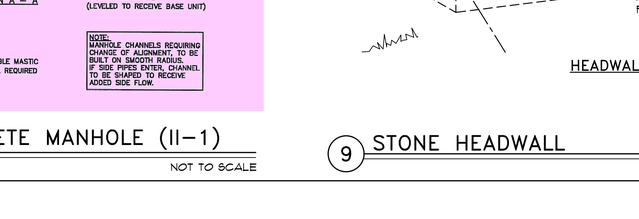
DRAWING NUMBER
C2.6

SCALE: AS SHOWN
DATE: 12/21/2017



3 PRECAST CONCRETE CATCH BASINS (II-2)

NOT TO SCALE



4' GRANITE HEADSTONE FOR CATCH BASIN INLET (II-11)

6 NOT TO SCALE

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

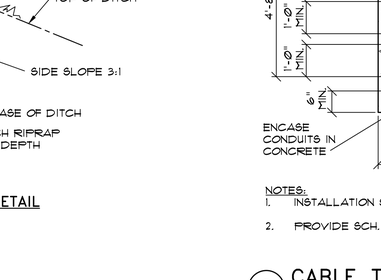
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVED EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP. SEE FIGURE II-09.

2 GENERAL NOTES FOR MANHOLES & CATCH BASINS (II-4)

NOT TO SCALE

NOTES:
DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES..



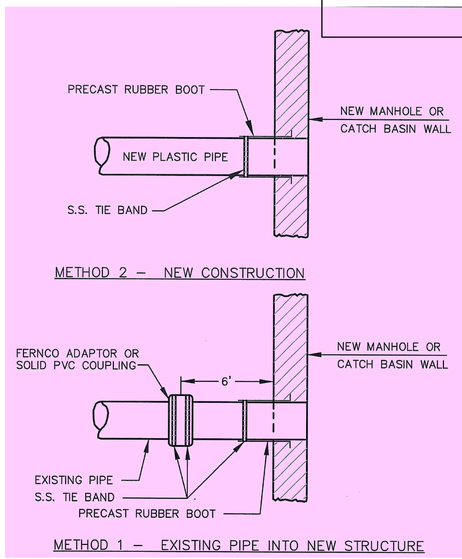
NOTES

1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION **B** SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION **B** SHALL BE AT LEAST 9".
4. DIMENSION **A** IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION **A** SHALL BE BASED ON PIPE DIAMETER **D**, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, D (INCHES)	MAX. TRENCH WIDTH, A (FEET)
4 - - - -	4.0
6	4.0
8	4.0
10	4.0
12	5.0
15	5.0
18 - - - -	5.0
21	5.0
24	6.0
27	6.0
30	6.0
36 - - - -	6.0
42	7.0
48	7.0

5 TYPICAL PIPE TRENCH INSTALLATION (II-14)

NOT TO SCALE



1 PLASTIC PIPE CONNECTION METHOD 2 (II-13)

NOT TO SCALE

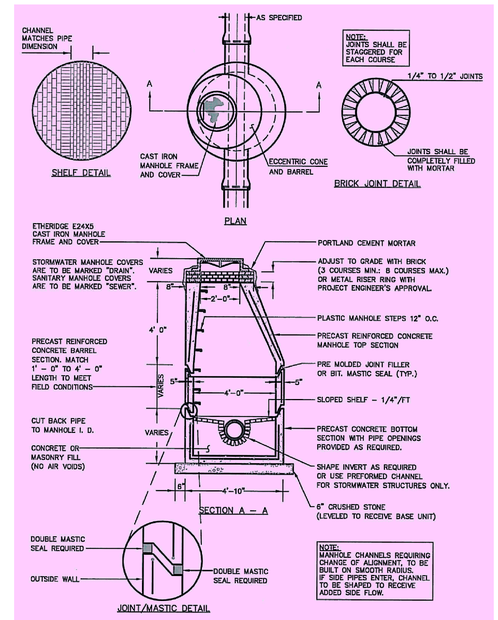
IDENTIFICATION TAPE TO BE INSTALLED ABOVE ALL NEW UNDERGROUND UTILITIES AND ABOVE ANY EXISTING UTILITIES THAT MAY BE EXPOSED BY THIS CONSTRUCTION.

DETECTABLE UNDERGROUND MARKING TAPE TO BE PERMANENT, BRIGHT COLORED, CONTINUOUS-PRINTED PLASTICIZED ALUMINUM TAPE, INTENDED FOR DIRECT-BURIAL SERVICE NOT LESS THAN 3" WIDE x 5 MILS THICK. PROVIDE TAPE WITH BLACK PRINTING IDENTIFYING THE UTILITY. DETECTABLE WARNING TAPE REQUIRED OVER ALL WATER, SEWER, DRAINAGE, OR GAS UTILITIES. TAPE TO BE TERRA TAPE BY REEF INDUSTRIES, INC., www.reefindustries.com, OR EQUAL.

APWA UNIFORM COLOR CODE:

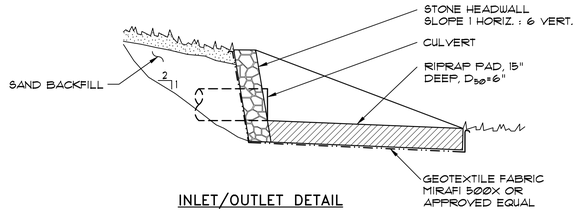
WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

4 UNDERGROUND UTILITIES WARNING TAPE

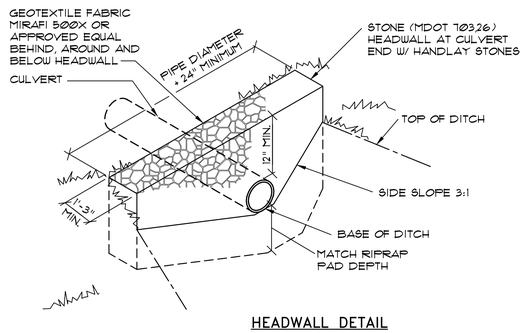


10 PRECAST CONCRETE MANHOLE (II-1)

NOT TO SCALE



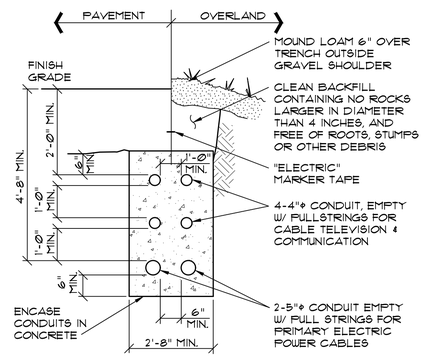
INLET/OUTLET DETAIL



HEADWALL DETAIL

9 STONE HEADWALL

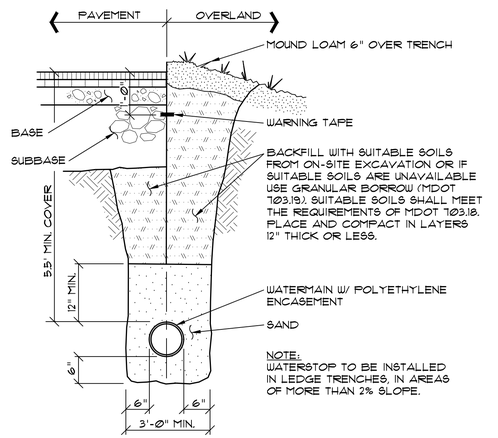
NOT TO SCALE



NOTES:
1. INSTALLATION SHALL NOT ALLOW INTER-TWINING OF CABLES.
2. PROVIDE SCH. 40 PVC CONDUIT FULL LENGTH OF INSTALLATION.

8 CABLE TRENCH SECTION

NOT TO SCALE



7 TYPICAL WATER MAIN SECTION

NOT TO SCALE

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DESIGNER

STATE OF MAINE — THOMAS GREER No. 4206 — LICENSED PROFESSIONAL ENGINEER — 7/17/18

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PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

SITE DETAILS

CWS PROJECT NUMBER: 15.040

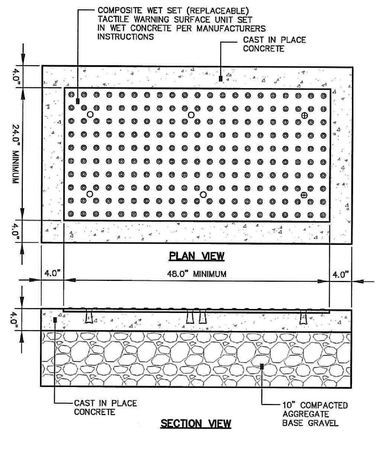
REVISIONS

1	REVD PER CITY REVIEW	5/31/18
2	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
3	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER
C3.1

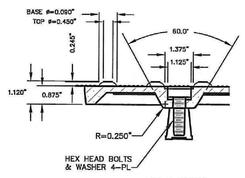
SCALE: AS SHOWN
DATE: 12/21/2017

W:\2015\15100-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15100 DETAILS



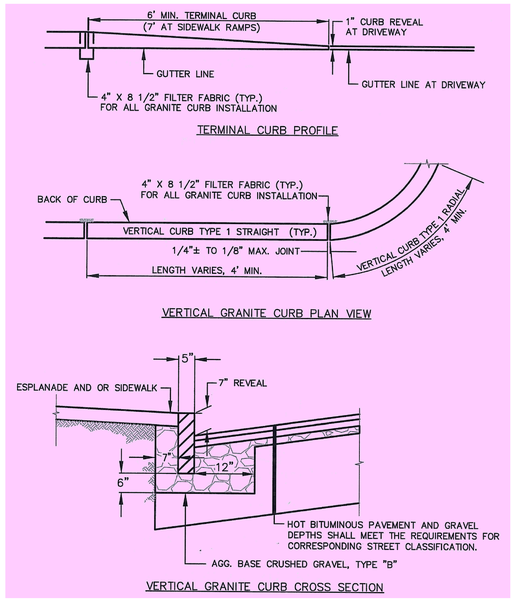
NOTES:

1. COMPOSITE WET SET (REPLACEABLE) TACTILE WARNING SURFACE UNITS SHALL BE AS MANUFACTURED BY ADA SOLUTIONS, INC. (WWW.ADATILE.COM), OR APPROVED EQUAL.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MDOT CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE CONCRETE SHALL BE SEALED PRIOR TO SETTING PANELS. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A GROOVED EDGE BETWEEN THE TILE AND CONCRETE, ALONG WITH A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.
4. FOR ALL SIDEWALK RAMPS MADE OF CONCRETE OR ASPHALT, FEDERAL YELLOW COLORED (#33538) TILES SHALL BE USED. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
5. FOR ALL SIDEWALK RAMPS MADE OF BRICK, SEATTLE YELLOW (#23594) COATED COLORED TILES SHALL BE USED.



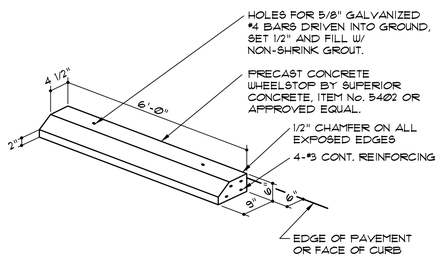
2 SIDEWALK RAMP DETECTABLE WARNING TILE (I-7)

NOT TO SCALE



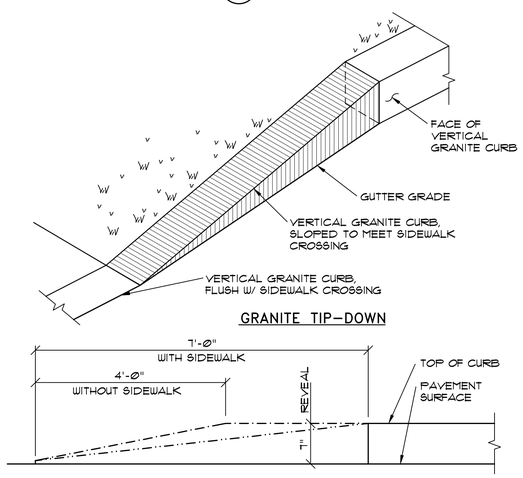
3 VERTICAL GRANITE CURB INSTALLATION IN EXISTING STREET (I-17)

NOT TO SCALE



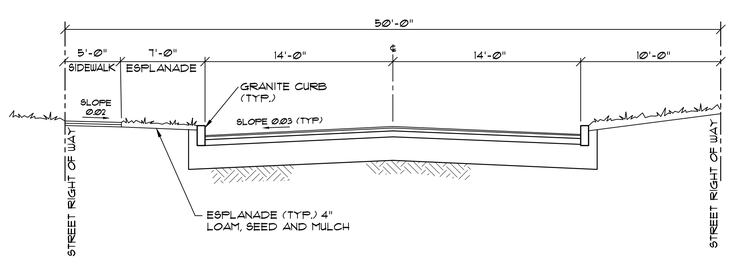
7 CONCRETE WHEELSTOP DETAIL

NOT TO SCALE

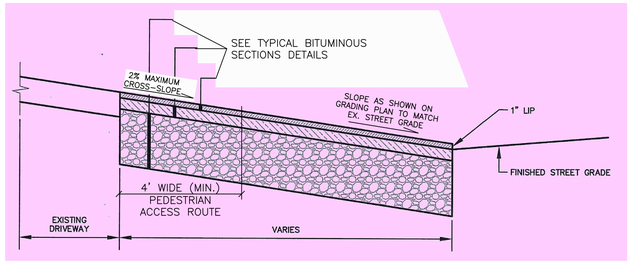


6 CURB TERMINATION & TRANSITIONS

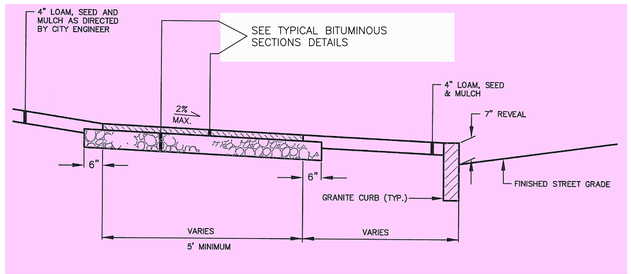
NOT TO SCALE



LOCAL STREET SECTION (I-1)



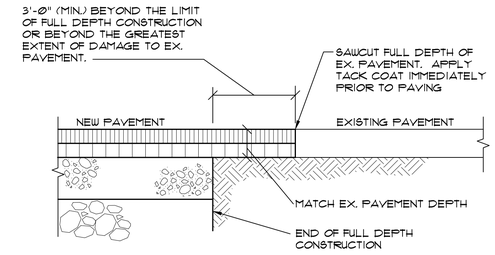
BITUMINOUS DRIVEWAY APRON SECTION (I-13)



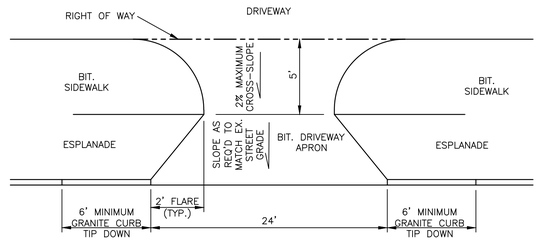
BITUMINOUS SIDEWALK SECTION (I-12)

1 BITUMINOUS PAVEMENT DETAILS

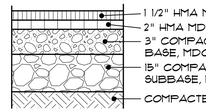
NOT TO SCALE



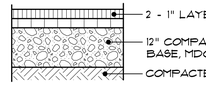
PAVEMENT CUTTING & MATCHING SECTION



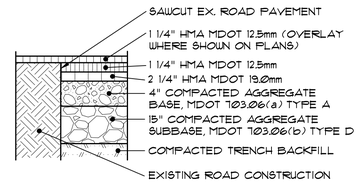
DRIVEWAY APRON LAYOUT (I-9)



FULL DEPTH PAVEMENT
WESSEX STREET, PARKING LOT
& DRIVEWAY APRONS



FULL DEPTH PAVEMENT
SIDEWALKS AND PLAZA AREAS

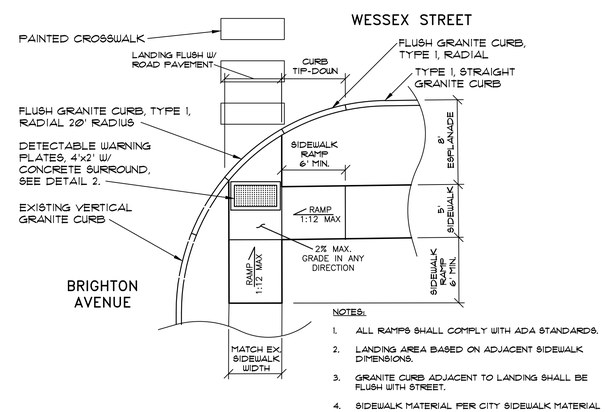


PAVEMENT REPAIR AT TRENCHES
IN THE RIGHT-OF-WAYS

NOTES:

1. HMA = HOT MIX ASPHALT.
   MDOT = MAINE DEPARTMENT OF TRANSPORTATION.
2. ALL COURSE THICKNESS AFTER FINAL COMPACTION.

TYPICAL BITUMINOUS PAVEMENT DETAILS

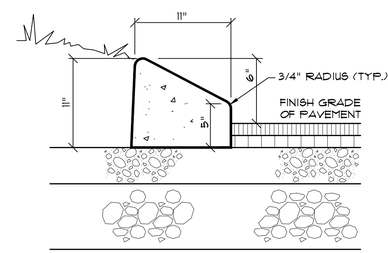


NOTES:

1. ALL RAMPS SHALL COMPLY WITH ADA STANDARDS.
2. LANDING AREA BASED ON ADJACENT SIDEWALK DIMENSIONS.
3. GRANITE CURB ADJACENT TO LANDING SHALL BE FLUSH WITH STREET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.
5. RAMP SECTIONS SHOULD MATCH THE SURFACE MATERIAL USED FOR THE SIDEWALK CONSTRUCTION.

5 SIDEWALK RAMP DETAIL

NOT TO SCALE



CONCRETE NOTES:

1. MIN. 28 DAY COMPRESSIVE STRENGTH: 4,000 PSI
2. AIR ENTRAINMENT: 4% TO 6%
3. REINFORCING: FIBERMESH OR EQUIVALENT GRACE PRODUCT. STRAND LENGTH 1 1/2", 1" TO 1 1/2 LB/CUBIC YARD.
4. SLUMP: 1" TO 1 1/2"
5. FINISH: VERTICAL AND TOP FACES: SMOOTH SLIPFORM
   SLOPED FACES: BROOM
6. JOINTS: SAWCUT 10' O.C. 3" DEEP THE DAY AFTER PLACING.
7. SEALER: SALTGUARD OR EQUAL WATER BASED SEALER.

4 EXTRUDED CONCRETE CURB

NOT TO SCALE

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

STATE OF MAINE THOMAS GREER No. 4206 LICENSED PROFESSIONAL ENGINEER 7/17/18

DESIGNER
WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr. Suite 2A | Westbrook, Maine 04092
ph. 207.553.9898 | www.walsh-eng.com

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OWNER
AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT
977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING
SITE DETAILS
CWS PROJECT NUMBER: 15.040

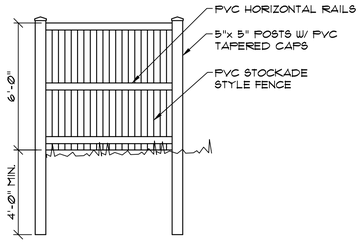
REVISIONS

1	7/17/18	REVD PER CITY REVIEW

DRAWING NUMBER
C3.2

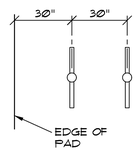
SCALE: AS SHOWN
DATE: 12/21/2017

N:\2015\15150-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWT\15150 DETAILS



4 STOCKADE STYLE FENCE DETAIL

NOT TO SCALE

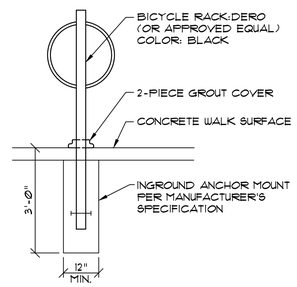


LAYOUT DETAIL

DISTANCE BETWEEN RACKS:
MINIMUM: 24"
RECOMMENDED: 38"

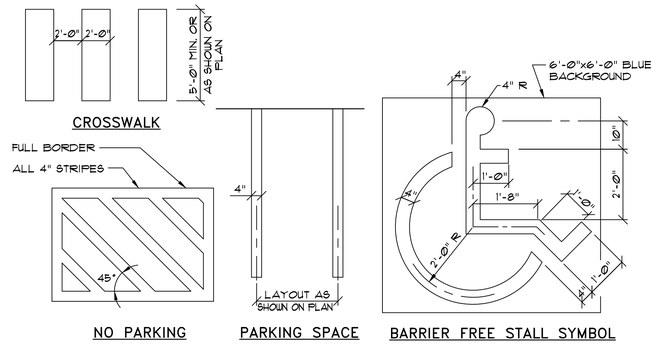
STREET SETBACKS:
MINIMUM: 36"

DERO BIKE HITCH AS MANUFACTURED BY DERO BIKE RACKS



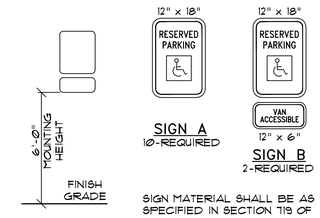
3 EXTERIOR RACK DETAIL

NOT TO SCALE



2 STRIPING DETAILS

NOT TO SCALE



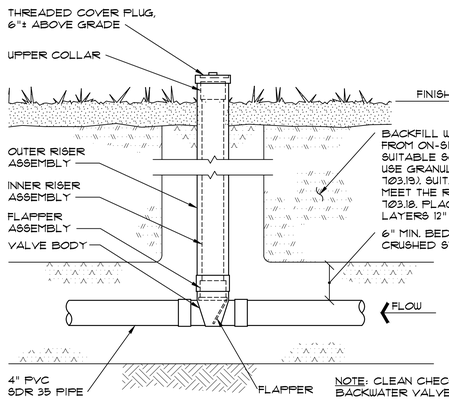
SIGN A
1Ø-REQUIRED

SIGN B
2-REQUIRED

SIGN MATERIAL SHALL BE AS SPECIFIED IN SECTION 719 OF THE MDOT STANDARD SPECIFICATIONS.

1 ACCESSIBLE PARKING SPACE SIGN DETAILS

NOT TO SCALE



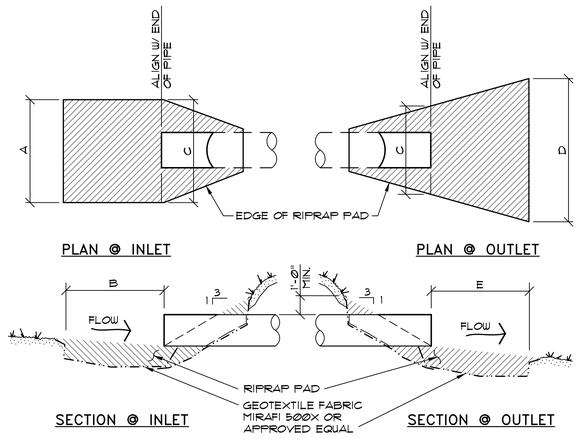
BACKFILL WITH SUITABLE SOILS FROM ON-SITE EXCAVATION OR IF SUITABLE SOILS ARE UNAVAILABLE USE GRANULAR BORROW (MDOT 703.19). SUITABLE SOILS SHALL MEET THE REQUIREMENTS OF MDOT 703.18. PLACE AND COMPACT IN LAYERS 12" THICK OR LESS.

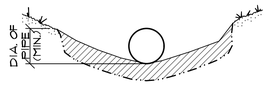
6" MIN. BEDDING & COVER, 3/4" CRUSHED STONE AROUND PIPE

NOTE: CLEAN CHECK® EXTENDABLE BACKWATER VALVE DISTRIBUTED BY RECTORSEAL (www.rectorseal.com) OR APPROVAL EQUAL.

7 TYPICAL BACKFLOW PREVENTOR DETAIL

NOT TO SCALE





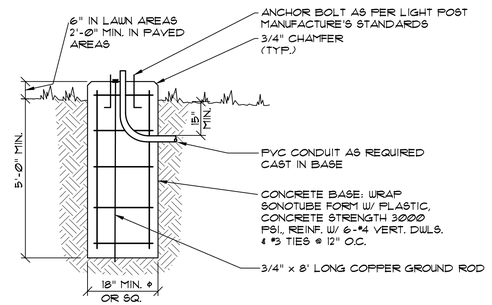
CROSS SECTION

RIPRAP PAD MUST BE INSTALLED WITHIN 48 HOURS OF INSTALLING NEW PIPE OR CULVERT.

PIPE	A	B	C	D	E	PAD DEPTH	D_{50}
12"Ø	3 FT.	2 FT.	3 FT.	5 FT.	6 FT.	15"	6
15"Ø	3.75 FT.	2.5 FT.	3.75 FT.	11.5 FT.	10 FT.	15"	6
18"Ø	4.5 FT.	3 FT.	4.5 FT.	11.5 FT.	10 FT.	15"	6
24"Ø	6 FT.	4 FT.	6 FT.	15 FT.	12 FT.	24"	8

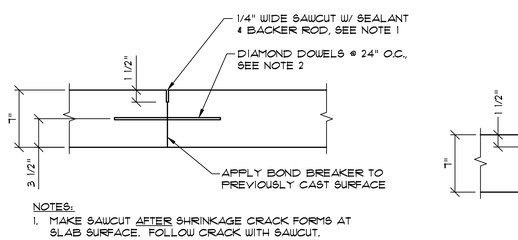
6 PIPE INLET/OUTLET DETAILS

NOT TO SCALE



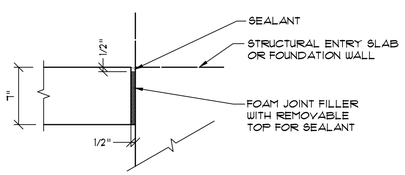
5 LIGHT POLE BASE DETAIL

NOT TO SCALE

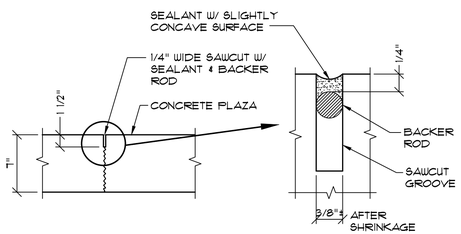


NOTES:
1. MAKE SAWCUT AFTER SHRINKAGE CRACK FORMS AT SLAB SURFACE. FOLLOW CRACK WITH SAWCUT.
2. DIAMOND DOWELS FOR CONSTRUCTION JOINTS: DIAMOND DOWEL SYSTEM BY P.N.A. INC., INCLUDING 3/8" x 4 1/2" x 4 1/2" STAINLESS STEEL PLATES WITH PLASTIC BASES AND SLEEVES. INSTALL SLEEVES PARALLEL TO THE SLAB SURFACE AT SPACINGS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

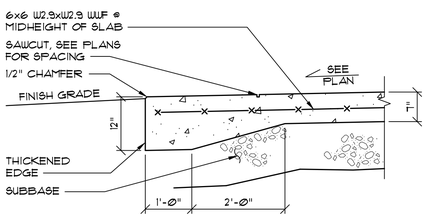
CONSTRUCTION JOINT DETAIL



TYP. ISOLATION JOINT



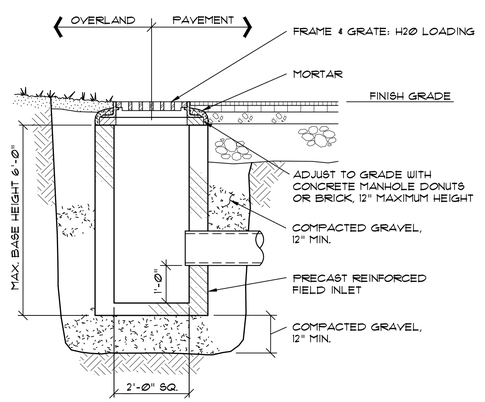
SAWCUT CONTROL JOINT DETAIL



CONCRETE PLAZA OR WALK DETAIL

9 CONCRETE PLAZA OR WALK DETAIL AND SITE CONCRETE JOINTS

NOT TO SCALE



8 FIELD INLET DETAIL

NOT TO SCALE

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

STATE OF MAINE THOMAS GREER No. 4206 LICENSED PROFESSIONAL ENGINEER 7/17/18

DESIGNER
WALSH
ENGINEERING ASSOCIATES, INC.
One Komen Dr. Suite 2A | Westbrook, Maine 04092
ph. 207.553.9898 | www.walsh-eng.com

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OWNER
AVESTA 977 BRIGHTON LP
c/o AVESTA HOUSING
307 CUMBERLAND AVE.
PORTLAND, MAINE 04101

PROJECT
977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING
SITE DETAILS
CWS PROJECT NUMBER: 15.040

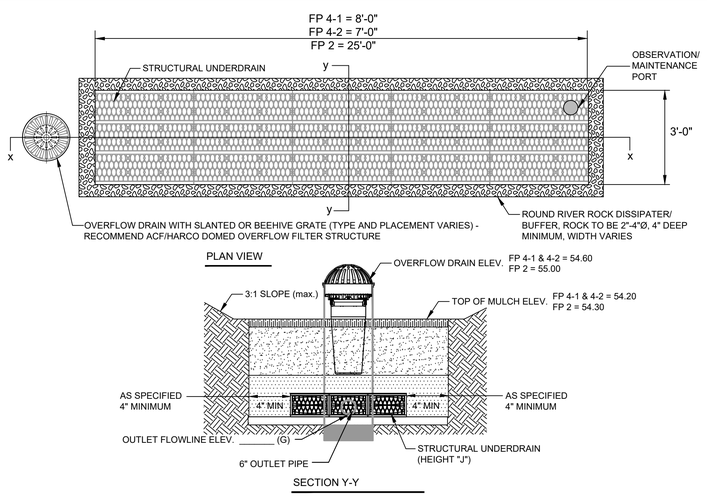
REVISIONS

1	REV'D PER CITY REVIEW	5/31/18
2	MOVE DETAIL 8 TO C3.4, ADD FIELD INLET	6/4/18
3	REV'D PER CITY REVIEW	7/17/18

DRAWING NUMBER
C3.3

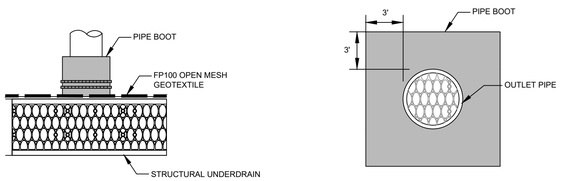
SCALE: AS SHOWN
DATE: 12/21/2017

N:\2015\15150-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15150 DETAILS



1 FOCALPOINT CONSTRUCTION GUIDE

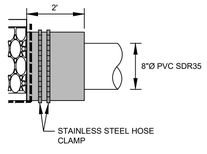
NOT TO SCALE



OBSERVATION/ MAINTENANCE PORT CONNECTION

OUTLET/ INLET PIPE CONNECTION

FRONT VIEW

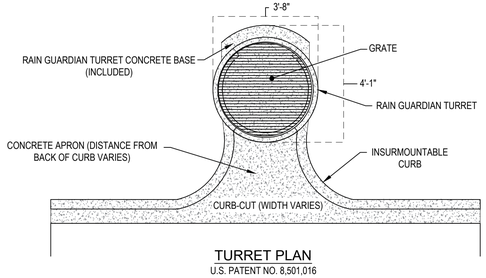


SIDE VIEW

PIPE BOOT DETAIL

4 FOCALPOINT PIPE CONNECTION DETAIL

NOT TO SCALE



TURRET PLAN

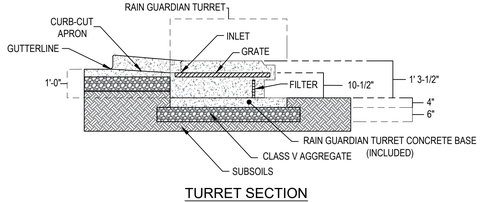
U.S. PATENT NO. 8,501,016

SPECIFICATIONS:

1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURE (1,030 LBS).
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (4 PERCENT TO 8 PERCENT BY VOLUME).
3. MANUFACTURED AND DESIGNED TO ASTM C858.
4. THREE-POINT PICK USING RECESSED LIFTING POCKETS WITH A STANDARD HOOK.
5. SOIL UNDER BASE TO BE COMPACTED TO 95 PERCENT STANDARD PROCTOR.
6. TWO-PIECE LIGHT-DUTY GALVANIZED GRATE (34.5 LBS/PIECE) FOR 541 LB CONCENTRATED LOAD OR 309 LB/SQFT UNIFORM LOAD.
7. TWO-PIECE HEAVY-DUTY GALVANIZED GRATE (77.5 LBS/PIECE) FOR 2,456 LB CONCENTRATED LOAD OR 1,404 LB/SQFT UNIFORM LOAD.
8. USE EXPANSION JOINT MATERIAL BETWEEN TURRET AND BIORETENTION INLET.

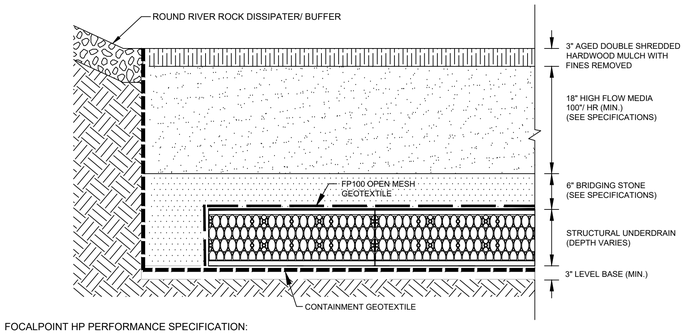
7 RAIN GUARDIAN TURRET

NOT TO SCALE



TURRET SECTION

U.S. PATENT NO. 8,501,016



FOCALPOINT HP PERFORMANCE SPECIFICATION:

HIGH PERFORMANCE MEDIA

HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100" PER HOUR INFILTRATION RATE.

HIGH PERFORMANCE STRUCTURAL UNDERDRAIN

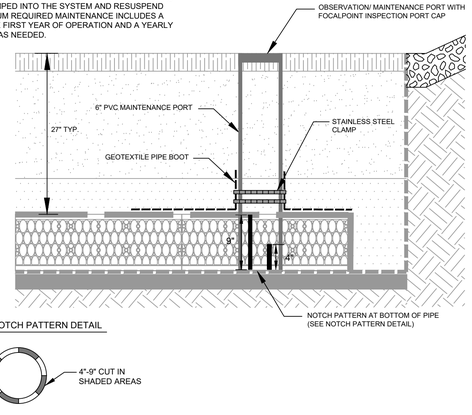
MUST HAVE A MINIMUM OF 19 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT.
MUST MEET H20 LOADING REQUIREMENTS.
MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE.
MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.

2 FOCALPOINT DETAILED CROSS SECTION

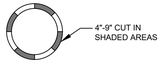
NOT TO SCALE

OBSERVATION/ MAINTENANCE PORT

PORT USED FOR INSPECTION PURPOSES AND FOR SYSTEM MAINTENANCE AS REQUIRED. WATER SHALL BE PUMPED INTO THE SYSTEM AND RESUSPEND ACCUMULATED SEDIMENT. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION FOR THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER FLUSH AS NEEDED.



PIPE NOTCH PATTERN DETAIL

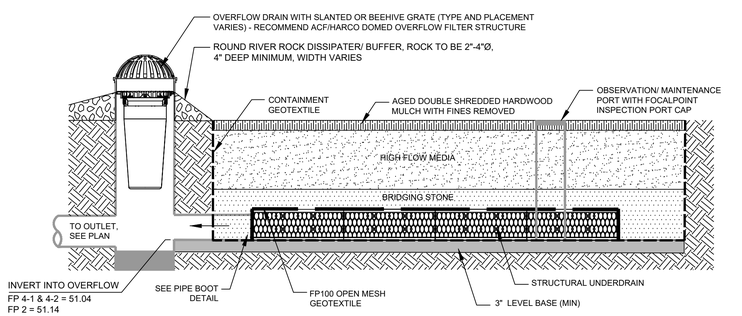


5 FOCALPOINT OBSERVATION PORT DETAIL

NOT TO SCALE

1. FOCALPOINT DESIGN BY ACF ENVIRONMENTAL.
2. FOR ADDITIONAL INFORMATION CONTACT ACF ENVIRONMENTAL, WWW.ACFENVIRONMENTAL.COM, 800.448.3636.
3. ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

8 DESIGN NOTES

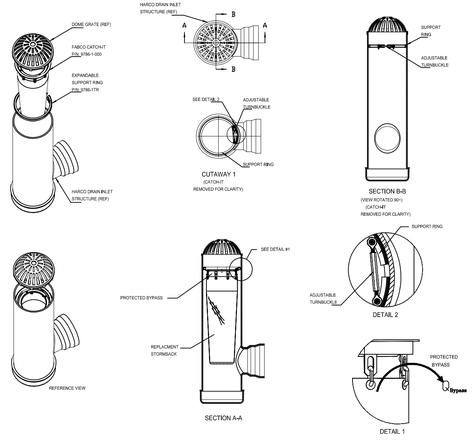


3 FOCALPOINT SECTION X-X

NOT TO SCALE

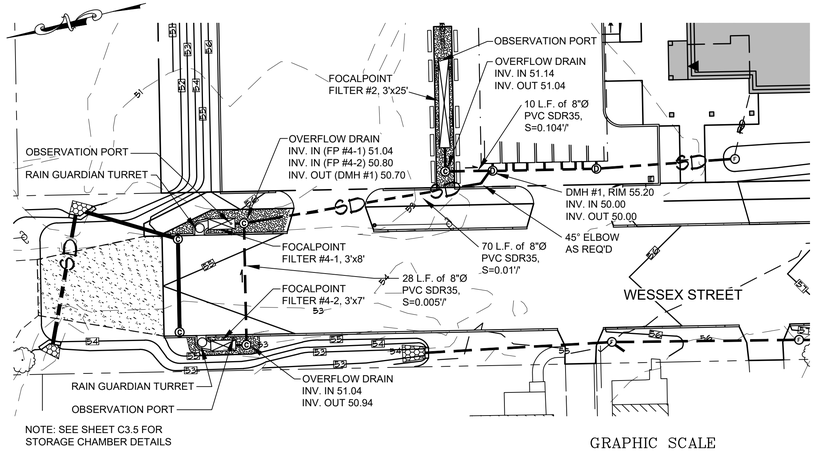
NOTES:
1. STORMSACK WEIGHT (EMPTY): 12 LB MAX
2. MATERIAL:
   A) SHROUD: HIGH DENSITY POLYETHYLENE (TYPICAL WALL THICKNESS .125")
   B) SUPPORT HUB: CRS, POWDER COATED
   C) STORMSACK: WOVEN POLYPROPYLENE GEOTEXTILE (GEOTEX 117F)
   D) HARDWARE: ALUMINUM POP-RIVETS
3. RECOMMENDED MINIMUM VAULT DEPTH: 24N BELOW CARTRIDGE
4. TYPICAL INSTALLATION: RAISE STORM GRATE, PUSH CATCH-IT SHROUD DOWN ON FRAME SUPPORT LEDGE UNTIL LOCKING-CLIPS CLICK IN PLACE, LOWER STORM GRATE.
5. USE ONLY WITH FABCO REPLACEABLE STORMSACK.

STRUCTURE DIAMETER (INCHES)	DEBRIS CAPACITY (CF)	FILTERED FLOWRATE (CFS)	BYPASS FLOWRATE (CFS)	TOTAL SYSTEM FLOWRATE (CFS)
12	0.77	2.2	1.2	3.4



6 ACF/HARCO DOMED OVERFLOW FILTER RISER

NOT TO SCALE



NOTE: SEE SHEET C3.5 FOR STORAGE CHAMBER DETAILS

9 FOCALPOINT PLAN

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER
STATE OF MAINE THOMAS S. GREER No. 4206 REGISTERED PROFESSIONAL ENGINEER 7/17/18
WALSH ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
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PROJECT
977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING
STORMWATER TREATMENT DETAILS
CVS PROJECT NUMBER: 15.040

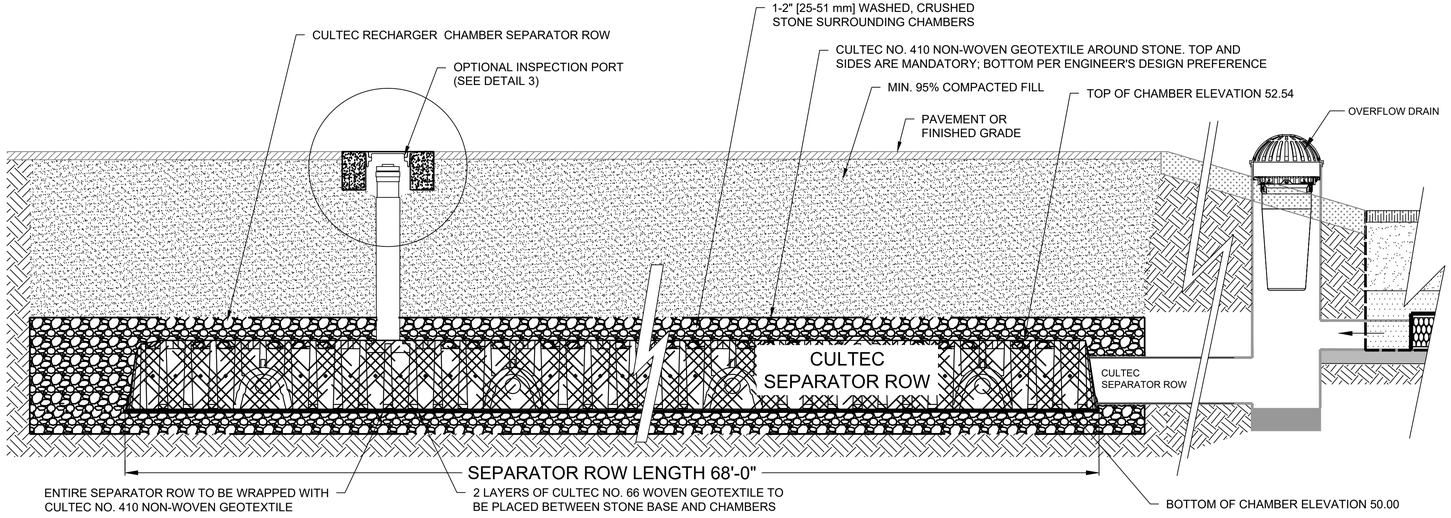
REVISIONS

1	ADD STORMWATER TREATMENT DETAILS	6/4/18
2	REV'D SW TREATMENT PER MFR REVIEW	6/8/18
3	WIDEN WESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
4	REV'D PER CITY REVIEW	7/17/18

DRAWING NUMBER
C3.4

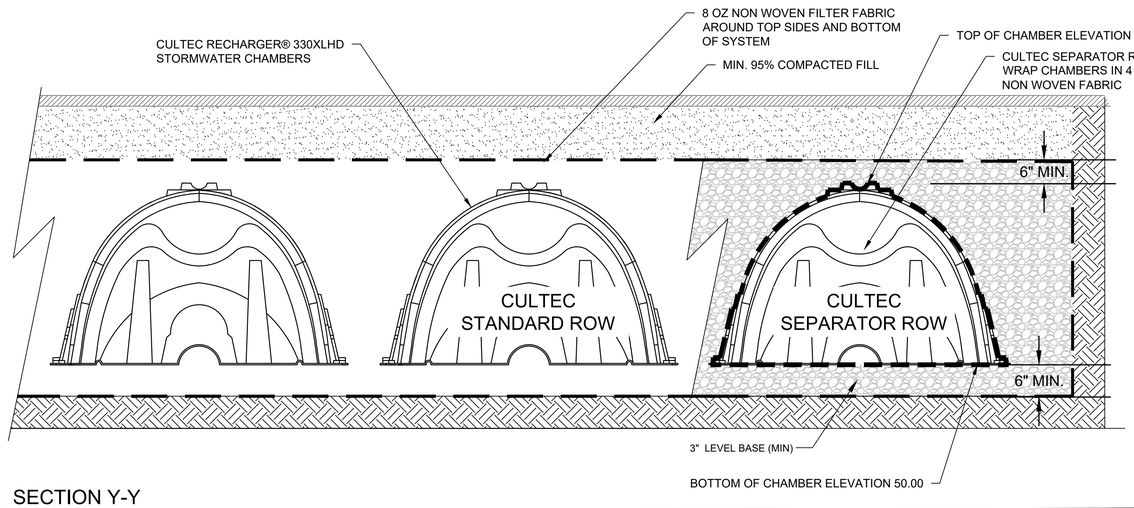
SCALE: AS SHOWN
DATE: 6/4/2018

M:\2015\15040-977 BRIGHTON AVE. APARTMENTS, PORTLAND\DWG\15040 DETAILS-STORMWATER



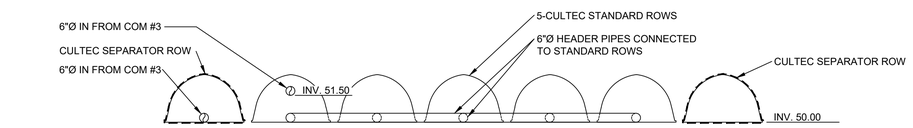
1 SECTION X-X (NTS)

NOT TO SCALE



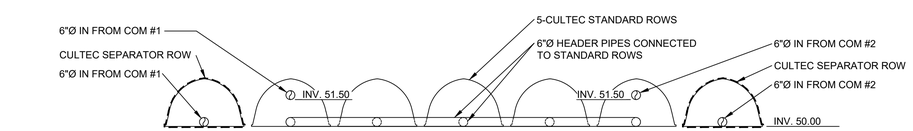
2 SECTION Y-Y

NOT TO SCALE



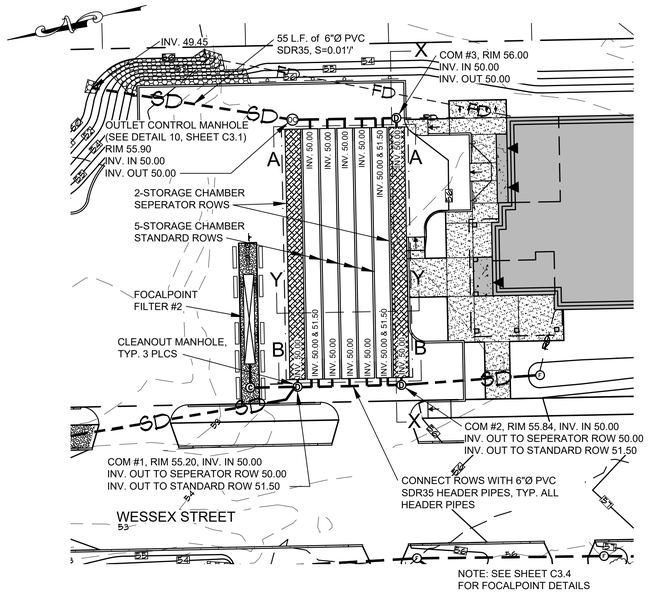
4 SECTION A-A

NOT TO SCALE



5 SECTION B-B

NOT TO SCALE



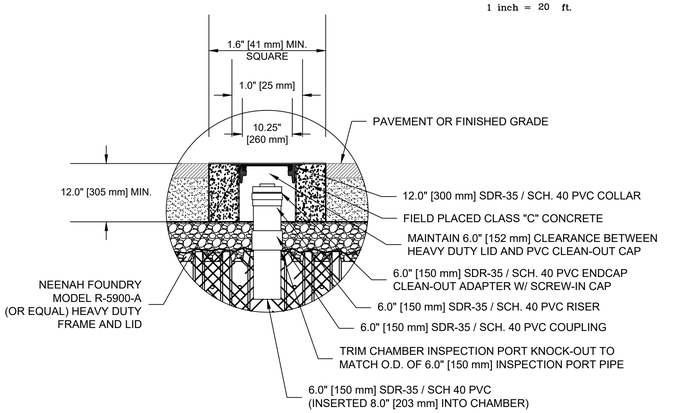
FOCALPOINT PLAN

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.



3 CULTEC SEPARATOR ROW INSPECTION PORT DETAIL

NOT TO SCALE

1. STORAGE CHAMBER DESIGN BY ACF ENVIRONMENTAL.
2. FOR ADDITIONAL INFORMATION CONTACT ACF ENVIRONMENTAL, WWW.ACFENVIRONMENTAL.COM, 800.448.3636.
3. ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

DESIGN NOTES

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER
STATE OF MAINE THOMAS S. GREER No. 4206 LICENSED PROFESSIONAL ENGINEER 7/17/18
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PORTLAND, MAINE 04101

PROJECT
977 BRIGHTON AVE ELDERLY APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING
STORMWATER TREATMENT DETAILS
CWS PROJECT NUMBER: 15.040

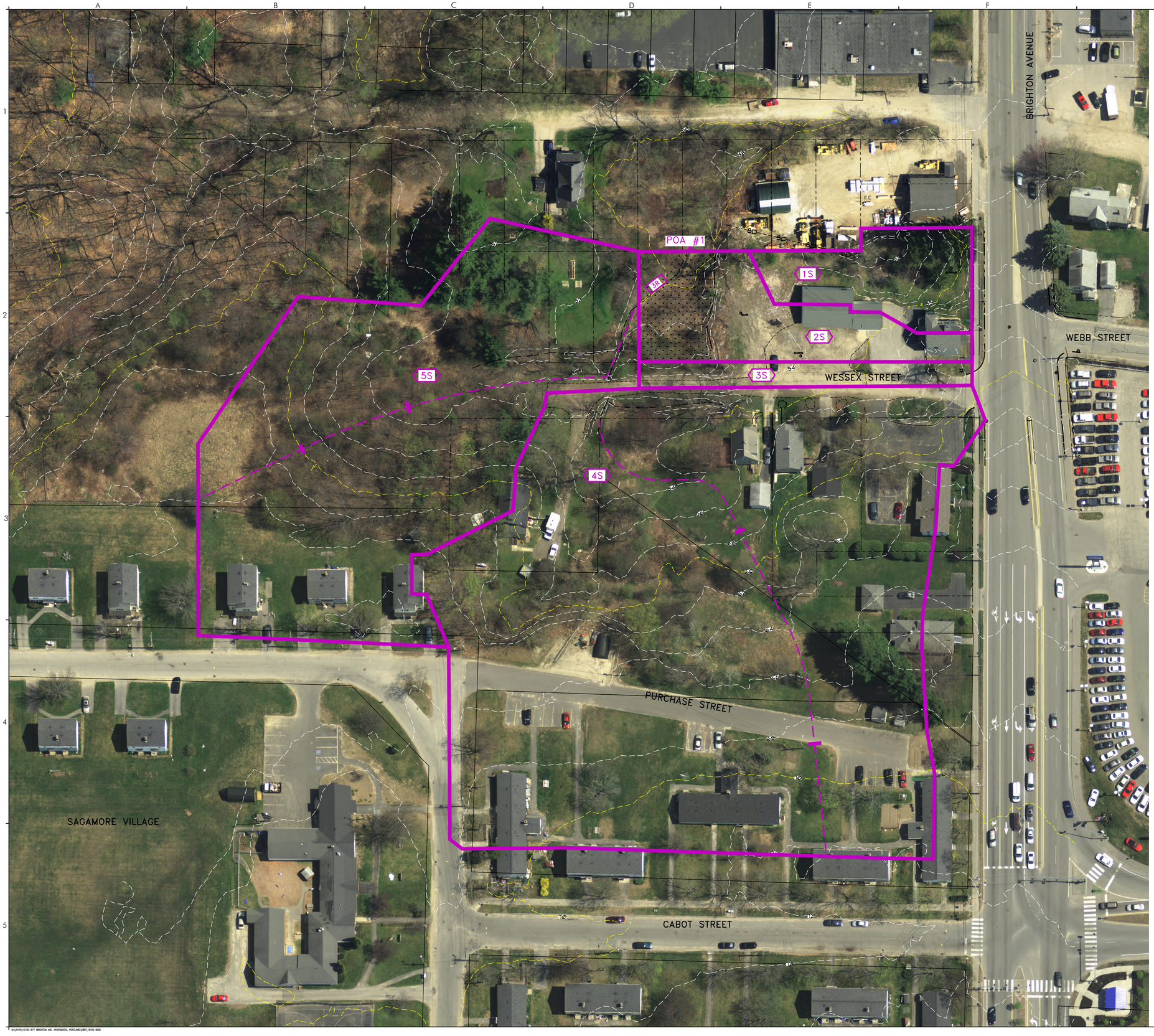
REVISIONS

1	ADD STORMWATER TREATMENT DETAILS	6/4/18
2	REVD SW TREATMENT PER MFR REVIEW	6/8/18
3	WIDEN VESSEX ST TO 28', REDUCE PARKING, REDUCE WETLAND IMPACT	6/18/18
4	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER
C3.5

SCALE: AS SHOWN
DATE: 6/4/2018

N:\2015\15150-977 BRIGHTON AVE. APARTMENTS, PORTLAND\PROJ\15150 DETAILS-STORMWATER



DRAINAGE LEGEND

- SUBCATCHMENT PERIMETER
- TIME OF CONCENTRATION (Tc)
- 10S — SUBCATCHMENT NUMBER
- POA #1 ● — POINT OF ANALYSIS
- 10R — REACH
- 10P — POND

TIME OF CONCENTRATION

SUBCATCHMENT 4S
100' @ 3% SHEET FLOW
200' @ 1% SHA. CONC. FLOW
100' @ 3% SHA. CONC. FLOW

SUBCATCHMENT 5S
100' @ 3% SHEET FLOW
100' @ 8% SHA. CONC. FLOW
200' @ 2% SHA. CONC. FLOW

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER
STATE OF MAINE — THOMAS GREER No. 4206 — LICENSED PROFESSIONAL ENGINEER — 7/17/18
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PORTLAND, MAINE 04102

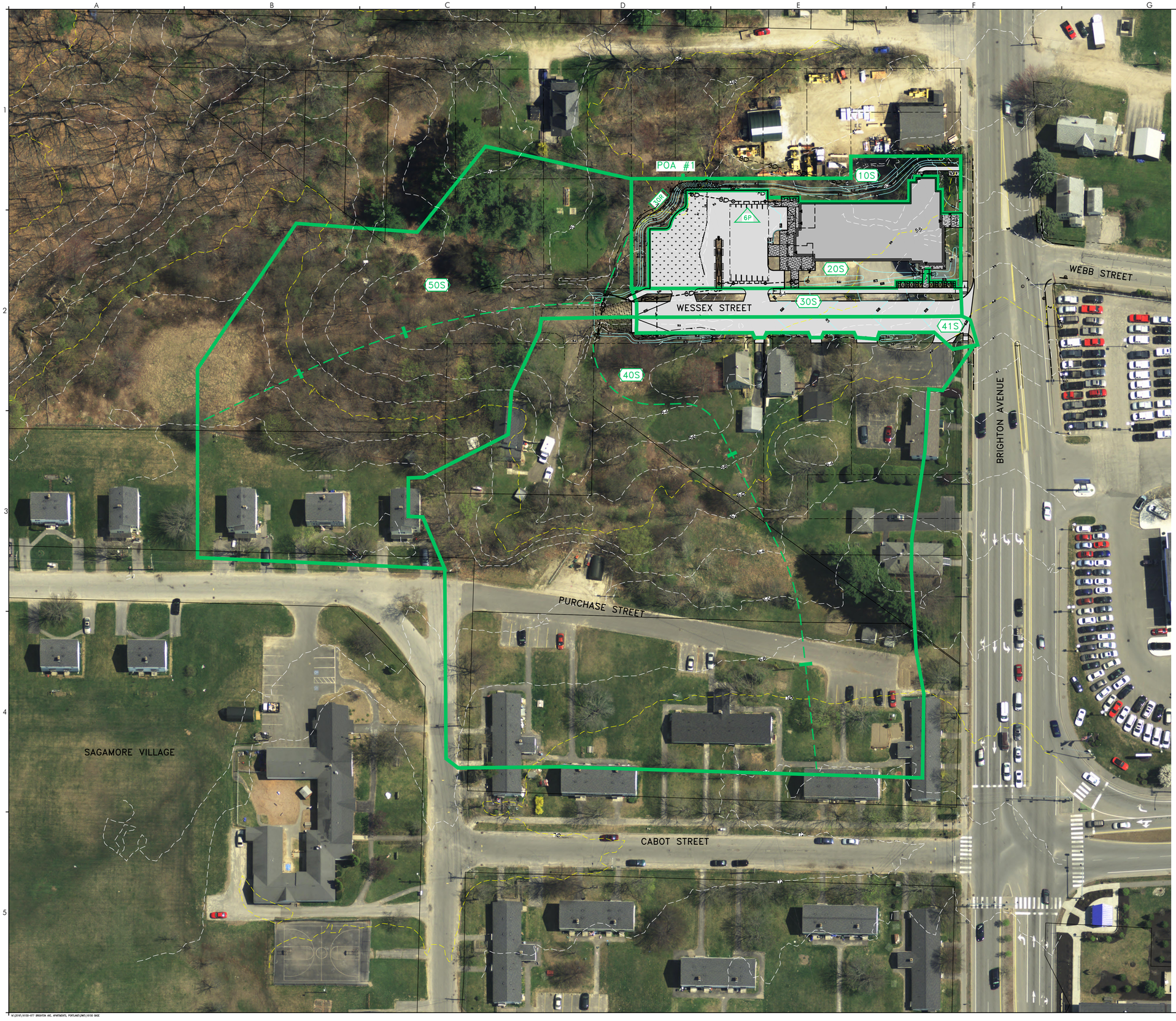
DRAWING
DRAINAGE ANALYSIS
EXISTING CONDITIONS
CWS PROJECT NUMBER: 15.040

REVISIONS

1	REVD PER CITY REVIEW	5/31/18
2	ADDED Tc PATHS & DESIGN	6/4/18
3	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER
D1.0

SCALE: AS SHOWN
DATE: 12/21/2017



DRAINAGE LEGEND

- SUBCATCHMENT PERIMETER
- TIME OF CONCENTRATION (Tc)
- 10S — SUBCATCHMENT NUMBER
- POA #1 ● — POINT OF ANALYSIS
- 10R — REACH
- 10P — POND

TIME OF CONCENTRATION

SUBCATCHMENT 4S
100' @ 3% SHEET FLOW
200' @ 7% SHA. CONC. FLOW
100' @ 3% SHA. CONC. FLOW

SUBCATCHMENT 5S
100' @ 3% SHEET FLOW
100' @ 8% SHA. CONC. FLOW
200' @ 2% SHA. CONC. FLOW

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN
434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER

STATE OF MAINE — THOMAS GREER No. 4206 — REGISTERED PROFESSIONAL ENGINEER — 7/17/18

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PROJECT

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APARTMENTS
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

DRAINAGE ANALYSIS
DEVELOPED CONDITIONS

CWS PROJECT NUMBER: 15.040

REVISIONS

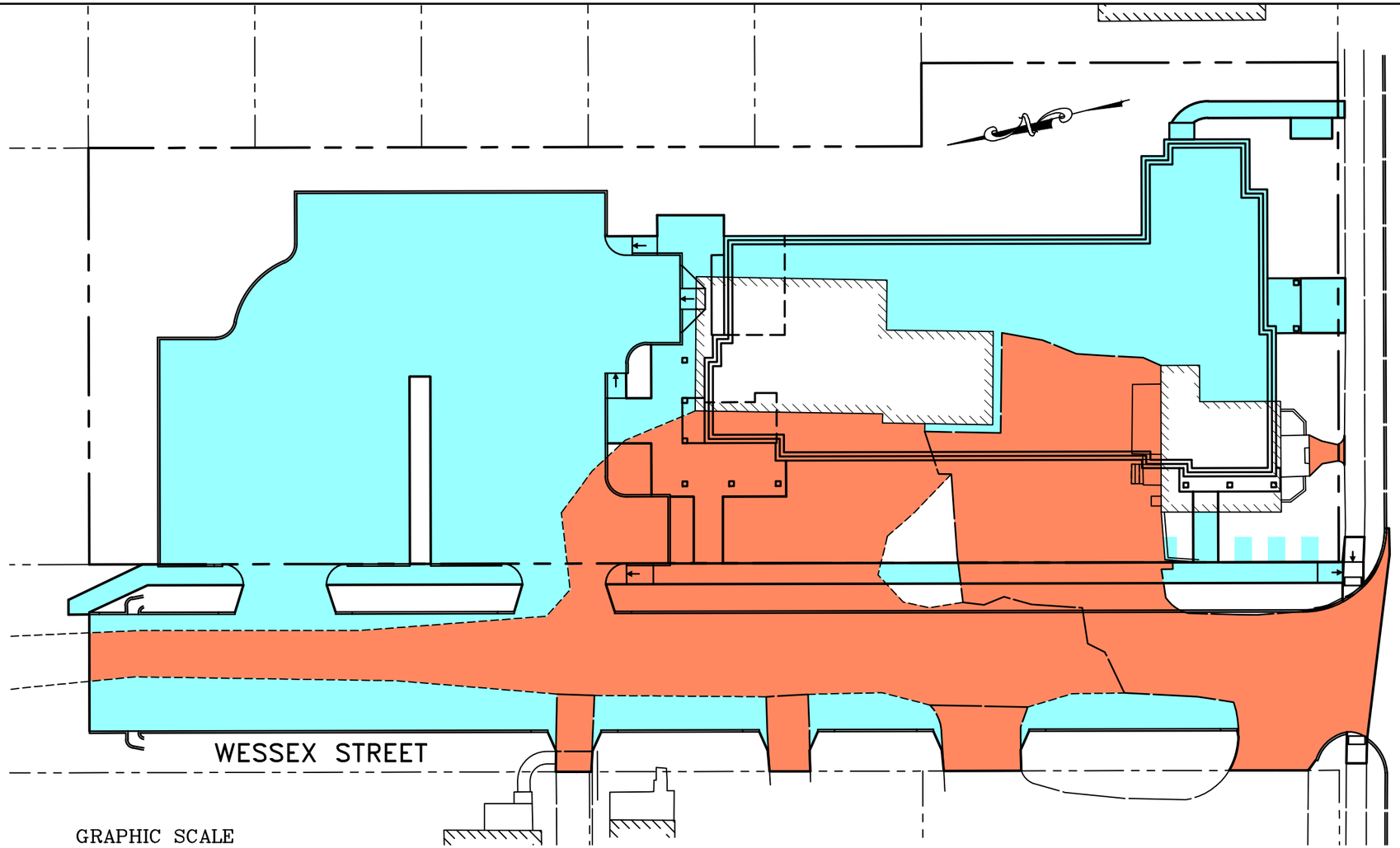
1	REV'D PER CITY REVIEW	5/31/18
2	ADDED Tc PATHS & DESIGN	6/4/18
3	REV'D PER CITY REVIEW	7/17/18

DRAWING NUMBER
D2.0

SCALE: AS SHOWN
DATE: 12/21/2017

N:\2015\15.040-977 BRIGHTON AVE. APARTMENTS, PORTLAND\PDF\15.040 SHEET

7/17/2018 1:23 PM



GRAPHIC SCALE

30 0 15 30 60

1 inch = 30 ft.

EXISTING REDEVELOPED NON-ROOF IMPERVIOUS SURFACE = 13,433 S.F.

PROPOSED IMPERVIOUS SURFACE = 17,463 S.F.

TREATMENT REQUIRED FOR 50% OF = 6,716 S.F.

TREATMENT REQUIRED FOR 95% OF = 16,589 S.F.

TOTAL TREATMENT REQUIRED = 23,305 S.F.

IMPERVIOUS TREATED: 5,004 + 8,122 + 10,402 = 23,528 S.F.

TOTAL IMPERVIOUS = 30,896 S.F.

TOTAL TREATMENT OF IMPERVIOUS: = 76%

DRAWING NUMBER 01

SCALE: AS SHOWN

DATE: REV. 1 7/17/18

DRAWING TITLE

REDEVELOPMENT CALCULATIONS

PROJ. No.: 15.040 / 16150

PROJECT TITLE

977 BRIGHTON AVE SENIOR APARTMENTS

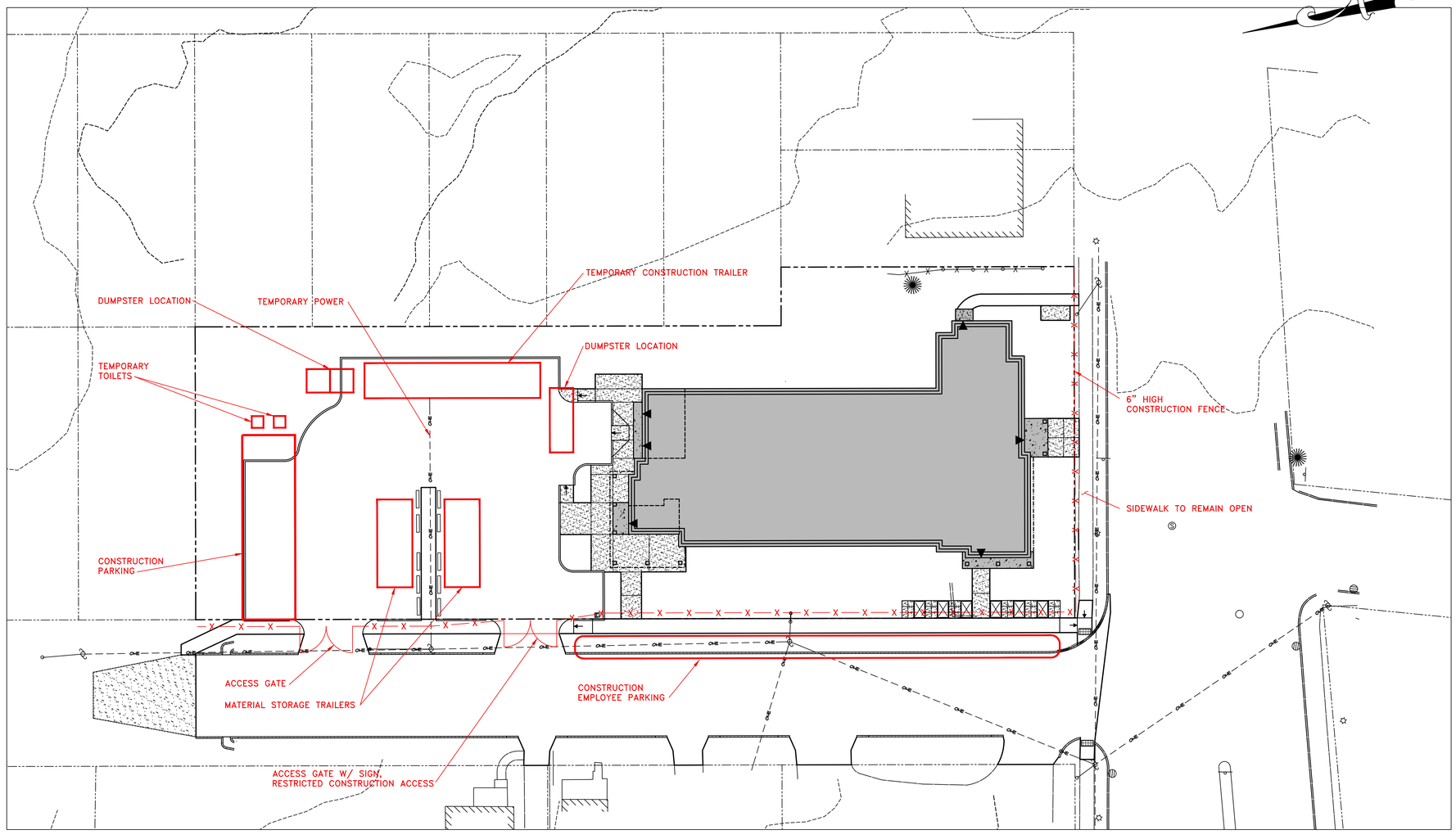
977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

264 US Route One Box 6, Suite 100-2A
Scarborough ME 04074
OFFICE: 207 774 4441 CWSARCH.COM

NOTES

1. PROVIDE SAFETY CONES, BARRELS, FENCING, WARNING TAPE AS REQUIRED TO RESTRICT ACCESS TO THE SITE AND PROVIDE FOR PEDESTRIAN SAFETY.
2. REMOVE EXISTING BUILDING USING THE EXISTING PARKING AREA AS STAGING AREA.
3. CONSTRUCT PARKING LOT AREA TO EXPAND THE CONSTRUCTION STAGING AREA. USE WESSEX STREET FOR ACCESS AND MAKE ALL DELIVERIES IN THE STAGING AREA. WESSEX STREET TO REMAIN OPEN AT ALL TIMES FOR EMERGENCY ACCESS.
4. PROVIDE DUMPSTERS ON SITE THROUGHOUT THE CONSTRUCTION PROCESS.
5. TEMPORARY TRAILERS AND EMPLOYEES CONVENIENCE FACILITIES TO BE MAINTAINED ON SITE THROUGHOUT THE PROJECT.
6. CONSTRUCTION EMPLOYEE PARKING TO BE MAINTAINED ON SITE. ANY PARKING ALONG WESSEX STREET MUST LEAVE ROOM FOR TWO WAY TRAFFIC.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

CWS ARCHITECTS
ARCHITECTURE | INTERIOR DESIGN

434 Cumberland Avenue Portland ME 04101
OFFICE: 207 774 4441 CWSARCH.COM

DESIGNER

STATE OF MAINE — THOMAS S. GREER No. 4206 — REGISTERED LANDSCAPE ARCHITECT — 7/17/18

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PORTLAND, MAINE 04101

PROJECT

977 BRIGHTON AVE ELDERLY APARTMENTS

977 BRIGHTON AVENUE
PORTLAND, MAINE 04102

DRAWING

CONSTRUCTION MANAGEMENT PLAN

CWS PROJECT NUMBER: 15.040

REVISIONS

1	REVD PER CITY REVIEW	7/17/18

DRAWING NUMBER

CM-1

SCALE: AS SHOWN

DATE: 12/22/2017

the proposed project on the site of my olde home at 977 Brighton Avenue

Joe Martelle <joemartelle@aol.com> Jul 23, 2018 5:38 PM
Posted in group: **Planning Board**

To: Christian Roadman and other members of the Portland [Me] Planning Board
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

Re: Public hearing on Tuesday, July 24th regarding the proposed 40 unit apartment project at 977 Brighton Avenue

Greetings,

I must admit, when I first heard news of the proposed demolition of the home where I grew up at 977 Brighton Avenue, my heart sank to an all-time low. As you can only imagine, so many memories of the happy times in that old house came rushing back, including playing with my friends in the greenhouses where my mom and dad labored for so many years. As a youngster, around 9 or 10, after school, my friends and I would build small 6 x 9" wooden boxes that would hold my dad's seedlings that he made available to the residents of Portland. We, by no means got rich on the small wages dad paid us. It was only two-cents a box, but after constructing fifty of them in an afternoon, it was enough to pay our way in to the Portland Theater every Saturday to catch a a couple of Gene Autry or Tim Holt westerns, and still have enough change left-over for candy bar or two, a bag of popcorn and a an over-sized soft drink. The green houses are now gone and so are my mom and dad, but memories of them will forever live in my heart. Later, while attending Cheverus high school, the basement of our home is where I built my 'homemade' radio station. It only broadcast upstairs to my mom's kitchen radio, but I was on the air!
Those happy days playing disc-jockey in our home led to part time work as a high school reporter on the old WCSH-AM 970 Radio.
Years later, after service in the Marine Corps and college, I had the honor of returning to manage the same radio station.
I won't go further in detail about my lengthy 41 year broadcasting career which includes 20 years in Boston and other cities, and ended with the honor of being inducted to the Maine Broadcasting Hall of Fame in 2013. .
I only mention my career as an example of 'how' and where my successful broadcasting career began, and 'why' this house at 977 Brighton Avenue means so much to me. But, my reason for contacting you is not about me. It's about for my late mom and dad , Joan or 'Jenny' as her friends called her, and my dad, Ameido, or "Marty" as he was known to thousands of Portlanders. They toiled endlessly in their green houses and pansey gardens for years , growing native tomatoes, garlic and other vegetables and flowers for the folks of Portland and Southern Maine. On weekends, when we would head off to Higgins Beach or Sebago Lake with friends to enjoy summer sun-filled days, mom and dad would have to stay behind to tend to the many hundreds of customers who would stop by to say 'hi' and make a purchase. Although, sometimes, people would stop by just to say hello to them. My parents were loved by so many.
After the emotional side of hearing news that my olde house was to be torn down subsided a bit, I learned a project to house the elderly was to be erected on this special plot of land. I think my mom and dad would be so pleased. I can't tell you how many of their shoppers were seniors, and how often they chatted with my parents how Portland needed more housing for folks, and those words were spoken almost sixty years ago!

In closing, I have a special request for the planners and developers of this worth-while project, I'm hoping they will give serious consideration to erect a small plaque somewhere on the proposed building to honor my late mom and dad and the service they provided for so many years to the people of Greater Portland. It would please my family so much, but more importantly,somehow, I know it will please my parents just as much.
I apologize for taking up so much of your time, but then again, what do you expect from an olde talking head radio guy.
In all seriousness, thank you kindly for your time and consideration.

Warmest personal regards,

Joe Martelle

Box 386
Mesa, Colorado 81643
Tel: 970-268-5693
joemartelle@aol.com

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PLANNING BOARD REPORT
PORTLAND, MAINE

Fifty-One Unit Residential Building
178 Kennebec Street
Level III and Subdivision
PL-000029-2018
Maine Workforce Housing, LLC, Applicant

Submitted to: Portland Planning Board Public Hearing Date: July 24, 2018	Prepared by: Shukria Wiar, Planner Date: July 20, 2018

I. INTRODUCTION

Maine Workforce Housing, LLC has requested a review of a seven-story mixed use building that includes fifty-one (51) apartments for age-restricted residents consisting of five (5) studio, and forty-six (46) one-bedroom units at 178 Kennebec Street in West Bayside. Forty (40) of these units will be affordable and the remaining eleven (11) units will be market rate rentals. The proposal also includes eighteen surface parking spaces, sidewalks, and landscaping improvements. The site is currently occupied by a surface parking lot. The proposed building is within the B-7 zone.

A Planning Board workshop was held on May 17, 2018. Some of the changes since the workshop include the following:

- The applicant is now proposing fifty-one (51) units instead of forty-six (46) of which 40 will be affordable units.
- The wood-look Nichiha panel has been eliminated.
- The color of the banding and window surrounds has been changed for a consistent appearance around the building.
- An electrical transformer has been added near the parking lot along Parris Street.

The Planning Board will review the application for compliance with the site plan and subdivision standards. A total of 56 notices were sent to property owners within 500 feet of the site and a legal ad ran on July 16th and 17th, 2018. No public comments have been received since the workshop.

Applicant: Nathan Szanton and Amy Cullen, Maine Workforce Housing, LLC and The Szanton Company
Consultants: Michael Tadema-Wielandt, PE, Terradyn Consultants, LLC; David Lloyd, Archetype Architects; Randy Loubier, Owen Haskell Inc.

II. REQUIRED REVIEWS

Waiver Requests	*Applicable Standards*
Aisle width – To allow a 22-foot aisle in the parking area	Technical Manual, *Section 1.14,* requiring that aisle width for right-angle parking be 24 feet per Figure I-27
Compact parking spaces and parking dimensions – To allow seven compact spaces at 8.5 X 17' to be acceptable alternatives to the standard 9' X 18' space; the eight remaining parking space will be a standard size; therefore, it is 38% is compact spaces. *Supported by consulting traffic engineer*	Technical Manual, *Section 1.14 and Figures I-27 to I-29.* Parking lots with greater than 10 spaces may be comprised of up to 20% compact spaces.

Location of Driveway – To allow a driveway separation of 19 feet between the proposed driveway and the existing one on Parris Street	Technical Manual, *Section 1.7.1 Location of driveway:* A driveway shall be located on the lot in a manner to provide a minimum distance of twenty (20) ft spacing between it and adjacent driveways.
Building Material- to allow fiber cement panels as building material on portions of the building visible from the right-of way.	Design Manual, *Section F (B7 Mixed Use Urban District Zone) and Standard E-12 (Building Material*) … Fiber cement panels shall only be used on portions of the building not visible from public rights of way.

Review	*Applicable Standards*
Site Plan	*Section 14-526*
Subdivision	*Section 14-497*
Workforce Housing Inclusionary Zoning	*14-484 (Applicant is required to have 4.6 units, which is being proposed)*

III. PROJECT DATA

Existing Zoning	Urban Commercial Business B-7
Existing Use	Surface Parking Lot
Proposed Use	Mixed Use- Residential and Retail
Proposed Development Program	46 one-bedroom apartments and five sudios
Parcel Size	16,553 SF

	Existing	*Proposed*	*Net Change*
Building Footprint	0	6,667 SF	6,667 SF
Building Floor Area	0	46,669 SF	46,669 SF
Impervious Surface Area	14,842 SF	14,757 SF	85 SF
Parking Spaces (on site)	0	18	18
Bicycle Parking Spaces	0	18	18
Estimated Cost of Project			

IV. BACKGROUND & EXISTING CONDITIONS

The site of the proposed project abuts three streets, Kennebec, Brattle and Parris Streets in the Bayside neighborhood. The site is currently occupied by a gravel surface parking lot that has been used for the City's freight vehicles. Nearly the entire site is currently covered with impervious surface including two bituminous driveways from Brattle and Parris Streets. Underground utilities in Kennebec, Brattle and Parris Streets include water, gas, stormdrain and sewer. Overhead power and communication services are on poles located on Kennebec, Brattle and Parris Streets. Along the Brattle Street frontage, there is a flush bituminous sidewalk with no curb. There is also no sidewalk along the site's Parris Street frontage. The existing gravel parking lot connects directly to both Brattle and Parris Streets. No on-street parking exists along the site's frontage on Kennebec and Brattle Streets, but there is limited on-street parking available on the western side of Parris Street.

Figure 1: 178 Kennebec Street Site

The uses surrounding the site are mostly residential uses, including some large three-story multi-family housing. Most of the adjacent housing is of a smaller scale, with a mix of single and two-family buildings.

V. PROPOSED DEVELOPMENT

The development is proposed as a mixed use residential and retail project with frontages on Kennebec, Brattle, and Parris Streets. The proposal is for a seven-story building with a footprint of 6,667 square feet. The first floor will feature a lobby for the residential units, a utility room and trash room, and 5,429 sf of artist studio/retail space. The second through seventh floors will feature 46 one-bedroom apartments ranging from 600 sf to 670 sf and five studio units. The residential units will be elderly (55+) housing, 40 of the units will be affordable housing and 11 will be market rate, and at least 11 of the units will be ADA accessible. The first-floor retail and artists spaces will be accessed from the Kennebec Street frontage and the parking lot located south of the building. The total building floor area is 46,669 square feet. Elevation views and perspective renderings of the proposed building are provided in Attachment 14-17. Tenant and customers parking is to be provided on-site at the rear of the proposed with driveway accesses from Parris and Brattle Streets.

There will be nineteen surface parking spaces as part of the project of which six will be for the retail use. New brick sidewalks are proposed on all the streets. The development includes street trees: three on Kennebec Street and one on Brattle Street.

Bicycle parking will be provided on bike racks along the site's frontage on Kennebec, Brattle, and Parris Streets. The mail slots for the apartments will be located in the lobby. The trash room will be accessed from the lobby and from the parking lot for trash removal, and a mechanical room is located adjacent to the lobby on the first floor.

Figure 4: 178 Kennebec Street Rendering Looking West

Figure 5: 178 Kennebec St Rendering Looking East on Kennebec St

VI. PUBLIC COMMENT

As of the writing of this report, one public comment has been received.

VII. RIGHT, TITLE, & INTEREST AND FINANCIAL & TECHNICAL CAPACITY

a. The applicant is Maine Workforce Housing, LLC and has a Joint Development Agreement with Ross Furman. Maine Workforce Housing, LLC is developing the site and building and will retain ownership of the residential units, whereas, Ross Furman will own the first-floor artist studio/retail space. An executed copy of the Joint Development Agreement will need to be provided as soon as it becomes available. Ross Furman has a Purchase and Sale agreement with the City for Lot 1. The deeds and Purchase & Sale are Attachment D. The site plan shows parking spaces across property boundary lines, which needs to be addressed with easements or lot line adjustments in the final recording plat. The project site is comprised of the following parcels and record owners:

Map/Block/Lot	CCRD Book/Page	Record Owner
34/F/ Lot 1	16707/206	City of Portland
34/F/ Lot 2	31408/102	Ross Furman

b. The estimated cost of the development is $6.6 Million. The applicant has submitted a letter stating the financing sources for the project, as demonstration of their financial and technical capacity to complete the proposed development.

VIII. ZONING ANALYSIS

A. Proposed Parking

The proposed uses of the mixed-use building are permitted in the Urban Commercial Business B-7 zone. The B7 zone includes a specific requirement (14-332.2.c) for the submission of a parking analysis and for the Planning Board to establish the parking requirement for the project; the "*parking requirement shall be determined based upon a parking analysis submitted by the applicant and upon the recommendation of the city transportation engineer*". For off street parking, Division 20 requires one parking space per unit for residential uses on the peninsula, except in the B-7 zone. The B-7 zone includes a specific requirement (14-332.2.c) for the submission of a parking analysis and for the Planning Board to establish the parking requirement for the project. The applicant has submitted a parking demand study (Attachment S) which states that the proposed project parking demand for the project is twenty-seven (27) parking spaces. The applicant is proposing eighteen (18) parking spaces, of which six are for the commercial/retail use, one for the carshare space (which account for 8 spaces), and one for pickup/drop-off space, therefore ten are for the residential use. Four spaces will be handicapped parking spaces. Refer to further discussion of parking in the site plan standard.

B. B-7 Performance Standards

Under external effects, Section 14-299 Performance Standards (b), (f), (n) and (o) apply to this project. Below is how the project is meeting the standards:

Sec. 14-299. Performance standards: All uses in the B-7 mixed development district zone shall comply with the following standards. Standards 14-299(a),(f),(j),(m),(n) and (o) below shall be reviewed by the Planning Authority.

(b) *Noise*: (A List of standards is itemized)

Staff Comments: The maximum noise requirement of 60 decibels at lot boundaries shall be maintained during the "day time" hours. The applicant is now proposing an electrical transformer on the site along Parris Street. The noise information will have to be submitted for review and approval for the transformer and all mechanical equipment being proposed.

(f) *Off-street parking and loading:* Off-street parking is required as provided in division 20 (off-street parking) of this article. Division 21 (off-street loading) of this article shall not apply. Surface parking shall meet the following standards:

1. None of the spaces shall occupy all or a portion of a sidewalk within a street right-of-way.

Staff Comments: The surface parking lots do not occupy any portions of the sidewalks. The lots are setback from the property lines.

2. Driveway entrances shall meet the City of Portland Technical Manual standards.

Staff Comments: The proposed entrance to the site meets City standards.

3. The parking area shall meet the landscape and buffer standards of the City of Portland Technical and Design Manuals.

Staff Comments: The parking lot is not well landscaped and will need to be buffered from the street right-of-way or from the abutting neighbor along the rear. Staff recommends a landscaped buffer along Parris Street and the property line, which is a condition of approval.

(n) *Lighting:* All lighting shall be designed and installed with cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties and as otherwise governed by the site lighting standards of the City of Portland Technical Manual.

Staff Comments: The photometric plans show no light pollution onto neighboring properties. The majority of the proposed lighting fixtures meet the cut-off standards except for the 'Aspen Wedge' proposed for the entrances. This fixture is proposed at both entrances but is not full-cut. Staff will consider them if placed directly under the canopies at the entrances. The revised site plan now shows bollards around electrical transformer. The staff is recommending approval of the fixtures as proposed.

(o) *Building entrances:* All buildings shall have a minimum of one (1) public pedestrian entrance facing the street frontage of the lot. Such building entrances shall also be reviewed under the B-7 bayside design standards.

Staff Comments: The building has two main entrances for the public. One of the entrances is on the corner of Kennebec and Brattle Streets, which will be used by the commercial entities. The second entrance is on the side of the building off of Parris Street, which will be used by the residential tenants. The entrances are highly visible from the street right-of-way.

IX. CONDITIONAL USE REVIEW OF ENSURE WORKFORCE HOUSING (Victoria Volent, Housing Program Manager)

All developments of ten (10) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Division 30, Section 14-487 of the Zoning Ordinance.

Division 30, Section 14-487, Ensuring Workforce Housing, requires at least ten percent (10%) of the dwelling units in the development shall meet the definition of Workforce Housing units for sale or for rent. The ordinance under Section 14-487 e 3 also requires the number of bedrooms in the Workforce units shall be at least 10% of the total number of bedrooms made available as part of the development.

The development located at 178 Kennebec Street proposes the creation of 51 dwelling units of rental housing consisting of five (5) studio, and forty-six (46) one-bedroom units. As dwelling units for rent, the designated Workforce Units will be restricted to households earning up to 100% of Area Median Income (AMI). Based on the requirements outlined in Section 14-487, the development is required to provide a minimum of five (5) workforce units consisting of one (1) bedroom in each unit. The Applicant has elected to provide forty (40) units of low-income housing. Of these units, sixteen (16) units are targeted towards households earning 50% AMI, and twenty-four (24) units are targeted towards households earning 60% AMI. The remaining eleven (11) units will be market rate rentals. As such, the project has met the minimum requirements set forth in Section 14-487.

The Developer requested the City of Portland to enter into an Affordable Housing Tax Increment Financing agreement to help finance this project. Disbursement of funds require the completion of a Credit Enhancement Agreement that will guarantee future rentals to qualified households for a period of thirty (30) years.

Staff has determined this project exceeds the affordability requirements of Division 30, Section 14-487 and recommends final approval be conditioned on the completion of all standard commitment requirements between the City of Portland and the Developer.

X. DEVELOPMENT REVIEW

A. SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

The applicant submitted a subdivision plat on Thursday afternoon, July 19, 2018; staff has not reviewed it for the public hearing. As a condition of approval, the final subdivision plat shall meet all plat requirements as noted in 14-496; and noted in 14-527(f) and (g). The final site plan shall include:

- State plane coordinates to the four property corners to be set; and
- The stamp of a professional engineer; and
- All existing and proposed easements and licenses.

B. SUBDIVISION (Section 14-497)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's Subdivision Ordinance and applicable regulations. Staff comments are listed below.

1. *Will Not Result in Undue Water and Air Pollution (Section 14-497 (a) 1), and Will Not Result in Undue Soil Erosion (Section 14-497 (a) 4)*
   Lauren Swett, P.E. with Woodard and Curran Engineering, has reviewed the erosion and sediment control plan and finds the plan acceptable. The staff finds the proposal in conformance with this standard.

2. *Sufficient Water Available (Section 14-497 (a) 2 and 3)*
   The project will be served by new water service located in Kennebec Street. Confirmation of ability to serve water from PWD have been submitted to the Planning Authority. The staff finds the proposal in conformance with this standard.

3. *Will Not Cause Unreasonable Traffic Congestion (Section 14-497 (a) 5)*
   The City is currently finalizing the Bayside Transportation Master Plan, a document that seeks to improve transportation accessibility and connectivity with one of the recommendations consisting of Kennebec Street. The project site is aligning up with the master plan. The site will be accessed by existing curb cuts on Brattle and Parris Streets; the circulation for the site will consist of two entrances. Tom Errico, P.E. Ty Lin reviewed the driveway and separation and states the following:

   > The proposed driveway on Parris Street does not comply with City standards for driveway separation. The applicant shall request a formal waiver with supporting documentation.
   > **Status Update: Given existing driveway conditions, low traffic volumes and speeds in the area, and low traffic generation from the site, I support a waiver from the City's Technical Standards.**
   >
   > The driveway for 53 Brattle Street is being eliminated. It is unclear how parking for this lot is being addressed.
   > **Status Update: The applicant has noted that parking will be provided on an abutting property owned by the same owner. I have no further comment.**

   Mr. Errico reviewed the plan against and the access, parking, and vehicle circulation standards and states the following:

   > The applicant has conducted a trip generation estimate for the project and back-up calculations for all project uses shall be provided. The project will not generate traffic levels that will require a Traffic Movement Permit.
   >
   > **Status Update: The applicant provided trip generation calculations and the project is estimated to generate 29 trips during the PM peak hour. The project is not expected to have a significant impact on traffic safety and mobility and no action is required from a traffic impact perspective.**

4. *Will Provide for Adequate Sanitary Sewer and Stormwater Disposal (Section 14-497 (a) 6), and Will Not Cause an Unreasonable Burden on Municipal Solid Waste and Sewage (Section 14-497 (a) 7)*
   The project will be served by a new sewer line located in Kennebec Street. Ms. Swett has reviewed the plans and finds it acceptable. Confirmation of ability to serve sewer from DPS have been submitted to the Planning Authority. The staff finds the proposal in conformance with this standard.

5. *Scenic Beauty, Natural, Historic, Habitat and other Resources (Section 14-497 (a) 8)*
The proposal site is not within an historic district. It is in an urban neighborhood surrounded by a variety of residential building types, as well as commercial uses. The proposed building does not impact the natural beauty of the area or adversely affect any significant wildlife habitat, rare or irreplaceable natural areas, or any public access to the shoreline. The staff finds the proposal in conformance with this standard.

6. *Comprehensive Plan (Section 14-497 (a) 9)*
The staff has identified the following goals and policies which are relevant to the proposed housing development and finds the proposal in conformance with the Comprehensive Plan:

Portland Housing Goal: Ensure that an adequate supply of housing is available to meet the needs, preferences, and financial capabilities of all Portland households, now and in the future.

Policies

- Ensure the construction of a diverse mix of housing types that offers a continuum of options across all income levels, which are both renter and owner-occupied, including but not limited to the following:
  ii. Housing units for decreasing household size, such as young professionals, empty nesters, single-parent households, and senior citizens.
- Encourage higher density housing for both rental and home ownership opportunities, particularly located near services, such as schools, businesses, institutions, employers, and public transportation.
- Increase Portland's rental housing stock to maintain a reasonable balance between supply and demand yielding consumer choice, affordable rents, and reasonable return to landlords.
- Identify vacant land and redevelopment opportunities throughout the City to facilitate the construction of new housing.

C. SITE PLAN STANDARDS (Section 14-526)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations. Staff comments are listed below.

1. *Transportation Standards*

a. Impact on Surrounding Street Systems and Access and Circulation- see Subdivision, Paragraph VIII (B) (3), above.

b. Construction Management Plan
A construction management plan has been submitted by the applicant for review. Mr. Errico has reviewed the plan and finds it acceptable with a couple of additional information on the plan:

I have reviewed the construction management plan and I generally find it to be acceptable. Refinement on how pedestrians will be managed at the corner of Kennebec Street and Brattle Street is required. Additionally, specific details on lane closures should be provided. Accordingly, I would suggest a condition of approval that the applicant is to provide a revised construction management plan for review and approval prior to issuance of a building permit.

c. Sidewalks
The applicant is proposing to install sidewalk along their frontage on all three streets with street trees and bicycle racks. The project is located in a concrete sidewalk district and plans reflect concrete sidewalks. A utility pole will be relocated in the sidewalk on Brattle Street; the new location will have to maintain a four-foot sidewalk. Portions of the sidewalk (along the frontage of Furman property) are less than five feet, therefore, the City would require a pedestrian easement at this location, which is a condition of approval. Mr. Errico has reviewed this and states:

A utility pole is being relocated to directly in front of 53 Brattle Street. Details on pedestrian accessibility for the relocated pole should be documented.

Status Update: The plans indicate a 4-foot pedestrian walking space will be provided from the face of proposed pole to the back of sidewalk. The applicant shall ensure that this width is provided during the installation of the new pole.

d. Parking

The applicant is proposing eighteen (18) surface parking spaces that are located at the rear of the property. One of the 18 spaces is reserved for a shared vehicle so the accounts for eight spaces. The B-7 zone includes a particular requirement (14-332.1.i) that all projects regardless of size shall abide to Section 14-332.2.c for the submission of a parking analysis and for the Planning Board to establish the parking requirement for the project.

> *Sec. 14-332.1. Zone specific off-street parking exceptions and modifications. The off-street parking requirements established for uses, established above in section 14-332 of this division, are hereby modified for the following zones according to the provisions described below.*
>
> > *(i) B-7, Mixed Development District Zone: Off-street parking for all projects regardless of size, shall be governed by 14-332.2(c) of this article.*
>
> *Sec. 14-332.2. Categorical exceptions and modifications to off-street parking requirements. Regardless of which zone a project of use is located, the following exceptions to the off-street parking requirements listed above in section 14-332 are additionally hereby established.*
>
> *(c) Site plans over 50,000 square feet and projects in the B-6, B-7, and USM Overlay Zones: Where construction is proposed of new structures having a total floor area in excess of fifty thousand (50,000) square feet, the planning board shall establish the parking requirement for such structures. The parking requirement shall be determined based upon a parking analysis submitted by the applicant and upon the recommendation of the city transportation engineer.*

The applicant has submitted a parking study that states that the proposed project parking demand of 27 spaces for the project. The applicant is proposing eighteen (18) parking spaces, of which six are for the commercial/retail use, one for care share space, and one for pickup/drop off space, therefore only ten are for the residential use. Four spaces will be handicapped parking spaces and seven will be compact spaces. The applicant is requesting that the Board make a finding that the reduced number of spaces for the site is acceptable.

Following is the breakdown of the parking that is required by zoning versus the reduced ratio that the applicant is requesting:

	1:1 Ratio	As requested by Applicant
Parking spaces as required per zoning	Commercial Space - 6 Residential Units - 51	Commercial Space - 6 Residential Units – 10 Car Share Space (credit of 8 spaces) – 1 Pickup/Dropoff - 1
Total of Spaces Required	57	18 onsite with one car share

Mr. Errico has reviewed the parking demand analysis and concludes the following:

Status: The Applicant has estimated a parking demand of 27 parking spaces for the project (21 spaces for the residential units and 6 spaces for the retail/artist space). As allowed by City Ordinance, a credit of eight parking spaces is permitted with the provision of a car share vehicle. Accordingly, the applicant is suggesting a need for 19 parked vehicles. The Applicant has proposed accommodating parking requirements by providing 18 parking spaces on-site. I would note that one of the spaces will be designated for the car share vehicle and the site plan notes a space that is to be used for pick up/drop off activities. Accordingly, 16 parking spaces will be available for general use. Given that the Avesta Housing surveys supporting the parking demand analysis were conducted during the week of the July 4th holiday, and the retail/artist parking demand estimate is an approximation, I would suggest the following condition of approval:

- The Applicant shall conduct a Parking Demand Study following the occupancy of the project with the methods of the Study to be reviewed and approved by Planning Staff. If the study identifies a parking supply deficit, the applicant shall either secure off-site parking spaces or make a contribution to the City's Parking In-Lieu Fee program.

The surface parking lot will have a twenty-two-foot (22') parking aisle width that does not meet standard of twenty-four feet (24'); therefore, the applicant has requested a waiver. Mr. Errico addresses this in his memo, Attachment 1:

> Status Update: The applicant has provided supporting documentation for the aisle width and given site constraints and that vehicle turnover should be limited, I support a waiver from the City's Technical standards. I would note that seven parking spaces also need a waiver for not meeting 9'X18' size requirements. I support a waiver given similar reasons noted previously and that the proposed spaces nearly meet the standard (8.5'x17').

This parking lot is encroaching on the neighboring property; therefore, an easement is required for the construction and encroachment of the parking onto the abutter's property.

e. Transportation Demand Management

The applicant has submitted a transportation demand management plan. According to the applicant, the:

- The site is located within what has traditionally been a light industrial zone with some missing sidewalk links and crossings that aren't always ADA accessible, it is still relatively pedestrian and bicycle-friendly. This is in part because of continued sidewalk, crossing and bike lane improvements being made in the area and the generally strong sidewalk network and lower-speed street grid of the Portland Peninsula.

- Site is in close proximity to the Back Cove Trail and the Marginal Way, Forest Avenue and Portland Street bike lanes. In addition, the site is immediately adjacent to the proposed Bayside Trail extension and is near the proposed separated bike lanes on Park Avenue - as well as the eventual Deering Oaks Park section of the Neighborhood Byway network. Moreover, the building is on the same block as Port City Bikes, which prioritizes service to bicycle commuters.

- With increasing retail development such as the Leavitt Deli and the Chipotle complex across the street, Bayside Bowl down the block, and further proposed housing and retail for the other former Public Works. The parcel is three blocks from the METRO Routes 2, 4 and 5. These serve the significant transportation corridors and residential neighborhoods off of Forest Avenue, Brighton Avenue and Outer Congress. The building is also four blocks from Congress Street with access to South Portland, Lakes Region, Shuttlebus/ZOOM and other METRO bus routes - and a seven-minute walk to the METRO Pulse transit hub on Elm Street. In addition, Portland and METRO have long eyed improving the Route 8 service of the Portland Peninsula.

- A Uhaul Carshare vehicle located within four blocks of the site, at 409 Cumberland Avenue/ Mechanic Street. Maine Workforce Housing is exploring the addition of a Uhaul Carshare or other private carshare vehicle at or immediately adjacent to 178 Kennebec Street.

Bruce Hyman, Transportation Program Manager, conducted his review of the TDM and states the following:

- Overall, I find that the TDM Plan provides a solid framework for assessing the transportation context, site uses' transportation and parking demand, menu of applicable TDM strategies and monitoring/evaluation
- The provided vehicle trip and parking reduction targets, currently expressed in percentage reductions, are to be translated into actual trip and parking reduction numbers to more easily account for and track-monitor their effectiveness and follow-up actions, including the need to secure off-site parking or pay into the Fee *in lieu* of parking/Sustainable Transportation Fund if parking demand exceeds that estimated by the parking study (0.41 spaces/unit).

f. Bicycle Parking

The proposals include eighteen (18) bicycle parking spaces frontages located at building entrances and along the street of Kennebec, Brattle and Parris Streets, which meets the ordinance standard of two

bicycle spaces per five vehicle spaces. All bicycle racks should be located on the property and not in the right of way. The previously proposed "wave rack" has been replaced with three inverted uracks, as recommended by staff. The Site Plan now includes six bike hitches (12 bike spaces) and three inverted u-racks (6 bike spaces).

2. Environmental Quality Standards

a. Preservation of Significant Natural Features
There are no known significant natural features on the site.

b. Landscaping and Landscape Preservation
The applicant is proposing four street trees in front of the buildings, three on Kennebec Street and one on Brattle Street. The street tree requirement would be one tree per unit, in or near the ROW. The Section 4.6 Street Trees of the Technical Manual does state:

> *If it is determined by the City Arborist that there is not adequate space or conditions for street trees in the public right of way or if there is a conflict between the location of proposed street trees and the location of existing or proposed underground utilities, the required number of street trees shall be provided on private property within 10 feet of the property line along the street frontage.*

The applicant will need to contribute to the City's Tree Fund for the remaining 47 trees.

c. Water Quality, Storm Water Management and Erosion Control
Under Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. Lauren Swett, P.E. with Woodard and Curran Engineering, has reviewed the drainage plan and stormwater report and meeting standards.

3. Public Infrastructure and Community Safety Standards

a. Consistency with Master Plans
See Subdivision, Paragraph VIII (B)6 above.

b. Public Safety and Fire Prevention
The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance address the principles of natural surveillance, access control and territorial reinforcement so that the design of developments enhance the security of public and private spaces and reduce the potential for crime. The applicant has submitted a lighting and photometric plan. Street lights, lighting at the entrances and rear of the building is proposed on site. The staff finds the proposal in conformance with this standard.

c. Availability and Adequate Capacity of Public Utilities
The project will be served by the Portland Water District, City Department of Public Works, and underground/ power /cable/communications. The Applicant will need to contact the Portland Water District and the City Department of Public Services requesting ability to serve water and sewer demand. Confirmation of ability to serve water and sewer from PWD and DPS should be forwarded to the Planning Authority upon receipt and prior to applying for a building permit.

4. Site Design Standards

a. Snow and Ice Loading
In accordance with the City of Portland Technical Manual, the Applicant is required to provide appropriate snow storage or description of a snow management plan. The snow storage locations shall be sited outside of existing and proposed drainage courses. The applicant will need to show how snow removal is being handled on site. If the applicant will be storing snow on site, the plans will need to show the proposed on-site snow storage areas and provide additional information on snow management.

b. View Corridors
This site is not within a Protected View Corridor as per the "View Corridor Protection Plan" approved by the Portland City Council in 2001.

c. Historic Resources
The site is not in any historic district; therefore, the project is not subject to by Historic Preservation review.

d. Exterior Lighting
The applicant has submitted a lighting and photometric plan. The photometric plans show no light pollution onto neighboring properties. The majority of the proposed lighting fixtures meet the cut-off standards except for the 'Aspen Wedge' proposed for the entrances but staff recommends approval if placed under canopies. The applicant is proposing two street lighting on Kennebec Street. There is an existing cobra heads on the utility poles on Parris and Brattle Street. The street lighting should be the Bayside medium light in black with LED 3000 K, following the spacing as specified in the Tech Manual and with 2″ to 4″ reveal of the concrete footing.

e. Noise and Vibration
All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will have to be shown on the plans and meet state and federal emissions requirements. These mechanical equipment should be located to the interior of the site, away from abutting residential properties and be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof. This information will have to be submitted for review.

f. Signage and Wayfinding
This standard does not apply to the proposal.

g. Zoning Related Design Standards
Revisions to the mixed-use/residential proposal at 178 Kennebec Street was reviewed by Caitlin Cameron, Urban Designer, Shukria Wiar, Planner, and Matt Grooms, Planner of the Department of Planning & Urban Development against the B-*7 Mixed Use Urban District Zone Design Principles & Standards* (Appendix 4 of the Design Manual).

Design Review Comments:

- Generally, design comments have been addressed – *see outstanding items below.*
- **B-9 Streetscape Design:** *Will street trees conflict with building canopies?*
- **C-6 Surface Lots:** *Limited changes made in response to this standard for screening.*
- **E-7 Windows:** *New windows should maintain a VT of .7 or greater.*
- **E-12 Materials:** Use of fiber cement panels requires a waiver from Design Standard E-12 Materials. *Provide samples of the panel material to the Planning Board in support of waiver request.*
- E-16 Signage: *Provide a sign master plan.*
- **E-18: Sustainable Design** – Property that is controlled or conveyed by the City shall be developed at a minimum in a manner that is certifiable within the standards for building and neighborhood design in accordance with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED). The property was sold to the applicant by the City of Portland. *No information is provided on how the proposal meets this requirement.*

XI. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board approve the proposed development.

XII. PLANNING BOARD MOTIONS

A. CONDITIONAL USE

On the basis of the application, plans, reports and other information submitted by the applicant, findings to the Ensure Workforce Housing and recommendations contained in the Planning Board Report, relevant to Portland's Conditional Use Standards and other regulations, and the testimony presented at the Planning Board hearing:

The Planning Board finds the proposed conditional use for workforce housing [**does** or **does not**] meet the standards of Section 14-484 with the following conditions:

1. That the Applicant and the City shall enter into an agreed upon Affordable Housing Agreement (AHA) prior to the issuance of a building permit. The Affordable Housing Agreement shall outline the details of the affordability restrictions placed on the Workforce Units; and

2. That the Affordable Housing Agreement shall be filed as covenant to the property's deed with the Cumberland County Registry of Deeds prior to the issuance of a Certificate of Occupancy.

B. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the planning board report for the public hearing on July 24, 2018 for application 029-2018 relevant to Portland's technical and design standards and other regulations; and the testimony presented at the Planning Board hearing:

1. The Planning Board [finds/does not find], based upon the consulting transportation engineer's review *(Attachment 1),* that extraordinary conditions exist or undue hardship may result from strict compliance with the *Technical Manual* standard *(Section 1.14)* which requires that aisle width for right-angle parking be 24 feet per *Figure I-27*. The Planning Board [waives/does not waive] the *Technical Manual* standard *(Section 1.14)* to allow a 22-foot-wide aisle in the parking lot;

2. The Planning Board [finds/does not find], based upon the consulting transportation engineer's review *(Attachment 1),* that extraordinary conditions exist or undue hardship may result from strict compliance with the *Technical Manual* standard (*Section 1.14 and Figures I-27 to I-29)* limiting compact spaces to 20% of total parking supply. The Planning Board [waives/does not waive] the Technical Manual standard (*Section 1.14 and Figures I-27 to I-29)* to allow 38% compact spaces (10 spaces)*;*

3. The Planning Board [finds/does not find], based upon the consulting transportation engineer's review *(Attachment 1),* that extraordinary conditions exist or undue hardship may result from strict compliance with the *Technical Manual* standard (*Section 1.7.1)* to provide a minimum distance of twenty (20) ft spacing between it and adjacent. The Planning Board [waives/does not waive] the Technical Manual standard (*Section 1.7.1)* to allow a driveway separation of 19 feet between the proposed driveway and the existing one on Parris Street;

4. Based upon the urban designer's review *(Attachment 5),* the Planning Board [waives/does not waive] the Design Manual standard (*Section F and Standard E-12)* to allow fiber cement panels as building material on portions of the building visible from the right-of way.

C. SUBDIVISION PLAT

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in Planning Board Report for application #09-2018 relevant to the Subdivision Ordinance, and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearings, the Planning Board finds the plan (is/is not) in conformance with the subdivision standards of the land use code, subject to the following conditions to be met as noted:

TO BE MET PRIOR TO APPLYING FOR A BUILDING PERMIT:

1. A subdivision plat meeting all plat requirements as noted in 14-496 shall be finalized to the satisfaction of the Planning Authority, Department of Public Services and Corporation Counsel;
2. The recording plat shall be revised noting all waivers and conditions for review and approval by the Planning Authority prior to recording.
3. That the following shall be finalized to the satisfaction of the Corporation Counsel and shown on the final subdivision plat:
    a. Easement of the parking lot encroachment
    b. Pedestrian easement
    c. License for the canopies
    d. Stormwater management agreement

TO BE MET PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY:

4. Requiring that the draft Condominium Association documents address staff comments and be finalized to the satisfaction of the Corporation Counsel; and
5. The four property corners shall have property pins set by a registered land surveyor prior to issuance to the certificate of occupancy.

D. SITE PLAN

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in Planning Board Report for application #029-2018 relevant to the Site Plan Ordinance, and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearings, the Planning Board finds the plan (is/is not) in conformance with the site plan standards and all other applicable provisions of the land use code, subject to the following conditions to be met as noted:

TO BE MET PRIOR TO APPLYING FOR A BUILDING PERMIT:

1. The landscaping plan shall be revised to buffer the parking lot from the street right-of-way and shall show landscaping buffer at the rear property line, along the parking lot.

2. The street lighting shall be the Bayside medium light in black with LED 3000 K, following the spacing as specified in the Tech Manual and with 2″ to 4″ reveal of the concrete footing.

3. Confirmation of ability to serve water and sewer from PWD and DPS should be forwarded to the Planning Authority

TO BE MET PRIOR TO THE ISSUANCE OF A BUILDING PERMIT:

4. Due to site constraints preventing the planting of required street trees in the right of way, the requirements of Section 14-526(2)(b)(iii) of the Site Plan Ordinance cannot be met; the applicant shall contribute to the tree fund of $400 per tree for forty-seven (47) trees for a total of $18,800.

5. A revised construction management plan shall be submitted that address how pedestrians will be managed at the corner of Kennebec Street and Brattle Street and specific details on lane closures for review and approval by the Planning Authority and Department of Public Works.

6. All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will have to be shown on the plans and meet state and federal emissions requirements. Documentation shall be submitted that shows the maximum noise requirement of 60 decibels at lot boundaries shall be maintained during the “day time” hours.

7. The developer/contractor/subcontractor must comply with conditions of the construction stormwater management plan and sediment and erosion control plan based on City standards and state guidelines. The owner/operator of the approved stormwater management system, and all assigns. shall comply with the conditions of Chapter 32 Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements. A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Please submit final copies to both the Department of Planning and Urban Development and the Department of Public Works; and

TO BE MET PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY:

8. The applicant shall document as to how they are meeting the LEED equivalent as required by the B7 design standards prior to the certificate of occupancy.

9. A sign master plan as required by the B-7 design standards shall be submitted and reviewed by the Planning Authority.

10. The applicant shall ensure that the sidewalk width of four feet be provided during the installation of the new utility pole on Brattle Street.

PROJECT MONITORING:

11. The Applicant shall conduct a Parking Demand Study following the occupancy of the project with the methods of the Study to be reviewed and approved by Planning Staff. If the study identifies a parking supply deficit, the applicant shall either secure off-site parking spaces or make a contribution to the City's Parking In-Lieu Fee program.

XII. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Traffic Engineer review (memo from Thomas Errico)
2. Civil Engineer and Department of Public Services review (memo from Lauren Swett)
3. Transportation Division review (memo from Bruce Hyman)
4. Housing Program Manager review (memo from Victoria Volent)
5. Design review (memo from Caitlin Cameron)
6. Public Comment - PC 1_Michniewicz

APPLICANT'S SUBMITTALS

A. 178 Kennebec Street - Level III Application-signed
B. 178 Kennebec Street - Checklist- Level 3
C. Development Description
D. Evidence of Right, Title, and Interest
E. State and Federal Permits
F. Land Ordinance Review
G. Easements or Other Burdens
H. Technical and Financial Capacity
I. Construction Management Plan
J. Natural Features
K. Stormwater Management
L. Consistency with City Master Plans
M. Utilities
N. Solid Waste
O. Fire Safety
P. Conformity with Applicable Design Standards
Q. Verification of Proposed HVAC Equipment
R. 2018-7-3-Wiar-Comment Response
S. Parking Analysis
T. Transportation Demand Management
U. Neighborhood Meeting
V. Wastewater Capacity Letter
W. 2018-07-19-LOR-Traffic
X. 2018-07-19-Waiver-Request
Y. B-7 Performance Standards

PLANS

Plan 1. Survey
Plan 2. Cover Sheet & Legend
Plan 3. General Notes
Plan 4. Construction Management Plan
Plan 5. Site Plan
Plan 6. Utility Plan
Plan 7. Site Details
Plan 8. Site Details
Plan 9. Utility and Drainage Details
Plan 10. Erosion Control Details & Notes
Plan 11. Landscaping Plan

Plan 12. Photometric Plan
Plan 13. Kennebec Street-A2.01-Building Elevations
Plan 14. Kennebec Street Rendering 1
Plan 15. Kennebec Street Rendering 2
Plan 16. Kennebec Street Rendering 3
Plan 17. Kennebec Street Rendering 4
Plan 18. Kennebec Street - A1.01 - First Floor Plan
Plan 19. Kennebec Street - A1-02 - Second & Typical Floor Plans
Plan 20. Recording Plat

Portland Maine | Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

178 Kennebec Street - Final Traffic Comments

Tom Errico <thomas.errico@tylin.com> Fri, Jul 20, 2018 at 9:51 AM
To: Shukria Wiar <shukriaw@portlandmaine.gov>
Cc: Keith Gray <kgray@portlandmaine.gov>, Bruce Hyman <bhyman@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Jeff Tarling (JST@portlandmaine.gov)" <JST@portlandmaine.gov>

Hi Shukria – the following presents my final traffic comments based upon a review of the revised application materials.

- The Kennebec Street curb design does not appear to be consistent with the City's Kennebec Street Improvement Project. The plans shall be revised to reflect to proposed design.

  Status: The plans have been revised and I have no further comment.

- It is my assumption that Bruce Hyman will be providing detailed comments on sidewalk facilities. I would note that the current plan does not depict a ramp at the Parris Street corner and the Brattle Street ramp is not acceptable as depicted. Revisions to match the City project will address these issues.

  Status: Refer to Bruce Hyman's comments.

- Parking spaces meet City dimensional standards. The aisle width does not comply with City standards and thus the applicant shall request a formal waiver with supporting documentation.

  Status: The applicant has provided supporting documentation for the aisle width and given site constraints and that vehicle turnover should be limited, I support a waiver from the City's Technical standards. I would note that seven parking spaces also need a waiver for not meeting 9'X18' size requirements. I support a waiver given similar reasons noted previously and that the proposed spaces nearly meet the standard (8.5'x17').

- It is suggested that short-term 15-minute parking be provided on Parris Street between Kennebec Street and the proposed driveway.

  Status: The plans have been revised and I have no further comment.

- The driveway for 53 Brattle Street is being eliminated. It is unclear how parking for this lot is being addressed.

  Status: The applicant has noted that parking will be provided on an abutting property owned by the same owner. I have no further comment.

- A utility pole is being relocated to directly in front of 53 Brattle Street. Details on pedestrian accessibility for the relocated pole should be documented.

  Status: The plans indicate a 4-foot pedestrian walking space will be provided from the face of proposed pole to the back of sidewalk. The applicant shall ensure that this width is provided during the installation of the new pole.

- The applicant shall provide information/data that supports the parking demand estimate provided in the application.

  Status: The Applicant has estimated a parking demand of 27 parking spaces for the project (21 spaces for the residential units and 6 spaces for the retail/artist space). As allowed by City Ordinance, a credit of eight parking spaces is permitted with the provision of a car share vehicle. Accordingly, the applicant is suggesting a need for 19 parked vehicles. The Applicant has proposed accommodating parking requirements by providing 18 parking spaces on-site. I would note that one of the spaces will be designated for the car share vehicle and the site plan notes a space that is to be used for pick up/drop off activities. Accordingly, 16 parking spaces will be available for general use. Given that the Avesta Housing surveys supporting the parking demand analysis were conducted during the week of the July 4th holiday, and the retail/artist parking demand estimate is an approximation, I would suggest the following condition of approval:

  - **The Applicant shall conduct a Parking Demand Study following the occupancy of the project with the methods of the Study to be reviewed and approved by Planning Staff. If the study identifies a parking supply deficit, the applicant shall either secure off-site parking spaces or make a contribution to the City's Parking In-Lieu Fee program.**

- The applicant has conducted a trip generation estimate for the project and back-up calculations for all project uses shall be provided. The project will not generate traffic levels that will require a Traffic Movement Permit.

  Status: The applicant provided trip generation calculations and the project is estimated to generate 29 trips during the PM peak hour. The project is not expected to have a significant impact on traffic safety and mobility and no action is required from a traffic impact perspective.

- The proposed driveway on Parris Street does not comply with City standards for driveway separation. The applicant shall request a formal waiver with supporting documentation.

  Status: Given existing driveway conditions, low traffic volumes and speeds in the area, and low traffic generation from the site, I support a waiver from the City's Technical Standards.

- **I have reviewed the construction management plan and I generally find it to be acceptable. Refinement on how pedestrians will be managed at the corner of Kennebec Street and Brattle Street is required. Additionally, specific details on lane closures should be provided. Accordingly, I would suggest a condition of approval that the applicant is to provide a revised construction management plan for review and approval prior to issuance of a building permit.**

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TY LIN INTERNATIONAL
12 Northbrook Drive
Falmouth, ME 04105
+1.207.781.4721 main
+1.207.347.4354 direct
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thomas.errico@tylin.com
Visit us online at www.tylin.com
Twitter | Facebook | LinkedIn | Google+

"One Vision, One Company"

Portland Maine Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

178 Kennebec Street Comments Please

Lauren Swett <lswett@woodardcurran.com> Fri, Jul 20, 2018 at 11:12 AM
To: Shukria Wiar <shukriaw@portlandmaine.gov>

Hi Shukria,

I have no new comments. They are still waiting for the sewer ability to serve letter and they will be providing a stormwater agreement under separate cover. I thought I had clicked off the other items as resolved as I sat in the meeting on Wednesday, but it looks like it didn't save… I just went in to do that.

Any questions, let me know.

Thanks,

Lauren

From: Shukria Wiar <shukriaw@portlandmaine.gov>
Sent: Friday, July 20, 2018 9:31 AM
To: Lauren Swett <lswett@woodardcurran.com>
Subject: 178 Kennebec Street Comments Please

[Quoted text hidden]

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

Portland Maine Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

PL-29-2018 - 178 Kennebec Street - Transportation Demand Management Plan

Bruce Hyman <bhyman@portlandmaine.gov> Fri, Jul 20, 2018 at 1:37 PM
To: Shukria Wiar <shukriaw@portlandmaine.gov>
Cc: Tom Errico <thomas.errico@tylin.com>, Helen Donaldson <hcd@portlandmaine.gov>

Good afternoon, Shukria,

The following are my comments on the draft TDM Plan submitted for 178 Kennebec Street, dated July 6, 2018:

- Overall I find that the TDM Plan provides a solid framework for assessing the transportation context, site uses' transportation and parking demand, menu of applicable TDM strategies and monitoring/evaluation
- The provided vehicle trip and parking reduction targets, currently expressed in percentage reductions, are to be translated into actual trip and parking reduction numbers to more easily account for and track-monitor their effectiveness and follow-up actions, including the need to secure off-site parking or pay into the Fee *in lieu* of parking/Sustainable Transportation Fund if parking demand exceeds that estimated by the parking study (0.41 spaces/unit).

Please don't hesitate to contact me if you or the Board need further information or have questions.

Best regards,

Bruce
--
Bruce Hyman
Transportation Program Manager
Transportation Division

Department of Planning & Urban Development
389 Congress Street
Portland, Maine 04101
(207) 874-8717 phone

bhyman@portlandmaine.gov
http://www.portlandmaine.gov/1363/Transportation-Division
Yes! Transportation's Good Here ....

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

To: Shukria Wiar, Planner, Planning & Urban Development Department

From: Victoria Volent, Housing Program Manager, Housing & Community Development Division

Date: July 17, 2018

Subject: 178 Kennebec Street – Inclusionary Zoning Conditional Use

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All developments of ten (10) units or more are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Division 30, Section 14-487 of the Zoning Ordinance.

Division 30, Section 14-487, Ensuring Workforce Housing, requires at least ten percent (10%) of the dwelling units in the development shall meet the definition of Workforce Housing units for sale or for rent. The ordinance under Section 14-487 e 3 also requires the number of bedrooms in the Workforce units shall be at least 10% of the total number of bedrooms made available as part of the development.

The development located at 178 Kennebec Street proposes the creation of 51 dwelling units of rental housing consisting of five (5) studio, and forty-six (46) one-bedroom units. As dwelling units for rent, the designated Workforce Units will be restricted to households earning up to 100% of Area Median Income (AMI). Based on the requirements outlined in Section 14-487, the development is required to provide a minimum of five (5) workforce units consisting of one (1) bedroom in each unit. The Applicant has elected to provide forty (40) units of low-income housing. Of these units, sixteen (16) units are targeted towards households earning 50% AMI, and twenty-four (24) units are targeted towards households earning 60% AMI. The remaining eleven (11) units will be market rate rentals. As such, the project has met the minimum requirements set forth in Section 14-487.

The Developer requested the City of Portland to enter into an Affordable Housing Tax Increment Financing agreement to help finance this project. Disbursement of funds require the completion of a Credit Enhancement Agreement that will guarantee future rentals to qualified households for a period of thirty (30) years.

Staff has determined this project exceeds the affordability requirements of Division 30, Section 14-487 and recommends final approval be conditioned on the completion of all standard commitment requirements between the City of Portland and the Developer.

Sincerely,

Victoria Volent
Housing Program Manager

Planning and Urban Development Department
Planning Division

Subject: B7 Design Review – 178 Kennebec Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Thursday, July 12, 2018

Revisions to the mixed-use/residential proposal at 178 Kennebec Street was reviewed by Caitlin Cameron, Urban Designer, Shukria Wiar, Planner, and Matt Grooms, Planner of the Department of Planning & Urban Development against the B-*7 Mixed Use Urban District Zone Design Principles & Standards* (Appendix 4 of the Design Manual).

Design Review Comments:

- Generally, design comments have been addressed – see outstanding items below.
- **B-9 Streetscape Design:** Will street trees conflict with building canopies?
- **C-6 Surface Lots:** Limited changes made in response to this standard for screening.
- **E-7 Windows:** New windows should maintain a VT of .7 or greater.
- **E-12 Materials:** Use of fiber cement panels requires a waiver from Design Standard E-12 Materials. Provide samples of the panel material to the Planning Board in support of waiver request.
- E-16 Signage: Provide a sign master plan.
- **E-18: Sustainable Design** – *Property that is controlled or conveyed by the City shall be developed at a minimum in a manner that is certifiable within the standards for building and neighborhood design in accordance with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).* The property was sold to the applicant by the City of Portland. No information is provided on how the proposal meets this requirement.

Purpose: The following purpose statements are most applicable to the proposed project.

1. Support and reinforce the goals of *A New Vision for Bayside*.
    - Government Center District – "The streets that were once dominated by vacant lots and public works yards are now lined with trees, small quiet buildings and corner parks."
    - Critical Action 2: Build more housing

2. Accentuate Bayside as a gateway to the city by highlighting major corridors and corners.

8. Allow building heights that create space for a critical mass of people needed to make a new urban neighborhood successful. Ensure that development is human in scale at the pedestrian level.

9. Encourage architecture which expresses the aesthetic of the time in which it was built, that respects local urban design patterns, and that is compatible with adjacent traditional residential neighborhoods.

11. Create a variety of mixed-use commercial opportunities that serve the neighborhood, city, and region.

Principle A: Urban Design

All development in Bayside shall be designed to create a strong urban identity and sense of place. . . .

A-1: Sense of Place – The project meets the standard by introducing new construction with clear, contemporary design that makes reference to the industrial character of the neighborhood. The surrounding buildings are predominantly one-story industrial buildings and transitioning into two-story residential buildings - this project provides an opportunity to introduce a new character for taller, mixed-use buildings in the neighborhood. Staff find the project to be successful in its overall placement, mass, height, and character in achieving the intent of this standard.

A-2: Edges and Transitions – The project is quite a bit taller than the nearest residential buildings on Brattle Street which are mostly two-story buildings. The project places a buffer of surface parking between the new, six-story building and the existing, small-scale residential buildings. The building form and mass, however, are distinctly mid-rise and mixed use and does not attempt to relate to the single-family building types nearby.

A-3: Gateways – The current plan acknowledges the gateway nature of the site and meets the four-story height minimum with the building placement and orientation.

A-4: Views and Landmarks – Project does not block any identified view corridors.

A-5: Pedestrian Environment – The approach up Kennebec Street and the prominence and experience of the front face of the building should be carefully considered. The project uses large storefront windows and awnings to activate and articulate the pedestrian environment. The overhangs also provide a sense of enclosure at the pedestrian realm. Surface parking is mitigated by being placed behind the building. **Additional landscaping was added.**

A-6: Mix of Uses – The project is mixed-use with a commercial and residential uses.

A-7: Building Orientation – The building appropriately orients to Kennebec Street creating an urban street wall at all three streets. There are not many buildings yet existing in the surrounding blocks – this project begins to establish the appropriate and desired street wall. The residential and retail entries all directly face streets – the commercial space has a corner entry on Kennebec and Brattle streets.

Principle B: Access and Circulation

Streets and sidewalks in Bayside shall be designed to encourage a pedestrian friendly, walkable environment. The goal is to create streets that are scaled and designed for pedestrian and bicycle use; are well landscaped; promote traffic calming; allow for mid-block permeability, and extend the pattern and scale of Portland's traditional street grid and blocks in accordance with the 1914 Atlas of the City of Portland.

B-1: Streets and Alleys – The streets surrounding this project are B streets. The sidewalks are narrow but are designed to include street lights, and ramps. Trees and landscaping are provided in the private space because the public right-of-way is too narrow to accommodate street trees or esplanades.

B-2: Street Connectivity – n/a

B-3: Mid-Block Permeability – The project includes mid-block permeability in the sense that the parking lot connects the two side streets parallel to Marginal Way.

B-4: Sidewalks and Crosswalks – Sidewalk comments will be given by other staff.

B-5: Green Streets – n/a

B-6: Multi-modality – The project provides amenity and access for all modes.
B-7: Continuity of Street Level Uses – n/a
B-8: Traffic-calming – No traffic calming measures are proposed in this case.
B-9: Streetscape Design – Kennebec Street is an A street while Parris and Brattle are B streets. The sidewalks are narrow but are designed to include street lights, and ramps. Trees and landscaping are provided in the furnishing zone on Kennebec and Brattle Street but on the private property side on Parris Street where the sidewalk is narrow. Will street trees conflict with canopies?
B-10: Encroachments – Canopies overhang the public right-of-way and provide a sense of enclosure and scale for the pedestrian realm.
B-11: Lighting – B streets shall use the 19'3" size Bayside street light, black 3000K LED.

Principle C: Parking, Loading and Service Areas
Parking, loading and service areas shall be designed and located so as to present an attractive façade to neighboring use, to minimize their visual presence in the neighborhood, and to minimize the impact along pedestrian oriented streets and residential areas.
C-1: Parking Structures – n/a
C-2: Parking Entrances - n/a
C-3: Active Uses – n/a
C-4: Back of Parking Structures - n/a
C-5: Decks and Ramps – n/a
C-6: Surface Lots – *Areas devoted to surface parking shall be screened from public rights-of-way and significant views through the use of design elements such as plantings, fencing, grade changes, and/or walls. A landscaped border shall be created around all surface parking lots. Any parking lot containing ten (10) or more parking spaces shall include one (1) or more landscaped island within the interior of the lot. There shall be at least one (1) island for every twenty (20) spaces.*

- Some landscape/trees are provided between surface parking and Parris and Brattle Street. Unclear how much screening is accomplished but space is limited.
- Screening between the parking and the neighboring residential uses is required.
- Landscape island is required by this standard.

C-7: Bike Racks. – Bike racks are located within proximity of the retail and residential entries directly accessible from sidewalks. Location and spacing must comply with the City of Portland Technical Manual.
C-8: Service, Utility and Mechanical Infrastructure

- Utilities, trash room, etc. are located on back side of building facing the surface parking.
- **Rooftop mechanicals screened by building parapet – integrated into roofline.**

Principle D: Open Space and the Public Realm – n/a

Principle E: Architectural Design
New development shall contribute positively to a new identity for the neighborhood as outlined in A New Vision for Bayside. New development shall create a mixed-use, pedestrian-friendly setting that contributes to the context of the surrounding urban fabric and provides a sensitive transition to adjacent residential neighborhoods. . . .

E-1: Architectural Design – Staff review find the overall design approach to be appropriate and effective. The design is clearly contemporary while making reference to the industrial character of the neighborhood. There is a good balance of fenestration and articulation with bays, trim, material patterns, articulated base, and canopies.
E-2: Height – Building heights meet the zone and overlay map. The massing is not varied to transition to the residential scale but there is limited area to use that kind of transition. Instead, there is a buffer between the new building and the adjacent residential properties.
E-3: Massing – No large expanses of undifferentiated facades on public rights-of-way. Project meets the requirement for a base, middle, and top. **Revisions to window size, material placement based on staff and board comment. Building follows a base, middle, top approach using canopies, trim, and pattern for visual interest.**
E-4: Articulation – The use of the faux bays is a good way to add some visual interest and accentuate the tall corner of the building. The project also successfully introduces a combination of articulation elements that define the base, middle, and top of building, give dimension to the window openings, and add visual interest and comfort at the pedestrian level. These elements include awnings above the retail spaces, change in materials, "bays," trim and reveals at windows, and trim line/profile to delineate floors. Different window types are also used to differentiate uses.
E-5: Flexibility of Interior Layout – The ground floor commercial space is currently left undivided and flexible.
E-6: Entrances – Commercial entrances include storefront, canopies, and are street-facing, directly accessible from the street. Corner chamfer emphasizes additional commercial entrance. The residential entrance is at the side of the building – **this residential portion is distinguished from the commercial with landscape, setback, side entry.** This entrance will be made more visible and accessible from the street by a walkway proposed to connect from both Preble and Elm Streets and signified with the use of granite posts.
E-7: Windows – Window placement meets these standards. See Standard E-3 above regarding fenestration pattern on façade composition. Windows should maintain a VT of .7 or greater.
E-8: Storefronts – **The storefronts were revised to show doors directly onto Kennebec** but appear to meet the standard of allowing for frequent entries to be introduced. Storefront shall be transparent.
E-9: Back Sides of Buildings – Upper floors meet the standard. **Staff comments regarding the lack of visual interest of the back side of the building was addressed by canopies and transom.**
E-10: Rooftop Appurtenances – **Rooftop mechanicals screened by parapet/integrated into roof form.**
E-11: Fences and Walls – n/a
E-12: Materials – The standard currently does not allow for fiber cement panels to be used on facades visible from the public rights-of-way – Planning Board must grant a waiver for this item. Staff found the grey and warm tone materials to be a good combination and support the approach of two different materials if placed with a clear relationship and rationale to the use and massing breaks. **Revisions to material placement respond to staff comment – prefer a consistent base and top level treatment with window and material variation in the mid-section of the building. Panel was revised from a faux wood to a grey finish.**
E-13: Transparency – VT of .7 or greater is required by the standard.
E-14: Illumination – See Site Plan comments.
E-15: Weather Protection – The project does include canopies at the retail frontage to meet this standard.

E-16: Signage – *Each building may have one sign per storefront tenant at the pedestrian level, one sign board at each entrance with a tenant roster, and a street number sign at entrances as necessary.*

- A sign master plan is required as part of the submittal. Future signage will require a sign permit and review under the B7 Design Standards.

E-17: Historic Buildings – The building is within 100' of the historic post office building, however, staff determined there is not enough visual or physical relationship between these buildings to warrant an advisory historic preservation review.

E-18: Sustainable Design – *Property that is controlled or conveyed by the City shall be developed at a minimum in a manner that is certifiable within the standards for building and neighborhood design in accordance with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).*

- The property was sold to the applicant by the City of Portland. No information is provided on how the proposal meets this requirement.

E-19: Shadows – The site is not adjacent to the trail or public open space. The project is north of the smaller-scale residential buildings and therefore minimizes the shadow impact.

E-20: Wind – No information on wind impact has been provided. Staff do not anticipate wind impacts being exacerbated by this project.

Portland Maine Yes. Google's good here.

Helen Donaldson <hcd@portlandmaine.gov>

Re: March 6 BNA Board Meeting

3 messages

Sarah Michniewicz <sarahmichniewicz@me.com> Tue, Mar 6, 2018 at 10:17 PM
To: Charles Kaufmann <clk328@rcn.com>
Cc: Helen Donaldson <hcd@portlandmaine.gov>

You can email the whole board at planningboard@portlandmaine.gov, and Nell Donaldson, a member of the planning staff with whom I have been discussing these issues, at hcd@portlandmaine.gov. I've been pretty explicit with all of them that Bayside has been through a lot and deserves development and buildings that aim much higher than the kind of stuff they are approving, but I'm just one voice. So thank you, it really does make a difference!

Sarah

> On Mar 6, 2018, at 9:42 PM, Charles Kaufmann <clk328@rcn.com> wrote:
>
> Hi, Sarah,
>
> Just let me know how to do that.
>
> Chip
>
> > On Mar 6, 2018, at 9:15 PM, Sarah Michniewicz <sarahmichniewicz@me.com> wrote:
> >
> > Hi again, Chip!
> >
> > At the meeting tonight it was clear that this building isn't what people really want to see. Most of this company's other projects have been brick, and are classic yet interesting. So why does Bayside get this? One of the answers given is that the planning board is "pushing for modern" in Bayside.
> >
> > So-please submit your comments to the planning board! I'm not sure they realize how disliked this type of design is.
> >
> > I hope your film went well!
> >
> > Sarah
> >
> > On Mar 5, 2018, at 11:40 PM, Sarah Michniewicz <sarahmichniewicz@me.com> wrote:
> >
> > > Thanks for your comments, Chip, and have a good trip!
> > >
> > > > On Mar 5, 2018, at 8:45 PM, Charles Kaufmann <clk328@rcn.com> wrote:
> > > >
> > > > I will not be able to attend the March 6 meeting — I'll be in Oberlin, Ohio, showing one of my films. My reaction to the 178 Kennebec Street Project is: Yet another bland, look-alike, square condo building to add to Portland's ever-growing bland, look-alike, square, early-21st-century architectural legacy. Add to that: 1) Confused identity between office building and residential structure and 2) Does not reflect the inherent diverse aspirations of the human spirit.
> > > >
> > > > Chip

On Mar 5, 2018, at 4:16 PM, Sarah Michniewicz <sarahmichniewicz@me.com> wrote:

Greetings All!

Just a reminder that the March BNA board meeting is tomorrow night, and we have some important items on the agenda!

-**Crime in Bayside**: After our usual updates from **Rob Parritt**, **Kelly Crotty** and **PSRC**, we will talk generally about neighborhood safety, the issues we face, and the increased activity that spring brings. **Jon Sahrbeck, a candidate for Cumberland County DA**, will be there to listen, so bring your voice to the conversation!

-**Crystal Canney**, a candidate for Senate District 27 will also be there.

-**Midtown Project Garage**: **Patrick Venne**, representative of The Federated Companies, will give an update and take questions on the parking garage proposed to be built on the Midtown site. Building permits were applied for in February: https://www.pressherald.com/2018/02/07/midtown-project-progresses-as-developer-files-permit/

-**178 Kennebec Street**: **Amy Cullen** of The Szanton Company will be giving a presentation and listening to our feedback on a proposed 7-story, 45-50 unit apartment building with ground level retail space. Please take a moment to check out the rendering below and bring your thoughts and questions.

-We will also be reviewing our **board attendance policy** and planning a **Spring Cleanup**.

See you soon!

Sarah

178 Kennebec Street Project:

<Kennebec Street Rendering 2.jpeg> <Screen Shot 2018-03-05 at 2.51.20 PM.png>

Helen Donaldson <hcd@portlandmaine.gov> Wed, Mar 7, 2018 at 11:27 AM
To: Caitlin Cameron <ccameron@portlandmaine.gov>

[Quoted text hidden]
--
Nell Donaldson
City of Portland Planning Division
874-8723
hcd@portlandmaine.gov

Helen Donaldson <hcd@portlandmaine.gov> Wed, Mar 7, 2018 at 11:31 AM
To: Sarah Michniewicz <sarahmichniewicz@me.com>
Cc: Charles Kaufmann <clk328@rcn.com>

Sarah,

Thanks for including me on this. This project has not come in for review yet, but I have forwarded this to Caitlin Cameron so that she is aware of these concerns, and will make sure that this is saved in a file for when the project application is submitted.

Best,
Nell
[Quoted text hidden]
--
Nell Donaldson
City of Portland Planning Division
874-8723
hcd@portlandmaine.gov

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), Design Manual and Technical Manual.

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719
planning@portlandmaine.gov

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

I. Project Information (Please enter n/a on those fields that are not applicable)

Project Name:	178 Kennebec Street
Proposed Development Address:	178 Kennebec Street
Project Description:	46-unit, 7-story, 55+ apartment building with ground floor artist studio/retail
Chart/Block/Lot:	Map 34, Block F, Lots 1 and 2
Preliminary Plan	X
Final Plan	

II. Contact Information (Please enter n/a on those fields that are not applicable)

APPLICANT

Name:	Amy Cullen
Business Name:	Maine Workforce Housing, LLC
Address:	482 Congress Street, Suite 203
City/State:	Portland, ME
Zip Code:	04101
Work #:	207-871-1661
Home #:	
Cell #:	207-272-6918
Fax #:	207-245-6442
E-mail:	acullen@szantoncompany.com

OWNER

Name:	The Szanton Company (affiliates of)
Address:	482 Congress Street, Suite 203
City/State:	Portland, ME
Zip Code:	04101
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	acullen@szantoncompany.com

AGENT/REPRESENTATIVE

Name:	Michael Tadema-Wielandt, P.E., Terradyn Consultants, LLC
Address:	565 Congress Street, Suite 310
City/State:	Portland, ME
Zip Code:	04101
Work #:	
Home #:	
Cell #:	207-632-9010
Fax #:	
E-mail:	mtw@terradynconsultants.com

BILLING (to whom invoices will be forwarded to)

Name:	Maine Workforce Housing, LLC
Address:	482 Congress Street, Suite 203
City/State:	Portland, ME
Zip Code:	04101
Work #:	207-245-6430
Home #:	
Cell #:	
Fax #:	
E-mail:	ttarbox@sacofallsmanagement.com

ENGINEER

Name:	Michael Tadema-Wielandt, P.E., Terradyn Consultants, LLC
Address:	565 Congress Street, Suite 310
City/State:	Portland, ME
Zip Code:	04101
Work #:	
Home #:	
Cell #:	207-632-9010
Fax #:	
E-mail:	mtw@terradynconsultants.com

SURVEYOR

Name:	Randy R Loubier, Owen Haskell, Inc.
Address:	390 U.S. Route One
City/State:	Falmouth, ME
Zip Code:	04105
Work #:	207-774-0424
Home #:	
Cell #:	
Fax #:	
E-mail:	rloubier@owenhaskell.com

ARCHITECT

Name:	David Lloyd, Archetype, P.A.
Address:	48 Union Wharf
City/State:	Portland, ME
Zip Code:	04101
Work #:	207-772-6022
Home #:	
Cell #:	
Fax #:	
E-mail:	lloyd@archetypepa.com

ATTORNEY

Name:	
Address:	
City/State:	
Zip Code:	
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	

DESIGNATED PERSON(S) FOR UPLOADING INTO e-PLAN

Name:	Michael Tadema-Wielandt, Terradyn Consultants
E-mail:	mtw@terradynconsultants.com
Name:	Adrienne Fine, Terradyn Consultants
E-mail:	adrienne@terradynconsultants.com
Name:	
E-mail:	

III. APPLICATION FEES

LEVEL III DEVELOPMENT (check applicable review)

☑	Less than 50,000 sq. ft.	$750.00
☐	50,000 – 100,000 sq. ft.	$1,000.00
☐	100,000 – 200,000 sq. ft.	$2,000.00
☐	200,000 – 300,000 sq. ft.	$3,000.00
☐	Over 300,000 sq. ft.	$5,000.00
☐	Parking lots over 100 spaces	$1,000.00
☐	After-the-fact Review	$1,000.00 + applicable application fee above

PLAN AMENDMENTS (check applicable review)

☐	Planning Staff Review	$250.00
☐	Planning Board Review	$500.00

OTHER REVIEWS (check applicable review)

☐	Traffic Movement	$1,500.00
☐	Stormwater Quality	$250.00
☑	Subdivision	$500.00 + applicable fee for lots/units below
	# of Subdivision Lots/Units [46] x $25.00 each	$ 1,150.00
☐	Site Location	$3,500.00 + applicable fee for lots/units below
	# of Site Location Lots/Units [ ] x $200.00 each	$
☐	Change of Use	
☐	Flood Plain	
☐	Shoreland	
☐	Design Review	
☐	Housing Replacement	
☐	Historic Preservation	
	TOTAL APPLICATION FEE DUE:	$ 2400.00

IV. FEES ASSESSED AND INVOICED SEPARATELY

- Notices to abutters (receipt of application, workshop and public hearing meetings) ($.75 each)
- Legal Ad in the Newspaper (% of total ad)
- Planning Review ($52.00 hour)
- Legal Review ($75.00 hour)
- Third Party Review (all outside reviews or analysis, eg. Traffic/Peer Engineer, are the responsibility of the applicant and will be assessed and billed separately)

V. PROJECT DATA (Please enter n/a on those fields that are not applicable)

TOTAL AREA OF SITE	16,553	sq. ft.
PROPOSED DISTURBED AREA OF THE SITE	16,553	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
IMPERVIOUS SURFACE AREA		
Impervious Area (Total Existing)	14,842	sq. ft.
Impervious Area (Total Proposed)	14,757	sq. ft.
Building Ground Floor Area and Total Floor		
Building Footprint (Total Existing)	0	sq. ft.
Building Footprint (Total Proposed)	6667	sq. ft.
Building Floor Area (Total Existing)	0	sq. ft.
Building Floor Area (Total Proposed)	46,669	sq. ft.
ZONING		
Existing	B7	
Proposed, if applicable	B7	
LAND USE		
Existing	gravel parking lot	
Proposed	Residential and Commercial	
RESIDENTIAL, IF APPLICABLE		
# of Residential Units (Total Existing)	0	
# of Residential Units (Total Proposed)	46	
# of Lots (Total Proposed)	1	
# of Affordable Housing Units (Total Proposed)	28	
PROPOSED BEDROOM MIX		
# of Efficiency Units (Total Proposed)	1	
# of One-Bedroom Units (Total Proposed)	45	
# of Two-Bedroom Units (Total Proposed)	0	
# of Three-Bedroom Units (Total Proposed)	0	
PARKING SPACES		
# of Parking Spaces (Total Existing)	City owned lot	
# of Parking Spaces (Total Proposed)	19	
# of Handicapped Spaces (Total Proposed)	3	
BICYCLE PARKING SPACES		
# of Bicycle Spaces (Total Existing)	0	
# of Bicycle Spaces (Total Proposed)	18	
ESTIMATED COST OF THE PROJECT		

VI. APPLICANT SIGNATURE

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	Amy Cullen
Date:	3/27/18

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST**
X		1	Completed Application form
X		1	Application fees
X		1	Written description of project
X		1	Evidence of right, title and interest
X		1	Evidence of state and/or federal approvals, if applicable
X		1	Written assessment of proposed project's compliance with applicable zoning requirements
X		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
X		1	Written requests for waivers from site plan or technical standards, if applicable.
X		1	Evidence of financial and technical capacity
X		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST**
X		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	**Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)**
X		Proposed grading and contours;	
X		Existing structures with distances from property line;	
X		Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;	
X		Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);	
X		Preliminary infrastructure improvements;	
X		Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;	
X		Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);	
X		Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);	
X		Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;	
X		Exterior building elevations.	

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

LEVEL II and LEVEL III APPLICATION SUBMISSION CHECKLIST

Submit each Tab as one PDF file and bookmark the items as noted below

Please confirm by electronically checking the boxes to the left

Tab 1 – General Application Documents

Checklist	Items to be Provided
Yes NA Plan ☐ ☐ ☐	PROJECT DESCRIPTION • Cover Letter with detailed project description
Yes NA Plan ☐ ☐ ☐	COMPLETED CHECKLIST – LEVEL III APPLICATION
Yes NA Plan ☐ ☐ ☐	RIGHT, TITLE AND INTEREST • Deeds, leases, or purchase and sales agreements
Yes NA Plan ☐ ☐ ☐	EVIDENCE OF STATE OR FEDERAL APPROVALS, if applicable • Permits or letters of non-jurisdiction, if applicable
Yes NA Plan ☐ ☐ ☐	ZONING ASSESSMENT • Table listing required and proposed uses and dimensional standards Zoning Assessment Table
Yes NA Plan ☐ ☐ ☐	EXISTING &/OR PROPOSED EASEMENTS OR COVENANTS, if applicable • Evidence of existing easements and any proposed easements
Yes NA Plan ☐ ☐ ☐	WAIVER REQUESTS • Written request for waiver describing request and reason. Waiver Table
Yes NA Plan ☐ ☐ ☐	FINANCIAL CAPABILITY • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes NA Plan ☐ ☐ ☐	TECHNICAL CAPABILITY • Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

LEVEL II AND LEVEL III SITE PLAN STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.

Submit each Tab as one PDF file and bookmark the items as noted below

Tab 2 - TRANSPORTATION

Check list	Assess/Provide/Document:
Yes NA Plan	**Transportation Analysis- Traffic Impact (14-526 (a) 1)** • Provisions for pedestrian, bicycle, vehicle, and loading circulation and incremental volume of traffic impacts • Traffic Impact Study (Technical Manual, Section 1) if applicable
Yes NA Plan	**Access and Circulation (14-526 (a) 2 a)** • Access and internal circulation, addressing ADA access • Access and egress impacts on traffic flows • Description and use of drive-up features, if applicable
Yes NA Plan	**Loading and Servicing (14-526 (a) 2 b)** • Loading and servicing needs, route and travel way geometrics for deliveries • Turning templates for delivery vehicles, if applicable
Yes NA Plan	**Sidewalks (14-526 (a) 2 c)** • Sidewalks and condition along street frontages and internal walkways • Engineered details for ADA ramps and public sidewalk details meeting sidewalk materials policy and ADA ramp construction details as applicable (Technical Manual, Section 1)
Yes NA Plan	**Public Transit (14-526 (a) 3), if applicable** • Existing available transit services • Proposed site plan design details, such as easement, pad base, and shelter
Yes NA Plan	**Off-Street Parking: Vehicle & Motorcycle/Scooter) (14-526 (a) 4 a and c)** • Expected parking demand, proposed parking supply, ADA parking, and applicable Zoning Requirements • Address Technical Manual standards (Section 1) for curb cut separation and parking lot layout and locate on site plan
Yes NA Plan	**Bicycle Parking (14-526 (a) 4 b)** • Address bicycle parking requirements and identify locations on-site • Construction details for bike racks (Technical Manual, Section 1)
Yes NA Plan	**Snow Storage (14-526 (a) 4 d)** • Management plan for snow removal and locate snow storage areas on plan
Yes NA Plan	**Traffic Demand Management (TDM) (14-526 (a) 5), if applicable** • Develop TDM with Trip Reduction Targets and Strategies

Tab 3 - ENVIRONMENTAL AND LANDSCAPE FEATURES	
Check list	Assess/Provide/Document:
Yes NA Plan	**Preservation of Significant Natural Features (14-526 (b) 1), if applicable** • Trees, plants, habitats listed on State or Federal list of endangered or threatened • High and moderate value waterfowl and wading habitat • Aquifers on Casco Bay Islands • Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) • Proposed preservation areas and protection measures • Documentation from environmental consultants, determinations from applicable state agencies
Yes NA Plan	**Landscaping and Landscape Preservation (14-526 (b) 2 a)** • Preservation of trees and preservation within required zoning setbacks (Technical Manual, Section 4) • Protection measures of existing vegetation during construction • Protection measures within Shoreland Zone, if applicable
Yes NA Plan	**Site Landscaping (14-526 (b) 2 b)** • Screening and buffering of service areas and between non-residential and residential uses • Planting plans with plant schedule and sizes (Technical Manual, Section 4)
Yes NA Plan	**Parking Lot Landscaping (14-526 (b) 2 b ii), if applicable** • Landscaped islands within parking areas (Technical Manual, Section 4)
Yes NA Plan	**Street Trees (14-526 (b) 2 b iii)** • Existing Heritage or Feature Trees on site and measures to preserve • Identify street trees on the plan meeting the site plan and Technical Manual standards (Section 4) or identify alternative measures, if applicable

Tab 4 - ENVIRONMENTAL AND STORMWATER	
Check list	Assess/Provide/Document:
Yes NA Plan	**Water Quality, Stormwater Management and Erosion Control (14-526 (b) 3 a)** • Stormwater report in compliance with Section 5 of Technical Manual and DEP Chapter 500 stormwater for basic, general and flooding standards, as applicable • Erosion control plan and measures • Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater, as applicable • Subsurface sanitary sewage disposal and groundwater protection

Tab 5 - PUBLIC INFRASTRUCTURE AND SAFETY

Check list	Assess/Provide/Document:
Yes NA Plan	**Consistency with City Master Plans (14-526 (c) 1)** • Identify consistency with master plans • Proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes NA Plan	**Public Safety and Fire Prevention (14-526 (c))** • Address Crime Prevention through Environmental Design (CPTED) (Technical Manual, Section 3) • Emergency vehicle access • Address consistency with public safety standards (Technical Manual, Section 3) • Submit a code summary referring NFPA 1 and all Fire Department standards (Technical Manual, Section 3) – Fire Checklist
Yes NA Plan	**Availability and Adequacy of Public Utilities (14-526 (c) 3) (Technical Manual, Sections 2 & 9)** • Electrical services, including providing underground services • Identify existing and proposed connections for public utilities and required public utility upgrades • Sewer line connections are required, if there is a main within 200 feet • Proposed solid waste management facilities on-site and management for the site • Written evidence of the ability to serve from utility companies, as applicable

Tab 6 - SITE DESIGN

Check list	Assess/Provide/Document:
Yes NA Plan	**Massing, Ventilations and Wind Impact (14-526 (d) 1)** • Wind and ventilation impacts on adjoining structures and/or adjacent public spaces. Wind study, if applicable • Bulk, location or height impacts on adjoining structures • Identify and locate HVAC equipment and venting away from public spaces and residential properties • Identify screening and manufacturing specifications for noise, if applicable
Yes NA Plan	**Shadows (14-526 (d) 2), if applicable** • Shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes NA Plan	**Snow and Ice Loading (14-526 (d) 3)** • Building design to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes NA Plan	**View Corridors (14-526 (d) 4), if applicable** • Protection of designated view corridors (Portland Design Manual, Appendix 1)

Yes NA Plan ☐ ☐ ☐	**Historic Resources (14-526 (d) 5), if applicable** • Identify developments within Historic Districts or affecting Designated Landmarks • Certificate of Appropriateness or other evidence • Identify Developments within 100 feet of Historic Districts or affecting Designated Landmarks. Advisory HP review may be required • Address preservation and documentation of Archaeological Resources
Yes NA Plan ☐ ☐ ☐	**Exterior Lighting (14-526 (d) 6)** • Cut sheets of on-site light fixtures and any architectural or specialty lights (Technical Manual, Section 12) • Engineered details for any lights proposed in street right-of-way (Technical Manual, Section 10)
Yes NA Plan ☐ ☐ ☐	**Noise and Vibration (14-526 (d) 7)** • Evidence of noise levels for equipment, such as equipment specifications, to demonstrate consistency with zoning requirements
Yes NA Plan ☐ ☐ ☐	**Signage and Wayfinding (14-526 (d) 8), if applicable** • Signage plan showing the location, dimensions, height and setback of all existing and proposed signs. Signs in Historic Districts are reviewed by Historic Preservation staff • Proposed commercial and directional signage on site
Yes NA Plan ☐ ☐ ☐	**Zone Related Design Standards (14-526 (d) 5)** • Address Historic Preservation Design Review, if applicable • Address any applicable design review standards by zone • Address submission requirements from Design Manual, page 1, addressing neighborhood context • Description of exterior materials, color, finish, and samples
Tab 7 - Construction Management Plan	
Check list	
Yes NA Plan ☐ ☐ ☐	**Construction Management Plan** • Construction Management Document and Plan

Level II and Level III Site Plan Checklist

Please upload the following drawings with the listed details into e-Plan

☐ **RECENT BOUNDARY SURVEY** (stamped by Maine Licensed Surveyor)

Must be in compliance with Technical Manual, Section 13

SITE PLAN(s) (stamped by Maine Licensed Engineer) including:

☑ **Existing Conditions**

- Approximate location of structures on abutting property
- Topography
- Locate water courses
- Delineate wetlands
- Zone lines

☑ **Proposed Site Plan**

- Ground floor area, and grade elevations for all buildings

☑ **Access, Circulation, and Parking**

- Streets and intersections adjacent to site , any proposed geometric modifications
- Location, dimensions and materials of all existing and proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas
- Existing and proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications

☑ **Site Considerations**

- Identify snow storage areas
- Location of fire hydrants
- Location of solid waste management facilities

☑ **UTILITY PLAN** including:

- Existing utilities on site and within public streets
- Location, sizing, and directional flows of all existing and proposed utilities
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

☑ GRADING and DRAINAGE PLAN including:
• Existing grades and drainage • Proposed grades • Proposed stormwater management meeting Technical Manual (Section 5) standards • Location and proposed alteration of a water course • Preservation or alteration of wetlands
☑ EROSION CONTROL
• Must be in compliance with Technical Manual, Section 5
☑ LANDSCAPE PLAN including:
• Existing vegetation to be preserved and preservation measures • Proposed landscaping and buffers • Planting schedule
☐ RECORDING PLAT, if applicable
• IF SUBDIVISION: Must be in compliance with requirements of Section 14-496 (b)
☑ ARCHITECTURAL PLANS & RENDERINGS including:
• Exterior building elevations, color renderings, illustrations of all sides • Location and dimensions of all existing & proposed HVAC & mechanical equipment, all proposed screening • Provide context drawings, if applicable (Design Manual, page 1) • Floor plans

1 DEVELOPMENT DESCRIPTION

1.1 OVERVIEW

Maine Workforce Housing, LLC intends to construct a 7-story mixed use building including 46-apartments for 55+ residents on a 16,553 square foot parcel located at 178 Kennebec Street in Portland, Maine. The site is identified as Lots 1 and 2, Block F, on the City of Portland Assessors' Map 34. The site is located in the B7 Mixed Development District zone and is currently developed with a gravel parking area.

1.2 PROJECT PURPOSE AND NEED

The proposed project includes redevelopment of a previously developed lot in an area that has utility infrastructure in place and will provide residential units that are compatible with the existing neighborhood.

Parking for the development will be located on a surface parking lot south of the building that will be accessed from both Brattle and Parris Streets. Artist studio/retail space will be located on the ground floor. The ground floor also houses utilities and a lobby for the residential apartments. The residential apartments will be located on the 2nd through 7th floors.

1.3 EXISTING CONDITIONS

The existing site is located on the southern side of Kennebec Street between Brattle Street and Parris Street in Portland's Bayside neighborhood and is developed with a gravel parking area previously used by City vehicles. Nearly the entire site is covered with impervious surface. Underground utilities in Kennebec, Brattle and Parris Streets include water, gas, stormdrain and sewer. Overhead power and telecom services are on poles located on Kennebec, Brattle and Parris Streets.

Granite curb exists along the site's Kennebec Street frontage, and a short section of bituminous sidewalk exists along the northwestern portion of this frontage. Flush bituminous sidewalk with no curb exists along the site's Brattle Street frontage. There is no sidewalk along the site's Parris Street frontage. The existing gravel parking lot on site connects directly to both Brattle and Parris Streets. There is no on-street parking on Kennebec and Brattle Streets along the site's frontage, and there is limited on-street parking available on the western side of Parris Street. Cobra-head style street lights are located on utility poles surrounding the site on Kennebec, Brattle and Parris Streets.

Kennebec Street abuts the site to the north, Parris Street abuts the site to the east, residential, commercial, and parking lot uses abut the site to the south, and Brattle Street abuts the site to the west. The site is currently accessed from Brattle and Parris Streets. The street conditions in the vicinity of the Project Site are:

Street Name	Description	On-street Parking	Sidewalk	Notes
Kennebec Street	Approximately 35' wide paved way with two-way traffic in a 50' wide public ROW.	No.	Bituminous along NW frontage	Sidewalk does not continue along street frontage or along N side of Kennebec St
Brattle Street	Approximately 30' wide paved way with two-way traffic in a 30' wide public ROW.	No.	Flush bituminous	
Parris Street	Approximately 34' wide paved way with two-way traffic in a 50' wide public ROW.	Yes, west side only	Brick across Parris St on E side	

The existing site is relatively flat at elevation 11' and has less than 1' of elevation change across the parcel. It generally slopes from the center of the site in all directions towards the surrounding streets. Photographs of the existing site are provided in Attachment 1-A.

1.4 PROPOSED DEVELOPMENT

The development program includes the following components:

1.4.1 ON-SITE

A new seven-story building with a footprint of 6,667 square feet will be constructed on the site. The first floor will feature a lobby for the residential units, a utility room and trash room, and 5,429 sf of artist studio/retail space. The second through seventh floors will feature 46 one-bedroom apartments ranging from 600 sf to 670 sf. The residential units will be for 55+ housing, at least 28 of the units will be affordable housing, and at least 11 of the units will be ADA accessible. The total building floor area is 46,669 square feet. The proposed building is within the B7 zone. Elevation views and perspective renderings of the proposed building are provided in Attachment 1-B.

The residential lobby will be accessed from the Parris Street frontage, and the residential address is proposed to be 100 Parris Street. We are formally requesting that the residential lobby have an address of 100 Parris Street for mailing, fire, and emergency purposes. The first-floor retail and artists spaces will be accessed from the Kennebec Street frontage and the parking lot located south of the building. The first-floor spaces accessed from Kennebec Street will have the address 178 Kennebec Street. The surface parking lot will be accessed from Parris Street and Brattle Street. Bicycle parking will be provided on bike racks along the site's frontage on Kennebec, Brattle, and Parris Streets. The mail slots for the apartments will be located in the lobby. The trash room will be accessed from the lobby and from the parking lot for trash removal, and a mechanical room is located adjacent to the lobby on the first floor.

1.4.2 OFF-SITE IMPROVEMENTS

The applicant is proposing improvements to the sidewalks within the public ROW along the Kennebec, Parris and Brattle Street frontage. The Parris and Brattle Street frontages are currently undefined with no curb, so granite curb and brick sidewalks are proposed in line with existing sidewalks south of the site along these streets. Street trees, street lighting, and bike racks are also proposed within the City ROW along these proposed brick sidewalks.

1.5 TRAFFIC

The institute of traffic engineers trip generation manual estimates that the 46 residential units will generate approximately 24 vehicle trips during the PM peak hour and approximately 270 vehicle trips on a weekday. However, the proposed units are for 55+ housing and affordable housing. Many of the residents will not own vehicles, so this estimate is considered conservative. Additionally, the project will provide limited on-site parking and will likely attract residents who do not own vehicles. The project's proximity to places of work and entertainment will also encourage walking and alternative modes of transportation, and therefore the number of trips per day will likely be less than estimated. The relatively small amount of traffic that will be generated by the project is not expected to have a significant effect on the surrounding street network.

1.6 PARKING

The proposed project is an affordable housing projected located in the B7 zone with less than 50,000 sf of floor area, therefore the planning board shall establish the parking requirement for the structure. The proposed number of units is 46, and at least 28 of the units will be affordable housing. The artist space on the first floor is approximately 5,429 sf, which requires 6 parking spaces (1 space/1,000sf). The proposed parking lot is located south of the building and is accessed from Brattle and Parris Streets. The parking lot will include 19 parking spaces, 3 of which are ADA accessible and one of which is a dedicated drop off/pick up space. It is expected that many residents will utilize drop off/pick up services for transportation so including this space further reduces the requirement for parking spaces. This amount of parking is sufficient for the project because it is a 55+ affordable housing development where a small percentage of the residents are expected to own vehicles. At least 11 of the units will be ADA units, which will further decrease the number of residents who own vehicles. A ramp is proposed from the parking lot at the ADA spaces to the building lobby entrance. The required 18 bicycle parking spaces are provided throughout the site along the street frontage and near building entrances.

1.7 UTILITIES AND STORMWATER

The proposed project will include the installation of new utility services to the building. All new utility services will be provided from the existing utilities available within Kennebec, Brattle, and Parris Streets. The proposed locations of the new utility services are shown on the Utility Plan (Sheet C-5.0). More information on proposed utility services is provided in Section 11 of this application.

The proposed project results in a decrease in impervious area, however, more than 5,000 sf of existing impervious area will be redeveloped so the City's redevelopment standards apply. Treatment of stormwater runoff is required for 50% of the redeveloped impervious areas. Post-development stormwater runoff will closely follow existing runoff patterns. Runoff from the building roof will be collected in a roof drain system and 68% of the runoff will be directed to a storm basin cartridge system for treatment prior to being discharged to the existing storm drain system in Kennebec Street. The remaining roof runoff will be collected in a roof drain system that is directly discharged to the existing storm drain system in Kennebec Street. The proposed parking lot runoff will flow overland to Parris and Brattle Streets as it does today. Approximately 2,200 sf of the parking lot will be constructed out of pervious pavers, which will provide treatment for runoff from 2,860 sf of impervious parking and sidewalk areas. Stormwater from these areas will flow through the pervious pavers, through a filter gravel layer, and be collected in an underdrain system prior to discharging into the existing storm drain systems in Brattle and Parris Streets. More information on stormwater runoff from the site is provided in Section 9 of this application.

1.8 ATTACHMENTS

Attachment 1-A – Existing Site Photographs
Attachment 1-B – Building Elevation Views & Renderings

ATTACHMENT 1-A

Existing Site Photographs

PHOTO 1 – FROM KENNEBEC STREET, STANDING NORTH OF THE SITE, FACING NORTHEAST

PHOTO 2 –FROM KENNEBEC STREET, STANDING NORTH OF THE SITE, FACING SOUTH

Photos taken on 3/21/2018 by Adrienne Fine of Terradyn Consultants, LLC

PHOTO 3 –FROM BRATTLE STREET, STANDING WEST OF THE SITE, FACING EAST

PHOTO 4 –FROM KENNEBEC STREET, STANDING EAST OF THE SITE, FACING SOUTHWEST

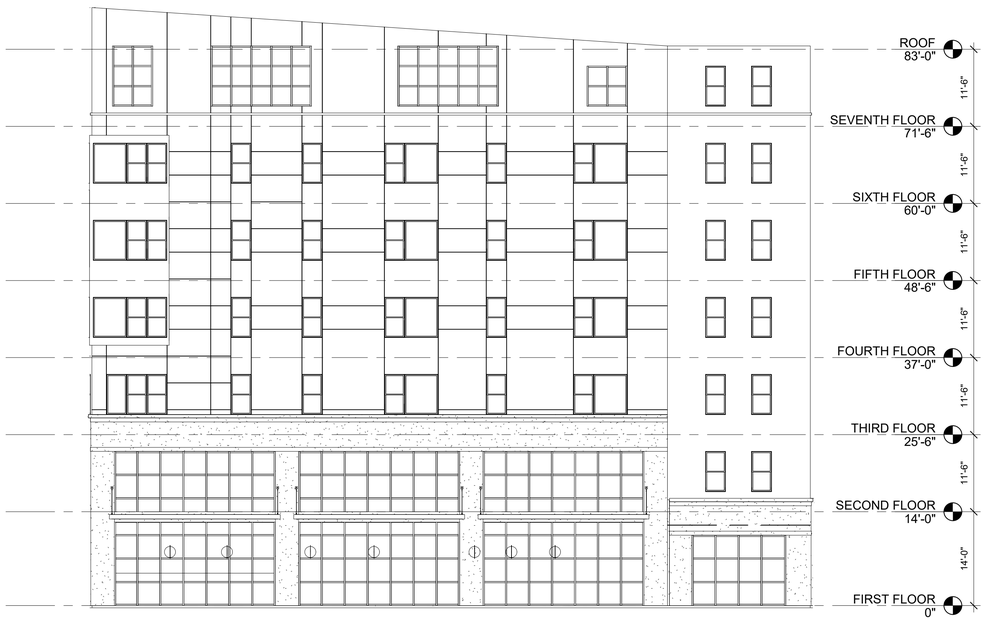
Photos taken on 3/21/2018 by Adrienne Fine of Terradyn Consultants, LLC

ATTACHMENT 1-B

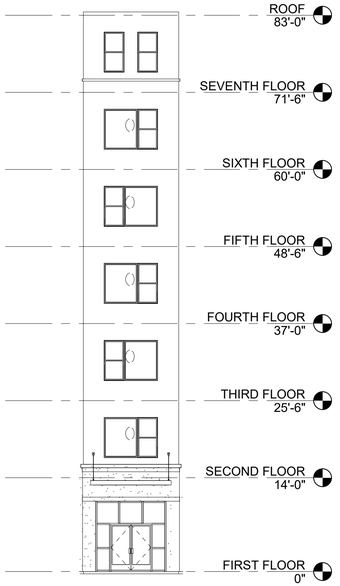
Building Elevation Views & Perspective Renderings

1 | NORTH ELEVATION
3/32" = 1'-0"

4 | EAST ELEVATION
3/32" = 1'-0"



2 | SOUTH ELEVATION
3/32" = 1'-0"



5 | SOUTH WEST ELEVATION
3/32" = 1'-0"

3 | WEST ELEVATION
3/32" = 1'-0"

Prepared For:
Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
KENNEBEC STREET
PORTLAND, MAINE

Revisions:

Scale: 3/32" = 1'-0"

Date: JAN 12 2018

Building Elevations

A2.01

2 Right, Title and Interest

2.1 OVERVIEW

The applicant is Maine Workforce Housing, LLC. The project site is comprised of the following parcels and record owners:

Map/Block/Lot	CCRD Book/Page	Record Owner
34/F/ Lot 1	16707/206	City of Portland
34/F/ Lot 2	31408/102	Ross Furman
34/F/ Lot 5	18985/128	New Systems Realty, LLC (Ross Furman)

Ross Furman has a Purchase and Sale agreement with the City for Lot 1. The deeds and P&S are attached in attachment 2-A.

Maine Workforce Housing, LLC has a Joint Development Agreement with Ross Furman that gives them site control and formalizes their partnership. Maine Workforce Housing, LLC is developing the site and building and will retain ownership of the residential units. Ross Furman is working with Maine Workforce Housing, LLC and will own the first-floor artist studio/retail space. An executed copy of the Joint Development Agreement will be provided as soon as it becomes available.

2.2 ATTACHMENTS

Attachment 2-A – Property Deed and Purchase and Sale Agreement

ATTACHMENT 2-A

Title, Right, or Interest Documentation

RELEASE DEED

PORTLAND TERMINAL COMPANY, a corporation duly organized and existing under the laws of the State of Maine, with offices at Iron Horse Park, North Billerica, Middlesex County, Massachusetts (the "PTC"), for one dollar ($1.00) and other consideration paid to it by the **STATE OF MAINE**, acting by and through its Department of Transportation, whose mailing address is State House Station #16, Augusta, Maine 04333 (the "State"), hereby grants to the State, without any warranties or covenants of title whatsoever, those certain parcels of land and interests therein, including all franchises, riparian rights, rights of entry and rights of reversion appurtenant thereto, if any, together with all buildings, bridges, bridge abutments, structures, walls, culverts, crossings thereon, if any, situated in the City of Portland, in the State of Maine (collectively, the "Premises") described as follows:

SEE **"EXHIBIT A"** AND **"EXHIBIT B"** ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE

ALSO CONVEYING TO THE STATE OF MAINE, its successors and assigns, a permanent easement over and across the remaining land of PTC sufficient to effectuate rail ingress to and rail egress from the Premises described in said **Exhibit A** and shown on **Exhibit B** from and to the PTC's Main Line (Union Station to Portland-Falmouth Line) at a point between the northerly side of Congress Street at approximate Engineering Centerline Station 4+93.2 and a point approximately 570 feet northerly thereof at approximate Engineering Centerline Station 10+00.0. It is the intention of the parties hereto that this permanent easement is given for the purpose of providing an unhampered rail connection necessary for the sole purpose of operating trains of the National Railroad Passenger Corporation and its successors or operating passenger trains (only) of any entity other than the National Railroad Passenger Corporation and its successors between the Premises and the aforementioned Main Line owned and operated by PTC, its successors and assigns.

Together with the right to enter upon remaining land of PTC, subject to reasonable and customary terms and conditions established by PTC, its successors and assigns, for the purpose of construction, installation, repair and maintenance of trackage, track appurtenances, switches and bridge abutments to carry out the purposes of this Easement; provided, however, that with respect to the Main Line any construction, installation, repair and maintenance necessary to carry out the purposes of this Easement will be performed by PTC at the expense of the State. Said Easement shall be appurtenant to the above-conveyed premises as described on the attached **Exhibit A** and shown on **Exhibit B**.

THIS CONVEYANCE IS SUBJECT to the following reservations, conditions, covenants and agreements:

1. In addition to any conditions that may be imposed on the use of the Premises by the Maine Department of Environmental Protection, the State shall restrict the use of the Premises, or any portion thereof, to the following: commercial business uses, rail/industrial uses and/or passive recreational uses. Such uses shall not require the withdrawal of groundwater for drinking water or other uses. By this restriction the State covenants and agrees for itself, its successors and assigns, not to allow the Premises, or any portion thereof, to be used for any residential or active recreational use with the exception of paved recreational trails. Residential use includes, but is not limited to, single family dwellings, apartment houses, condominiums, hotels, motels, inns, boarding houses, multifamily dwellings and/or any use that involves a structure to be used primarily for human habitation for any extended period of time. Active Recreational use includes, but is not limited to, athletic fields, sports facilities, parks and/or any use which subjects the Premises to use by the general public for active recreational activities, except as provided herein. In addition, by this restriction the State covenants and agrees for itself, its successors and assigns, not to allow the Premises or any portion thereof to be used as a site for a hospital, nursing home, rehabilitation facility, daycare facility for persons of any age or educational facility (private or public).

In the event of any violation of the above restrictions, PTC, its successors and assigns, shall have the right to enforce the same and shall have available all remedies at law and in equity.

The provisions of this paragraph 1 are a covenant running with the land and shall be expressly included in any deed, lease or other instrument conveying or creating any interest in all or part of the Premises and shall be binding upon the State's successors and assigns therein. Notwithstanding the foregoing, the provisions of this paragraph may be extinguished by the express written consent of PTC which consent shall not be unreasonably withheld.

2. Except as otherwise provided in this Deed, and in the Terms and Conditions between the National Railroad Passenger Corporation ("Amtrak") and PTC (and PTC's affiliates) generally regarding passenger operations between Boston, Massachusetts, and Portland, Maine, this conveyance is made without granting any right of way or other rights, either by necessity or otherwise, over any remaining land or location of the PTC.

3. To the best knowledge of PTC, **Exhibit C** attached hereto and made a part hereof by reference is a complete list of all existing agreements between PTC and third parties regarding the construction, installation, operation, maintenance, modification, repair, replacement, relocation or removal of any telecommunications system related to the Premises. "Knowledge" as used in this Deed shall mean the knowledge of PTC's Vice President of Real Estate and each officer or employee who is principally responsible for property matters, after reasonable investigation. If at any time after the conveyance under this Deed, PTC discovers any other such communication agreements, PTC shall

promptly and at its own cost and expense, without any further consideration on the part of State, convey its rights and obligations under such agreements to State.

4. The PTC hereby reserves a permanent, non-exclusive easement in, over, under and through the Premises from the beginning of the "Union Branch" line at Survey Station 4+00.0 at the intersection of the southerly side of Park Avenue and the westerly side of Saint John Street, northerly to the southerly side of Forest Avenue, ten feet wide (the "Telecommunications Easement Property"), as identified in the agreements listed on the attached **Exhibit C** (the "Telecommunications Agreements"), only for the purpose of accessing, operating, maintaining, repairing, replacing and removing the fiber optics communications system described in the "Telecommunications Agreements," including existing poles, pipes, wires, fibers, fiber-optic cables, repeater stations, attachments, appurtenances, structures or other equipment and property of any description currently used to meet PTC's obligations under the Telecommunications Agreements (the "Telecommunications Easement"). The Telecommunications Easement Property boundary shall be 5 feet on both sides of the centerline of the existing fiber facilities, as shown on the as-built drawings attached hereto **Exhibit D.** PTC does further reserve a permanent limited right-of-way and right of access to the Telecommunications Easement Property over and across the Premises for the purposes of the use, enjoyment, maintenance, operation of the Telecommunications Easement to the extent necessary to comply with the Telecommunications Agreements.

The Telecommunications Easement is subject to the following additional terms and conditions:

(a) The PTC shall have no right to construct, install, modify (except to the extent required pursuant to the Telecommunications Agreements) or relocate any fiber optics communications system (including existing poles, pipes, wires, fibers, fiber-optic cables, repeater stations, attachments, appurtenances, structures or other equipment and property of any description) within the Premises.

(b) The PTC shall have no right to lease, license, mortgage, assign, pledge or otherwise alienate the Telecommunications Easement. Provided, however, that PTC shall have the right to renew the Telecommunications Agreements on substantially the same terms at the appropriate times, and shall also have the right to assign any or all of its rights to its parents, affiliates, subsidiaries and successors.

(c) The PTC shall obtain all required governmental approvals, if any, to exploit the rights reserved in the Telecommunications Easement. Prior to exercising any rights reserved pursuant to this Telecommunications Easement, PTC shall obtain at its sole expense, or cause its contractors to obtain, as applicable: (i) a policy or policies of worker's compensation insurance covering all persons exercising any rights reserved pursuant to this Telecommunications Easement, and (ii) general liability insurance naming the State as an additional insured with respect to the

exercise of such rights, and upon such terms and in such amounts as are reasonable and customary. Notwithstanding the foregoing, the PTC or its contractor shall have the right to fulfill these obligations by means of self-insurance; provided that, in the case of PTC, such self-insurance shall be the same as is applicable to all of PTC's operations.

(d) The PTC, at its sole cost and expense, shall operate, maintain, repair, replace, relocate and remove any structures, facilities and improvements hereunder so as not to injure or damage the State's transportation facilities and/or the property of the State or of any operator thereon, and so as not to interfere with any transportation operations thereon.

(e) The replacement or relocation of all structures, facilities and improvements shall be subject to the approval of the State, which approval shall not be withheld or delayed if (i) the request is in compliance with the terms and conditions of this Telecommunications Easement; and (ii) the methods and materials to be used by the PTC are in accordance with those generally accepted in the railroad industry. The State shall issue any determination pursuant to this Section within 20 days of receipt of any request for approval. In the event of a relocation of any structures, the State and PTC shall realign the easement and refile this Release Deed, at PTC's expense.

(f) The exercise of this Telecommunications Easement shall be at the sole risk of the PTC. The PTC hereby releases the State from any and all liability for costs, losses, damages, and/or harm to persons and/or to the property of the PTC arising out of or relating to the exercise of this Telecommunications Easement and PTC shall indemnify and hold the State harmless against any and all costs, losses, damages, and/or harm to any party arising out of or relating to the design, location, relocation, repair, maintenance, use, removal, or replacement of any structures, facilities, or improvements, including without limitation to the foregoing: (i) any attorney's fees incurred' (ii) any and all claims for damages, losses, or injuries resulting to the State's property, the property of PTC, or the property of others; and (iii) any and all claims for injuries or death to persons. This indemnification shall include, but shall not be limited to, any and all liability arising out of or relating to an agreement between the PTC and AT&T dated July 29, 1986 and any other fiber optics communications agreements, whether or not listed on **Exhibit C**. This indemnification shall apply without regard to whether the cost, loss, damage, harm, or other claim is incurred directly or indirectly by the State, by PTC or by third parties. This indemnification shall not apply to costs, losses, damages and/or harm that are caused solely by the negligent or intentional infliction of harm by the State, including its employees, contractors or agents. This indemnification shall exclude those ordinary and usual day-to-day administrative costs incurred by the State in reviewing requests for the approval of the location, repair and replacement of structures, facilities, or improvements pursuant to this Telecommunications Easement.

(g) The PTC at its sole cost and expense shall repair and restore the Premises subject to the Telecommunications Easement to at least the same condition as they were in prior to any work or disturbance in connection with the exercise of the rights reserved under this Telecommunications Easement.

(h) The PTC shall give the State twenty (20) days written notice before the commencement of any work on the Premises.

(i) The reservation of this Telecommunications Easement shall not affect the right of the State to use the Premises for transportation purposes, or to grant the use of the Premises to others for any purposes, including (without limitation) the transmission of telecommunications or intelligence, so long as such use(s) do not interfere with the exercise by the PTC of its rights under this Telecommunications Easement.

(j) The PTC shall be liable for the payment of any tax, assessment, or other government charge arising out of or relating to the existence or use of this Telecommunications Easement, including without limitation the existence or use of any equipment or appurtenances on the Premises. The PTC shall keep the Premises free of any mechanic's and materialmen's liens arising from the exercise of its rights under the Telecommunications Easement. The State hereby covenants with the PTC to recognize the Telecommunications Easement and, without the payment of any further consideration, to execute, acknowledge and deliver such instruments suitable for recording with the Registry of Deeds as the PTC may reasonably require to acknowledge title to the Telecommunications Easement in the PTC.

5. The several exceptions, reservations, conditions, covenants and agreements contained in this Deed shall be deemed to run with the land and be binding upon the PTC and the State forever. In addition to the acceptance and recording of this Deed, the State hereby signifies assent to the said several exceptions, reservations, conditions, covenants and agreements, by joining in its execution.

6. Except where otherwise specifically provided in this Deed, whenever used in this Deed or in any easement or right reserved under this Deed, the term "PTC" shall not only refer to the PORTLAND TERMINAL COMPANY, but also to its operating companies (including but not limited to the SPRINGFIELD TERMINAL RAILWAY COMPANY), successors, assigns and grantees; and the term "State" shall not only refer to the STATE OF MAINE acting by and through its Department of Transportation, but also to the State's successors, assigns and grantees.

TO HAVE AND TO HOLD the foregoing Premises, with all the privileges and appurtenances thereunto belonging, unto the State of Maine, its successors and assigns, forever.

IN WITNESS WHEREOF, the said Portland Terminal Company has caused this Deed to be executed in its name and its corporate seal to be hereto affixed by David A. Fink, its Chief Executive Officer, thereunto duly authorized this 4th day of September, 2001.

PORTLAND TERMINAL COMPANY

Witness

By David A. Fink
Its Chief Executive Officer

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF MIDDLESEX
September 4, 2001

Personally appeared he above-named David A. Fink, Chief Executive Officer of the Portland Terminal Company and acknowledged the execution of the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the Portland Terminal Company.

Before me,

Notary Public
Print Name: JAMES J. STEINKRAUSS
My Commission Expires: Oct. 6, 2006
Seal:

IN WITNESS WHEREOF, the said State of Maine, acting by and through its Department of Transportation, has caused this instrument to be executed by John G. Melrose, its Commissioner, thereunto duly authorized, this 4th day of September, 2001.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Joni K Kennedy
Witness

By John G. Melrose
Its Commissioner

STATE OF MAINE
COUNTY OF KENNEBEC
September 4, 2001

Personally appeared before me the above-named John G. Melrose, Commissioner, State of Maine, Department of Transportation, and acknowledged the execution of the foregoing instrument to be his fee act and deed in his said capacity and the free act and deed of the State of Maine.

Before me,
Jean A Stewart
Notary Public
Print Name: Jean A. Stewart
My Commission Expires: August 15, 2006
Seal:

EXHIBIT "A"
Plan/description of premises

A certain strip or parcel of land ("Railroad Right-of-Way") of varying widths, with the improvements thereon, situated in the City of Portland, County of Cumberland and State of Maine and being the railroad line sometimes referred to as the "Union Branch", more particularly bounded and described as follows:

> Beginning at approximate Engineering Centerline Station 4+00.0, which is at or near the southerly end of the trestle over the intersection of the southerly side of Park Avenue and the westerly side of St. John Street in said Portland, as shown on plan entitled "Right-of-Way and Track Map, Portland Terminal, Operated by Portland Terminal Company, Survey Station 0+00.0 to Station 52+80.0," Valuation Plan V1C, Sheet 1 thereof, thence continuing in a generally easterly and northerly direction to Engineering Centerline Station 134+80.9 as shown on plan entitled "Right-of-Way and Track Map, Portland Terminal, Operated by Portland Terminal Company, Station 105+60.0 to Station 134+80.9," Valuation Plan V1C, Sheet 3 thereof.

The following parcels comprising the "Union Branch" conveyed above are depicted on said Right-of-Way and Track Maps, Valuation Plan V1C, Sheets 1 through 3, copies of which are attached hereto as "Exhibit B" and made a part hereof. Said Right-of-Way and Track Maps are also on file at the Maine Department of Transportation, Child Street, Augusta, ME 04333:

Grantor: George P. Wescott
Grantee: Portland and Rochester Railroad
Instrument: Deed dated January 4,1881 Recorded: Book 481, Page 386
Map and parcel reference: Map VIC 1 Parcel 34

Grantor: William H. Conant
Grantee: Portland and Rochester Railroad
Instrument: Deed dated July 27,1881 Recorded: Book 481, Page 3l9
Map and parcel reference: Map VIC 1 Parcel 39

Grantor: William H. Conant
Grantee: Portland and Rochester Railroad
Instrument: Deed dated August 10, 1881 Recorded: Book 481, Page 382
Map and parcel reference: Map VIC I Parcel 36

Grantor: Joseph H. Ricker
Grantee: Portland and Rochester Railroad
Instrument: Deed dated August 15, 1881 Recorded: Book 489, Page 27
Map and parcel reference: Map VIC I Parcel 35

Parcel 6

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT IS made this 10th day of OCT, 2017 by and between the City OF PORTLAND, a body politic and corporate located in Cumberland County, Maine, (hereinafter referred to as "Seller" or "City"), and Ross Y. Furman, an individual having a mailing address of Box Two, Portland, ME 04112 (hereinafter referred to as "Buyer"").

RECITALS

WHEREAS, the CITY is the owner of approximately .22 acres of land at 178 Kennebec Street, Portland, Maine as generally depicted on the plan attached hereto as Exhibit A (the "Premises") and incorporated herein; and

WHEREAS, Buyer desires to purchase the Premises, and the City desires to convey the Premises to Buyer, subject to all easements of record and any other existing easements burdening the Premises;

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, hereby agree as follows:

1. **SALE.** City agrees to sell the Premises to Buyer, and Buyer agrees to purchase the Premises in accordance with the terms and conditions set forth in this Agreement. This Agreement is for the sale of land only.

2. **CONSIDERATION**. The purchase price for the Premises shall be the lesser (the Purchase Price") of: Two Hundred and Fifty Thousand Dollars ($250,000.00) and the product of Twenty-Five Dollars ($25.00) times the number of square feet comprising the Premises as shown a pending and soon to be completed boundary survey of the Premises being done by or for the City (at its expense), subject to the following cost adjustments and conditions:

    a. Buyer shall deposit in the sum of Twenty-Five Thousand Dollars ($25,000.00) (the "Deposit") within 3 business days after the full execution of this Agreement that the parties agree will be held in escrow as of the date of this Agreement, in a non-interest bearing account with CBRE | The Boulos Company; the Deposit shall be refundable only in accordance with the terms of this Agreement, including without limitation, the provisions of sections 4(f), 6, 7 and 10; and

    b. The Buyer shall pay the remainder of the Purchase Price to the City by wire transfer (or as otherwise reasonably requested by the City) at closing.

3. TITLE AND DUE DILIGENCE.

a. Due Diligence Period. Buyer will have from the date of this Agreement until 4:00 PM Eastern Daylight Savings Time on the day that is forty-five (45) days after the date of this Agreement (the "Due Diligence Period") to complete any survey, environmental review and title examinations.

b. Property Description. The property description contained in the deed will be a survey description based upon a survey plan (the "Premises") that will more specifically describe the property shown on Exhibit A hereto. The survey will be distributed to the parties hereto prior to expiration of the Due Diligence Period and the parties will agree on the property description prior to closing.

c. Financing Contingency. Buyer shall have from the date of this Agreement until 4:00 PM Eastern Daylight Savings Time on the day that is forty-five (45) days after the date of this Agreement (the "Financing Period") to obtain commercially reasonable financing, and shall take timely and commercially reasonable steps to secure such financing.

d. Title and Survey Objections. Buyer will have until the end of the Due Diligence Period to deliver to City any written objections to title, environmental, or survey matters (other than the permitted exceptions identified herein) that materially affect marketability or use. Objections not made prior to the end of the Due Diligence Period will be deemed waived; provided, however, that objections pertaining to matters of record first appearing after the end of the Due Diligence Period may be made at any time prior to the closing.

e. Option to Cure. In the event of a title or survey objection, City will have the option, but not the obligation, to cure the objection and will notify Buyer of its election within ten (10) business days after receipt of the objection. In the event that the City elects to cure the objection, it will have sixty (60) days from the date of the notice of election, or such other reasonable time as the parties may agree, to cure the objection. In the event that the City does not elect to cure the objection, or, having elected to cure the objection fails to timely do so to Buyer's reasonable satisfaction, Buyer will have the option to (1) terminate this Agreement and obtain a refund of the Deposit (after which neither party will have any further obligation or liability to the other under this Agreement), (2) waive the objection and close, or (3) undertake the cure of such objection at its own expense (in which case it shall have 60 days to do so).

f. Deed. City shall convey the Premises to Buyer at the closing in fee simple by a municipal quitclaim deed without covenant. Title shall be good and insurable title, free and clear of all encumbrances except (i) easements described herein; (ii) easements for utilities servicing the property, (ii) City ordinances, and (iii) real estate taxes not yet due and payable. Further, Buyer acknowledges that the deed shall contain a restriction stating that in the event that the Premises or any portion thereof shall be exempt from real and personal property taxes, by transfer, conversion, or otherwise, then the then-owner of the exempt portion shall make annual payments to the City in lieu of taxes in the amount equal to the amount of property taxes that would have been assessed on the exempt portion of the real and personal property situated on the Premises had such property remained taxable. Such restriction shall also confirm that Buyer and its successors and assigns shall possess and be vested with all rights and privileges as to abatement and appeal of valuations, rates, and the like as are accorded owners of real and personal property in Maine.

4. INSPECTIONS.

a. During the Due Diligence Period, Buyer and its employees, consultants, contractors and agents shall have the right, at Buyer's expense, to enter on the Premises at reasonable times in order to (i) inspect the same, (ii) conduct engineering studies, percolation tests, geotechnical exams, environmental assessments, and other such studies, tests, exams, and assessments, and (iii) do such other things as Buyer determines, it is sole discretion, to be required to determine the suitability of the Premises for Buyer's intended use (collectively, the "Inspections"). The City acknowledges that such Inspections may include the digging of test pits, which the City hereby approves.

b. Buyer agrees to defend, indemnify and hold harmless the City against any mechanics liens that may arise from the activities of Buyer and its employees, consultants, contractors and agents on the Premises.

c. Buyer shall exercise the access and inspection rights granted hereunder at its sole risk and expense, and Buyer hereby releases the City from, and agrees to indemnify, defend, and hold the City harmless against, any and all losses, costs, claims, expenses and liabilities (including without limitation reasonable attorney fees and costs) (collectively, "Damages") suffered by the City on account of any injury to person or damage to property arising out of the exercise by Buyer of its rights hereunder, except to the extent that such Damages result from the act or omission of the City.

d. Buyer shall cause any contractors, consultants or any other party conducting the Inspections to procure automobile insurance, if applicable, and general public liability insurance coverage in amounts of not less than Four Hundred Thousand Dollars ($400,000.00) per occurrence for bodily injury, death and

property damage, listing the City as an additional insured thereon, and also Workers' Compensation Insurance coverage to the extent required by law; the forms of all such insurance to be subject to City's Corporation Counsel's reasonable satisfaction.

e. In the event that Buyer does not purchase the Premises, Buyer agrees to either return the Premises as nearly as possible to its original condition after conducting the Inspections, or, at the City's option, reimburse the City for any physical damage caused to the Premises in connection with the Inspections; provided, however, the City hereby acknowledges and agrees that the term "physical damage" does not include any disturbance of any pre-existing environmental contamination on the Premises caused by such inspections, studies, tests, exams, and assessments, and that Buyer shall have no obligation to clean-up, remove or take any other action with respect to any pre-existing environmental contamination disturbed thereby.

f. The parties hereto acknowledge and agree that it is a condition to Buyer's obligations under this Agreement that the results of the Inspections be acceptable to Buyer in its sole discretion. If the results of such due diligence are not acceptable to Buyer in its sole discretion, and if Buyer exercises its right to terminate this Agreement, then the City shall refund to Buyer the Deposit, if previously paid, without interest, within thirty (30) days after receipt of Buyer's termination notice, and neither party shall have any further obligations or liabilities under this Agreement except as expressly set forth in this Agreement.

5. **REAL ESTATE TAXES, PRORATIONS AND TRANSFER TAX.** Buyer shall be liable for all real estate taxes beginning as of the start of fiscal year following the closing and continuing thereafter. Because the Property is currently owned by the City of Portland, which is exempt from real estate taxes, no taxes were assessed or will be due for any portion of the current fiscal year, and no taxes will be prorated at the closing. Any utilities for the Property shall be prorated as of the closing. The Maine real estate transfer tax attributable to Buyer's one half shall be paid for by Buyer in accordance with 36 M.R.S.A. § 4641-A. City is exempt from paying the transfer tax pursuant to 36 M.R.S.A. § 4641-C. The recording fee for the deed of conveyance and any expenses relating to Buyer's financing or closing shall be paid for by Buyer.

6. **DEFAULT AND REMEDIES**. In the event that Buyer defaults hereunder for a reason other than the default of the City, City shall retain the deposit as its sole remedy. In the event City defaults under this Agreement, and if Buyer is not then in default hereunder, Buyer shall have the right to pursue specific performance, but at all times may elect in substitution therefor, as its sole remedy, the right to a return of its deposit.

7. **RISK OF LOSS.** The risk of loss or damage to the Premises by fire, eminent domain, condemnation, or otherwise, until transfer of title hereunder, is assumed by the City. The Premises is to be delivered in substantially the same condition as of the date of this Agreement unless otherwise stated. In the event City is not able to deliver

the Premises as stated, Buyer may terminate this Agreement and receive a refund of the Deposit without interest, and neither party shall have any further obligations or liabilities under this Agreement except as expressly set forth in this Agreement.

8. **PROPERTY SOLD "AS IS, WHERE IS."** Buyer acknowledges that Buyer has had an opportunity to inspect the Premises, and to hire professionals to do so, and that Premises will be sold "as is, where is" and "with all faults." City, and its agents, make no representations or warranties with respect to the accuracy of any statement as to boundaries or acreage, or as to any other matters contained in any description of the Premises, or as to the fitness of the Premises for a particular purpose, or as to development rights, merchantability, habitability, or as to any other matter, including without limitation, land use, zoning and subdivision issues or the environmental, mechanical, or structural condition of the Premises. Acceptance by Buyer of the Deed at closing and payment of the purchase price shall be deemed to be full performance and discharge by the City of every agreement and obligation contained herein.

9. **ENVIRONMENTAL INDEMNIFICATION**. Buyer covenants and agrees to indemnify, defend, and hold the City harmless from and against any and all claims, damages, losses, liabilities, obligations, settlement payments, penalties, assessments, citations, directives, claims, litigation, demands, defenses, judgments, costs, or expenses of any kind, including, without limitation, reasonable attorneys', consultants', and experts' fees incurred in investigating, defending, settling, or prosecuting any claim, litigation or proceeding, that may at any time be imposed upon, incurred by or asserted or awarded against Buyer or the City and relating directly or indirectly to the violation of or compliance with any federal, state, or local environmental laws, rules, or regulations governing the release, handling or storage of hazardous wastes or hazardous materials and affecting all or any portion of the Premises, except to the extent that such a claim results directly from the release, handling or storage of hazardous wastes or hazardous materials on the Premises. This duty to indemnify, defend, and hold harmless shall be included in a covenant in the deed and shall run with the land conveyed and be binding upon Buyer's successors, assigns, and transferees.

10. **CONDITIONS PRECEDENT TO CLOSING.** The City shall pursue removal of the restrictions limiting development of and burdening the Premises stated or described in the deed to the City from the State of Maine dated September 26, 2005 and recorded in the Cumberland County Registry of Deeds in Book 23202, Page 38. In the event the City is unable to obtain such removal prior to the Closing Date, as defined below, the, unless Buyer elects to waive such restrictions in writing, the City shall refund the Deposit, if previously paid, without interest, and this Agreement shall be terminated and neither party shall have any further obligations or liabilities under this Agreement. Buyer acknowledges and agrees that the City is acting as Seller, and not in its regulatory capacity, in connection with this Agreement. The acceptance or recording of a deed to the Buyer of the Premises will be conclusive and final evidence of the consent by Buyer to the waiver or completion of all these conditions.

11. **CLOSING**. Time is of the essence in the performance of this agreement. The closing shall be held at the offices of Buyer's counsel at a time agreeable to the parties on or before the day that is five months after the date of this Agreement (the "Closing Date"). At the Closing:

    a. City shall execute, acknowledge and deliver to Buyer a municipal quitclaim deed conveying to Buyer good and insurable title to the Premises, free and clear of all encumbrances except as otherwise set forth herein.

    b. Buyer shall deliver the balance of the Purchase Price to the City by wire transfer; and

    c. Each party shall deliver to the other such other documents, certificates and the like as may be required herein or as may be necessary to carry out the obligations under this Agreement.

    d. Buyer shall deliver evidence, reasonably satisfactory to City's Corporation Counsel, that the entity receiving title to the Premises is in good standing under Maine law, and that the individuals acting to Closing and executing documents on behalf of Buyer are authorized to do so.

12. **BUYER'S POST CLOSING OBLIGATIONS; RIGHTS OF CITY TO REPURCHASE PROPERTY.** Buyer agrees to commence development of the project depicted on the attached Plan (Exhibit B), as presented to the City's Economic Development Committee on July 19, 2017, and specifically including at least fifty dwelling units depicted therein, 35% of which will be market rate, and 65% of which shall affordable to households at or below 60% of the area median income (the "Project") within twelve (12) months after closing. If Buyer, its successors, assigns, or transferees fails to submit a complete site plan review application for the Project on the Property within 12 months after the closing, and construct the buildings which are part of the Project within thirty (30) months after closing, the City shall have the right, but not the obligation, to repurchase the Premises at the lesser of (1) the Purchase Price plus all construction and approval expenses incurred by Buyer, or successors, to that juncture, or (2) the fair market value of the Premises determined by an appraiser agreed upon by the parties. The provisions of this paragraph will survive closing, and the City's deed to Buyer shall include a reference to the City's option to repurchase the Premises, and/or a Declaration of Covenants, Conditions and Restrictions, and Option to Repurchase with the provisions of this paragraph with greater detail, executed before or at the time of Closing, shall be recorded in the Cumberland County Registry of Deeds. This right to repurchase shall be assignable by the City

13. **ENTIRE AGREEMENT.** This Agreement represents the entire and complete Agreement and understanding between the parties and supersedes any prior agreement or understanding, written or oral, between the parties with respect to the acquisition or exchange of the Property hereunder. This Agreement cannot be amended except by written instrument executed by City and Buyer.

14. **NON-WAIVER**. No waiver of any breach of any one or more of the conditions of this Agreement by either party shall be deemed to imply or constitute a waiver of any succeeding or other breach hereunder.

15. **HEADINGS AND CAPTIONS.** The headings and captions appearing herein are for the convenience of reference only and shall not in any way affect the substantive provisions hereof.

16. **BINDING EFFECT**. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, administrators, successors and assigns.

17. **TIME.** The City and Buyer each confirm and agree that each of the time periods set forth herein are essential provisions of the terms of this Agreement.

18. **GOVERNING LAW**. This Agreement shall be construed in all respects in accordance with, and governed by, the laws of the State of Maine. All parties hereto hereby consent to the exclusive jurisdiction of the Superior Court for the County of Cumberland in the State of Maine, for all actions, proceedings and litigation arising from or relating directly or indirectly to this Agreement or any of the obligations hereunder, and any dispute not otherwise resolved as provided herein shall be litigated solely in said Court. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

19. **NOTICE**. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, certified, return receipt requested, addressed to the recipient at the addresses set forth below. Either party may change addresses for purposes of this paragraph by giving the other party notice of the new address in the manner described herein.

FOR THE City:	City of Portland ATTN: City MANAGER 389 Congress Street Portland, ME 04101
With a copy to:	The Office of the Corporation Counsel at the same address.
FOR Buyer:	Ross Y. Furman Box Two Portland, ME 04112
With a copy to:	Timothy H. Norton, Esq. Kelly, Remmel & Zimmerman 53 Exchange Street

P.O. Box 597
Portland, ME 04112

20. **SIGNATURES; MULTIPLE COUNTERPARTS.** This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same agreement.

21. **BROKERS.** City shall pay CBRE | The Boulos Company at closing a brokerage commission equal to five percent (5%) of the Purchase Price at closing. The CITY and Buyer each represent and warrant that they have not dealt with a real estate broker in connection with this transaction other than CBRE | The Boulos Company. Buyer agrees to indemnify and hold harmless City from any claims made by any broker should Buyer's representation in this paragraph be false. Subject to the limitations of liability set forth in the Maine Tort Claims Act, City agrees to indemnify and hold harmless Buyer from any claims made by any broker should City's representation in this paragraph be false. The foregoing indemnities shall include all legal fees and costs incurred in defense against any such claim, and shall survive closing.

22. **RECITALS INCORPORATED BY REFERENCE**. The recitals set forth above are incorporated herein by reference and made a part of this Agreement.

23. **ASSIGNMENT.** Buyer may assign his rights and obligations under this Agreement to a limited liability company or other entity prior to Closing and the City shall acknowledge and consent to such assignment.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their duly authorized officers or representatives, as of the day and year first written above.

WITNESS

City OF PORTLAND

Jon P. Jennings
Its City Manager

WITNESS

ROSS Y. FURMAN

Approved as to Form:

Corporation Counsel's Office

Parcel Map

1	55 Portland Street
2	44 Hanover Street
3	56 Parris Street
4	82 Hanover Street
5	65 Hanover Street
6	178 Kennebec Street

EXHIBIT A

EXHIBIT B

furman place on kennebec
PROPOSED BRATTLE, KENNEBEC
& PARRIS STREET DEVELOPMENT
PORTLAND, MAINE
ONE WAY

THE SZANTON COMPANY
An affiliate of the Munks Companies

The Szanton Company

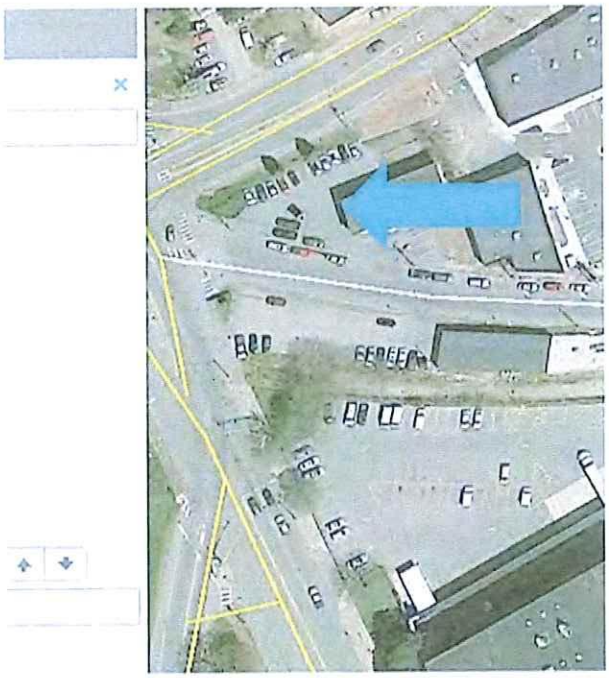
The mission of The Szanton Company (TSC) is to create comfortable, attractive, and affordable rental housing. We do this by:

- Creating beautiful apartments of high quality in locations in or near downtowns, adding vitality to our cities and towns;
- Serving people with diverse incomes;
- Incorporating the highest standards of environmental responsibility in our properties, thereby minimizing their impact on the earth's environment;
- Creating amenities for our residents which enhance their quality of life;
- Building properties which provide a consistent financial return to their owners, thus ensuring their stability for residents, lenders, investors, and neighborhoods.

We have extensive experience developing multifamily rental properties in Maine and New Hampshire, including seven existing properties totaling 334 units. Three of these are in Portland: Casco Terrace at 41 State Street; Walker Terrace at 1 Walker Street and 53 Danforth Street. We have two additional properties in the development pipeline, a 59-unit project under construction in Bath, Maine, and a 63-unit project in pre-development in Lewiston, Maine.

We have partnered with Ross Furman to provide housing on land he owns on the block bordered by Kennebec, Parris, Brattle and Lancaster Streets.

We understand that the last piece of the block (approximately 10,000 square feet closest to and abutting Kennebec St.) is subject to the City's RFP process.



THE SZANTON COMPANY
An affiliate of the Monks Companies

Project Details

We are working with Ross Furman's team to incorporate housing into their multi-phase development of the block. Included in these materials is a site plan showing the block and the three phases of development. Conceptually, the first phase would include the area closest to Kennebec Street. It would include ground-level retail and/or artist studio space with approximately 50 units of housing on the upper floors. The housing would be rental, a mix of studio, 1-, 2-, and 3-bedroom apartments. We've included a concept floor-plan of Phase One.

The site has some unique advantages for residential development:

- The City has identified the Bay Side neighborhood as a priority for redevelopment. Kennebec Street is a prominent street in Bayside, and street-level retail will dovetail well with surrounding buildings.
- A mixed-use residential/retail building will bring new residents to live, work, and shop in Bayside, reinforcing the urban fabric and adding new vitality to the core of the City.
- The site is within walking distance of a variety of services and destinations for daily living (e.g., banks, library, schools, Deering Oaks, etc.) as well as employers and public transportation.

We expect the income mix targeted for this development will be 35% market rate, and 65% affordable (aimed at those at or below 60% of the area median income.)

The residents are intended to mirror the mix of people, incomes, and occupations in Portland. We have seven other properties with similar unit mixes and we know that tenants in income-restricted units will include people with jobs at the lower end of the wage scale, such as nurse's aides, entry-level workers in local businesses, clerks, artists, etc. The market-rate units are likely to have attorneys, doctors, or other urban professionals as tenants.

Management

SACO FALLS MANAGEMENT

We have an in-house property management company called Saco Falls Management (SFM). Our staff is dedicated to making our residents the central focus of our organization and creating a rental experience which far exceeds our residents' expectations, both in level of upkeep of properties and responsiveness to their needs.

For more information on our management company, please visit www.sacofallsmanagement.com.

Gorham
SAVINGS BANK

April 26, 2017

Mr. Nate Stevens
CBRE/The Boulos Company
One Canal Plaza
Portland, ME 04101

RE: Ross Furman: Portland Public Works property

Dear Nate:

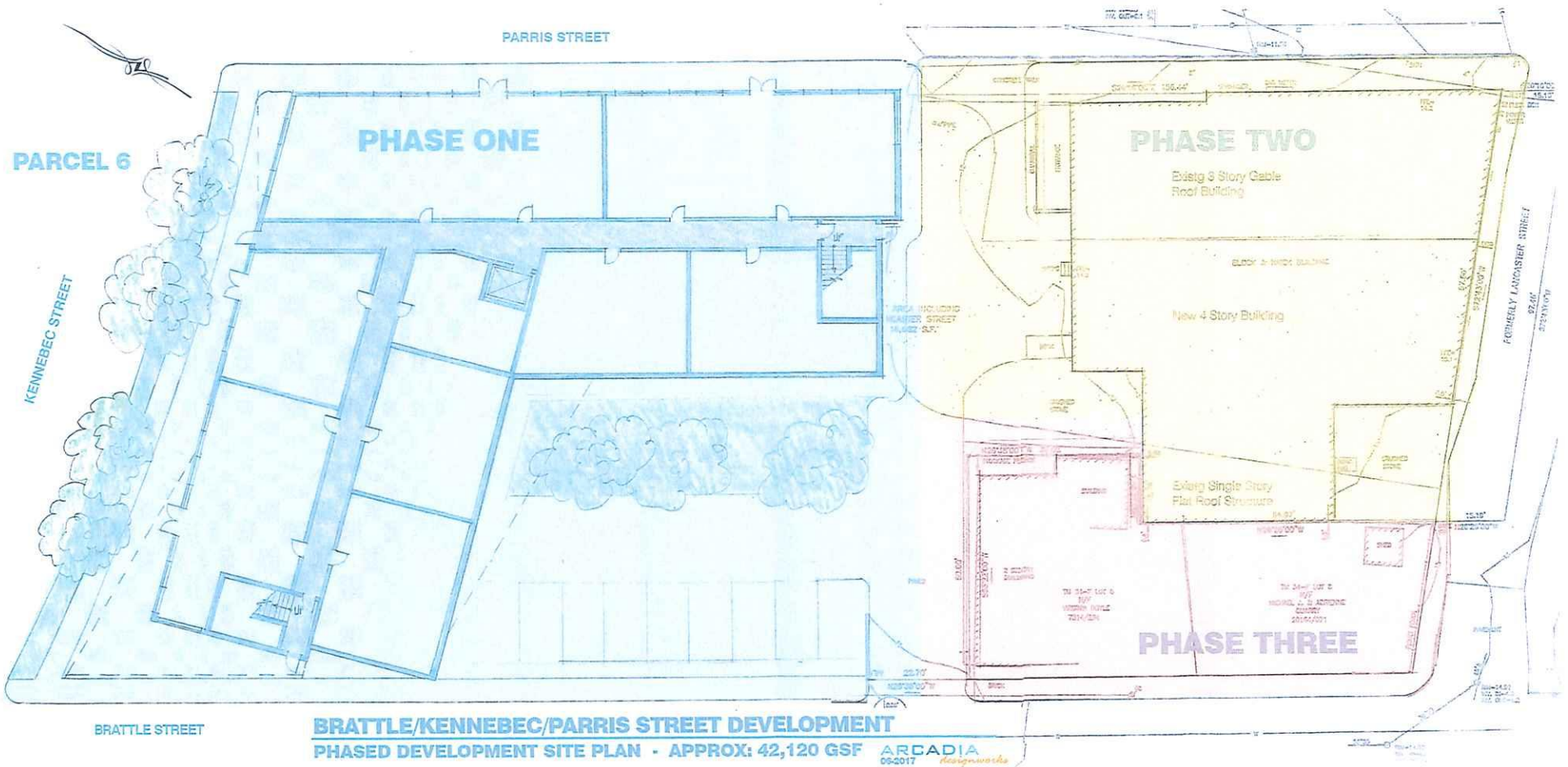
I am writing to inform you that Gorham Savings Bank has been doing business with Ross Furman since September of 2006. He has handled his banking relationship in a fully satisfactory manner. Based on Ross' history with the Bank, he has exhibited the financial capacity to complete the proposed purchase of the Portland Public Works property.

If you should need further information, please call me at 222-1498.

Sincerely,

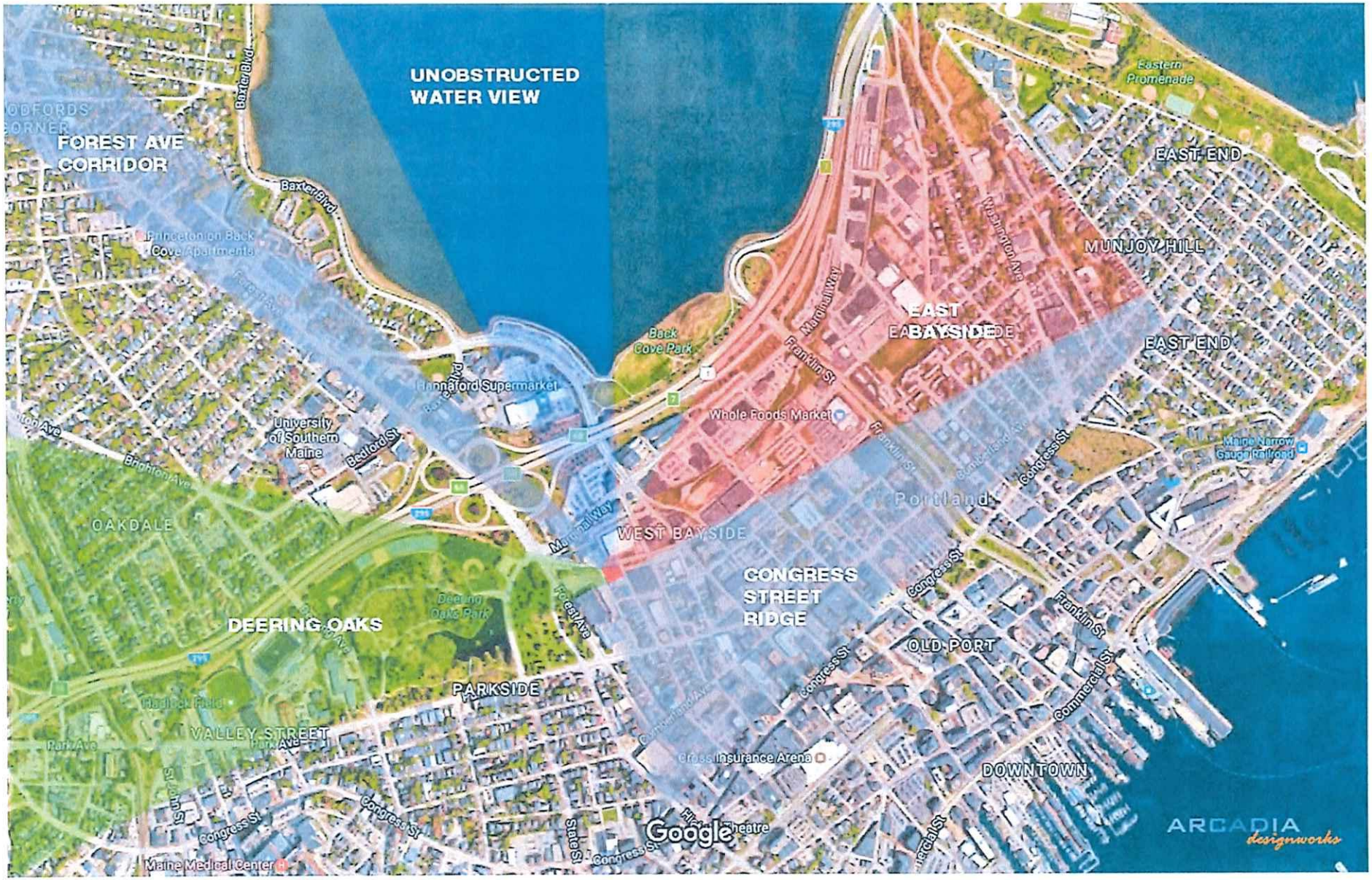
Frederick G. Proctor
Vice President

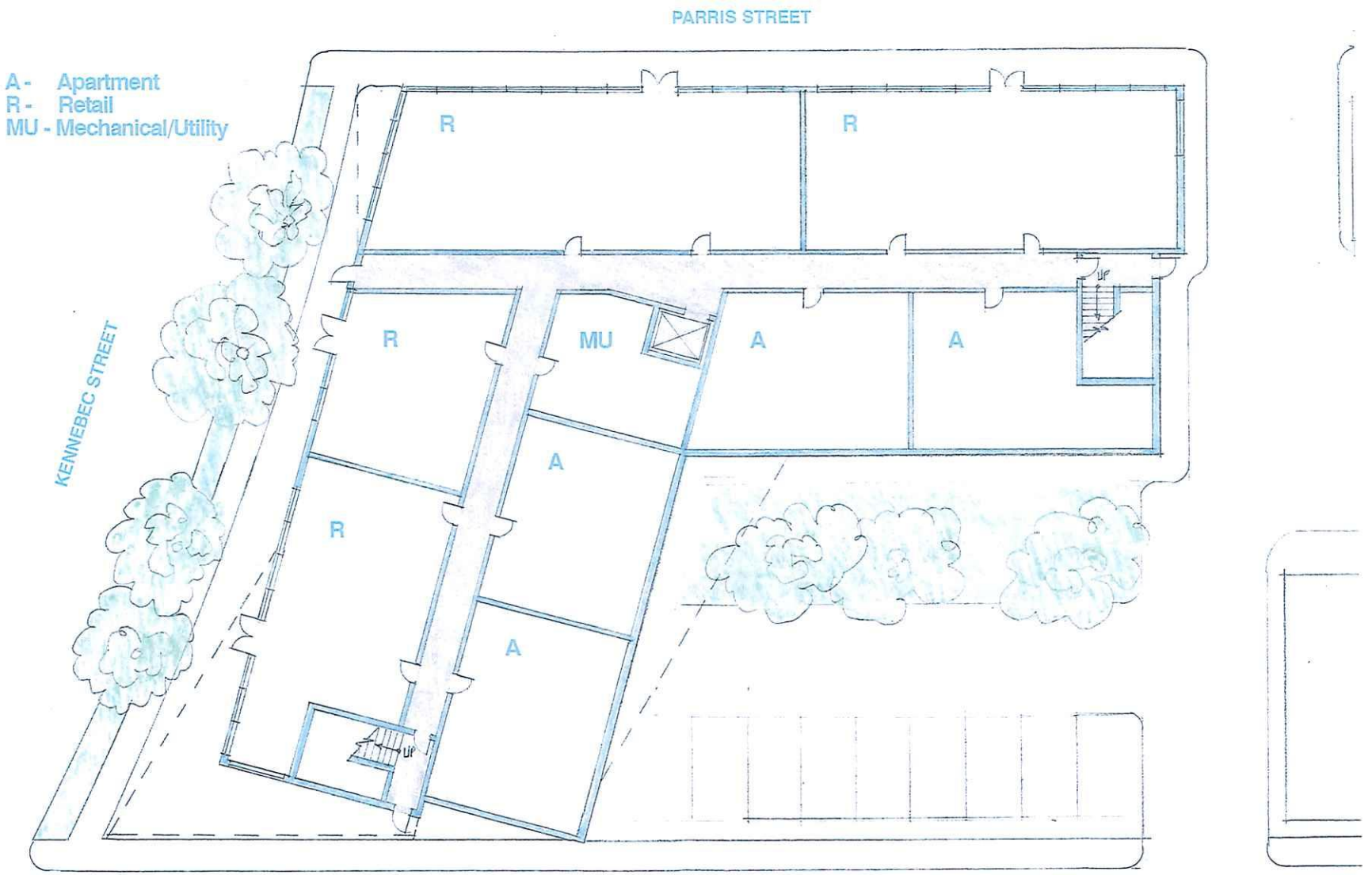
Cc: Ross Furman



BRATTLE/KENNEBEC/PARRIS STREET DEVELOPMENT

PHASED DEVELOPMENT SITE PLAN - APPROX: 42,120 GSF ARCADIA 06-2017


UNOBSTRUCTED
WATER VIEW
FOREST AVE
CORRIDOR
EAST END
MUNJOY HILL
EAST
BAYSIDE
EAST END
OAKDALE
WEST BAYSIDE
CONGRESS
STREET
RIDGE
DEERING OAKS
PARKSIDE
VALLEY STREET
OLD PORT
DOWNTOWN
Portland
Eastern
Promenade
Back
Cove Park
Whole Foods Market
Hannaford Supermarket
University
of Southern
Maine
Deering
Oaks Park
Maine Medical Center
Cross Insurance Arena
Maine Narrow
Gauge Railroad
Google
ARCADIA
designworks



furman place on kennebec

BRATTLE/KENNEBEC/PARRIS STREET DEVELOPMENT

BUILDING CONCEPT - GROUND LEVEL PLAN 13,088 GSF

06-2017 ARCADIA designworks

A - Apartment
R - Retail
MU - Mechanical/Utility

furman place on kennebec

BRATTLE/KENNEBEC/PARRIS STREET DEVELOPMENT

BUILDING CONCEPT - UPPER LEVEL PLAN 13,088 GSF

ARCADIA designworks 06-2017

THE SZANTON COMPANY
An affiliate of the Monks Compan
KENNEBEC
furman place on kennebec
ARCADIA

PHASE TWO:
NEW SYSTEMS - ARTIST STUDIOS AND NEW MEDIA & DESIGN OFFICE BUILDING PORTLAND, MAINE

A BUILDING FACADE FORMS STREET FRONT. LAND AND HARDSCAPING PROVIDED FOR PUBLIC USE AND COMPLIMENTARY TO PORTLAND TRAILS RIGHT OF WAY.

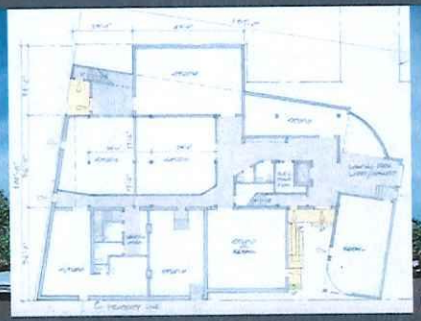
B 5-STORY BUILDING CONSTRUCTED USING GREEN, AFFORDABLE MATERIALS AND ENERGY EFFICIENT MECHANICAL SYSTEMS, ENABLING 65% AFFORDABLE HOUSING AND 35% MARKET RATE APARTMENTS.

C BUILDING PROVIDES AFFORDABLE SPACE FOR ARTIST STUDIOS ON THE 1ST AND 2ND LEVELS AND NEW MEDIA AND DESIGNER STUDIOS ON THE 3RD AND 4TH LEVELS.

D OFF STREET PARKING AND BUILDING COMMONS GARDEN AREA.

PHASE ONE:
FURMAN PLACE - AFFORDABLE HOUSING AND COMMERCIAL RETAIL BUILDING

NEW SYSTEMS - SOUTHEAST VIEW



NEW SYSTEMS - NORTHWEST VIEW

FIRST AMENDMENT
TO
PURCHASE AND SALE AGREEMENT

THIS FIRST AMENDMENT is made as of the 13th day of March, 2018, by and between the CITY OF PORTLAND, a body politic and corporate located in Cumberland County, Maine ("Seller") and ROSS Y. FURMAN, an individual having a mailing address of Box Two, Portland, Maine 04112 (the "Buyer").

WITNESSETH:

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated October 10, 2017 (the "Agreement") with respect to certain real property located at 178 Kennebec Street, Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein:

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

1. The Agreement is hereby amended by deleting from section 11 of the Agreement the words "the day that is five months after the date of this Agreement" and replacing therefore the words "April 13, 2018," meaning and intended hereby to fix the Closing Date under the Agreement to on or before April 13, 2018.

2. Except as specifically amended hereby, the Agreement shall remain in full force and effect, and the parties hereto ratify the terms and conditions of the Agreement.

(Signature Page Follows)

IN WITNESS WHEREOF, Seller and Buyer have caused this Agreement to be executed by their duly authorized representatives or officers, as of the date first written above.

WITNESS:

Jon P. Jennings

CITY OF PORTLAND

By:

Its City Manager

WITNESS:

Ryan M. Cyr

By: Ross Y. Furman
ROSS Y. FURMAN

Approved as to Form:
City Corporation Counsel's Office

CONFIRMATORY RELEASE DEED

The **PORTLAND TERMINAL COMPANY,** a corporation duly organized and existing under the laws of the State of Maine, with offices at 1700 Iron Horse Park, North Billerica, Middlesex County, Massachusetts (the "Grantor") in consideration of One Dollar ($1.00) and other valuable consideration paid to it by **ROSS Y. FURMAN ,** with a mailing address of 41 Brattle Street, Portland, Maine 04101 (the "Grantee") hereby grants to the Grantee all the Grantor's right, title and interest, without any warranties or covenants of title whatsoever, in a certain parcel of land, and the buildings, bridges, structures, crossings, fixtures and improvements thereon, if any, situated in Portland, County of Cumberland, State of Maine (the "Premises") described as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND
MADE A PART HEREOF BY THIS REFERENCE.

MAINE REAL ESTATE TAX PAID

This conveyance is subject to the following reservations, conditions, covenants and agreements:

1. This conveyance is made without granting any right of way, either by necessity or otherwise, over any remaining land or location of the Grantor.

2. ~~The Grantor hereby reserves a permanent, exclusive right of way and easement in, on, over, under, across and through the Premises for the purpose of accessing, constructing, installing, operating, maintaining, modifying, repairing, replacing, relocating and removing a telecommunications system or other system for transmission of intelligence or information by any means, whether now existing or hereafter devised, including such poles, pipes, wires, fibers, fiber optic cables, repeater stations, attachments, appurtenances, structures or other equipment and property of any description necessary or useful for the same (the "Telecommunications Easement"). The Grantor further reserves the right to freely lease, license, mortgage, assign, pledge and otherwise alienate the Telecommunications Easement. The Grantee hereby covenants with the Grantor to recognize the Telecommunications Easement and, without the payment of any further consideration, to execute, acknowledge and deliver such instruments suitable for~~

~~recording with the registry of deeds as the Grantor may reasonably require to acknowledge title to the Telecommunications Easement in the Grantor. The Grantor covenants to reasonably repair and restore the surface of the easement area after any work.~~

3. The Grantor excepts from this conveyance any and all railroad tracks, railroad track materials (including, but not limited to, ties, connections, switches and ballast) and/or related equipment of any description located in whole or in part within the Premises (the "Trackage") and this conveyance is subject to the right of the Grantor to enter the Premises from time to time and at any and all times within the ninety (90) day period commencing with and subsequent to the date of delivery of this deed, with such men, equipment and materials as, in the reasonable opinion of the Principal Engineering Officer of the Grantor, are necessary for the removal of the Trackage. Days during the months of December, January, February and March shall not be included in the aforesaid ninety (90) day period. If the Trackage is not removed from the Premises by the expiration of said ninety (90) day period, the Trackage shall be deemed abandoned by the Grantor and shall then become the property of the Grantee.

4. ~~The Grantor excepts from this conveyance any and all advertising signs and/or billboards located upon the Premises which are not owned by the Grantor. Furthermore, this conveyance is subject to the right of the owners of said signs and/or billboards to go upon the Premises and remove them within ninety (90) days from the date of delivery of this deed.~~

5. By the acceptance of this deed and as part consideration therefor, the Grantee hereby assumes any and all agreements, covenants, obligations and liabilities of the Grantor in respect to any underground facilities, drainage culverts, walls, crossings and/or other structures of any nature and description located in whole or in part within the Premises.

6. By the acceptance of this deed and as part consideration therefor, the Grantee agrees to Irrevocably waives, gives up and renounces any and all claims or causes of action against the Grantor in respect of claims, suites and/or enforcement actions (including any administrative or judicial proceedings and any remedial, removal or response actions) ever asserted, threatened, instituted or requested by any person and/or governmental agency on account of: (a) any release of oil or hazardous materials or substances of any description on, upon or into the Premises in contravention of any ordinance, law or statute (including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9601, et seq., as amended); and (b) any and all damage to real or personal property, natural resources and/or harm or injury to persons alleged to have resulted from such release of oil or hazardous materials or substances.

7. ~~By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to build and forever maintain fences (together with any necessary gates), suitable to the Principal Engineering Officer of the Grantor, along the boundaries of the Premises which are common to remaining land or location of the Grantor (the "Fences"), if Fences are ever required in the sole and reasonable opinion of said Principal Engineering Officer.~~

8. ~~This conveyance is subject to the following restriction for the benefit of other land or location of the Grantor, to wit: that from the date of delivery of this deed, the Grantor shall not be liable to the Grantee or any lessee or user of the Premises (or any part thereof) for any damage to any buildings or property upon them caused by fire, whether communicated directly or indirectly by or from locomotive engines of any description upon the railroad operated by the Grantor, or otherwise.~~

9. By the acceptance of this deed and as part consideration therefor, the Grantee hereby agrees to make no use of the Premises which, in the sole and reasonable opinion of the Principal Engineering Officer of the Grantor, adversely affects, increases or decreases drainage to, from, upon or in any remaining land or location of the Grantor. The Grantee agrees to indemnify and save the Grantor harmless from and against any and all loss, cost, damage or expense including, but not limited to, the cost of defending all claims and/or suits for property damage, personal injury or death arising out of or in any way attributable to any breach of the foregoing covenant.

10. The Grantor excepts from this conveyance any and all overhead, surface or underground signal and communication line facilities of the Grantor located within the limits of the Premises and this conveyance is subject to the Grantor's use of any such facilities in their present locations and entry upon the Premises from time to time to maintain, repair, replace, renew, relay or remove such facilities.

11. Whenever used in this deed, the term "Grantor" shall not only refer to the **PORTLAND TERMINAL COMPANY**, but also its successors, assigns and affiliates and the term "Grantee" shall not only refer to the above-named Grantee, but also the Grantee's successors, assigns and grantees, as the case maybe.

12. The several exceptions, reservations, conditions, covenants and agreements contained in this deed shall be deemed to run with the land and be binding upon the Grantee forever. In addition to the acceptance and recording of this deed, the Grantee hereby signifies assent to the said several exceptions, reservations, conditions, covenants and agreements, by joining in its execution.

13. This Confirmatory Deed is given to replace the original Deed dated May 6, 1999 from the Grantor to the Grantee in respect of a certain parcel of land situated on the easterly side of Brattle Street and the westerly side of Parris Street in the City of

Portland, County of Cumberland, State of Maine, said parcel containing 6,700 square feet herein described, Grantee paid said consideration of Thirty Five Thousand One Hundred Seventy Five and 00/100 ($35,175.00) Dollars, said original deed never having been recorded.

IN WITNESS WHEREOF, the said **PORTLAND TERMINAL COMPANY** has caused this release deed to be executed in its name and its corporate seal to be hereto affixed by David A. Fink, its President, thereunto duly authorized this 12th day of March, 2014.

GRANTOR:
PORTLAND TERMINAL COMPANY

Witness

By: _____
David A. Fink, President

SEAL

GRANTEE:

Witness

By: _____
Ross Y. Furman

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss March 12, **2014**

On this 12th day of March, 2014 before me, the undersigned notary public, personally appeared David A. Fink, the President of the **PORTLAND TERMINAL COMPANY** proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Notary Public: Roland Theriault
My Commission Expires: _____

ROLAND L. THERIAULT
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 5, 2016

STATE OF MAINE

Cumberland, ss 3-26-, **2014**

On this 26 day of March, 2014 before me, the undersigned notary public, personally appeared Ross Y. Furman proved to me through satisfactory evidence of identification, which was Licence, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Notary Public: Jason Balko
My Commission Expires: 8-13-2020

JASON BALKO
Notary Public
Maine
My Commission Expires Aug 13, 2020

Exhibit A

PORTLAND TERMINAL COMPANY
TO
ROSS Y. FURMAN
PARCEL F-2

A certain lot or parcel of land situated on the easterly side of Brattle Street and the westerly side of Parris Street in the City of Portland, County of Cumberland and State of Maine being bounded and described as follows:

Beginning at a rod on the easterly side of said Brattle Street marking the northwesterly corner of land conveyed to Gregory B. Brown by deed recorded in the Cumberland County Registry of Deeds in Book 11,525, Page 259, said rod also being 645.90' northerly, along said easterly side of Brattle Street, from the northerly side of Portland Street;

Thence by land of Brown on a curve to the left whose radius is 2,757.50' an arc distance of 19.43, to the westerly corner of the parcel conveyed to Franklin R. Redlon recorded in Book 1340, Page 137, said corner being found on a chord of S 84° 01' 05" E a distance of 19.43';

Thence by the northerly line of said Redlon land N 75° 59' 22" E a distance of 18.00' to a point;

Thence S 5° 10' 32" E and being 2.00' easterly of the steps, leading to Brown's House, a distance of 3.10' to a point;

Thence N 85° 55' 33" E and being 2.00' northerly of Brown's house, a distance of 23.10' to a point;

Thence S 4° 4' 27" E and being 2' easterly, of Brown's house, a distance of 6.79' to a point on the northerly line of said Brown;

Thence by the northerly line of said Brown and the northerly line of land conveyed to Harrison O. Elliott by deed recorded in Book 2390, Page 224, on a curve to the left whose radius is 2,757.50' an arc distance of 76.21' to a rod on the westerly side of said Parris Street, said rod being found on a long chord of S 85° 52' 22" E a distance of 76.20';

Thence by the westerly side of Parris Street N 12° 10' 37" W a distance of 51.93' to a rod and other land of the Grantor, said rod being on a non tangent curve;

Thence by said Grantor land on a curve to the left whose radius is 2707.50 an arc distance of 137.69' to a rod being on a non-tangent curve, on the easterly side of said Brattle Street, said rod being found on a chord of N 84° 54' 50" W a distance of 137.67';

Thence by the easterly side of said Brattle Street S 12° 33' 19" E a distance of 52.85' to the point of beginning, comprising 6,700 sq. ft.

Being a portion of the premises conveyed in deed recorded in Book 481, Page 319.

Received
Recorded Register of Deeds
Mar 26,2014 02:52:11P
Cumberland County
Pamela E. Lovley

Doc#: 23883 Bk:18985 Pg: 128

WARRANTY DEED
Maine Statutory Short Form

Know all Men by these presents,

That **H.B. Eddy Company**, a Maine corporation f/k/a New System Laundry, Inc. for consideration paid, grants to **New Systems Realty, LLC,** a Maine limited liability company with a mailing address of P.O. Box 2, Portland, Maine 04112, with warranty covenants, the land, buildings and improvements thereon, all as located on Parris Street in the City of Portland, County of Cumberland, State of Maine and more particularly described on the attached **Schedule A**.

Also hereby conveying all rights, easements, privileges, and appurtenances belonging to the premises hereinabove described.

Witness my hand this 6th day of March, 2003.

Signed and Delivered in
the presence of:

H.B. EDDY COMPANY

By Daniel B. Eddy
Its Vice President

STATE OF MAINE
CUMBERLAND, SS.

March 6, 2003

Then personally appeared the above named Daniel B. Eddy, Vice President of H.B. Eddy Company, and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of H.B. Eddy Company.

Before me,

~~Notary Public~~/Attorney at Law

Printed Name: MICHAEL H. HILL

SCHEDULE A

A certain lot or parcel of land situated in said Portland on the westerly side of Parris Street, bounded and described as follows: Northerly by parcels which Roswell M. Richardson, Administrator of the Estate of Nathan L. Woodbury, sold William H. Conant and Ralph and Ann Work; westerly by the parcels he sold said Works, Margaret O'Brion, Mellen B. Hamilton, et al, and George H. Owen et al.; and southerly by the northerly line of the lot of land with a block of 5 brick houses thereon; which northerly line commences on said street at a point fifteen (15) feet North of the point where the line of the northerly end of said block intersects said street and runs thence westerly parallel or nearly so with said northerly end of said brick block about eighty-one (81) feet to the southeasterly corner of said Owen lot, said lot being seventy-six and one-half (76½) feet on the street and about ninety-eight and three-tenths (98.3) feet on the rear lines and about eighty-one (81) feet deep.

Being the same premises conveyed to Harrison O. Elliot by the New System and Deering Laundry, Inc. by Warranty deed dated January 2, 1958 and recorded in the Cumberland County Registry of Deeds in Book 2390, Page 224; and

Also, another certain lot or parcel of land situated in said Portland and bounded and described as follows: Commencing on the easterly side of Brattle Street at a point forty-five and five-tenths (45.5) feet measuring on said Brattle Street northerly from the northwesterly corner of a lot of land formerly owned by Daniel Glazier which corner is one and six-tenths (1.6) feet northerly from the underpinning of the said Glazier House; thence easterly at right angles from said Brattle Street fifty (50) feet to a point; thence northerly parallel with said street twenty-two and seven tenths (22.7) feet to a point; thence to said street by a line at right angles to said street; thence southerly by said street twenty-two and seven-tenths (22.7) feet to the point of beginning.

Being the same premises conveyed to Harrison O. Elliot by Eleanor S. Evans, et al. by warranty deed dated June 20, 1961 and recorded in the Cumberland County Registry of Deeds in Book 2617 at Page 148.

Also, another certain lot or parcel of land, with the buildings thereon, situated on the Westerly side of Parris Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows, viz:

Beginning at the point where the Northerly side line of Lancaster Street intersects the Westerly side line of Parris Street; thence along the Westerly side line of Parris Street in a Northerly direction seventy-nine and seventy-three hundredths (79.73) feet, more or less, to a point fifteen (15) feet Northerly from the point where the line of the northerly end of the brick block upon this lot of land extended, intersects said Parris Street; thence Westerly on a line which is parallel, or nearly parallel with the line of the Northerly end of said brick block, ninety-six and one-half (96½) feet, more or less, to line of land, now or formerly, of David or Daniel Glazier; thence Southerly by said Glazier line, sixty-five and one-half (65½) feet, more or less, to the Northerly side line of said Lancaster Street; thence in an Easterly direction by the Northerly line of said Lancaster Street, about ninety-seven and one-half (97½) feet, more or less, to Parris Street, and the point of beginning.

Being the same premises conveyed to New System Laundry, Inc. by Harrison O. Elliot by his Warranty Deed dated January 2, 1958 and recorded in Cumberland County Registry of Deeds in Book 2390, Page 227.

The above three parcels being the same conveyed to the Grantor hereof by (i)warranty deed dated July 6, 1972 and recorded in the Cumberland County Registry of Deeds in Book 3278, Page 18, and (ii) warranty deed dated January 13, 1975 and recorded in the Cumberland County Registry of Deeds in Book 3640, Page 312.

Meaning and intending to convey the premises shown on a Plan of Land for New System Laundry prepared by Owen Haskell, Inc. dated February 26, 1975 and recorded in the Cumberland County Registry of Deeds in Plan Book 138, Page 16.

Also including, all right, title and interest in and to the discontinued portion of Lancaster Street as attached hereto as Schedule B on the Order of Discontinuance as recorded with the City Clerk, Volume 106, Page 81.

Received
Recorded Register of Deeds
Mar 06,2003 03:40:28P
Cumberland County
John B. O'Brien

3 STATE AND FEDERAL PERMITS

The development is subject to Site Plan and Subdivision approval by the City of Portland and Building Permit(s) are also required. No additional State or Federal Permits are required.

4 LAND ORDINANCE REVIEW

4.1 OVERVIEW

The property currently lies within the City of Portland B7 Mixed Development District zone. The following Space and Bulk requirements apply to the B7 Zone:

	B7 Zone Summary Dimensional and Parking Requirements Applied to 178 Kennebec Street	
Zoning Requirements	B7	Provided
Minimum Lot Size	None	16,553 sf
Minimum Frontage	None	110 ft
Minimum Lot Area per Dwelling Unit	None	360 sf/unit
Minimum Front Yard	None Required	< 1 ft
Minimum Side Yard	None Required	< 1 ft on Brattle 3.5 ft on Parris
Minimum Rear Yard	None Required	Varies
Maximum Street Setback	10 ft	3.5 ft
Maximum lot coverage	100%	44%
Maximum Structure Height	105 ft	83 ft
Parking	TBD by Planning Board	19
Bicycle Parking	2 spaces / 5 units (18 spaces)	18

4.2 SHORELAND ZONING

The site is not located within the Shoreland Zoning District.

5 EASEMENTS OR OTHER BURDENS

5.1 OVERVIEW

Owen Haskell, Inc. completed a boundary and topographic survey of the site in December of 2017. There are no easements or other burdens associated with the site.

6 TECHNICAL AND FINANCIAL CAPACITY

6.1 TECHNICAL CAPACITY

The applicant has assembled a highly qualified team of professionals to plan, permit, and develop construction documents for the project. The Team is working under the direction of Maine Workforce Housing as Project Developers. Professional services will be provided by the following companies and their respective team leaders:

6.2 CONSULTANT TEAM

Civil Engineer	Michael Tadema-Wielandt, P.E. Terradyn Consultants, LLC 565 Congress Street Portland, ME 04101 (207) 632-9010 – Cell (207) 221-1317 – Fax mtw@terradynconsultants.com
Surveyor	Randy Loubier Owen Haskell, Inc. 390 US Route 1, Unit 10 Falmouth, Maine 04105 (207) 774-0424 – Work (207) 774-0511 – Fax rloubier@owenhaskell.com
Architect	David Lloyd Archetype, PA 48 Wharf Street Portland, ME 04101 (207) 772-6022 – Work (207) 772-4056 – Fax lloyd@archetypepa.com
Electrical/ Mechanical Engineer	William Bennett Bennett Engineering P.O. Box 297 Freeport, ME 04032 (207) 865-9475 will@bennettengineering.net

6.3 EXPERIENCE OF PROJECT TEAM

The team of consultants retained by the Developer has expertise and experience in the design of similar projects. Resumes of key personnel for the development team can be provided upon request.

The applicant, Maine Workforce Housing, LLC, has experience in the development and management of residential projects of this scale. A company resume is included in Attachment 6-A.

6.4 FINANCIAL CAPACITY

The applicant has the capacity to finance the proposed project. Evidence of financial capacity for the project is contained in Attachment 6-B.

6.5 CONSTRUCTION COST ESTIMATE

The project has an overall construction cost estimate of $6.6 million. This construction cost value is considered preliminary and subject to change as building design and project layout is refined, etc.

6.6 ATTACHMENTS

Attachment 6-A – Maine Workforce Housing Resume
Attachment 6-B – Evidence of Financial Capacity

ATTACHMENT 6-A

Maine Workforce Housing Resume

Resume of Maine Workforce Housing, LLC

Maine Workforce Housing, LLC has successfully developed the following Low-Income Housing Tax Credit financed properties in Maine:

- Casco Terrace (2004)
- Walker Terrace (2006)
- 53 Danforth (2009)
- The Mill at Saco Falls (2010)
- The Lofts at Saco Falls (2016)
- Huse School Apartments (2017)

In addition to the projects listed above, other projects developed by affiliate companies of Maine Workforce Housing, with the same personnel, include:

- The Squamscott Block (2007) – A New Hampshire Housing Finance Agency project
- The Lofts at Bates Mill (2012)

Maine Workforce Housing, LLC is currently developing a Low-Income Housing Tax Credit project in Lewiston, Maine, The Hartley Block. Once this building is completed (expected 2019), the total will be 456 units of housing in nine projects.

The principals of Maine Workforce Housing, LLC are Nathan Szanton (75% interest and Managing Member) and Robert Monks (25% interest). Complete resumes for Nathan and Bobby are attached.

ATTACHMENT 6-B

Evidence of Financial Capacity

178 Kennebec Street

Financial Capacity

The total project budget is approximately $10,000,000. Financing sources are projected as follows:

After Occupancy

Amount	Source	Description / Notes
$5,040,000	Low-Income Housing Tax Credit (LIHTC) Equity	To be allocated by MaineHousing following their competitive process. Applications are due in September 2018 and notifications are expected in October 2018. MaineHousing allocates the right to take these tax credits, which are spaced out over ten years. These tax credits are sold to investors and the proceeds are used as equity to pay for the construction and other costs of the development.
$780,000	Low-Income Housing Subsidy	Subsidy from MaineHousing that is tied to the allocation of LIHTCs.
$3,015,000	MaineHousing debt	An interest-bearing mortgage on the property and improvements from MaineHousing.
$325,000	City HOME Funding	Deferred loan from the City of Portland. We are applying for this source in April 2018.
840,000	Ross Furman	Unit 1 (first floor) will be owned and financed by Ross Furman.

During Construction

Note: total amount needed during construction is approximately $9,035,462, which is the portion of the total budget required during construction. This total does not include approximately $1,564,000 that is paid at permanent loan closing, including a portion of developer fees; tax/insurance reserves; operating reserves; rent-up reserves; capital replacement reserves; and tax credit monitoring fees.

Amount	**Source**	**Description / Notes**
$7,475,000	Construction Loan from Bank (letter of interest to be obtained as part of tax credit application)	Construction loan for the duration of construction and lease-up, typically 12-14 months.
$1,000,000	Low-Income Housing Tax Credit Equity	A portion of the tax credit equity is contributed during construction, per IRS rules.
$320,000	MaineHousing Subsidy	50% of their total award is available for construction financing.
$162,500	City HOME Funding	We will ask for the City to provide 50% of their award for construction financing.

7 CONSTRUCTION MANAGEMENT PLAN

The following information is provided in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(1).

7.1 CONSTRUCTION MANAGEMENT PLAN

Maine Workforce Housing, LLC is seeking to commence construction of 178 Kennebec Street in May of 2019 and complete work by June of 2020. The construction will involve site work and new building construction. The attached construction plan outlines the anticipated timeline and sequence of activities.

7.2 ATTACHMENTS

Attachment 7-A – Construction Management Plan

ATTACHMENT 7-A

Construction Management Plan

8 NATURAL FEATURES

8.1 OVERVIEW

The project site is currently entirely developed and does not contain any significant natural features including wetlands, vernal pools or other protected resources or wildlife habitats.

9 STORMWATER MANAGEMENT

The following information is provided in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-526(b)(3).

9.1 OVERVIEW

Maine Workforce Housing, LLC intends to redevelop two parcels totaling 16,553 square feet at 178 Kennebec Street in Portland. The project will result in a small decrease in impervious area. This narrative describes the stormwater runoff patterns and methods of stormwater management for the existing (pre-development) and proposed (post-development) conditions.

9.2 EXISTING CONDITIONS

The existing project site is entirely developed and relatively flat. The site contains approximately 14,842 square feet of compacted gravel surface area and is currently used for vehicle parking. The existing site features no formal stormwater management infrastructure. Runoff currently drains overland from the center of the parcel in all directions. Localized ponding occurs due to uneven grading of the gravel lot. Runoff flows to the existing stormdrain networks in Kennebec, Brattle and Parris Streets.

9.3 PROPOSED PROEJCT

The proposed project includes construction of a 7-story building with a footprint of 6,667 square feet, a 19-space parking lot, and associated sidewalks, utilities, and landscaping. Because the majority of the existing site is covered in impervious surface, the project will result in a decrease of approximately 85 square feet of impervious area, leaving a total impervious surface area of 14,757 square feet. The total proposed non-roof impervious area is 8,096 square feet.

Because impervious surface area will be reduced, the project is not required to meet the General or Flooding Standards. Redevelopment of non-roof impervious area is greater than 5,000 square feet, so the City's redevelopment standards apply to the project. The redevelopment standards require treatment of stormwater runoff from 50% of the proposed total impervious areas based on MDEP's pollutant ranking system for redevelopment projects:

Existing Impervious: Gravel Parking Lot
Area = 14,842 sf
Pollutant Ranking = 3

Proposed Impervious: Flat roof and paved parking & sidewalk
Area = 14,757 sf
Pollutant Ranking = 3 (for both cover types)

Ranked Impact Change due to the Redevelopment = 0

Percentage of Impervious Area that must be treated = 50%
Impervious Area that must be treated = 7,379 sf

9.4 TREATMENT MEASURES

Proposed treatment measures designed to meet the treatment standards include a roof drain filter unit and permeable pavers. More information for each system is provided below.

Roof Runoff Filter

Runoff from a portion of the roof will be captured in a roof drain system and directed to a storm basin filter system that utilizes cartridge filters installed within the building. The storm filter unit is manufactured by Fabco Industries, and has been used on other urban infill projects in the city where there is limited area outside the building for more typical stormwater treatment measures. A detail of the unit is provided on Sheet C-6.1, and sizing calculations are provided in Attachment 9-A.

Approximately 68% of the proposed roof area (4,520 sf) will be collected and treated in the storm basin filter prior to discharging to the existing storm drain network in Parris Street. The system was designed with the capacity to filter up to a 1-year storm event. More intense rainfall events will partially bypass the filters.

The remaining roof runoff will be untreated but captured in a separate roof drain system and discharged to the existing storm drain network in Brattle Street.

Pervious Pavers

A single row of parking, containing 12 parking spaces, located on the south side of the building will be constructed using pervious pavers. Beneath the pavers, a crushed stone reservoir course will store runoff before it is filtered through a gravel subbase material and collected in a perforated underdrain. The underdrain system will connect to an existing storm drain in Parris Street. The system will receive runoff from 2,859 square feet of parking and the adjacent sidewalk area.

An additional benefit of the pervious pavers is that some runoff is expected to infiltrate into the subgrade beneath the underdrain system, reducing the volume of runoff that will be directed to the city's storm drain network.
Runoff from the remaining parking lot and sidewalk areas not tributary to the pervious pavers will continue to flow overland towards the surrounding streets and existing storm drain networks, as it does today.

9.5 CONCLUSIONS

The design meets the treatment standards for redevelopment projects, outlined in Section 5.2.D of the City of Portland Technical Manual. The roof drain filter and pervious paver system will treat 7,379 square feet of impervious area, which equals 50% of the proposed impervious surface on the site.

The project is also expected to result in a modest decrease in runoff volume due to the reduction in impervious surface area and the infiltration that is expected to occur within the pervious pavement system.

The project is not expected to cause ponding, flooding, or erosion problems on or downstream of the site. The relatively small amount of runoff entering the city's storm drain network is not expected to overburden the system.

9.6 ATTACHMENTS

Attachment 9-A – Roof Drain Filter Design Calculations

ATTACHMENT 9-A

Roof Drain Filter Design Calculations

DOWNSPOUT FILTER SIZING CALCULATIONS

1. Calculate Peak Flow Rate During 1-year Storm

Method: Rational Formula (Q=ciA)

c= 0.95
I (in/hr)= 3.06 1-year storm, Tc=5 min.
A (sf)= 4,520

Q_1 (cfs)= 0.302

2. Calculate How Many Filter Cartridges are Necessary

Q, Flow Rate per Cartridge (cfs)= 0.25

Cartridges = Q_1 / Q = 1.2

2 Cartridges

3. Confirm Bypass Flow Rate is Adequate

Bypass Flow Rate=1.0 cfs

Calculate Peak Flow Rate During 100-year storm:

Method: Rational Formula (Q=ciA)

c= 0.95
I (in/hr)= 8.82 100-year storm, Tc=5 min.
A (sf)= 4,520

Q_{100} (cfs)= 0.869

10 CONSISTNECY WITH CITY MASTER PLANS

10.1 OVERVIEW

Our office is not aware of any applicable Master Plans created for the project site.

11 UTILITIES

11.1 OVERVIEW

The proposed project will involve installation of new utility services to the building. All new utility services will be provided from the franchise utilities available within Kennebec, Brattle and Parris Streets. The proposed locations of the new utility services are shown on the Utility Plan (Sheet C-5.0).

11.2 WATER SUPPLY

The proposed project will receive its water supply from the Portland Water District's (PWD) public water supply system. Separate fire and domestic services will be installed to the building from PWD's existing main in Kennebec Street. Terradyn Consultants submitted an ability to serve request to PWD on March 28, 2018, and will provide the ability to serve letter once received. Correspondence with utilities is included in Attachment 11-A.

11.2.1 Total Project Water Usage

The total average daily water demand for the proposed project is estimated to be 5,616 gallons per day, based on design flows published in the State of Maine Subsurface Wastewater Disposal Rules.

46 x 1 Bedroom Residential Units at 120 gpd/unit	= 5,520 gpd
4 x Retail Unit with 2 Employees at 12 gpd/employee	= 96 gpd
Total	= 5,616 gpd

11.3 WASTEWATER DISPOSAL

The proposed project will be connected to the Portland Water District's and City of Portland's wastewater collection and conveyance systems. The City of Portland Wastewater Capacity Application has been completed and will be forwarded to Brad Roland of the City's Water Resources Department.

The overall project is anticipated to generate an average daily flow of approximately 5,616 gpd. Based on the existing sewer system in the area, there appears to be adequate capacity to handle these projected flow amounts.

11.4 ELECTRICITY SUPPLY

CMP currently maintains overhead and underground utilities in the area. Electric utilities for the project will be installed underground from the relocated pole on Parris Street, to the east of the site.

11.5 ATTACHMENTS

Attachment 11-A – Correspondence with Utilities

ATTACHMENT 11-A

Correspondence with Utilities

TERRADYN
CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

1747

March 27, 2018

MEANS
means@pwd.org
Portland Water District
225 Douglass Street
Portland, ME 04104

Request for Ability to Serve Letter
47-Unit Residential Development
178 Kennebec Street, Portland, Maine

Dear Sir or Madam:

Terradyn Consultants LLC has been retained by The Szanton Company to assist with site design and permitting for a proposed 47-unit condominium development project located at 178 Kennebec Street in Portland, Maine. We are writing to request a letter confirming the Portland Water District's ability to serve the proposed development.

The 16,553 square foot parcel is identified as Lots 1 and 2, Block F on the City of Portland Tax Map 34. The site is located along the southern side of Kennebec Street between Brattle and Parris Streets. The site is currently developed with a gravel parking area.

The proposed project includes the construction of a 6,830 square foot, 7-story building, including 47 condominium units for 55+ housing. All of the units are one-bedroom. Retail and artist space will be provided on the first floor. Public water and sewer utilities will be installed to serve the project. It is anticipated that a new 6" fire protection water service and a new 2" domestic water service will be installed for the new building. From the survey the water main in Kennebec appears to be 20", but there is also a 6" main located northwest of the site. The ideal connection for this project is from the mechanical room to utilities in Parris Street, but no water utilities were mapped here as part of our survey. Any information the district can provide on utilities in Parris Street, or which water main we should connect to, is helpful.

Attached are a site location figure showing the property delineated on a USGS map and a preliminary site utility plan of the project, showing how the development may be served with water. A spreadsheet showing the total number of proposed plumbing fixtures is provided in a separate document.

Please provide our office with confirmation that the Portland Water District has the ability to serve the proposed development. As the design is refined, we will provide more detailed drawings of the project for your review.

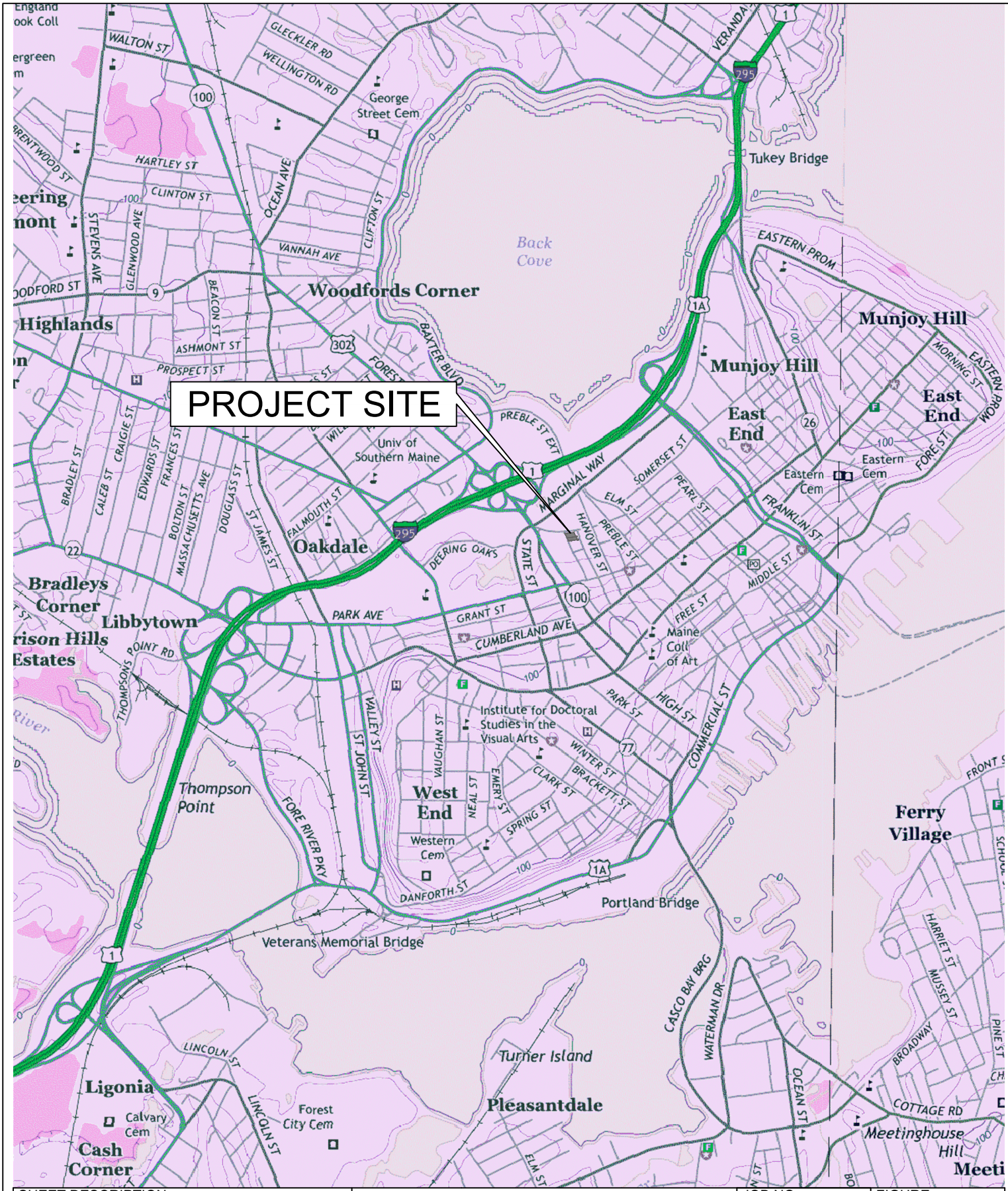
If you have any questions or need more information to make your determination on ability to serve, please contact me at (207) 322-1223 or adrienne@terradynconsultants.com.

Sincerely,

TERRADYN CONSULTANTS LLC

Adrienne Fine, P.E.
Design Engineer

Enc.



SHEET DESCRIPTION 178 KENNEBEC STREET U.S.G.S. QUADRANGLE MAP PORTLAND WEST	TERRADYN CONSULTANTS, LLC Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting	JOB NO. 1747	FIGURE 1
PREPARED FOR THE SZANTON COMPANY 482 CONGRESS STREET, SUITE 203 PORTLAND, MAINE 04101	P.O. Box 339 111 Elder Ferry Lane New Gloucester, ME 04260 Office: (207) 926-5111 Fax: (207) 221-1317 www.terradynconsultants.com	DATE 3/27/2018	OF 2
		SCALE 1"=2,000'	

SHEET DESCRIPTION
178 KENNEBEC STREET
AERIAL PHOTOGRAPH (2017)

PREPARED FOR
THE SZANTON COMPANY
482 CONGRESS STREET, SUITE 203
PORTLAND, MAINE 04101

TERRADYN
CONSULTANTS, LLC

P.O. Box 339
111 Elder Berry Lane
New Gloucester, ME 04260
Office: (207) 926-5111
Fax: (207) 221-1317
www.terradynconsultants.com

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

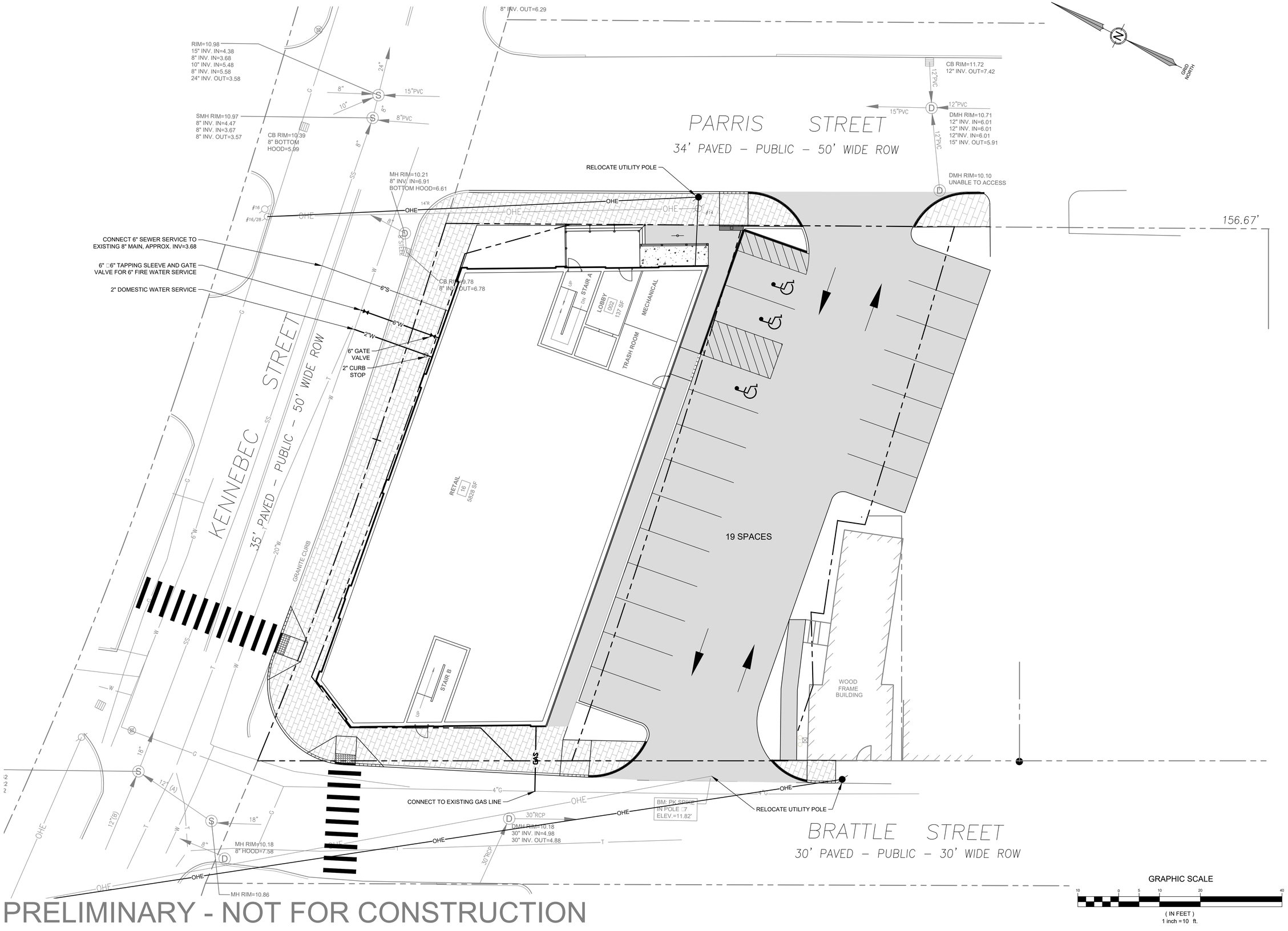
JOB NO.
1747

DATE
3/27/2018

SCALE
1"=60'

FIGURE
2

OF
2



PRELIMINARY - NOT FOR CONSTRUCTION

DATE:

NO.	DATE	SUBMITTED TO PLANNING BOARD FOR APPROVAL REVISIONS	APP'D BY
1	3-28-2018		

TERRADYN CONSULTANTS, LLC
P.O. BOX 339
111 FERNBERRY LANE
NEW GLOUCESTER, ME 04260
565 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102
OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
UTILITY PLAN

PREPARED FOR
THE SZANTON COMPANY
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-5.0

12 SOLID WASTE

12.1 OVERVIEW

The project will generate solid waste both during construction and on an on-going basis after construction is complete. Estimates of solid waste generation, recycling rates, and procedures for the transport and disposal of solid waste that will be generated by the operation of the proposed development are provided below.

The following amount of solid waste associated with the construction and operation of the development have been estimated:

- 62.2 cubic yards of construction debris related to the new building construction activities (excluding volume of recycled materials).

- 1,564 pounds per week of solid waste will be generated by the operation of the development. Assuming that 50% of the waste is recycled, it is estimated that the project will generate 20.4 tons of recyclable waste and 20.4 tons of non-recyclable waste per year.

12.2 SOLID WASTE GENERATED DURING THE BUILDING CONSTRUCTION

Approximately 311 cubic yards of construction debris is expected to be generated during construction. Assuming that 80% of construction debris is recycled, construction of the project will generate approximately 62.2 c.y. of non-recyclable waste.

The waste stream will be transported and disposed of at the following locations:

Hazardous Materials:	WMI Crossroads Facility in Norridgewock, Maine
Mixed Construction Material:	Riverside Recycling Facility in Portland, Maine; WMI Crossroads Facility in Norridgewock, Maine or Juniper Ridge in Old Town, Maine (Contractor option)
Separated Wood Construction Debris:	KTI Biofuels in Lewiston, Maine
Separated Metal/Ferrous Material:	One Steel Recycling Inc. in Arundel or Oakland, Maine

The collection, transfer, disposal, and payment of all fees for solid wastes shall be the responsibility of the Contractor, with all waste transferred by a licensed non-hazardous waste transporter.

12.3 SOLID WASTE GENERATED FROM THE OPERATION OF THE DEVELOPMENT

Approximately 1,564 pounds of solid waste and recyclable material is expected to be generated every week by the residents of the project. The operational solid waste and recyclable material will be collected by a private trash collector selected through a bidding process.

12.4 ATTACHMENTS

Attachment 12-A – Computations of Types and Volumes of Solid Wastes for Construction Project

ATTACHMENT 12-A

Computations of Types of Volumes of Solid Wastes

ATTACHMENT 12-A

SOLID WASTES COMPUTATIONS AND DISPOSAL

A. NEW BUILDING CONSTRUCTION:

Basis of Estimate: 10 c.y./1,500 s.f. of finished space

Area: Approximately 46,669 square feet of finished space

Solid Waste: Approximately 311 c.y.

Other Wastes Associated with Other Site Construction: Cardboard from packaging etc.: Limited Quantity

Total: 311 c.y. before recycling

Net: 62.2 c.y. if 80% of the material is recycled

Disposition:
Assume 10 percent is concrete which can be sent to the approved aggregate recycling facilities operated by Shaw Bros. or R.J. Grondin and Sons for processing into recycled aggregate.

Assume 70 percent is wood or metal which can be transported to KTI Biofuels in Lewiston (for wood) or One Steel Recycling in Oakland, Maine for metals.

Approximately 62 cubic yards of mixed construction debris that will be hauled to the Riverside Recycling Facility in Portland, WMI Crossroads facility in Norridgewock, Maine or the Juniper Ridge Facility in Old Town, Maine.

The contractor should provide dumpsters designated by material type and identify recycling methods and disposal sites prior to construction. All haulers must have a current non-hazardous waste haul license.

B. OPERATIONAL SOLID WASTE:

RESIDENTIAL USE:

Basis of Estimate: 17 pounds/wk per individual. Estimate of 2 individuals per residential unit. From Table 14-1 of the CEQR Technical Manual from January 2014 Edition; Source: New York City Department of Sanitation.

Number of individuals: 92

Solid Waste: Approximately 1,564 pounds/week

13 FIRE SAFETY

13.1 OVERVIEW

The applicant and project team will provide the Portland Fire Department with the information required in the PFD Site Review Checklist, as well as a basic review of NFPA 1 and City of Portland Technical Standards related to public safety.

The project site will be accessed from Kennebec, Brattle and Parris Streets. The applicant is requesting that the address for the residential lobby accessed from Parris Street be 100 Parris Street, and the address for the artist/retail spaces accessed from Kennebec Street be 178 Kennebec Street. Kennebec Street is improved with a 35’ wide paved surface, Brattle Street is improved with a 30’ wide paved surface, and Parris Street is improved with a 34’ wide paved surface. The project can also be accessed from the proposed parking lot south of the building that will be accessed from Brattle and Parris Streets. A 20” and 6” water main owned by the Portland Water District currently exists in Kennebec Street, and the closest fire hydrant is located on the northern side of Kennebec Street directly across from the site.

All four sides of the proposed building will be fully accessible from the surrounding streets and proposed parking lot. The proposed building will be fully sprinkled in compliance with all applicable codes.

14 CONFORMITY WITH APPLICABLE DESIGN STANDARDS

14.1 OVERVIEW

This project conforms to all applicable Site Plan Standards of Section 14-526 of the city's Land Use Ordinance as described in the following narrative.

(a) Transportation Standards

1. Impact on Surrounding Street Systems:

   The project will not have a significant impact on the surrounding street system. Vehicles will access the site and parking areas from existing access points and the estimated number of new vehicle trips generated by the project is insignificant compared to existing trips on surrounding streets.

2. Access and Circulation:

   a. Site Access and Circulation

      (i) Pedestrian access to the site will be provided via the proposed brick sidewalks along the Kennebec, Brattle and Parris Street frontages. There will also be an on-site concrete sidewalk along the southern side of the building between the building and the proposed parking lot. Door controlled access will be provided at each of the building entry locations.

      (ii) The project will use existing points of access.

      (iii) Drive up features are not proposed

      (iv) Site access has been designed so as not to impede potential future connection to adjacent streets.

   b. Loading and Servicing

      (i) Delivery or service vehicles are expected to be infrequent and may temporarily use spaces in the proposed parking lot.

   c. Sidewalks.

      (i) Brick sidewalks will be constructed along the site's Kennebec, Brattle and Parris Street frontages. All sidewalk improvements shall conform to the City of Portland Technical Manual as shown on the project drawings.

      (ii) The short section of sidewalk along Kennebec Street at the corner of Brattle and Kennebec Streets will be re-constructed as part of this project, and the sidewalk ramp will be constructed in accordance with City of Portland

Technical Design Standards. The apparent flush bituminous sidewalk along Brattle Street will be re-constructed with a brick sidewalk that conforms to the City of Portland Technical Design Standards.

(iii) The proposed on-site sidewalk will connect from the proposed sidewalk along Brattle Street to the proposed sidewalk along Parris Street and provide access to the southern side of the building and the parking lot. The primary building entrance for the residences is from the Parris Street sidewalk, and the primary building entrance for the first floor artist space is from Kennebec Street. Additional building entrances will exit onto the Brattle Street sidewalk and the on-site sidewalk along the southern side of the building.

3. Public Transit Access:

Metro Bus Route 2 runs north and south on Forest Avenue in the proximity of the project site. The nearest bus stop to the project is along Forest Avenue at the post office, approximately 1,000' southwest of the site. The project does not meet the minimum threshold to require a new transit facility.

4. Parking:

a. Location and Required Number of Vehicle Parking Spaces:

(i) The proposed project is an affordable housing projected located in the B7 zone with less than 50,000 sf of floor area, therefore the planning board shall establish the parking requirement for the structure. The proposed number of units is 46, and at least 28 of the units will be affordable housing. The artist space on the first floor is approximately 5,429 sf, which requires 6 parking spaces (1 space/1,000sf). The proposed parking lot is located south of the building and is accessed from Brattle and Parris Streets. The parking lot will include 19 parking spaces, 3 of which are ADA accessible and one of which is a dedicated drop off/pick up space. It is expected that many residents will utilize drop off/pick up services for transportation so including this space further reduces the requirement for parking spaces. This amount of parking is sufficient for the project because it is a 55+ affordable housing development where a small percentage of the residents are expected to own vehicles. At least 11 of the units will be ADA units, which will further decrease the number of residents who own vehicles. A ramp is proposed from the parking lot at the ADA spaces to the building lobby entrance.

(ii) A parking study is not required for this project.

(iii) Not Applicable

(iv) The dimensions of the parking spaces meet dimensional standards as detailed in the City of Portland Technical Manual. The three ADA spaces comply with ADA requirements.

(v) The proposed parking lot will be constructed of bituminous pavement, and one row will be pervious pavers for stormwater management purposes.

b. Location and Required Number of Bicycle Parking Spaces:

(i) The project requires 2 bicycle parking spaces for every 5 dwelling units, or 18 spaces. Bicycle parking spaces will be provided at bicycle racks throughout the project site frontage along Kennebec, Brattle and Parris Streets.

c. Motorcycles and Scooter Parking:

(i) Dedicated motorcycle/scooter parking is not provided.

d. Snow Storage:

(i) Snow storage will be provided on lawn areas adjacent to the proposed parking lot, and south of the proposed parking lot on land owned by Ross Furman that is gravel today.

(ii) Snow will not be stored in parking areas, and no bio-retention is proposed.

5. Transportation Demand Management (TDM):

a. A TDM plan is not required for this project.

(b) Environmental Quality Standards

1. Preservation of Significant Natural Features:

a. The development site has been entirely developed and does not contain any significant natural features including wetlands, vernal pools or other protected resources or wildlife habitats.

b. Not applicable

c. Not applicable

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation.

(i) There are no existing trees on site, and the site is nearly entirely developed with impervious surface.

(ii) Not applicable.

(iii) Not applicable.

(iv) Waiver: Not applicable.

(v) The project is not in the Shoreland Zone

b. Site Landscaping.

(i) Landscaped Buffers:

(a) Not applicable.

(b) Plantings are proposed in a side yard setback area along Parris Street, as specified on the Landscape Plan.

(c) Not applicable.

(d) Not applicable.

(ii) Parking Lot Landscaping:

(a) Landscaping is proposed within the parking lot islands, as specified on the Landscape Plan. Trees are proposed in both islands.

(b) Not applicable.

(c) Not applicable.

(d) Not applicable.

(e) Not applicable.

(iii) Street Trees

(a) There are no existing street trees along the site's frontages. The proposed project includes three street trees along Kennebec Street, one along Brattle Street, and two within the side-yard setback area adjacent to the building lobby entrance along Parris Street. Additionally, two trees are proposed in parking lot landscape islands adjacent to and visible from

the public right of way. The Landscape Plan provides a total of 8 trees within or visible from the public right of way.

(b) There is no space for additional street trees along the project site's frontage. Additional plantings surround the street trees and on-site trees to provide additional green space on- site. These plantings are specified on the Landscape Plan.

3. Water Quality, Stormwater Management and Erosion Control:

a. Stormwater:
The existing project site contains approximately 14,842 square feet of impervious surface. Redevelopment of the project site will result in a decrease of approximately 85 square feet of impervious area and a total impervious surface of 14,757 square feet. Therefore, the project is not required to meet the General or Flooding Standards.

Redevelopment of non-roof impervious area is approximately 8,096 square feet, which is greater than 5,000 square feet, so the project is required to meet the City's redevelopment standards and treat 50% of stormwater runoff from the total proposed impervious areas.

The proposed treatment plan includes capturing runoff from 68% of the roof area (4,520 sf) and treating it in a storm basin filter system that utilizes cartridge filters in a tank within the building. Runoff will be captured in a roof drain system and will filter through the cartridges prior to discharging to the existing storm drain network in Parris Street. The remaining roof runoff will be untreated but captured in a separate roof drain system and discharged to the existing storm drain network in Brattle Street. The treatment plan also includes treating runoff from 2,859 sf of parking and sidewalk surfaces in an underdrained pervious paver system. The row of parking closest to the building will be constructed with pervious pavers that will capture and filter the stormwater before collecting it in an underdrain and discharging the runoff to the existing storm drain network in Parris Street. The runoff from the remaining parking lot and sidewalk areas not tributary to the pervious pavers will continue to flow overland towards the surrounding streets and existing storm drain networks as it does today.

(i) The project will not result in flooding of adjacent lots.

(ii) Runoff volumes and rates will not increase onto adjacent lots.

(iii) Volumes and rates of stormwater runoff into the Kennebec, Brattle, and Parris Street rights of way are expected to decrease. The project will not

create ponding, flooding, or other drainage problems within the surrounding streets.

(iv) Volumes and rates of stormwater runoff into the city's storm drain network are expected to be similar to existing volumes and rates. The project will not create problems downstream or exceed the capacity of the system.

b. The project will result in a decrease in impervious surface and is not required to meet the General or Flooding Standards. The project is required to meet the Redevelopment standards, as described above.

c. Not Applicable. The project is not located in a watershed of an urban impaired stream.

d. Not applicable.

e. The project will be served by both a public wastewater system and public drainage system. The project will not pose a risk of groundwater contamination.

f. Wastewater will flow to the public sewer system, which is adequately sized for the project flows.

(c) Public Infrastructure and Community Safety Standards.

1. Consistency with City Master Plans:

a. The project has been designed to be consistent with the City of Portland Land Use Ordinance and off-premises infrastructure.

b. Not applicable.

2. Public Safety and Fire Prevention:

a. The site has been designed to promote safety and security for residents and their guests. Access to the residential lobby will utilize keyed entry. Site lighting will provide added security.

b. Emergency vehicle access will be via Kennebec, Brattle and Parris Streets.

c. An existing fire hydrant is located on the north side of Kennebec Street directly across from the site. The proposed building will also feature sprinklers for fire suppression.

3. Availability and Adequate Capacity of Public Utilities:

a. The project will be served by new water and sewer utilities. An ability to serve request was sent to the Portland Water District on 3/28/18, and a Wastewater Capacity Application has been completed and will be forwarded to Brad Roland at the City of Portland.

b. Overhead electrical and telecommunications utilities exist along Kennebec, Brattle, and Parris Streets. The project site will be served by underground utilities from a relocated pole along the Parris Street frontage, east of the site. The pole will have pole mounted transformers.

c. All new utility infrastructure will meet the provisions of the Technical Manual.

d. The project will be connected to the public sewer system within Kennebec Street.

e. The sanitary sewer and stormwater collection systems were designed to comply with City standards.

f. A solid waste storage areas will be provided adjacent to the residential lobby in the first floor of the building. A private trash collection company will be selected for trash hauling from the site.

(d) Site Design Standards

1. Massing, Ventilation and Wind Impact:

a. The bulk, location and height of the proposed building will not result in adverse impacts to abutting properties.

b. The bulk, location and height of the proposed building will not substantially reduce the value or utility of adjacent structures.

c. HVAC systems will be located on the roof of the building, and will not be visible from the street. Venting is proposed to be directed away from public spaces and adjacent residential sites.

2. Shadows:

a. The project is not expected to cause shadows on publically available open space, or have an adverse effect on vegetation as a result of shadows cast from the proposed building.

3. Snow and Ice Loading:

a. The proposed building will have a flat roof. Accumulated snow and ice will not fall onto adjacent properties or public ways.

4. View Corridors:
   a. The project site is located outside of any protected view corridors.

5. Historic Resources:

   a. The development is not within a designated historic district and does not affect designated landmarks.

   b. Not Applicable

   c. There are no known archaeological resources on the site.

6. Exterior Lighting:

   a. Site Lighting

      (i) Exterior site lighting will be provided by building mounted lights along sidewalks and in parking areas. All fixtures will feature full cut-off optics to prevent unintended light pollution. Proposed lighting is shown on the Lighting Photometric Plan (Sheet P-1).

   b. Architectural and Specialty Lighting:

      (i) No architectural or specialty lighting is proposed.

      (ii) No up-lighting is proposed.

   c. Street Lighting

      (i) Two street lights are proposed along Kennebec Street that meet the new requirements of the City of Portland Technical Manual.

7. Noise and Vibration:

Noise levels are expected to meet the permitted levels for the R6 Zone.

   b. HVAC and Mechanical Equipment
      (i) HVAC equipment will be located on the roof and will meet all applicable state and federal emissions requirements. The units will not be visible from the surrounding streets or adjacent sites.

      (ii) An emergency generator will be provided for this project and will be operated in accordance with the City of Portland Code of Ordinances Section 14-526.

8. Signage and Wayfinding:

a. All signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

(i) The project is not subject to a Certificate of Appropriateness.

(ii) Not applicable. No commercial or directional traffic signage is proposed as part of the project.

(iii) On site stop signs will be provided at driveway locations.

(iv) Not applicable. No waiver is required.

9. Zoning Related Design Standards:

a. The project is designed to meet the Design Principles and STandards for the B-7 Mixed Use Urban District Zone as specified in the City of Portland Design Manual.

15 VERIFICATION OF PROPOSED HVAC EQUIPMENT

15.1 OVERVIEW

The following manufacturer cut sheets verify that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

15.2 ATTACHMENTS

Attachment 15-A – HVAC Equipment Cut Sheets

ATTACHMENT 15-A

HVAC Equipment Cut Sheets

RV-25

CONSTRUCTION FEATURES AND ACCESSORIES

Unit Overview

Model	Supply (CFM)	Outside Air (CFM)	Recirc (CFM)	Exhaust (CFM)	Heating	Cooling	Electrical V/C/P
RV-25-7.5	1,800	1,800	0	0	Indirect Gas	Packaged DX	208/60/3

Features

- Exterior housing constructed of galvanized steel
- Direct-drive backward inclined plenum blowers with factory mounted VFDs
- Ball bearing motors
- Corrosion resistant fasteners
- Internally lined with galvanized steel metal creating a double wall
- Insulated with 2 in. 2.4# R13 density foam insulation
- Internally mounted control center with motor starters, 24 VAC control transformer(s), control circuit fusing
- Stainless steel condensate drain pan and connection.
- Low Sound Condenser Fan Package

Options and Accessories

- UL\cUL1995
- Weatherhood: Downturned Hood
- Supply Filters - 2" Pleated MERV 8, 4-20x20x2
- Roof Curbs - GKD-47.19/94.01-G14"
- Outdoor Air Dampers - Motorized Low Leakage
- Damper End Switch - Outdoor Air Damper
- Painted Exterior - Permatector Concrete Gray (RAL 7023)
- Microprocessor Controls
- Supply Fan Controls - Constant Volume (on/off)
- Room Sensing - Temperature
- Network Protocol: BACNetIP
- Phase and Brown Out Protection
- Unit Disconnect - Mounted By Factory
- Spare Filter Final, Quantity Set of 2
- Furnace Controls: 4:1 Modulating

Note: Unit is provided with factory mounted and wired disconnect switch.

Note: Verify that the correct Protocol has been selected before ordering.

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PERFORMANCE AND SPECIFICATIONS

Description/Arrangement

Model	Qty	Unit Weight (lb)	Outdoor Air Discharge	Outdoor Air Intake	Exhaust Air Discharge	Return Air Intake
RV-25-7.5	1	2,223	Bottom	End	N/A	N/A

Design Conditions

Elevation (ft)	Summer DB (F)	Summer WB (F)	Winter DB (F)
62	88	74	-10

Air Performance

Type	Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating Power (hp)	Motor Qty/Size (hp)	Size (in.)/ Type
Supply	1,800	0.5	0.775	1632	0.42	Qty 1 (1)	14/Plenum

Electrical/Motor Specifications

V/C/P	Unit MCA (amps)	Unit MOP (amps)	Enclosure	Supply Motor RPM	Supply Efficiency	Exhaust Motor RPM	Exhaust Efficiency
208/60/3	39.6	60	ODP	1750	PE	N/A	N/A

Heating/Cooling Specifications

Heating Type	Gas Type	Input (MBH)	Output (MBH)	LAT (F)	Temp. Rise (F)	Furnace Size	Furnace Control
Indirect Gas	Natural	200.0	160.0	72.3	82.3	200	4:1 Modulating

Cooling Type	Total Capacity (MBH)	Sensible Capacity (MBH)	Compressor Quantity	Lead Compressor Type	Condensing Unit By
Packaged DX	96.2	53.0	1	Digital Scroll	Greenheck

Sound Performance in Accordance with AMCA

Fan	Sound Power by Octave Band								Lwa	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Supply	67	69	81	73	70	66	63	59	76	65	13.0

Unit Pressure Drop (in. wg)

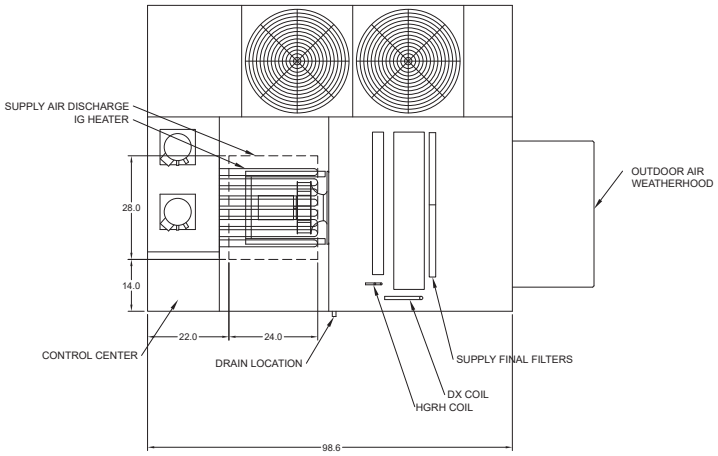
Air Stream	Weatherhood	Damper Section	Filter Section	Cooling Section	Heating Section
Supply	0.035	0.014	0.051	0.046	0.118
Exhaust	0	0	0	N/A	N/A

Note: The unit base line performance incorporates the pressure drop of the energy wheel.

Note: Filter pressure drop is based off of clean filters.

RADIATED SOUND

Position A



Position D **Position B**

Plan

Position C

Position E = Top of Unit

RV-25: Supply Air Flow Nominal, Largest Tonnage Condensing Section Available, PDX units only

Free Field Plane	Octave Band (Sound Power Lw)								Lw	LwA
	1	2	3	4	5	6	7	8		
A	73	85	78	80	81	73	67	62	88	83
B	71	79	69	78	73	68	64	57	83	78
C	79	77	69	76	75	70	60	59	83	78
D	74	77	72	74	74	67	61	58	82	77
E	77	84	78	79	77	72	65	61	87	81
Total	83	89	82	85	84	78	71	67	93	87

AMCA 320-07 - Laboratory Methods of Sound Testing of Fans Using Sound Intensity
Tests conducted in accordance with this standard.
Free field measurement plane created 1 foot from unit on all sides and top.
Sound Intensity measured in Watts/m^2.
Sound data converted to Sound Power (Lw) for the chart above.
A-Weighted Sound Power was determined using AMCA Standard 301-90 Clause 9.1.

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COOLING PERFORMANCE

Packaged DX Cooling

Nominal Tonnage	Total Capacity (MBH)	Sensible Capacity (MBH)	Refrigerant Type	Lead Compressor Type	Compressor Quantity	Condensing Unit
7.5	96.2	53.0	R-410A	Digital Scroll	1	By Greenheck

Hot Gas Reheat

Type	Capacity (MBH)	LAT (F)
Modulating	54.4	89.3

Condensing Unit Details

The RV will come equipped with the following components:

- Hermetic scroll type compressors
- Compressors mounted in a compartment to be serviceable without affecting airflow and on neoprene vibration isolation to minimize vibration transmission and noise
- Crankcase heater on compressor
- Thermal expansion valve for refrigerant flow control
- Variable capacity scroll compressor
- Multiple condensing fans to allow fan cycling for head pressure control
- Liquid-Line filter drier
- High pressure manual reset cutout
- Low-pressure auto-reset cutout
- Time delay relays for compressor protection
- Service/charging valves
- Moisture-indicating sight glass
- Direct drive condensing fans with external rotors and molded fan blades
- Condensing coils with 5/16" copper tubes mechanically bonded to aluminum fins

Packaged DX Coil Details

Face Area (ft2):	11.8
Rows Deep (Evap Coil):	2
Fins Per Inch:	10
Face Velocity (ft/min):	152
Entering Dry Bulb (F):	88.0
Entering Wet Bulb (F):	73.9
Leaving Dry Bulb (F):	61.3
Leaving Wet Bulb (F):	58.7
Cool Coil SP (in. wg):	0.046
Refrigerant Velocity (ft/min):	1,602
Suction Temp. (F):	44.0
Refrigerant:	R-410A
Evaporator Cap. (MBH):	96.2
AHRI 340/360 EER:	12.3
AHRI 340/360 IEER:	12.7
AHRI 920 ISMRE:	6.9
Application EER:	15
Ambient Condenser Temp. (F):	88.0

Compressor and Condenser Details

Compressor 1 RLA (amps):	24
Compressor 1 LRA (amps):	187
Compressor 2 RLA (amps):	25
Compressor 2 LRA (amps):	164
Condenser Fan QTY:	2
Condenser Motor 1 HP:	0.62
Condenser Motor 2 HP:	0.62
Condenser Motor 1 FLA:	1.9
Condenser Motor 2 FLA:	1.9

Note: Digital Scroll is on lead circuit only.

HEATING PERFORMANCE

Indirect Gas Heating

Heating Type	Gas Type	Input (MBH)	Output (MBH)	LAT (F)	Temp. Rise (F)	Furnace Control
Indirect Gas	Natural	200.0	160.0	72.3	82.3	4:1 Modulating

Indirect Gas Unit Details

The RV will come equipped with the following:

- Power venting
- ETL listed to ANSI standard Z83.8 and CSA 2.6
- High Thermal efficiency
- Direct spark ignition
- Tubular heat exchanger
- 409 Stainless Steel heat exchange tubes
- 3/4" Gas Connection
- At least 6 in. wg of natural gas pressure (14 in. wg for LP) is required at the units gas connection in order to achieve maximum performance

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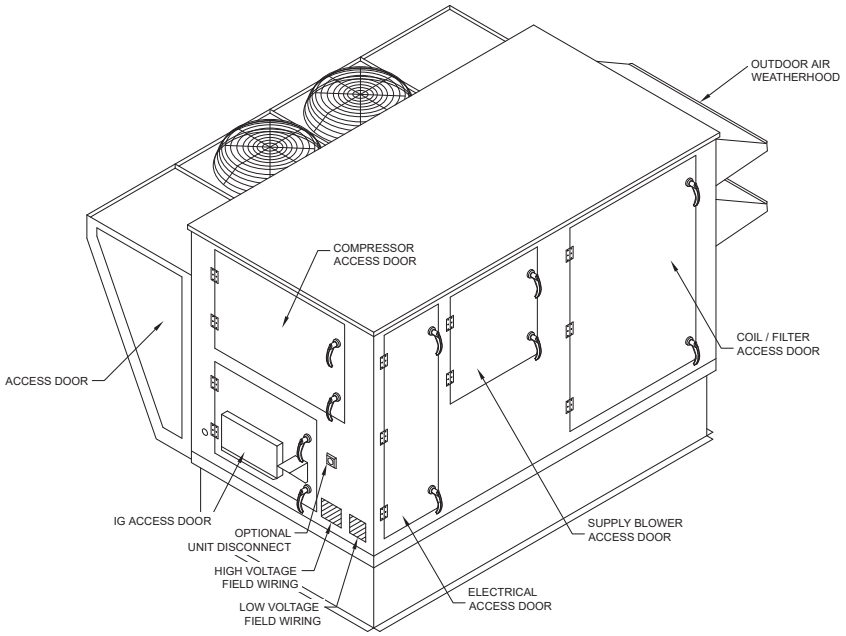
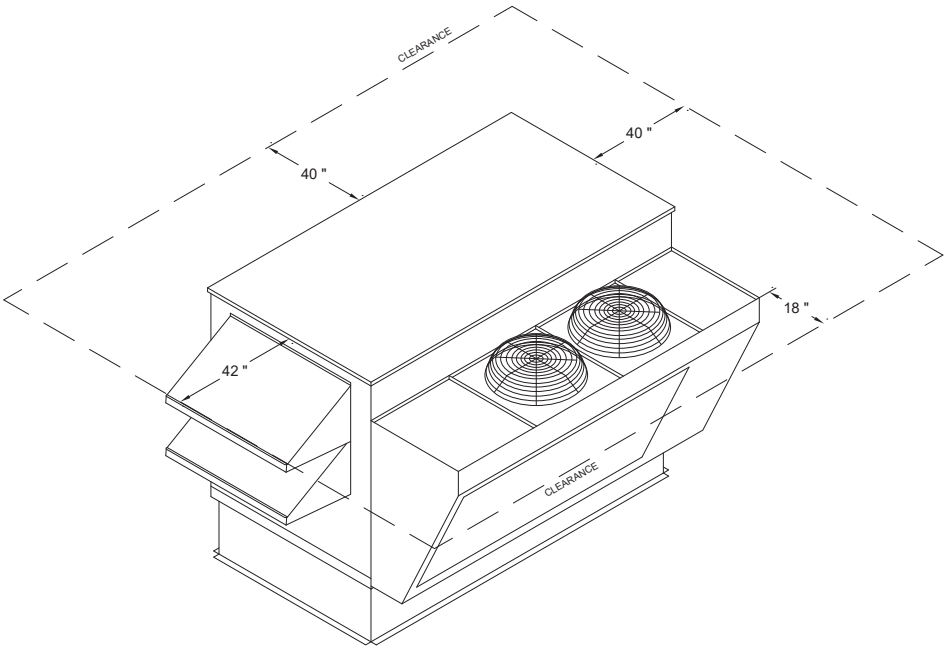
ISOMETRIC DRAWINGS



Back Right Isometric



Front Left Isometric

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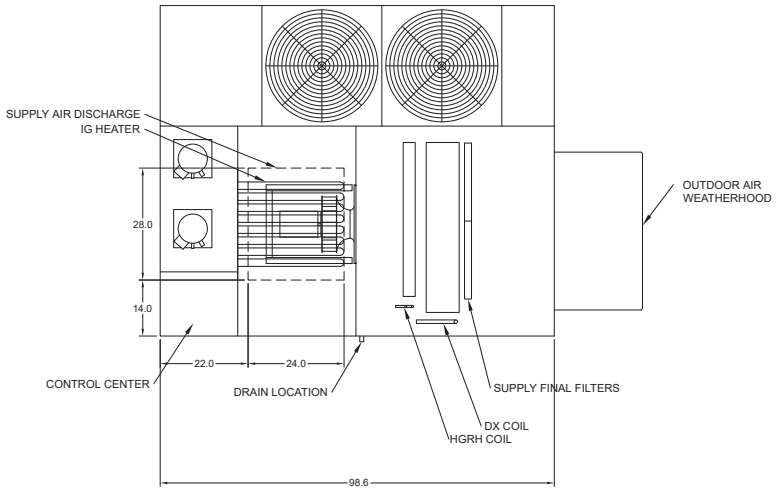
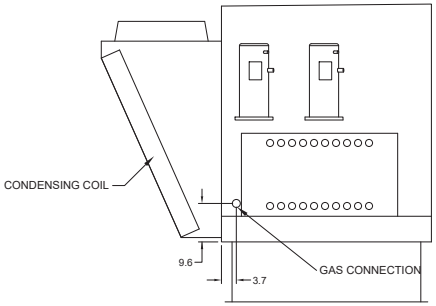
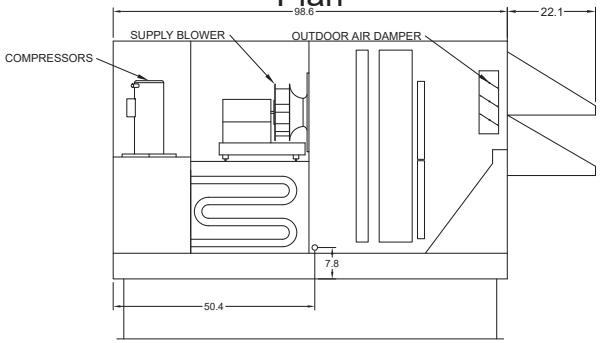
OVERVIEW DRAWINGS



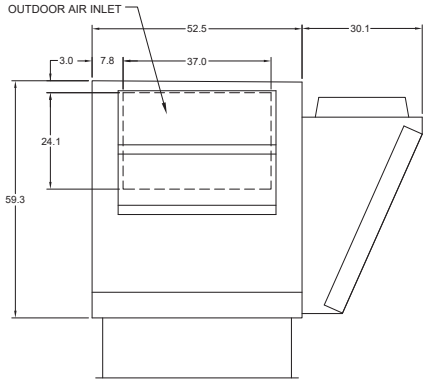
Plan



Left End



Elevation



Right End

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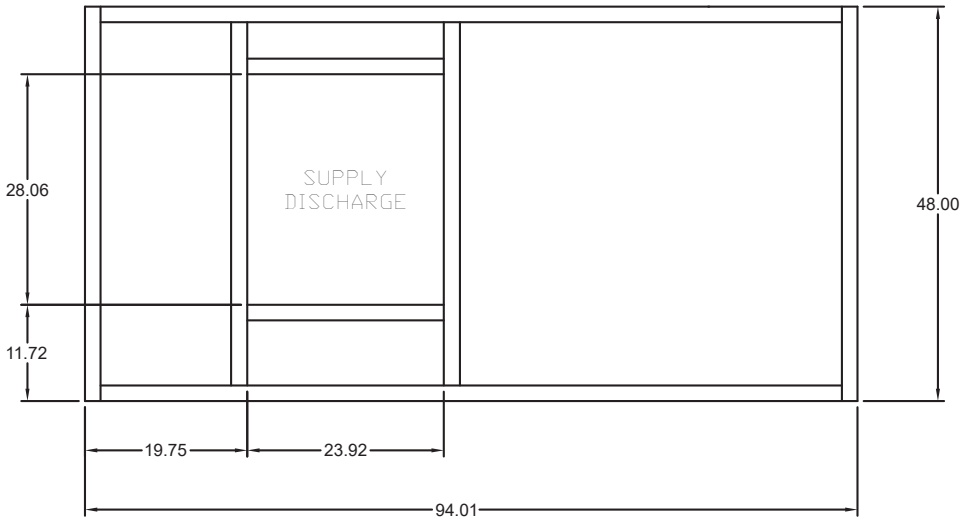
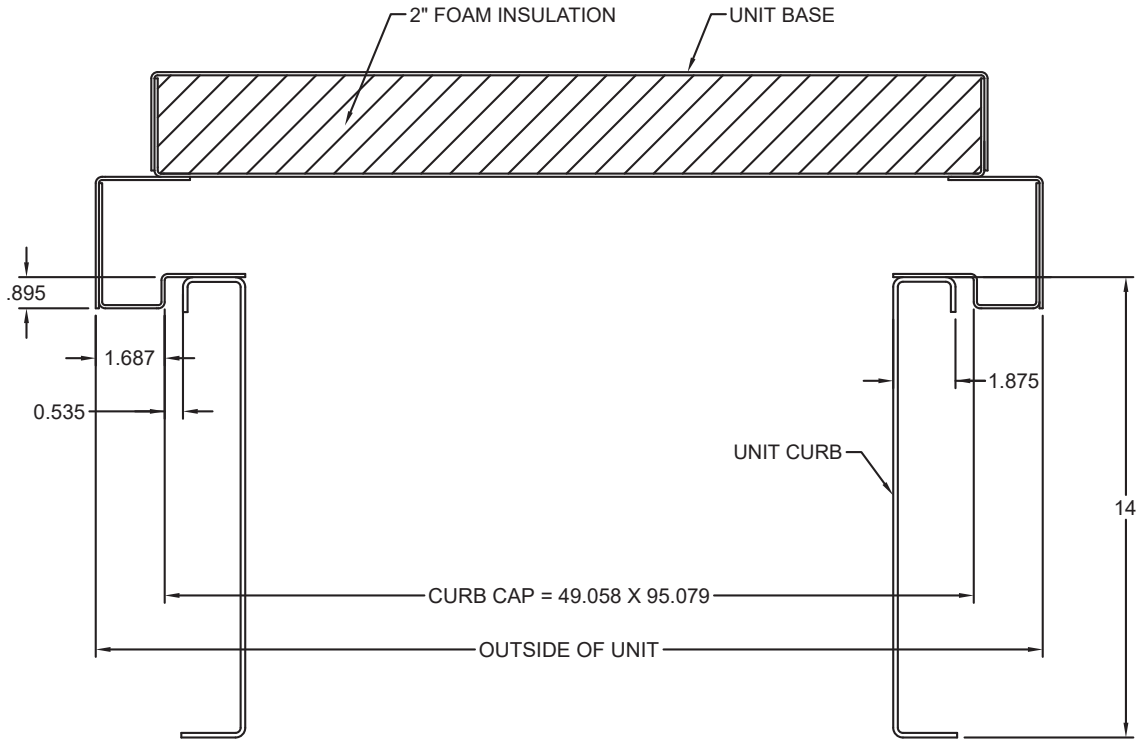
FOOTPRINT DRAWINGS

Top View of Curb



Cross-Section View of Unit on Curb



NOTES: All dimensions shown are in units of in.'s
If unit is selected with side or end discharge/return, there will not be bottom connections supplied with the curb.

Curb Weight: 159 lb

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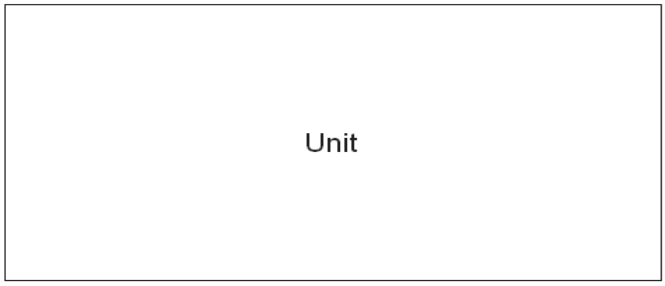
Building Value in Air.

Corner Weights

683 lb 711 lb

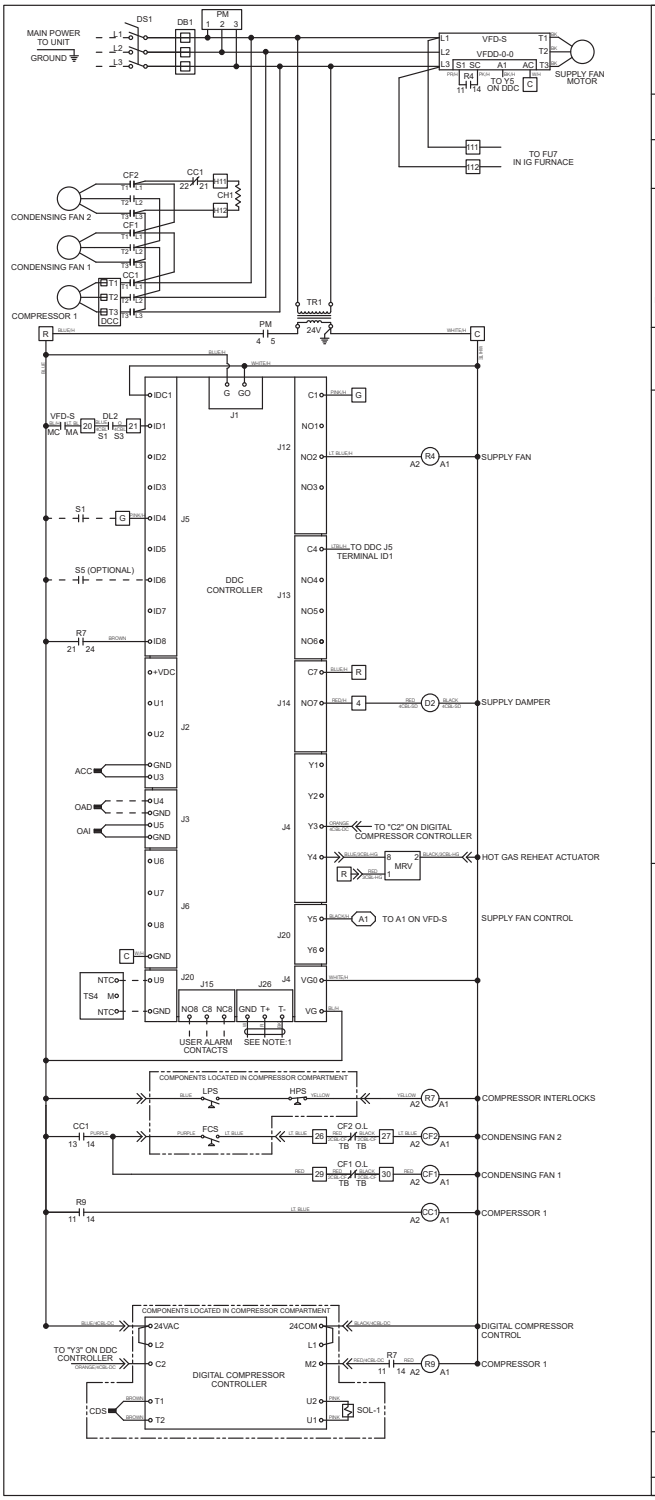


406 lb 422 lb

Note: Estimated corner weights are shown looking down on unit and the outside air intake will be on the right. Weights are applied at the base of the unit. Images not drawn to scale.

GREENHECK
Building Value in Air.

WIRING DIAGRAM



GREENHECK
Building Value in Air.

Wiring Diagram Code:

G30FX5000RGMGKEF13

CAUTION

UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES

USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.

FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.

FIELD WIRED – – – –
FACTORY SUPPLIED AND WIRED ————

NOTE:1
IG, EXPANSION BOARD AND TSTAT MODBUS COMMUNCATION WIRING. DAISY CHAIN ALL DEVICES TOGETHER.

WIRE COLOR CODE

BK	BLACK	BL	BLUE	BR	BROWN
GY	GRAY	LT BL	LIGHT BLUE	O	ORANGE
PK	PINK	PR	PURPLE	R	RED
W	WHITE	Y	YELLOW		

LEGEND

ACC	AFTER COOLING COIL TEMP
CC	COMPRESSOR CONTACTOR
CDS	COMPRESSOR DISCHARGE SENSOR
CF	CONDENSING FAN CONTACTOR
CH	COMPRESSOR SUMP HEATER
D#	DAMPER
DB#	POWER DISTRIBUTION BLOCK
DCC	DIGITAL COMPRESSOR CONTROLLER
DS	DISCONNECT SWITCH
FCS	CONDENSER FAN CYCLE SWITCH
FU#	FUSES
HPS	HIGH PRESSURE SWITCH (MANUAL RESET)
LPS	LOW PRESSURE SWITCH
MRV	MODULATING HOT GAS REHEAT ACTUATOR
OAD	OUTDOOR AIR DISHCHARGE TEMP
OAI	OUTDOOR AIR INLET TEMP
PM	PHASE MONITOR
R4	SUPPLY BLOWER VFD RELAY
R7	COMPRESSOR INTERLOCK RELAY
R9	COMPRESSOR 1 RELAY
R10	COMPRESSOR 2 RELAY
RH	POST HEAT RELAY
SOL	DIGITAL UNLOADER SOLENOID
S1	FAN SWITCH
TR#	TRANSFORMER
TS4	ROOM TEMP SENSOR
VFD	VARIABLE FREQUENCY DRIVE

POINTS LIST

TYPE	ADDRESS	NAME
Analog	1	Outside_Air_Temp
Analog	2	Supply_Air_Temp
Analog	3	Cold_Coil_Leaving_Temp
Analog	4	Room_Air_Temp
Analog	11	Temp_Set_Point
Analog	12	Active_Temp_Set_Point
Integer	1001	Unit_Status_Index
Integer	1002	Healing_Control_Loop
Integer	1003	Cooling_Control_Loop
Integer	1005	Reheat_Control_Loop
Integer	1008	Supply_VFD_Speed
Integer	1009	Supply_VFD_SetPt
Integer	1012	OA_Damper_Position
Integer	1013	OA_Damper_SetPt
Integer	1018	Occupied_Unoccupied
Integer	1019	IG_Alarm
Digital	1	On_Off_Stat
Digital	2	Supply_Fan_Status
Digital	4	Occupancy_Status
Digital	8	Digital_Scroll_Status
Digital	10	Unit_Start_Stop
Digital	11	Reset_Alarms
Digital	20	Global_Alarm
Digital	21	Supply_air_proving
Digital	26	Compressor_trip
Digital	27	Supply_air_low_limit
Digital	28	Sensor1_out_of_range
Digital	29	Sensor2_out_of_range
Digital	30	Sensor3_out_of_range
Digital	31	Sensor4_out_of_range

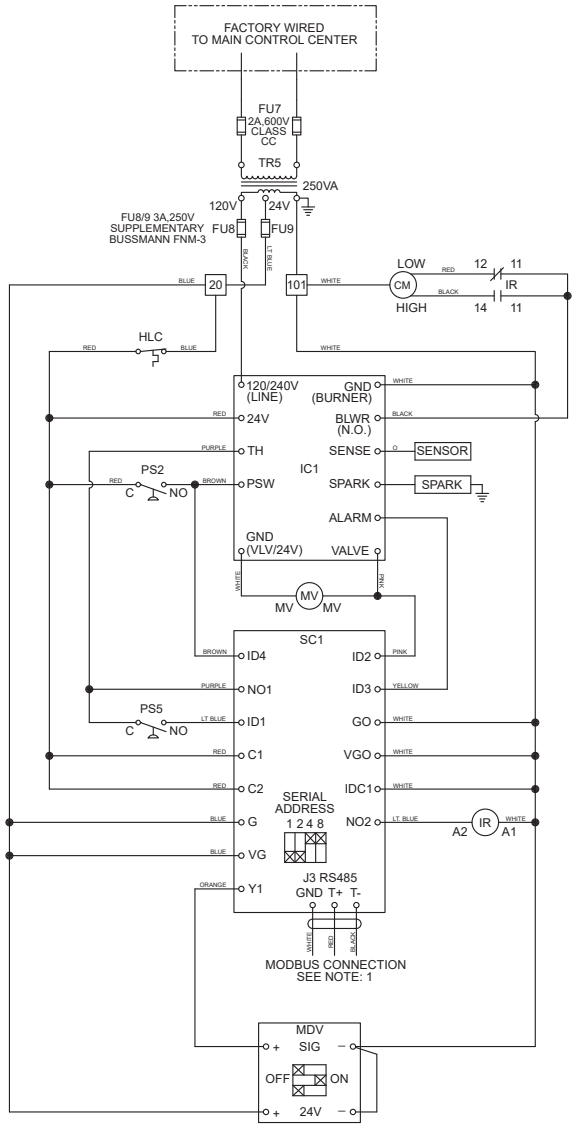
DDC Code: Version - TAP v 2.40

GMGDS00A BNXX

Wiring Template: F13

GREENHECK
Building Value in Air.

INDIRECT GAS WIRING DIAGRAM
FURNACE 1 - 4:1 MODULATING



Wiring Diagram Code:

G4K51P1RX00000S06

CAUTION

UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES

USE COPPER CONDUTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.

FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.

FIELD WIRED – – – – –
FACTORY SUPPLIED AND WIRED ————

NOTE: 1
MODBUS COMMUNCATION WIRING. DAISY CHAIN TO ALL MODBUS DEVICES.

WIRE COLOR CODE

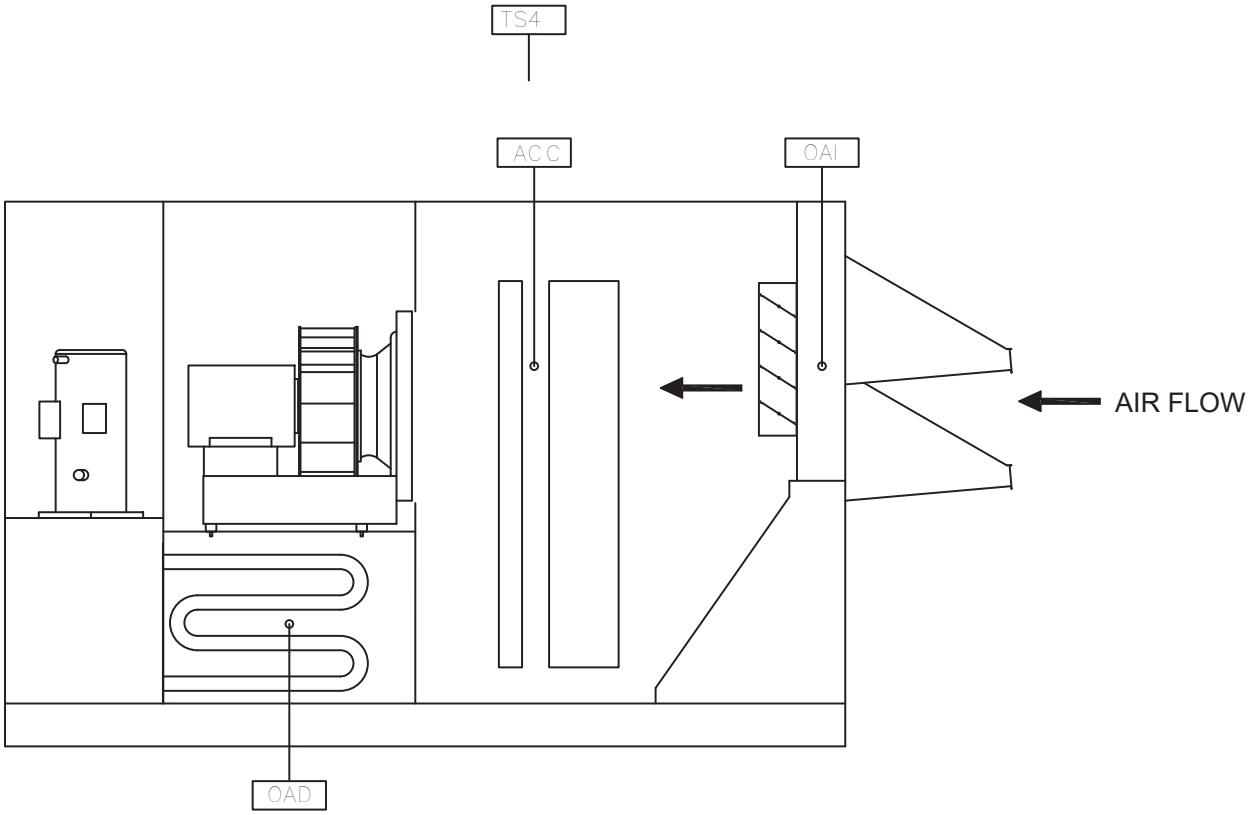
BK	BLACK	BL	BLUE	BR	BROWN
GY	GRAY	LT BL	LIGHT BLUE	O	ORANGE
PK	PINK	PR	PURPLE	R	RED
W	WHITE	Y	YELLOW		

LEGEND

CM	COMBUSTION BLOWER MOTOR
FU#	FUSE(S)
HLC	HIGH TEMPERATURE LIMIT CONTROL
IC1	IGNITION CONTROL
IR	INDUCTION RELAY
MDV	MODULATING VALVE
MV	MAIN GAS VALVE
PS2	COMBUSTION AIR PROVING SWITCH
PS5	HIGH SPEED PRESSURE SWITCH
SC1	STAGE CONTROLLER
TR#	TRANSFORMER(S)

Wiring Template: S06

MONITORING POINTS



Item	Description	Type
OAI	Outdoor Air Intake Temperature Sensor	10K Ohm NTC (Carel)
OAD	Outdoor Air Discharge Temperature Sensor	10K Ohm NTC (Carel)
ACC	After Cooling Coil Temperature Sensor	10K Ohm NTC (Carel)
TS4	*Room Temp Sensor	10K Ohm NTC (Carel)

*Shipped loose sensor.

GREENHECK
Building Value in Air.

Greenheck Network Interface v2.4 Modbus/BACnet Points List

Type	BACnet Device Instance: 77000 (default) Analog = AV, Integer = AV, Digital = BV				Modbus-RTU/TCP/IP Network Address: 1	Read (R) Write (W)	Description	Included
	Instance	Name	Units		Register			
Analog	1	Outside_Air_Temp	degree F		40002	R/W	Outdoor Air Temp (###.# F)	X
Analog	2	Supply_Air_Temp	degree F		40003	R	Supply Air Temp (###.# F)	X
Analog	3	Cold_Coil_Leaving_Temp	degree F		40004	R	Cold Coil Temp (###.# F)	X
Analog	4	Room_Air_Temp	degree F		40005	R/W	Room AirTemp (if installed) (###.# F)	X
Analog	5	Outside_Humidity	percent		40006	R/W	Outdoor Relative Humidity (###.#%)	
Analog	6	Room_Humidiity	percent		40007	R/W	Room Relative Humidity (###.#%)	
Analog	11	Temp_Set_Point	degree F		40012	R/W	Temperature SetPt (read/write) (###.# F) (See Controller IOM)	X
Analog	12	Active_Temp_Set_Point	degree F		40013	R	Active Temperature Set Point (###.# F)	X
Analog	13	Dehumid_Set_Point	percent		40014	R/W	Dehumidification SetPt (read/write) (##.# F, ##.#%) (See Controller IOM)	X
Integer	1001	Unit_Status_Index	no-units		45003	R	Note 1 (See below)	X
Integer	1002	Heating_Control_Loop	percent		45004	R	Heater output (0-100%)	X
Integer	1003	Cooling_Control_Loop	percent		45005	R	Coolingr output (0-100%)	X
Integer	1004	Energy_Wheel_Speed	percent		45006	R	Energy recovery wheel speed (0-100%)	
Integer	1005	Reheat_Control_Loop	percent		45007	R	Hot gas reheat output (0-100%)	X
Integer	1006	CO2_Level	ppm		45008	R	CO2 Levels (ppm)	
Integer	1007	CO2_Set_Point	ppm		45009	R/W	CO2 Set Point (ppm)	
Integer	1008	Supply_VFD_Speed	percent		45010	R	Supply Fan VFD Speed (0-100%)	X
Integer	1009	Supply_VFD_SetPt	percent		45011	R/W	Supply Fan VFD Set Point (0-100%)	X
Integer	1010	Exhaust_VFD_Speed	percent		45012	R	Exhaust Fan VFD Speed (0-100%)	
Integer	1011	Exhaust_VFD_SetPt	percent		45013	R/W	Exhaust Fan VFD Set Point (0-100%)	
Integer	1012	OA_Damper_Position	percent		45014	R	Outdoor Damper Position (0-100%)	
Integer	1013	OA_Damper_SetPt	percent		45015	R/W	Minimum OA Damper Position (0-100%)	
Integer	1014	Duct_Pressure	no-units		45016	R	Supply Duct Pressure (#.##"WC)	
Integer	1015	Duct_Pressure_SetPt	no-units		45017	R/W	Supply Duct Pressure Set Point (value/100=#.##"WC)	
Integer	1016	Building_Pressure	no-units		45018	R	Building Pressure (value/1000 = 0.###"WC)	
Integer	1017	Building_Pressure_SetPt	no-units		45019	R/W	Building Pressure Set Point (value/1000 = 0.###"WC)	
Integer	1018	Occupied_Unoccupied	no-units		45020	R/W	Occupied/unoccupied command (0=occupied, 1=unoccupied, 2=MWU)	X
Integer	1019	IG_Alarm	no-units		45021	R	IG Alarm - For alarm detail	X
			Inactive_Text	Active_Text				
Digital	1	On_Off_Stat	Off	On	10002	R	Unit ON/OFF Status	X
Digital	2	Supply_Fan_Status	Off	On	10003	R	Supply fan status	X
Digital	3	Exhaust_Fan_Status	Off	On	10004	R	Exhaust fan status	
Digital	4	Occupancy_Status	Unoccupied	Unoccupied	10005	R	Occupancy Status (0=Unoccupied 1=Occupied)	X
Digital	5	Stage_Compressor1_Status	Off	On	10006	R	Stage Compressor #1 status	X
Digital	6	Stage_Compressor2_Status	Off	On	10007	R	Stage Compressor #2 status	
Digital	7	Defrost_Mode	Off	On	10008	R	Defrost mode status	
Digital	8	Digital_Scroll_Status	Off	On	10009	R	Digital Scroll status	**X**
Digital	10	Unit_Start_Stop	Stop	Start	10011	R/W	Unit start/stop command	X
Digital	11	Reset_Alarm	Don't Reset	Reset Alarms	10012	R/W	Reset alarms command	X
Digital	13	Stage_Compressor3_Status	Off	On	10014	R	Stage Compressor #3 status	
Digital	14	Stage_Compressor4_Status	Off	On	10015	R	Stage Compressor #4 status	
Digital	20	Global_Alarm	Off	Alarm	10021	R	Global alarm indication (active when there is at least one alarm)	X
Digital	21	Supply_air_proving	Off	Alarm	10022	R	Supply airflow proving alarm	X
Digital	22	High_Wheel_Pressure	Off	Alarm	10023	R	High wheel pressure (high airflow or dirty wheel)	
Digital	23	Wheel_Rotation	Off	Alarm	10024	R	Wheel rotation alarm	
Digital	24	Exhaust_air_proving	Off	Alarm	10025	R	Exhaust airflow proving alarm	
Digital	25	Dirty_filter	Off	Alarm	10026	R	Dirty filter alarm	
Digital	26	Compressor_trip	Off	Alarm	10027	R	Compressor trip alarm	X
Digital	27	Supply_air_low_limit	Off	Alarm	10028	R	Supply air temperature low limit alarm	X
Digital	28	Sensor1_out_of_range	Off	Alarm	10029	R	Sensor#1 out of range (outside air temperature)	X
Digital	29	Sensor2_out_of_range	Off	Alarm	10030	R	Sensor#2 out of range (supply air temperature)	X
Digital	30	Sensor3_out_of_range	Off	Alarm	10031	R	Sensor#3 out of range (cold coil leaving air temperature)	X
Digital	31	Sensor4_out_of_range	Off	Alarm	10032	R	Sensor#4 out of range (room temperature)	X
Digital	32	Sensor5_out_of_range	Off	Alarm	10033	R	Sensor#5 out of range (room humidity)	
Digital	33	Sensor6_out_of_range	Off	Alarm	10034	R	Sensor#6 out of range (outdoor humidity)	
Digital	34	Sensor7_out_of_range	Off	Alarm	10035	R	Sensor#7 out of range (building pressure sensor)	
Digital	35	Sensor8_out_of_range	Off	Alarm	10036	R	Sensor#8 out of range (duct pressure sensor)	
Digital	36	Sensor#9_out_of_range	Off	Alarm	10037	R	Sensor9 out of range (CO2 sensor)	
Digital	37	Sensor10_out_of_range	Off	Alarm	10038	R	Sensor#10 out of range (auxiliary temp)	

Note: Unit status index: 0=system off; 1=initial delay; 2=opening dampers; 3=exhaust fan starting; 4=supply fan starting; 5=system on; 6=defrost mode active; 7=sys on-economizer; 8=sys on-heating; 9=sys on-cooling; 10=sys on-econ & cooling; 11=sys on-dehumidifying; 12=sys on-dehumidifying & reheat; 13=unocc-unit off; 14=unocc-unit on; 15=unocc-heating; 16=unocc-cooling; 17=unocc-dehumid; 18=unocc-dehumid & reheat; 19=Manual override; 20=remote off; 21=Alarm

GREENHECK
Building Value in Air.

Microprocessor Controller Sequence of Operation

MICROPROCESSOR CONTROLLER: Controller shall be provided with required sensors and programming for rooftop unit. Controller shall be factory programmed, mounted and tested. Controller shall have a LCD readout for changing set points and monitoring unit operation.

UNIT START COMMAND (Unit will be enabled to start once a jumper is placed between R to G):

- Factory mounted and wired outdoor air damper actuator is powered
- Supply fan starts after 10 second delay.
- Tempering options to function as described below.

UNIT STOP COMMAND (OR DE-ENERGIZED):

- Supply fan, exhaust fan and tempering options de-energized.
- Outdoor air damper actuator is spring return close.

OCCUPIED/UNOCCUPIED MODES: Shall be based on a 7-day time clock internal to the controller. The schedule shall be set by the end user. When a user initiates an override input, the controller will switch from unoccupied to occupied mode. The controller will return to the scheduled occupied/unoccupied mode after the override time has expired (60 min, adj.). If internal time clock is disabled, a remote contact or a BMS can control the occupied/unoccupied mode.

Occupied Mode:

- Damper control per below.
- Supply fan ON.
- Heating per below.
- Cooling per below.

Unoccupied Mode (Unit Off): Unit remains off when in unoccupied mode.

- Supply fan OFF
- Tempering OFF
- Outdoor air damper closed.

Morning Warm-up: One hour prior to occupancy, the controller will reference the temperature differential between the current room temperature and the occupied temperature set point. The controller will then look at the amount of time required from the previous days morning warm up sequence and determine how far in advance the unit has to be started to meet the desired ocupied set point by the time of occupancy.

SUPPLY BLOWER SEQUENCE: The supply blower is provided with a factory mounted variable frequency drive. The supply blower speed will be controlled with the following sequence.

Constant Volume (on/off): The supply blower will operate at a constant speed set point (adj.) during operation.

BMS Control: The supply blower is modulated based upon a command from the Building Management System.(This Sequence must be field configured.)

COOLING SEQUENCE: The cooling is controlled to maintain the supply temperature set point. The mechanical cooling will be locked out when the outside air is < 55°F - 2°F hysteresis (adj.).

Packaged DX Cooling (Digital Scroll): The controller will provide a modulating signal for cooling. From 10-100%, the digital scroll will be controlled to maintain discharge temperature.

Modulating Hot Gas Reheat Sequence: During dehumidification the modulating HGRH is controlled to maintain the supply temperature set point.

Standard Head Pressure Control: 2 condensing fans will stage on/off based upon condenser pressure.

DEHUMIDIFICATION SEQUENCE: The cooling is controlled to maintain the cooling-coil set point. The dehumidification sequence will be locked out when the OA is <10°F above the cold-coil set point (adj.).

Cold Coil Setpoint Reset Function: The controller will control the cooling to maintain an active set point. The active set point will set to local control (55° F, adj) from the factory and can be field adjusted to the following sequence:

BMS Control: The controller will adjust the cold coil leaving air temperature set point between the minimum (50°F, adj.) and the maximum (55°F, adj.) set points, to satisfy the desired BMS set point for dehumidification.

REHEAT SEQUENCE: While the unit is in dehumidification mode the outdoor air will be reheated via Modulating Hot Gas Reheat for space neutral applications.

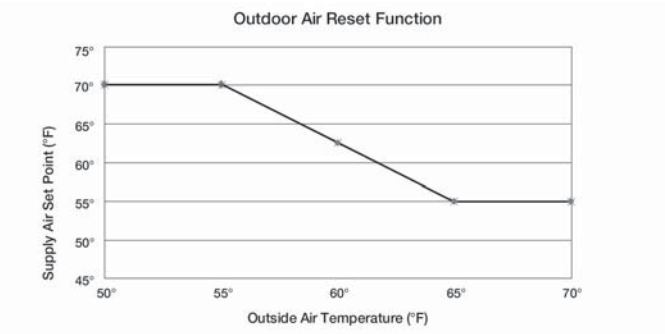
Modulating Hot Gas Reheat: The controller will modulate the hot gas reheat reheat valve with a 0-10 V signal to maintain the supply temperature set point (adj.).

HEATING SEQUENCE: The heating is controlled to maintain the supply temperature set point. The heating will be locked out when the outside air is > 70°F + 2°F hysteresis, (adj.).

Indirect Gas Furnace: The controller will modulate the indirect gas furnace to maintain the supply temperature set point (adj.).

SUPPLY SET POINT RESET FUNCTION. The controller will modulate the heating and cooling to maintain an active set point. The active set point will be set to outdoor air reset from the factory and can be field adjusted to the following sequence:

OA Reset (Default): The controller will monitor the outdoor air temperature and adjusts the desired supply temperature set point accordingly. For example, when the outdoor air is below 55 °F, the controller will change the supply set point to 70 °F. If the outdoor air is above 65 °F, the controller will change the supply set point to 55°F. If the outdoor air temperature is between 55°F and 65°F, the supply set point changes according to the outdoor air reset function. A visual representation of this is shown below.



Room Reset: The controller will reset the supply air temperature set point to maintain the room temperature set point (adj.).

Local: The supply set point will be a constant temperature set from the controller (adj.).

BMS Control: The controller will adjust the desired supply temp set point to satisfy the desired BMS set point.

BUILDING FREEZE PROTECTION: If the supply air temperature drops below 35°F (adj.) for 300s (adj.), the controller will de-energize the unit and activate the alarm output.

TEMPERATURE PROTECTION: The controller will enable the supply fan to modulate down to help the unit keep up with heating demand in the event of wheel failure or the unit operating outside design conditions. (This can be enabled under the manufacturer menu in the controller)

ALARMS INDICATION: The controller will display alarms and have one digital output for remote indication of an alarm condition. Possible alarms include:

Building Management System: The controller will send all alarms to the BMS.

Supply Air Alarm: The controller monitors the proving switch on supply blower and sends an alarm in the case of the blower proving switch not engaging for 30s (adj.).

DX Alarm: The controller monitors the refrigerant pressure. In the case of low refrigerant pressure the compressors will shut down until refrigerant pressure returns to normal values and the controller will send a alarm. In the case of high refrigerant pressure the compressors will shut down, requiring a manual reset and the controller will send a alarm.

Temperature Sensor Alarm: The controller sends an alarm in the case of a failed air temperature sensor.

Accessories: The following accessories will be included with the unit to expand the functionality or usability of the controller.

BMS Interfacing: A BMS serial card is provided with the controller for field interfacing with a building management system. Each card is sent out with the default parameters, and the controls contractor must change the appropriate addresses to match the BMS settings.

Phase and Brown Out Protection: Factory mounted and wired component which monitors the main power coming into the unit. If a phase drops out, or if the incoming voltage exceeds the acceptable range, the component will turn off the unit to help protect the electrical systems.

Damper End Switch: Damper end switched will be provided to ensure the supply and exhaust fans do not enable until the dampers are proven open.

Unit Warranty

Limited Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of 1 year(s) from the purchase date. Any component which proves defective during the warranty period will be repaired, or replaced, at Greenheck's sole option when returned to our factory, transportation prepaid.

The warranty does not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product.

This warranty is exclusive, and is in lieu of all other warranties, whether written, oral or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose.

Heat Exchanger Extended Warranty

Limited Warranty

Greenheck warrants the stainless steel heat exchanger to be free from defects in material and workmanship for a period of 5 years from the purchase date. Any stainless steel heat exchanger which proves defective during the warranty period will be repaired, or replaced, at Greenheck's sole option when returned to our factory, transportation prepaid.

The warranty does not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product.

This warranty is exclusive, and is in lieu of all other warranties, whether written, oral or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose.

Compressor Extended Warranty

Limited Warranty

Greenheck warrants the refrigerant compressor/compressors to be free from defects in material and workmanship for a period of 5 years from the purchase date. Any compressor which proves defective during the warranty period will be repaired, or replaced, at Greenheck's sole option when returned to our factory, transportation prepaid.

The warranty does not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product.

This warranty is exclusive, and is in lieu of all other warranties, whether written, oral or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose.

Elite

Heating Boiler

Advanced Heating and Hot Water Systems

P.O. Box 429 · 120 Braley Road · East Freetown, MA 02717 · 508-763-8071· Fax: 508-763-3769

Elite FT Heating Boiler
Submittal Sheet

Elite FT Heating Boiler

JOB NAME:

LOCATION:

ARCH. / ENGR.:

WHOLESALER:

MECH. CONTRACTOR:

MODEL NUMBER: EFT-399

TYPE OF GAS: Natural

BTU/HR INPUT LOW - HIGH FIRE: 80,000 - 399,000

NOTES: B-1, B-2

Heat Exchanger

- All Stainless Steel ASME "H" Stamped Construction
- National Board listed
- Low pressure drop, gasketless, vertical tube combustion heat exchanger design – provides maintenance-free operation on internal buildup of material inside the combustion chamber
- 30 PSI Relief Valve, EFT-55 – 199
- 80 PSI Relief Valve, EFT-285 and 399 models

Combustion System

- Modulating burner with up to 5 to 1 turndown
- Up to 96.3% AFUE
- High Grade Burner Design
- Spark Ignition
- Models Available for Natural or LP Gas
- Dual Flame monitoring (Spark and Flame probe)

Integrated Control System

- Digital operating control with 2 line / 20 character LCD text display to program and monitor boiler operation
- Three boiler set point temperature inputs– Boiler Pump – System Pump – DHW Pump / Domestic Hot Water priority with timing
- Programmable settings: Outdoor Reset Curve – DHW Supply Set Point – Step Sequence for delayed response for smart zones – Boost Response - Cascade up to 8 boilers
- Field Connection Board – Line voltage terminal strip with 120 VAC / 60 Hertz power / low voltage terminal strip with multiple contacts - Cascade wiring CAT 5 / CAT 3
- 24 Volt monitoring
- 0-10 VDC input for Building Management System
- Boiler output regulation (Adjustment of boiler output down to 50 percent of rated capacity)
- Low water protection device
- Password Security - Flashing maintenance indicator with optional programmed installer contact information
- Time Clock / Data logging – Last 10 fault codes with date and time
- Customized freeze protection parameters
- Modbus enable through external adapter to monitor or control boiler through BMS system

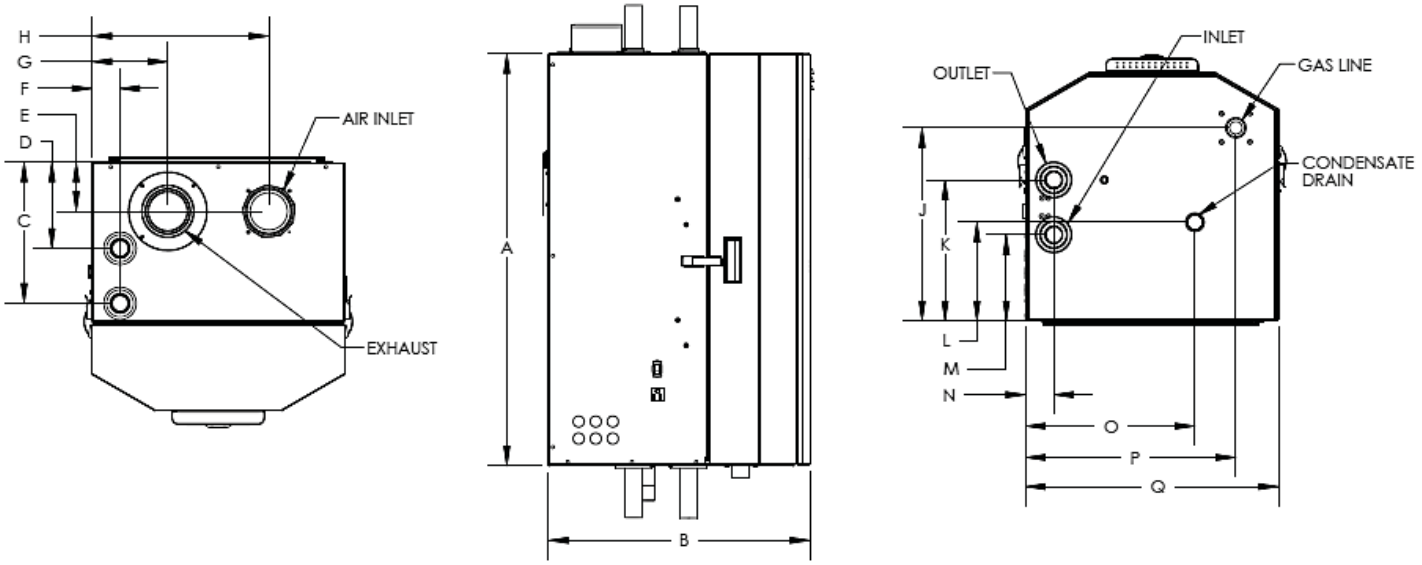
Additional Features

- Superior condensate collection system with overflow protection switch
- Vents in Plastic PVC - CPVC - Stainless Steel – ULC S636 flexible polypropylene vent liner (chimney lining only)
- Vents up to 200 combined equivalent feet
- 12 Year Limited Warranty
- Manual reset high temperature limit
- Dry contact for alarm output
- Included wall mount bracket

Optional

- ■ Condensate Neutralizer (CN4-600)
- ■ System / Pipe Sensor (Part # 7250P-324)
- ■ Modbus (7350P-636)
- ■ U.L. 353 Compliant Low Water Cut-Off Interface Kit w/ Manual Reset (7600P-990 for EFT 155 – 399)

Model EFT-399



MODEL	MAX MBH	MIN MBH	AFUE	HEATING CAP. MBH	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
EFT-399	399	80	93.2 *	367	36-3/8"	23-5/8"	13-5/8"	8-1/2"	4-3/4"	2-3/4"	7-3/8"	18-1/8"	18-3/4"	13-5/8"	9-3/4"	8-1/2"	2-3/4"	16-1/2"	19-1/4"	25-1/2"

MODEL	GAS CONNECTION	WATER CONNECTION	AIR INLET	VENT SIZE	PSI RATING	SHIPPING WT. (LBS)
EFT-399	1"	1-1/2"	4"	4"	80 PSI	298

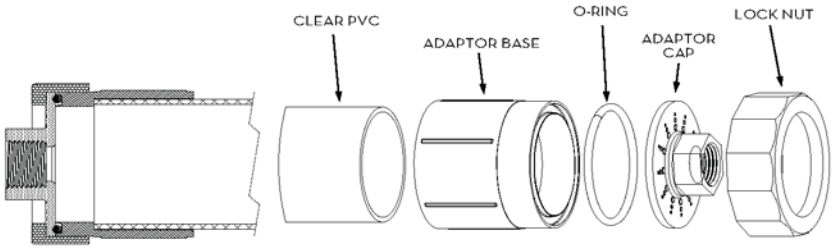
ALL DIMENSIONS ARE APPROXIMATE
* THERMAL EFFICIENCY (NOT AFUE)

LP-387-K2
07/12/13

Submittal Data Information
Model CN4-600

Job: _____ Engineer: _____ Contractor: _____ Rep: _____

Description	Part #	Included
600 MBH Tube Model	CN4-600	(2) ½" MNPT x ¾" PVC Adaptors
600 MBH Recharge Kit	60RCK	(2) Replacement O-rings



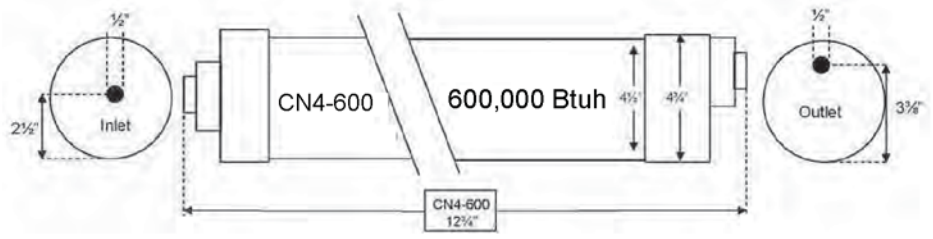
THE CARTRIDGE

An effective condensate neutralizer starts with the cartridge—it should be easy to install and allow easy access not just for replacing the media but for periodic visual inspection. Neutra-Safe® condensate neutralizers also incorporate the exclusive, patent pending integrated unions with O-rings. On either end of the cartridge, these lock rings are designed to allow the service technician to easily replace the media without disturbing the drain piping.

THE MEDIA

Our condensate neutralizers contain clean screened calcite and magnesium oxide. Calcite works by having the acidic aqueous solution come in contact with its surface. It raises the pH by dissolving some of the calcite (calcium carbonate) releasing carbon dioxide and various salts. Some of the salts stay entrained in the aqueous solutions and some may settle to the bottom of the neutralizer. An advantage of calcite is that it is self-limiting and does not over correct causing a high pH condition which is undesirable.

We add granular magnesium oxide (FloMag PWT) to our media for better performance. Calcite and magnesium oxide are used globally in the treatment of potable (drinking) water for raising pH.



All dimensions ± ⅛"

Neutra-Safe® CONDENSATE NEUTRALIZERS

proud member AIM/R ICC

Rockland, MA www.neutrasafe.com

1747

July 3, 2018

Shukria Wiar, Planner
Planning Division
City of Portland
389 Congress Street
Portland, ME 04101

Subject: **Response to Comments – Level III Development Review**
178 Kennebec Street

Dear Shukria:

Terradyn Consultants, LLC is pleased to provide responses to comments for the proposed 46-unit residential development located at 178 Kennebec Street. The applicant is Maine Workforce Housing, LLC. We received written comments from staff on June 7, 2018. We have reviewed the comments and prepared the additional information and responses below.

CIVIL ENGINEERING COMMENTS

Comment 1: *Additional coordination with the City of Portland is required for sewer and stormdrain connections. The City is proposing a project on Kennebec Street, and connections in Kennebec will require coordination with the City's project, which is anticipated to occur next year. The City has also identified that the stormdrain shown on Parris Street is incorrectly labeled, and that the pipe is actually the Lancaster Street sewer. Stormdrain connections will not be allowed into this line. Stormdrainage may be directed to Kennebec where a stormdrain will be installed next year. It is also noted that the Applicant is proposing three separate stormwater services from their site. While this is allowed, the Applicant may wish to consolidate to reduce the future maintenance requirements.*

Response: The stormdrain shown in Parris Street has been re-labeled as a sewer utility. Stormwater services from the site have been re-located to connect to proposed storm drain utilities within Kennebec and Brattle Streets. Our office has requested additional information on existing underground utilities in the vicinity of the site from the Department of Public Works. Additional revisions may be necessary when additional information is received from the city.

The City of Portland is working to complete the Kennebec Street Corridor Improvement plans, and the proposed stormdrain size and location within Kennebec Street is not yet finalized. We are showing the approximate location of storm drain and catch basins within Kennebec Street based on the 75% submission plans dated December 19, 2017 provided by the city, and conversations with city engineers in June 2018. The exact location of storm drain, proposed catch basins and proposed drain manholes within Kennebec Street will be confirmed with the city in July when the design is finalized. The general location and design of stormwater services from the site will remain the same but may be modified to match the final Kennebec Street plans from the city.

We contacted the city regarding sewer service for the project and are awaiting an ability to serve letter, which we will forward when it is received.

Comment 2: *Locations of sediment barrier should be provided as necessary. Existing grades to the south of the site are not provided, and it is unclear if sediment barrier may be needed along the project boundary.*

Response: Existing grades south of the site are higher than existing and proposed grades on site. In the existing condition, stormwater flows from the southern property boundary towards Kennebec, Brattle, and Parris streets. After construction of the proposed improvements, stormwater will drain through the proposed parking lot towards Brattle and Parris streets. Sediment barrier is not needed along the southern property boundary.

Comment 3: *The following detail updates are required. Provide Pavement Cross Section for pavement repair in right of way. Update the Sidewalk Ramp Detectible Warning Panel to be cast iron plates set in wet concrete - note recent standard change in Technical Manual.*

Response: The recommended detail updates have been made on the revised plans.

Comment 4: *In accordance with the City of Portland Technical Manual, the applicant is required to provide appropriate snow storage or description of a snow management plan. The snow storage locations shall be sited outside of existing and proposed drainage courses.*

Response: There will be limited areas for snow storage on the project site. Snow from smaller storm events will be plowed and stored at the perimeter of the parking lot. Snow will be removed and stored off site as needed.

Comment 5: *Verification of utility ability to serve is required.*

Response: The Portland Water District provided an ability to serve letter for this project on May 21, 2018. This letter is enclosed. A wastewater capacity request has been forwarded to Bradley Roland, City of Portland.

Comment 6: *The project is located in a concrete sidewalk district.*

Response: Proposed sidewalks have been changed to concrete.

Comment 7: *There appears to be some misunderstanding of the General and Redevelopment Standard. For projects that do not meet the Chapter 500 thresholds requiring treatment, in the City of Portland, treatment is required if there is greater than 1,000 SF of new impervious surface (provide treatment per Ch 500, 95% of impervious treated) or 5,000 SF of redeveloped, non-roof impervious surface (50% of non-roof impervious redeveloped area). The Applicant is proposing treatment of portions of the roof and the parking area, which may be adequate to meet the standard, however, additional clarification is required.*

Provide a figure that identifies redeveloped non-roof impervious surface. It would be helpful if this figure also shows the areas that are proposed to be treated. Confirm that half of the redeveloped area is being treated. If that area cannot be treated, provide justification (using pollutant rankings) for treatment of other areas (i.e. roof) as an alternative.

Response: The proposed project results in 7,910 SF of redeveloped non-roof impervious surface (parking lot and sidewalks), and 6,676 SF of roof impervious surface. Per MDEP Chapter 500 the proposed parking and sidewalk areas have a pollutant ranking of 3, and the roof area has a pollutant ranking of 2. The existing site is made up of 14,842 SF of gravel parking area. The existing gravel parking has a pollutant ranking of 3. 50% of the redeveloped non-roof impervious surface is required to be treated per the City of Portland and MDEP standards.

It is not practical to treat 50% of the redeveloped non-impervious surface on this site. Site constraints include depth to utilities, depth to groundwater, and

proximity of pavement and the building to property lines. There is limited distance both vertically and horizontally on this site to provide stormwater treatment. Providing treatment for the roof area is more practical. Alternatively, we propose to treat 37% of the redeveloped non-roof impervious surface and 82% of the proposed roof. This results in treatment of stormwater runoff from 58% of the total site impervious area. Calculations justifying this treatment are below:

Required Treatment:
50% of redeveloped non-roof impervious area treated
Required Weighted Treatment = 3,955 SF x pollutant ranking 3 = 11,865

Proposed Treatment:
Paved parking & sidewalk: 2,956 SF x pollutant ranking 3 = 8,868
Roof: 5,500 SF x pollutant ranking 2 = 11,000
Total Proposed Weighted Treatment = (8,868 + 11,000) = 19,868

The proposed treatment of 37% of the paved areas on site and 82% of the roof area will provide a greater level of treatment than required (19,868 > 11,865).

A figure identifying redeveloped areas and treatment areas in enclosed.

Comment 8: *The Stormwater Management Plan should include a stormwater inspection and maintenance plan and a stormwater agreement developed in accordance with and in reference to MaineDEP Chapter 500 guidelines and Chapter 32 of the City of Portland Code of Ordinances.*

Response: A stormwater inspection and maintenance plan has been developed for this project and is enclosed. The applicant is working to develop a stormwater agreement for the project, which will be provided when it is available for review.

Comment 9: *In accordance with the City of Portland Technical Manual, the Applicant is required to submit a Photometric Plan demonstrating minimal lighting trespass.*

Response: Building light locations were selected by Archetype PA and are shown on the building elevations. Proposed building and pole mounted street lights were modeled and a photometric lighting plan (P-1) is included with this response to comments. Existing cobra head style street lights exist on Parris and Brattle Streets and are expected to provide additional light to the parking area and

surrounding sidewalks. We do not have photometric information on these existing lights, so they are not included on the photometric plan.

Comment 10: *In Accordance with the City of Portland Technical Manual, the Applicant shall submit a boundary survey bearing the seal of a Professional Land Surveyor licensed to practice in the State of Maine.*

Response: An updated boundary & topographic survey from Owen Haskell, dated 6/21/18, is included with this response to comments.

FIRE

Comment 1: *Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer.*

Response: Noted. No action necessary.

Comment 2: *A capacity to serve letter from the Portland Water District is required.*

Response: Our office received an ability to serve letter from the Portland Water District on May 24, 2018, enclosed.

Comment 3: *The main entrance of the building must be the address of the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.*

Response: Noted. No action necessary.

TRANSPORTATION/PLANNING

Comment 1: *Additional street lighting may be needed along Parris and Brattle Streets. Determine existing street/pedestrian scale lighting in the vicinity along Kennebec and Parris Streets.*

Response: Cobra head style street lights currently exist on utility poles on both Brattle and Parris streets. Additional lighting is likely not necessary.

Comment 2: *Please add a detail for the street lighting to be installed along Kennebec Street (and Parris and Brattle if found to be needed). The detail should reflect that the pole base is to have a reveal of 2" - 4" above the sidewalk elevation.*

Response: Details of the proposed street light and foundation have been added to the revised plans.

Comment 3: *Please illustrate/explain what will be done to prevent vehicle encroachment onto the 5' wide walkway between the parking lot and building. A vertical curb is typically not sufficient.*

Response: To help prevent vehicles from overhanging the proposed sidewalk and reducing its effective width to less than 3', the sidewalk has been widened by 1' to 6.5' wide from the face of the building to the face of curb. The adjacent parking spaces have been correspondingly reduced in length by 1'. Even if a car with a large 3' overhang pulls up to the curb, there will still be 3.5' of sidewalk width between car and the building.

Comment 4: *Curb Ramps - A curb ramp shall be added to the corner of Parris and Kennebec Streets to provide ADA-access across Parris Street.*

Response: A curb ramp has been added to the corner of Parris and Kennebec Streets. The ramp matches the design for the reconstruction of Kennebec Street provide by the City of Portland.

Comment 5: *Please explain the flush curb driveway treatment for the driveway to the adjoining property on Parris Street.*

Response: The Parris Street sidewalk begins south of the project site and continues up to Portland Street and beyond. The proposed design includes a new sidewalk connecting the proposed Kennebec Street sidewalk to the existing Parris Street sidewalk. There is not enough length between the proposed driveway and the abutting property's driveway to create an ADA compatible curb ramp. The proposed flush curb and concrete sidewalk are intended to delineate the sidewalk from the Parris Street travel way.

Comment 6: *Can a more direct route to the 'ADA Ramp' into the residential portion of the building along the Parris St side be built - the current route is circuitous for those accessing from the sidewalk. Can the 'Granite Step with Bollard' be eliminated or reconfigured to provide this more direct route?*

Response: The area in question features a raised sidewalk on Parris Street, a flush sidewalk, a parking area, and a curb ramp in close proximity to each other. A 6" step is necessary between the flush sidewalk and the curb ramp. The bollard is intended to act as a visual cue to pedestrians that the step exists.

Comment 7: *The curb ramp at the corner of Brattle-Kennebec crossing of Brattle does not have sufficient landing area at the top of the ramp - a minimum of 5' is needed with an obstruction at its top. Can the landing area be re-designed?*

Response: The ramp in question has been reconfigured to provide the required 5' landing area at the top of the ramp.

Comment 8: *Landcape Detail - I do not see a detail for the construction of the Raised Planting Beds shown on Kennebec Street. Their location, dimensions and configuration are to be coordinated with the City Arborist.*

Response: A detail for the Planting Beds has been added to the Landscape Plan.

Comment 9: *The applicant shall change the sidewalk and driveway apron material within the public ROW to concrete (from the brick material shown on the site plan) and change the Site Detail to reflect this as well. Please refer to the City Sidewalk and Driveway Apron Material Policy.*

Response: The sidewalk and apron material has been changed to concrete.

Comment 10: *Driveway Apron Detail on Detail Sheet - Please add "maximum cross-slope of 2%" to the driveway detail for the pedestrian access route (minimum of 5' of width across the driveway).*

Response: The Driveway Apron Detail has been revised as requested.

Comment 11: *The applicant shall update the Site Detail Sheet to reflect the use of cast iron for the detectable warning panels.*

Response: The Detectable Warning Plate on Sheet C-6.0 has been revised as requested.

Comment 12: *Landscape Plan – Bike Parking: If all the bike racks shown are required to meet the bike parking requirements, please find a replacement for the 'wave rack' shown with one that provides 2 points of contact between the bike frame and bicycle (such as an inverted U-rack). I am not readily able to verify that 18 bike parking spaces are provided on the site (I count 10 spaces using Bike Hitches and an unknown # using the wave rack).*

Response: The previously proposed "wave rack" has been replaced with three inverted u-racks, as recommended. The Site Plan now includes six bike hitches (12 bike spaces) and three inverted u-racks (6 bike spaces).

ARCHITECTURAL UPDATES

The following architectural update information was provided by Archetype PA and the changes can be seen on the updated architectural rendering and building elevations included with this response to comments.

- In response to comments from board member Maggie Stanley that she was concerned about the appearance of a large amount of wood-look Nichiha panel, we have eliminated this product in favor of Nichiha's gentle gray sandstone panel.
- We have changed the color of our banding and window surrounds for a consistent appearance around the building.

CLOSURE

In addition to the information provided above, revised site plans and architectural elevations and renderings have been prepared and will be uploaded to the city's electronic plan review system. We trust that the above responses and attached materials address the comments and provide the necessary additional information for the Planning Board to approve the project. We look forward to meeting with the Planning Board and participating in the upcoming public hearing on the project. Please contact me at (207) 632-9010 or mtw@terradynconsultants.com if you have any questions or require additional information.

Sincerely,
TERRADYN CONSULTANTS LLC

Michael E. Tadema-Wielandt, P.E.
Vice President

Enclosures: PWD Ability to Serve
Redevelopment & Treatment Figure
Stormwater Insepction and Mainteinance Plan

cc. Amy Cullen, The Szanton Company
David Lloyd, Archetype

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

May 21, 2018

Adrienne Fine
Terradyne Consultants LLC
565 Congress Street Suite 310
Portland, ME 04102

Re: 178 Kennebec Street, PO
Ability to Serve with PWD Water

Dear Ms. Fine:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on March 28, 2018. Based on the information provided per plans dated 5/4/18, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- A new 6-inch fire service and 2-inch domestic service may be installed from the water main in Parris Street. The service should enter through the properties frontage on Parris Street at least 10-feet from any side property lines.

- An approved backflow prevention device must be installed on the domestic service line directly after the meter and on the fire sprinkler service line prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.

- Please note that only one meter and one bill will be associated to each domestic service line. This one master meter would be located in a common space that all tenants could gain access to if necessary.

Prior to construction, the owner or contractor will need to make an appointment to complete a service application form and pay all necessary fees. The appointment shall be requested through MEANS@pwd.org or by calling 207-774-5961 ext. 3199. Please allow (3) business days to process the service application paperwork. PWD will guide the applicant through the new development process during the appointment.

Existing Site Service

According to District records, the project site does not currently have existing water service.

Water System Characteristics

According to District records, there is an 8-inch diameter ductile iron water main in Parris Street and a public fire hydrant located approximately 50 feet from the site. Recent flow data is not available in this area. The most recent static pressure reading was 100 psi on January 25, 2017.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

Private Fire Protection Water Needs

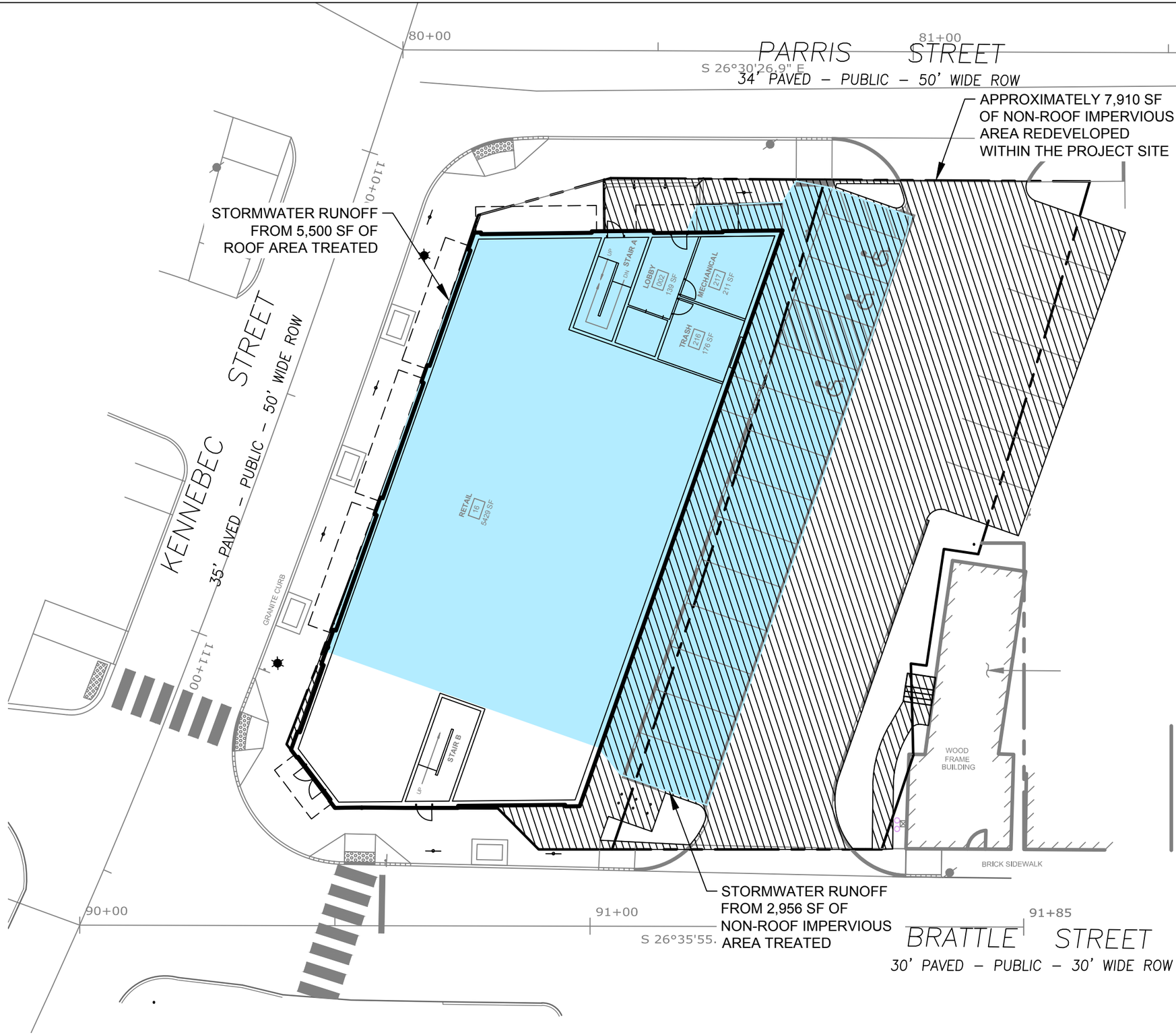
You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Robert A. Bartels, P.E.
Senior Project Engineer



LEGEND

REDEVELOPED NON-ROOF IMPERVIOUS AREA

TREATED IMPERVIOUS SURFACE

TREATMENT SUMMARY

EXISTING IMPERVIOUS = 14,842 SF

PROPOSED NON-ROOF IMPERVIOUS= 7,910 SF
PROPOSED ROOF IMPERVIOUS= 6,676 SF
TOTAL IMPERVIOUS = 14,586 SF

TREATED NON-ROOF IMPERVIOUS = 2,956 SF (37%)
TREATED ROOF IMPERVIOUS = 5,500 SF (82%)
TOTAL TREATED IMPERVIOUS SURFACE = 8,456 SF

TERRADYN CONSULTANTS, LLC
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P.O. Box 339
111 Elderberry Lane
New Gloucester, ME 04260
Office: (207) 926-5111
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www.terradynconsultants.com

SHEET DESCRIPTION
REDEVELOPMENT & TREATMENT FIGURE
178 KENNEBE STREET, PORTLAND, ME 04101

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

JOB NO.
1747

DATE
6/20/2018

SCALE
1"=20'

SHEET
1

OF
1

INSPECTION AND MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES

178 Kennebec Street

Inspections:

The owner shall hire a qualified post-construction stormwater inspector to, at least annually, inspect the BMPs, including but not limited to the roof drain filter unit, pervious pavers, parking areas, pipes and related structures, in accordance with the requirements below.

Maintenance and Repair:

If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the department of public works ("DPW") in the annual report.

Annual Report:

The owner or a qualified post-construction stormwater inspector hired by the owner shall, on or by June 30 of each year, provide a completed and signed certification to DPW in a form provided by DPW, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

INSPECTION & MAINTENANCE TASKS:

Inspections should be performed by a qualified stormwater professional.

1. **ROADWAYS & PARKING SURFACES:**

   1.1. Paved surfaces shall be swept or vacuumed at least once annually in the spring to remove all winter sand and periodically during the year on an as-needed basis to minimize the transport of sediment during rainfall events.

2. **CATCH BASINS:**

   2.1. Remove sediments and debris from the bottom of the basin and inlet grates. Remove floating debris and oils (using oil absorptive pads) from any trap.

3. **STORM BASIN DOWNSPOUT FILTER:**

   3.1. Inspect the system at least once every six months and maintain the filters annually per the manufacturer's guidelines. The manufacturer recommends changing the cartridges on an annual basis.

   3.2. Remove sediment and debris from the storm basin structure as needed during inspections.

4. **PERVIOUS PAVERS WITH UNDERDRAIN:**

   4.1. Frequent inspections are performed during the first few months following construction. Then, the system is inspected routinely on an annual basis. Inspections should be made after significant storm events to check for surface ponding that could indicate failure due to clogging. Non-routine maintenance may require reconstruction of the surface treatment, and possibly the filter and reservoir layers, to relive major clogging.

   4.2. Prevent sediment due to the erosion of areas upgradient the pervious pavers.

   4.3. Prevent vehicles with muddy wheels from accessing onto areas intended for pervious pavers.

   4.4. Sweep, vacuum and/or pressure wash pavers twice annually at a minimum.

   4.5. Limit salt use for deicing, and do not use sand.

   4.6. Remove leaves and organic debris in the fall.

   4.7. Measures should be taken to ensure that an area designed to be porous does not receive a future overlay of conventional non-porous paving.

Traffic Solutions
William J. Bray, P.E.
235 Bancroft Street
Portland, ME 04102
(207) 774-3603
(207) 400-6890 mobile
trafficsolutions@maine.rr.com

July 6, 2018

Parking Assessment
Proposed
178 Kennebec Street
Portland, Maine

INTRODUCTION

Maine Workforce Housing, LLC is proposing to construct a seven-story mixed-use building on a parcel of land located in the Bayside Neighborhood at 178 Kennebec Street. The proposed site will include 51-units of housing for senior residents (55 years or older) and 5,429 square feet of artist/retail space located on the first floor of the 46,669-square foot structure. The residential units include a mix of both low income (39 units) and market rate units (12 units). The first-floor artist/retail space will likely include a mix of both retail and artist studio uses. The current site plan proposes to construct a total of 19 on-site parking spaces, with six (6) of the spaces dedicated exclusively for tenants of the artist/retail spaces. The Applicant will secure a private vendor to provide "*car share*" services to the site and/or will operate an acceptable service through their property management company. The remaining parking spaces will be available to residential tenants of the building.

Parking demand requirements of the proposed 178 Kennebec Street mixed-use project site are estimated based upon local parking demand data and anecdotal information obtained for existing nearby artist studios.

PARKING DEMAND

Residential Units (51 Senior Housing Units): Parking utilization surveys conducted at two existing Avesta Housing senior-adult facilities in the Greater Portland Area were the basis for projecting the parking demand requirements of the proposed 51 senior housing units. The survey sites included the 35-unit Five Graham Street facility located in the City of Biddeford and the 20-unit senior housing site located at 47 Smith Street in Portland. A total of 26 parking spaces are provided at the Biddeford site and 20 parking spaces exist at the Portland site. Parking utilization data was gathered at both locations in early morning (prior to 5:00 AM) and evening hours (after 8:00 PM) on three separate days during the week of July 2. Table 1, as follows, presents the results of the parking surveys:

Table 1
Parking Utilization Data
Existing Greater Portland Area Senior Housing Facilities

Facility Location	# of Units	# of Site Spaces	July 2 Utilization Data		July 3 Utilization Data		July 5 Utilization Data		TOTAL	AVERAGE
			AM	PM	AM	PM	AM	PM		
Biddeford 5 Graham Street	35	26	n/a	18	18	17	17	17	87 vehicles	17.4 vehicles
Portland 47 Smith Street	20	20	n/a	5	5	6	6	6	28 vehicles	5.6 vehicles
TOTAL	55	46	n/a	23	23	23	23	23	114 vehicles	22.8 vehicles

NOTES:

(1) Avesta Housing provided information that all units at both identified senior housing facilities are currently occupied.

The results of the survey show a combined average peak parking demand of **22.8** parking spaces for the two senior adult apartment sites, which include a total of 55 senior adult housing units. Accordingly, the peak parking demand of the two Avesta properties is estimated at 0.41 spaces per apartment unit (22.8 ÷ 55 = 0.41 spaces per apartment unit).

Traffic Solutions, applying the peak parking demand value of 0.41 spaces per unit, estimates the proposed 51 senior adult apartment units will require a minimum of 21 parking spaces to meet the estimated peak parking demand of the building tenants.

Artist Studio/Retail Space: The owner of the adjacent New Systems Laundry building, where rental space(s) are provided to a number of local artists, shared the following comments related to projecting both traffic and parking demand for artist work spaces, "*a recent artist tenant advised they were traveling for the summer and sent a check for three months in advance, an artist in another studio only works on the weekends, other artists work evenings only. The majority of these existing artist tenants either walk or ride bicycles to/from their home and studio*".

The proposed site provides a total of 6 dedicated parking spaces for the proposed artist/retail space; these spaces are available 24/7 for the perspective tenants of the 5,429-square foot building area. The six dedicated or reserved parking spaces represent an average parking rate of nearly 1 space per 1,000 square feet of building area, which frankly, should meet and/or exceed the maximum parking demand of the first-floor building artist/retail space tenants.

SUMMARY

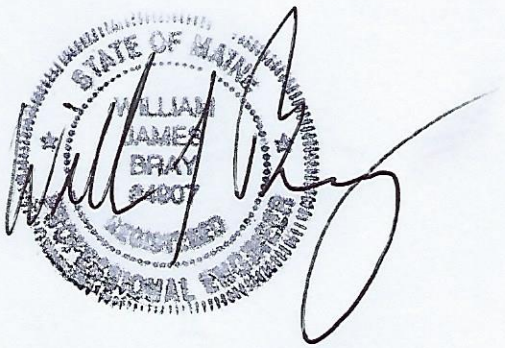
- The proposed 178 Kennebec Street seven-story building will include a total of 51 senior adult housing units that includes 5 efficiency and 46 one-bedroom units on floors 2 through 7. A total of 5,429 square feet of artist/retail space is provided on the first floor of the proposed building. A total of 19 parking spaces are incorporated into the proposed site design, with 6 of the spaces earmarked exclusively for the proposed artist/retail space and the remaining 13 parking spaces provided for residential tenants of the building.

- A detailed parking study was conducted at two Avesta Housing apartment building sites located in the Greater Portland Area to forecast the average peak parking demand of the proposed senior adult residential apartment units. The study sites included the Five Graham Street facility in the neighboring City of Biddeford and the 20-unit seniors only property located at 47 Smith Street in the City of Portland. The results of the survey data show an average peak parking demand of 0.41 spaces per unit is generated at the two existing seniors only apartment buildings. Traffic Solutions estimates that the proposed 51-unit seniors only housing project at 178 Kennebec Street will generate a similar parking demand of 0.41 spaces per unit equaling a total parking space requirement of **21** spaces. The proposed site design provides a total of 13 on-site parking spaces for the residential units leaving a deficit of 8 parking spaces.

- The proposed site design provides a total of six dedicated on-site parking spaces to meet the parking requirements of the proposed artist/retail space located on the first floor of the proposed building. Artists currently working from studio space located at the adjacent New Systems Laundry building are found in their studios during non-typical hours (i.e. weekends, evenings, etc.). Their modal choice of transportation, in combination with the varying work schedules, creates a great deal of difficulty in estimating peak parking demand. Traffic Solutions suggests the **6** proposed dedicated parking spaces are more than adequate to meet the demand of the first-floor artist/retail space.

- The proposed 178 Kennebec Street mixed-use project is forecast to generate a peak parking demand of 27 spaces; 6 spaces required for the artist/retail spaces and 21 spaces to meet the parking requirements of the proposed residential units. The proposed site design provides a total of 19 on-site parking spaces leaving a deficit of 8 parking spaces.

- Section 14-332.1(k) allows for the parking demand of a multi-family residential building to be partially met through the provision of a shared-use vehicle. The City code provision specifically states, "*one shared use vehicle shall be deemed to satisfy eight (8) required car spaces...*". The proposed design establishes a shared car space within the 19-lot parking lot as required by the City ordinance language. Accordingly, the remaining eight parking spaces required to meet the full parking demand of the proposed site are met with inclusion of the "*shared-car*" space. The Applicant will either contract with a private vendor for the car share services or will develop and operate the program with their property management team.



178 Kennebec Street

Transportation Demand Management Plan

July 6, 2018

Summary

Maine Workforce Housing, LLC and Ross Furman provide this Transportation Demand Management (TDM) Plan for 178 Kennebec Street. This .37-acre site, combining two adjacent parcels, lies at the corner of Kennebec, Brattle and Parris Streets in Portland's lower Bayside neighborhood and the B7 zone.

178 Kennebec Street is a rare opportunity for urban infill and affordable housing development on the Portland Peninsula, enabled through the City of Portland's sale of its Public Works' facilities there. The proposal is for a seven-story mixed use building, primarily for residential apartments for seniors and also offering work and retail space for local artists on the ground floor.

The 178 Kennebec Street TDM Plan aims to help accommodate this new growth and benefit the local transportation system through support of transportation alternatives and reductions in the rate of single-occupancy vehicle travel to and from the site. *Given the site's multi-modal context and the general use of alternate modes by the proposed tenant groups, the plan sets the following initial targets:*

- a 2-5% reduction in vehicle trips over first 3-5 years after the site is fully occupied
- a 2-5% reduction in parking demand over the first 3-5 years after the site is fully occupied
- a further 3% increase in resident multi-modal trips by 3-5 years after the site is fully occupied – i.e., a total of 18% of resident trips made from and to the site will be via transit, carpooling, by bicycle or on foot

These targets will be reassessed at the end of the first full year of operations at 178 Kennebec Street.

178 Kennebec Street Site

- .37 acre mixed-use urban infill site in lower Bayside
- **46,669 gross square footage**, with the following proposed uses:
  - Residential: 40,000 ft^2
  - Artist studio/retail: 5,429 ft^2
- ***Trip reduction target:*** Given site multi-modal context and resident & artist demographics, 2-5% reduction 3-5 years after full occupancy - resulting from TDM program
- ***Parking reduction target:*** 2-5% TDM-related reduction in average peak hourly parking demand 3-5 years after full occupancy
- ***Multi-modal target:*** In addition to 15% existing multi-modal rate, a further 3% increase in resident trips via transit, carpooling or vanpooling, by bicycle & on foot within 3-5 years after full occupancy – a total 18% multi-modal rate
- Will reassess targets at end of year one of 178 Kennebec Street occupancy

Cushman Transportation Consulting, LLC, 94 Beckett Street, 2nd Floor, Portland, ME 04101
Tel: (207) 200-1910 E-mail: sarah@sarahcushman.com www.sarahcushman.com

1. Site Description and Transportation Context

Site Characteristics & Occupant Demographics

Maine Workforce Housing, LLC has a Joint Development Agreement with Ross Furman to combine two parcels at 178 Kennebec Street to build a seven-story mixed use building. Furman owns one of the parcels and has a purchase and sale agreement with the City for the other.

The building will house 46 one bedroom and 5 studio rental apartments for residents aged 55 and older on the second through seventh floors. Maine Workforce Housing will retain ownership of this residential portion. Maine Workforce Housing is part of the Szanton Company and associated with the Szanton Company's sister property management entity, Saco Falls Management, which will manage the building long-term.

According to local affordable housing developers, a 55+ residential community often skews a bit older in age and the developer expects the units to be primarily 1-person households. For reference regarding vehicle travel and age demographics, the percentage of the population that drives plateaus for the general public through the ages of 30-55 - and then starts declining after the age of 55 for women and after age 60 for men. Similarly, vehicle miles and person miles traveled per capita both fall precipitously starting at the age of 55. Car ownership has had a slight rebound since the Great Recession. However, between 2015 and 2016, the one increase in car-free living (above the margin of error) was among householders age 65 or older who rent. (Source: American Community Survey of the U.S. Census).

For the 1st Floor of 178 Kennebec Street, Ross Furman will retain ownership and provide 10 rental retail/makerspaces for area artisans. People often work alone in their studios, although sometimes there are two people occupying a space. Individuals also frequently work during non-traditional hours, e.g., early mornings, evenings and weekends. Furman expects 5-7 tenants to be on site at any given time, with 12-15 total people entering and exiting the space throughout the day.

Larger Transportation Setting

Kennebec Street was once the "Marginal Way" of Portland's Bayside neighborhood, running along the edge of the Back Cove before the tidal area was further filled in over time through various City infrastructure projects. The former Union Branch rail line, part of Portland's once thriving rail system, ran through the area and a segment crossed the 178 Kennebec parcel. In contrast, the site's land use has lain relatively dormant for a number of years as an unsurfaced parking lot.

The redevelopment of this site in the lower Bayside neighborhood supports the multi-modal objectives of the B7 zone in which it stands – where dense urban form, mixed-uses, and the utilization of transportation beyond the automobile are strongly encouraged. 178 Kennebec and its TDM initiatives are part of Bayside's continued renaissance and align well with the goals of *A New Vision for Bayside* and the *Bayside Transportation Master Plan.* For example, a number of shopping amenities are nearby and well within walking distance for the future residents of 178 Kennebec, such as Trader Joe's, Whole Foods and Hannaford Supermarket.

While the site is located within what has traditionally been a light industrial zone with some missing sidewalk links and crossings that aren't always ADA accessible, it is still relatively pedestrian and bicycle-friendly. This is in part because of continued sidewalk, crossing and bike lane improvements being made in the area and the generally strong sidewalk network and lower-speed street grid of the Portland Peninsula.

178 Kennebec also sits in close proximity to the Back Cove Trail and the Marginal Way, Forest Avenue and Portland Street bike lanes. In addition, the site is immediately adjacent to the proposed Bayside Trail extension and is near the proposed separated bike lanes on Park Avenue – as well as the eventual Deering Oaks Park section of the Neighborhood Byway network. Moreover, the building is on the same block as Port City Bikes, which prioritizes service to bicycle commuters.

With increasing retail development such as the Leavitt Deli and the Chipotle complex across the street, Bayside Bowl down the block, and further proposed housing and retail for the other former Public Works parcels, lower Bayside is growing in its sense of place and improved street feel. 178 Kennebec will add to these enhancements and the human scale of the pedestrian environment through its active signage, windows, lighting, entrances and landscaping.

In terms of transit service, 178 Kennebec is three blocks from the METRO Routes 2, 4 and 5. These serve the significant transportation corridors and residential neighborhoods off of Forest Avenue, Brighton Avenue and Outer Congress. The building is also four blocks from Congress Street with access to South Portland, Lakes Region, Shuttlebus/ZOOM and other METRO bus routes - and a seven minute walk to the METRO Pulse transit hub on Elm Street. In addition, Portland and METRO have long eyed improving the Route 8 service of the Portland Peninsula. This and other transit improvement recommendations have been made in the recent *Bayside Transportation Master Plan*. These could enable increased ridership of peninsula residents and artisans to 178 Kennebec Street.

Moreover, there is a UhaulCarshare vehicle located within four blocks of the site, at 409 Cumberland Avenue/Mechanic Street. Maine Workforce Housing is exploring the addition of a UhaulCarshare or other private carshare vehicle at or immediately adjacent to 178 Kennebec Street. Uhaul has postponed additional vehicle purchases for the remainder of 2018 but is open to this exploration for next year.

2. TDM Coordinator

Highly successful TDM programs share three vital characteristics: (1) they are dynamic: piloting strategies, assessing impacts, and modifying tactics as needed; (2) they are rigorously supported and monitored by local governing bodies, in this case, the City of Portland; and (3) they are managed by committed and enthusiastic staff who are responsible for overseeing, promoting and sustaining the program.

Maine Workforce Housing is committed to reducing drive-alone resident and visitor automobile trips, improving multi-modal safety, and easing traffic congestion and area parking demand near 178 Kennebec Street through its TDM efforts. As such, the developer has designated as the TDM Coordinator Kristen Smith, the Residential Services Coordinator for 178 Kennebec Street and employee of Saco Falls Management, the site's property management company (as mentioned above, the sister entity to Maine Workforce Housing and the Szanton Company). She is charged with coordinating the 178 Kennebec TDM plan implementation and monitoring and making any needed changes.

Saco Falls Management has a long history of encouraging residents' wellness through initiatives such as offering rent reductions for tenants who are car-free, providing on-site bicycle rooms and gyms, and offering a pedestrian hand cart to all new tenants at initial lease-up. It sees this TDM program as another opportunity to improve residents' physical and financial health.

The 178 Kennebec TDM Coordinator is responsible for:

- Ensuring strategic parking management and monitoring parking usage
- Coordinating tenant TDM policies and incentives
- Encouraging greater use of preferred modes – walking, bicycling, carpooling and taking bus or rail transit - through transportation kiosk and site-wide promotion
- Overseeing/conducting surveying of tenants
- Overseeing annual site parking and traffic observations
- Filing annual reports and updating the plan with the City
- Exploration of additional TDM strategies, as needed

TDM Coordinator

Kristen Smith, Residential Services Coordinator for 178 Kennebec Street
Saco Falls Management
ksmith@sacofallsmanagement.com
(207) 282-2307

The company will provide the TDM Coordinator with a stipend to support the work of leading the site's ongoing TDM efforts. Acknowledging that roles and responsibilities change over time in any position, Saco Falls Management will use the first few months of TDM implementation to enumerate the TDM Coordinator's responsibilities in detail for any other staff to uphold the responsibility of the position. The Coordinator's contact information is: Kristen Smith, c/o Saco Falls Management, ksmith@sacofallsmanagement.com, (207) 282-2307.

Day-to-day operations and monitoring of the TDM plan will be conducted in-house by Kristen and Saco Falls Management will retain the services of a TDM consultant to review initiatives, problem-solve and develop new strategies if and when necessary.

3. Trip and Parking Reduction Targets

Projected Trip Generation & Parking Demand

The applicant's site engineering firm, Terradyn Consultants, LLC has created ITE trip generation estimates for the site. Accordingly, the proposed 178 Kennebec Street project can be expected to generate approximately 24 trips during the PM peak hour.

In addition, Maine Workforce Housing has also hired Traffic Solutions and Cushman Transportation Consulting, LLC (CTC) to assist with the parking study and TDM requirements for the B7 zone and the site's associated parking demand projections.

There will be 19 parking spaces on-site, with 6 spaces dedicated to shared use by the artists renting studios. In addition, as mentioned above, Maine Workforce Housing is actively engaged in securing a UhaulCarshare vehicle or other private shared-use vehicle for the site.

The parking demand projections for the mixed-use site have been estimated using local parking demand data and anecdotal information from nearby existing artist studios. The parking study was conducted in consultation with the City's Traffic Consultant. The results of the parking study on two existing seniors-only apartment buildings show an average peak parking demand of 0.41 spaces per residential unit. Traffic Solutions estimates that the proposed 51-unit seniors-only housing project at 178 Kennebec Street will generate a similar parking demand of 0.41 spaces per unit, equaling a residential parking space requirement of 21 spaces.

Traffic Solutions suggests the 6 proposed dedicated parking spaces are more than adequate to meet the demand of the first-floor artist/retail space. The proposed site design provides a total of 13 on-site parking spaces for the residential units, leaving a deficit of 8 parking spaces. However, the shared-use vehicle on site will ensure the site meets the full parking demand, per the City ordinance that "one shared use vehicle shall be deemed to satisfy eight (8) required car spaces".

Projections & Targets

- .37 acre mixed-use urban infill site in lower Bayside
- **46,669 gross square footage**, with the following proposed uses:
  - Residential: 40,000 ft^2
  - Artist studio/retail: 5,429 ft^2
- ***Trip reduction target:*** Given site multi-modal context and resident & artist demographics, 2-5% reduction 3-5 years after full occupancy - resulting from TDM program
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- Will reassess targets at end of year one of 178 Kennebec Street occupancy

Trip Reduction Target

Given the multi-modal context of the site and the transportation demographics of the tenants at 178 Kennebec Street – Saco Falls Management's TDM efforts should enable a further 2-5% reduction in resident drive alone vehicle trips by the end of 3-5 years. The company plans to revisit this reduction target after the first full year of operations at 178 Kennebec.

Parking Reduction Target

With assertive parking management and implementation of TDM strategies and incentives, an achievable parking demand reduction is 2-5% by the end of 3-5 years. The parking demand target will also be revisited after 178 Kennebec has been in operation for a year.

Multi-Modal Target

178 Kennebec is setting an overall target of 18% of residents making multi-modal trips to and from the site, by 3-5 years after full occupancy. That is, giving the estimated existing multi-modal rate of approximately 15%, this would be an additional 3% increase in residents who leave and return to the site via transit, carpooling or vanpooling, by bicycle, on foot or through some combination of these modes.

From other TDM experiments in North America, it is also clear that individuals' use of various alternate modes shift over time as different tenants come and go and/or their needs change. For example, a tenant who uses transit might move to another location or a different tenant who walks might switch to bicycling. In another instance, a tenant who was able to drive may lose the ability to do so and switch to using transit or carpooling for errands. Therefore, it seems most useful for 178 Kennebec's TDM efforts to address the specific needs of transit users, carpoolers, bicyclists and walkers and set an overarching multi-modal trip target for the site.

178 Kennebec plans to closely monitor existing trends to attain a reasonable mode-shift goal over time.

4. Trip and Parking Reduction Strategies

In the table beginning on the following page, Maine Workforce Housing proposes a number of best-practice and sensible parking and trip reduction strategies for 178 Kennebec's TDM Plan. These are based on the development team's understanding of the site's transportation context, likely residents and tenants and the usefulness of various TDM efforts. For example, strategically managed parking that is unbundled from leases will produce the strongest results for reducing single-occupancy vehicle trips to the site. In addition, the team acknowledges the various needs of different multi-modal commuters. For instance, tenants who use transit, walk or bicycle are more able to do so if they have on-site, secure storage for larger commuting gear.

Another critical component for the success of 178 Kennebec's TDM Plan is a carefully thought-out marketing plan that regularly engages tenants regarding preferred modes of transportation and provides easily accessible information and subsidies. This work also builds the site's TDM culture and the sense of multi-modal travel as the social norm. 178 Kennebec has begun designing a marketing strategy that complements other area Portland TDM work to promote walking, bicycling, carpooling and the use of public transit.

Finally, Greater Portland Council of Governments and the City of Portland are reexamining the need for an area Transportation Management Association (TMA) to benefit private sector sites like 178 Kennebec. TMAs are generally public-private entities that assist sites with TDM implementation and monitoring, advocate for improved transit and act as brokers for services such as vanpools and shuttles. Maine Workforce Housing plans to support the development of a TMA, if found to be feasible, and have 178 Kennebec Street participate as a member.

Infrastructure	
Transit Access	Transit passes available for purchase on-site for residents
Pedestrian Access	Reconstruction of Parris and Brattle Street sidewalk segments abutting development
	ADA barrier-free ramp improvements
	Striping improvements to existing or proposed crosswalks
	Integrate project with City sidewalk and crossing improvements on Kennebec Street and the construction of the Bayside Trail extension
	Street and building lighting improvements to improve sidewalk illumination
	For all initial tenant leases, provide one collapsible shopping/utility cart
Bicycle Access	18 on-street bicycle parking spaces
	Secure and weatherproof bicycle parking space on 2nd Floor (first floor of housing) for residents use - for regular size bikes, electric bikes, cargo bikes or trailers, etc. Charging outlet for resident electric bikes.
	Provide clear permission for artisan tenants to bring bicycles into studio spaces.
Shared Mobility	Carshare – UhaulCarshare vehicle within 6 minute walk

Shared Mobility (cont'd)	Exploring additional on-street carshare vehicle to serve 178 Kennebec, equivalent to providing __ spaces
	Explore landlord-subsidized bicycle loan program for residents' use in partnership with Port City Bikes.
	Partial or full subsidy of bikeshare memberships for residents when/if bikeshare starts in Portland
Remote Parking/Fee in Lieu of Parking	Will pay fee in lieu of parking to meet any additional parking requirements
Other	Active TDM Kiosk in lobby with: Links to current maps, routes, and schedules for public transit routes near the site; Information on GO MAINE ride-matching, rewards and Emergency Ride Home benefit for all alternate modes of transportation; Walk, bicycle & trail routes to and near site; Information on other available transportation options; Listing of facilities available for bicyclists; All TDM benefits available for residents; Contact information for TDM Coordinator.
	Explore subsidizing tenants' initial membership fee for nearby gyms, Planet Fitness and Orange Theory, to improve resident physical fitness for active transportation
	Encourage adjacent 82 Hanover Street retail complex and other DPW redevelopment sites to offer amenities that encourage walking trips for simpler residents' needs (e.g., grocery items such as are available at a Rosemont Market, small housewares and hardware items, etc.)
Resident Incentives	
Parking Pricing/Cash Out/Incentives	Parking unbundled from resident and artist tenant leases
Transit Subsidies	Partial subsidy of multi-ride passes for car-free residents who use transit
	Explore new METRO electronic fare system (coming in 2019) to enable billing property management company for individual resident bus trips, up to certain number per month
Carpool/Rideshare Subsidies	Site registration with GO MAINE for ridematching/carpooling opportunities and rewards for working residents - and to provide access to the Emergency Ride Home benefit (a free ride home using Enterprise Rent-a-Car in the event of illness, family crisis, unscheduled overtime or other unforeseen workday emergency - paid for by MaineDOT and the Maine Turnpike Authority).
	Offer one-time financial incentive for working residents who start a carpool
Pedestrian/Bicycling Subsidies	Purchase one-time $5 Bicycle Benefits memberships for residents who bicycle - membership provides discounts at area businesses when members bikes to those destinations

Pedestrian/Bicycling Subsidies (cont'd)	One annual bicycle maintenance visit to Port City Bikes or other bike shop for residents and commercial tenants who are bicycle commuters
Shared Mobility Subsidies	Explore coupon code discount (e.g., $5 per reservation) for resident UhaulCarshare vehicle use during first year of full occupancy
	Monthly bikeshare memberships for residents living car-free when/if bikeshare starts in Portland
Targeted Promotions	Site registration with GO MAINE for rewards for all multi-modal working residents - and to provide access to Emergency Ride Home benefit
	1st year: monthly raffle for multi-modal residents and retail or property management employees, with benefits such as movie tickets, gift cards, vacation time for employees, etc.
	Thereafter, campaigns 1-2 times per year, tied to regional and national events like National Walking Day (April), National Bike Month (May), Car Free Day (September), Way 2 GO MAINE (October) - and offering similar rewards
Information	
Education for Travel Choice	TDM orientation and benefits packets for all residents and property management employees with concise, customized information on how to access 178 Kennebec by various travel modes, with special consideration of efficient modes such as walking, cycling and public transportation. Includes: (1) Map of the area, showing the destination, major streets, nearby landmarks and time to walk/bike to them, the closest bus stops and walking times, recommended cycling and walking routes, etc. (2) Information about transit service frequency, fares, first and last runs, and schedules if possible; plus phone numbers and web addresses for transit service providers and taxi companies. (3) How to reach the site from major transportation terminals (bus and train stations, airport, ferry terminal, etc.) (4) Access arrangements for people with disabilities; (4) Availability of bicycle facilities, including secure bike parking and bikeshare, if available; (5) Automobile parking availability and price.
	One-on-one transportation consultations or commute coaching available for residents upon lease of dwelling units and for property management employees upon hiring, to explore individual transportation options. Thereafter, offered at least once annually.

Education for Travel Choice (cont'd)	Active web page on property management web site for residents and property management employees. Page to include: Links to current maps, routes, and schedules for public transit routes near the site; Live-time transit info from Southern Maine Transit Tracker; Information on GO MAINE ride-matching, rewards and Emergency Ride Home benefit for all alternate modes of transportation; Walk, bicycle & trail routes to and near site; Links to other available transportation options; Listing of facilities available for bicyclists; All TDM benefits available to property management employees, including company policies; Contact information for TDM Coordinator, responsible for program management at the site.
	2-4 times per year, host morning or late afternoon tabling event which will include engaging the residents in conversation about their transportation choices as they head out or come home. Will offer food and beverages.
	At least quarterly communications with residents regarding commuting benefits available – e.g. through email, e-newsletter, announcements, posters, etc.
	Offer a walking tour 1-2 times per year of all the transportation options near the property
	Host free bicycle safety/information classes and/or bicycle repair event for residents once a year or as residents show interest
	Required resident and employee transportation surveys and reporting to City will also serve as education tool
Promotion of Alternate Modes	Use the above commuter challenges and incentive campaigns to promote alternate modes (e.g., National Bike Month, Way 2 GO MAINE, etc.)
	At least once per quarter: recognize individual residents and employees who reduce the traffic impact of the site through property management door posters, newsletter, email or other announcements.

5. Plan for Monitoring, Data Collection and Reporting

Recognizing that the implementation of a TDM Plan is a dynamic process, 178 Kennebec's TDM Coordinator will monitor the TDM Plan's components to assess whether the site is achieving the trip and parking reduction targets listed above. 178 Kennebec will evaluate the value of various subsidies for preferred modes and make improvements. Another important piece will be to determine the flexibility of tenants to utilize various travel modes to access the site. The following will be included in the monitoring assessment.

Surveying & Monitoring

- Tenant surveys once annually for first 3 years, then every two years thereafter
- Conduct traffic and parking observations to cross-reference with the annual surveying
- Reassess parking and trip targets at 1 year mark
- Track tenant employees' use of multi-modal subsidies
- Annual report to City

Tenant Surveys

178 Kennebec will conduct annual tenant surveys that provide quantitative data (e.g., trip, parking and mode split) and qualitative data (e.g., perception of 178 Kennebec's alternate transportation access and TDM programming). The site will carry out these surveys once annually for the first three years of full occupancy and then every two years thereafter. The survey will be developed in consultation with the city's TDM manager and conform to overall city TDM modeling and planning. Survey questions will include:

- Resident mode of travel to and from work and/or for other trips away from the site
- For artist studio tenants: tenant zip code of residence, mode(s) of travel to and from the site
- If parking personal vehicle, where
- Type of participation in TDM program, TDM marketing effectiveness, and/or use of any TDM benefits
- Preferences, barriers or concerns with modes of travel
- Space to add comments

Note: the use of these survey tools will also assist 178 Kennebec with its TDM education efforts. That is, the questions themselves help people think differently about their transportation behavior. The surveys will also provide a reminder of the TDM Kiosk and the TDM Coordinator as resources for more information about options.

Parking and Traffic Observations

Once annually, the TDM Coordinator will also organize site observations of vehicle and bicycle parking and vehicle trips to the site, during peak morning and evening commute times on one weekday and during the late morning and evening on one weekend day.

Use of Multi-Modal Subsidies

The TDM Coordinator will track the number of tenants utilizing the subsidies for transit passes, bicycle maintenance, starting carpools, preferential parking and/or bicycle safety courses, walking tours and Bicycle Benefits memberships. In addition, the coordinator will tally the number of tenants who are members of GO MAINE. If the site engages with a future bikeshare operation, UhaulCarShare or other private carshare the coordinator will assess that usage as well.

Annual Report

The TDM Coordinator will then produce an annual TDM Report to meet the City's monitoring requirements. The report will include:

a. the above parking and traffic site observations and survey data
b. details of that year's TDM operations – including management, strategies, marketing and any new infrastructure development
c. lessons learned and any changes in the TDM plan during the year
d. plans for the following year.

You're Invited!

to a Neighborhood Informational Meeting

Monday April 30th at 7:00 PM

Community Room at 409 Cumberland Avenue

The Szanton Company will be presenting information and plans regarding its proposed development at 178 Kennebec Street. The property will include mixed-income rental apartments and retail space on the street level. Light refreshments will be served. Please join us and come with your questions!

Note: Under Section 14-32(C) and 14-524(a)d of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within 30 days of submitting a preliminary application or 21 days of submitting a final site plan application, if a preliminary plans was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street Portland, ME 04101 or by email: to bab@portlandmaine.gov

(The City code requires that property owners within 500 feet (1000 feet for proposed industrial subdivisions and industrial zone changes) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.)

Thank you,

Amy Cullen
Development Officer
The Szanton Company
www.szantoncompany.com
207-871-1661/acullen@szantoncompany.com

The Szanton Company
482 Congress St., Suite 203
Portland, ME 04101

I, Amy Cullen, Development Officer for The Szanton Company, hereby certify that a neighborhood meeting was held on April 30, 2018 at the Community Room at 409 Cumberland Avenue at 7:00 pm.

I also certify that on Thursday, April 19, 2018, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1000 feet of a proposed industrial subdivision or industrial zone change.

2. Residents on the "interested parties" list.

3. A digital copy of the notice was also provided to the Planning Division (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive e-mail notices.

Signed, _____ 5/1/18 (date)

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

April 30, 2018 **178 Kennebec Street Neighborhood Meeting Guests**

Name	Address	Email	Phone	Comments
Sarah Michniewicz	47 Cedar St.	SarahMichniewicz@Mac.com	207 939 3562	
Bruce Daigle	159 Oxford St.	bdaigle@Smccme.edu		found out abt the meeting thru a city email
Ross Furman	Box Two Portland Me 04112	RossFurman@AOL.com	773-7000	
Dana McClusky	25 Parris St 04101	dmccluskey@maine.rr.com	773-6517	

The Szanton Company

Neighborhood Meeting for 178 Kennebec Street

Place: Community Room at 409 Cumberland Avenue

Time: 7:00 PM 4/30/18

The meeting began at 7:00 PM with 4 attendees present.

Amy Cullen, Development Officer for the Szanton Company, presented a slide show of the Szanton Company's existing properties. She provided an explanation of the Before and After photos and a brief history of the company. 178 Kennebec Street will be the Szanton Company's 11th property and the 4th in Portland.

Nathan Szanton, President of the Szanton Company, explained the building materials and design of the project.

Ms. Cullen detailed the timeline saying that they were in the permitting process and seeking council approvals. Market studies are underway and financing applications in process. The MaineHousing tax credit application will be submitted in September. If all goes as planned the building will close in June of 2019 and construction completed in the summer of 2020.

A question was asked regarding the elevation of the building with respect to the sea level. Ms. Cullen answered that the building we will be brought up to 13.5 feet above sea level and that the city requirements are to build 10 feet above.

Mr. Szanton said they are looking into the on-street parking situation in an effort to unlock more parking. A guest mentioned looking into the Bayside Master Transportation Plan.

Other comments/concerns were to provide inside bicycle storage, to add awnings or some interest above the doors into the retail spaces at the back of the building.

The meeting adjourned at 8:20 PM.

March 21, 2018 **178 Kennebec Street Neighborhood Meeting Guests**

Name	Address	Email	Phone	Comments
Ron Spinella	377 Cumberland Ptl ME	ronspinella@maine.rr.com	207-671-9902	
Sarah Michniewicz	47 Cedar St.	Sarah Michniewicz [redacted]@mac.com	207 939 3562	Pres BNA
Duran McCloskey	2C Parris St	dmccloskey@maine.rr.com	207-773-6517	
Karyn Jenkins Peter Wood		info@portcitybikes.com	207-775-6125	PORT CITY BIKES 82 PARRIS ST
Pete Leavitt	the Deli	Leavittandsons@gmail Leavittandsons@gmail.		
Laura Cannon	18 Parris St.	lgocoastal@yahoo.com	207-542-7059	VP, BNA

Notes from 3/21/18 Neighborhood Meeting

6 guests

Design:

- The style targets the building in an era “the teens?”
- Wants sophisticated, not whimsical, but not opposed to whimsy
- Blue replacing yellow looks more balanced
- Raised panels look unfinished
- What do the other 2 sides look like? (Peter from The Deli is concerned)
- Bring the front entrance finish around to the Brattle Street side
- All like he garage-style large windows
- Look at the Schlotterbeck building for large window ideas
- Don’t make it look like 2 buildings (like 409 Cumberland)
- Need more connection between the exterior looks
- If using the yellow, make it more of a zig-zag on that part of the bldg., not so spotty
- The gray panels in-between don’t work

Parking:

- Talk to the city **now** re on-street parking to support businesses
- No rhyme or reason with parking ie: allowed on both sides on narrow streets
- Start to push the city re Kennebec Street and others

Transportation and Sustainability Committee in Portland: GET IN TOUCH!

- Laura Cannon who was present is a member
- Flooding in Bayside has been a major concern
- Prepare for eventual flooding
- They make recommendations
- Tony Moon is a member

To do for next meeting:

- Get a pointer to use for power point
- Put the SFM website on its page

Ask Amy: Do we have a simple “medical room” as part of the common area where this is 55+?

TERRADYN
CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

1747

July 5, 2018

Bradley Roland, P.E.
Wastewater Resources Division
Department of Public Services
55 Portland Street
Portland, ME 04101

178 Kennebec Street, Portland
Wastewater Capacity Application

Dear Brad:

Terradyn Consultants LLC has been retained by Maine Workforce Housing, LLC to assist with site design and permitting for a proposed 46-unit affordable housing development project located at 178 Kennebec Street in Portland. We are writing to request confirmation that the City of Portland has the ability to provide sanitary sewer service for the proposed development.

The 16,553 square foot parcel is identified as Block F, Lots 1 and 2 on the City of Portland Tax Map 34. The site is located at 178 Kennebec Street between Brattle and Parris Streets. The site is currently developed with a gravel parking lot previously utilized by the City of Portland.

The proposed project includes the construction of a 6,667 square foot, 7-story building that will include 4 artist studio/retail spaces on the first floor and 46 one-bedroom affordable housing apartments on floors two through 7. Parking will be provided at a surface parking lot adjacent to the proposed building. Public water and sewer utilities will be installed to serve the project. It is anticipated that a new 6” service will be installed within Kennebec Street to serve the new building.

The project is expected to generate approximately 5,616 gallons of wastewater per day based on the Maine Subsurface Wastewater Disposal Rules.

Attached are a site location figure showing the property delineated on a USGS map, preliminary site and utility plans of the project showing how the development may be served with sewer service, and a City of Portland Wastewater Capacity Application form.

Please provide our office with confirmation that the City of Portland has the ability to provide sanitary sewer service to the proposed development and any comments you may have on the attached drawing.

Please contact me at (207) 322-1223 or adrienne@terradynconsultants.com if you have any questions or require additional information.

Sincerely,

TERRADYN CONSULTANTS LLC

Adrienne Fine, P.E.
Design Engineer

Enc. Wastewater Capacity Application Form
Site Location Figure
Preliminary Site Plan
Preliminary Utility Plan

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division

Date: 7/5/2018

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 178 Kennebec Street, Portland

Chart Block Lot Number: 34/F/1 & 2

Proposed Use: Residential & artist studio
Previous Use: City gravel parking lot
Existing Sanitary Flows: N/A GPD
Existing Process Flows: N/A GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
Existing 8" sewer in Kennebec Street

Site Category

Commercial *(see part 4 below)*	
Industrial *(complete part 5 below)*	
Governmental	
Residential	✓
Other *(specify)*	

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Shukria Wiar Phone:
Owner/Developer Name: Maine Workforce Housing, LLC
Owner/Developer Address: 482 Congress Street, Suite 203, Portland, ME 04101
Phone: 207-720-0181 Fax: E-mail: acullen@szantoncompany.com
Engineering Consultant Name: Terradyn Consultants, LLC, Michaeal Tadema-Wielandt, P.E.
Engineering Consultant Address: 565 Congress Street, Suite 310, Portland, ME 04101
Phone: 207-632-9010 Fax: E-mail: mtw@terradynconsultants.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 5,616 GPD
Peaking Factor/ Peak Times: x6
Specify the source of design guidelines: *(i.e. "Handbook of Subsurface Wastewater Disposal in Maine," "Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)* State of Maine Subsurface Wastewater Disposal Rules

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

46 x 1 Bedroom Residential Units at 120 gpd/unit = 5,520 gpd
4 x Retail Unit with 2 Employees at 12 gpd/employee = 96 gpd
Total = 5,616 gpd

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: N/A

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: N/A GPD

Do you currently hold Federal or State discharge permits? Yes_____ No _____

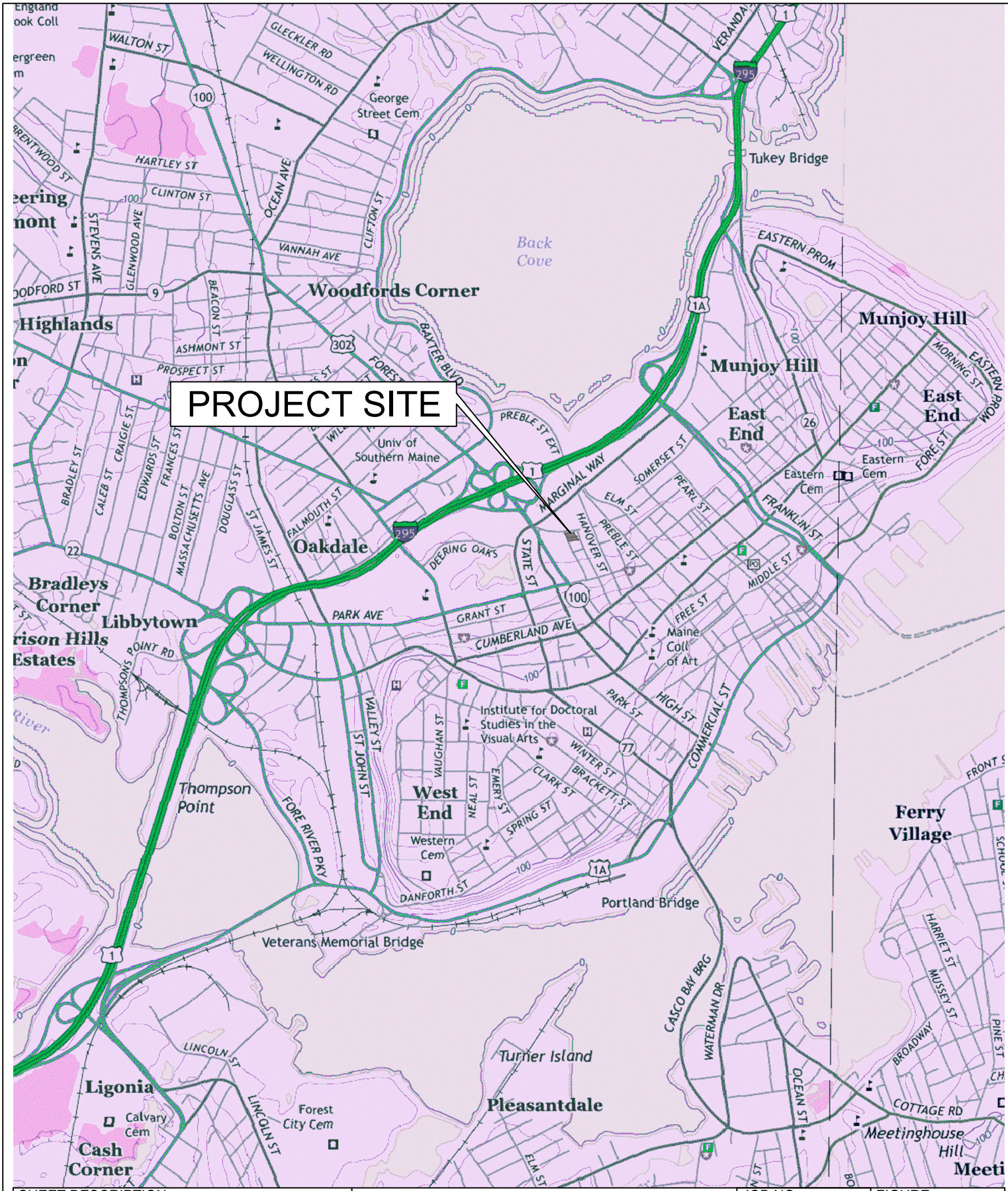
Is the process wastewater termed categorical under CFR 40? Yes_____ No _____

OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

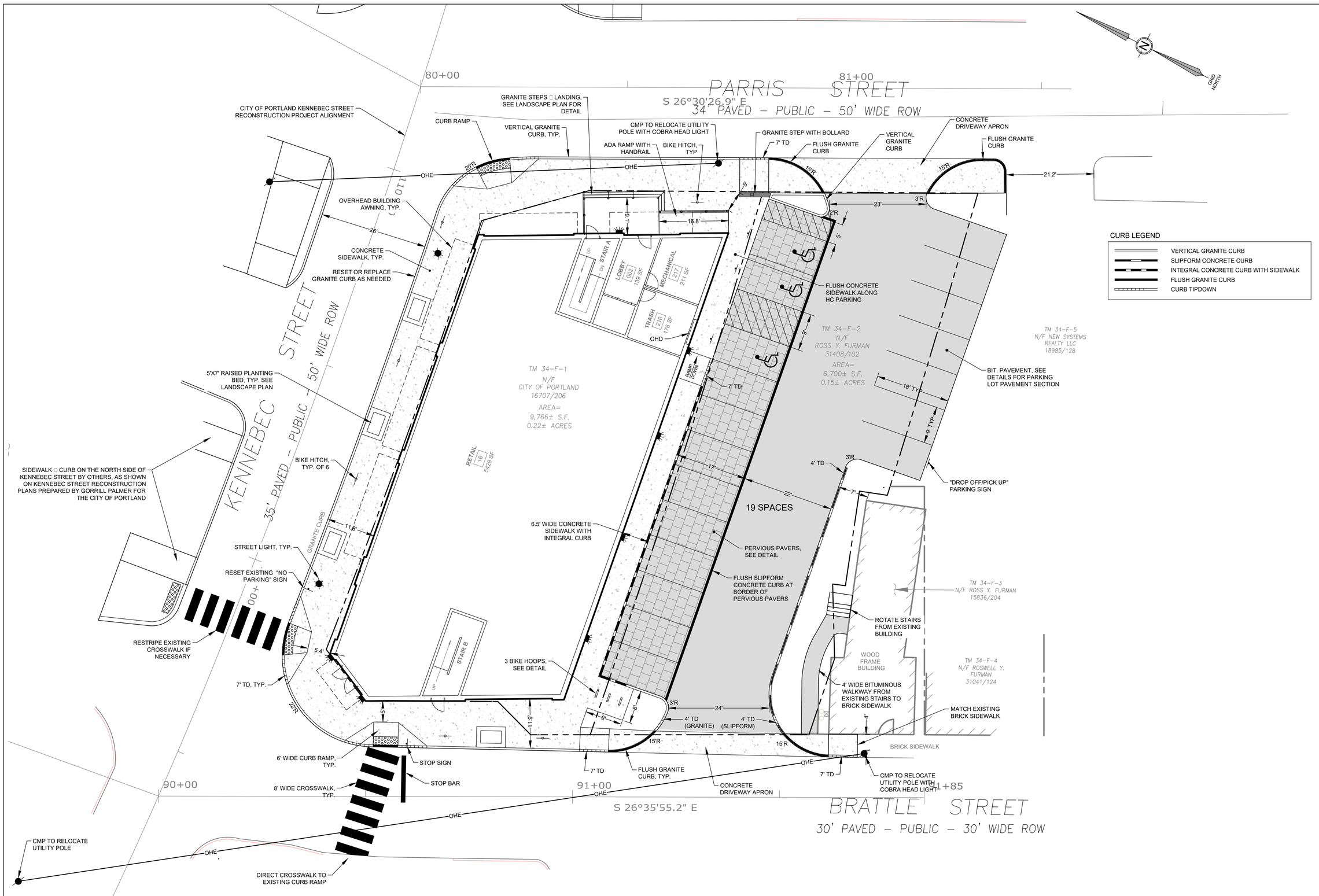
Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.



SHEET DESCRIPTION 178 KENNEBEC STREET U.S.G.S. QUADRANGLE MAP PORTLAND WEST	TERRADYN CONSULTANTS, LLC Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting	JOB NO. 1747	FIGURE 1
PREPARED FOR THE SZANTON COMPANY 482 CONGRESS STREET, SUITE 203 PORTLAND, MAINE 04101	P.O. Box 339 111 Elder Ferry Lane New Gloucester, ME 04260 Office: (207) 926-5111 Fax: (207) 221-1317 www.terradynconsultants.com	DATE 3/27/2018	OF 2
		SCALE 1"=2,000'	



CURB LEGEND

- VERTICAL GRANITE CURB
- SLIPFORM CONCRETE CURB
- INTEGRAL CONCRETE CURB WITH SIDEWALK
- FLUSH GRANITE CURB
- CURB TIPDOWN

PRELIMINARY - NOT FOR CONSTRUCTION

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12521
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT

DATE: 7-3-2018

NO.	DATE	REVISIONS	BY	APP'D
4	7-3-2018	MODIFIED PLANS PER CITY COMMENTS	MTW	
3	5-11-2018	MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS	MTW	
2	5-4-2018	MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD	MTW	
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW	

565 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102

CUMBERLAND HALL
41 MAIN STREET, SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
SITE PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-3.0

RIM=10.98
15" INV. IN=4.38
8" INV. IN=3.68
10" INV. IN=5.48
8" INV. IN=5.58
24" INV. OUT=3.58

SMH RIM=10.97
8" INV. IN=4.47
8" INV. IN=3.67
8" INV. OUT=3.57

CB RIM=10.39
8" BOTTOM
HOOD=5.99

NEW UTILITY POLE LOCATION
PROPOSED AS PART OF THE CITY'S
KENNEBEC STREET
RECONSTRUCTION PROJECT

MH RIM=10.21
8" INV. IN=6.91
BOTTOM HOOD=6.61

CB RIM=9.78
8" INV. OUT=6.78

CONNECT COMBINED 6"
ROOF DRAIN FROM BUILDING
TO PROPOSED STORM
DRAIN, APPROX. INV.=6.80

APPROXIMATE LOCATIONS OF NEW STORM
DRAIN AND CATCH BASINS PROPOSED AS
PART OF THE CITY'S KENNEBEC STREET
RECONSTRUCTION PROJECT, TYP.
FINAL LOCATIONS TO BE CONFIRMED
WHEN CITY DESIGN IS FINALIZED.

CONNECT 6" SEWER SERVICE TO
EXISTING 8" MAIN, APPROX. INV=3.69

KENNEBEC STREET
35' PAVED – PUBLIC – 50' WIDE ROW

6" FIRE WATER SERVICE WITH
TAPPING SLEEVE AND GATE VALVE

2" DOMESTIC WATER SERVICE

PARRIS STREET
34' PAVED – PUBLIC – 50' WIDE ROW

CB RIM=11.72
12" INV. OUT=7.42

SMH RIM=10.71
12" INV. IN=6.01
12" INV. IN=6.01
12"INV. IN=6.01
15" INV. OUT=5.91

DMH RIM=10.10
UNABLE TO ACCESS

2" CURB STOP

RELOCATED UTILITY POLE
CMP TO INSTALL POLE MOUNTED
TRANSFORMERS AND UTILITY DROP

6" SD OUTLET FROM
ROOF DRAIN FILTER
UNIT AND UNFILTERED
ROOF DRAIN
INV. 7.05

ROOF DRAIN FILTER UNIT IN
MECHANICAL ROOM TO
RECEIVE RUNOFF FROM
5,500 S.F. OF ROOF AREA
SEE DETAIL

SANITARY SERVICE
INV.=7.50

LOBBY 002 139 SF
STAIR A
MECHANICAL 217 211 SF
ELECTRICAL SERVICE ENTRY
TRASH 216 176 SF
RETAIL 16 5428 SF

UD INV=7.0

WOOD FRAME BUILDING

STAIR B

GAS SERVICE

4" 1/8 BEND, INV.
5.87: CONVERT
TO SOLID PIPE

BRICK SIDEWALK

CONNECT TO EXISTING GAS LINE

RELOCATE UTILITY POLE

CONNECT 4" PERVIOUS
PAVER UNDERDRAIN TO
EXISTING 30" STORM DRAIN
APPROX. INV.=4.55

BRATTLE STREET
30' PAVED – PUBLIC – 30' WIDE ROW

SMH RIM=11.22
12" INV. IN(A)=3.82
12" INV. IN(B)=4.22
18" INV. OUT=3.72

RELOCATE UTILITY
POLE

MH RIM=10.18
8" HOOD=7.58

DMH RIM=10.18
30" INV. IN=4.98
30" INV. OUT=4.88

MH RIM=10.86
12" INV. OUT=4.26
18" INV. IN=4.26

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10121
LICENSED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-3-2018

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SUITE 410
PORTLAND, ME 04102

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
UTILITY PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-5.0

1747

July 19, 2018

Shukria Wiar, Planner
City of Portland
Planning Division
389 Congress Street, 4th Floor
Portland, ME 04101

178 Kennebec Street, Portland
Response to Traffic Review Comments

Dear Shukria:

Terradyn Consultants LLC has received review comments from Tom Errico of T.Y. Lin for the proposed project at 178 Kennebec Street in Portland, dated May 4, 2018. Responses to the comments are provided below.

- *The Kennebec Street curb design does not appear to be consistent with the City's Kennebec Street Improvement Project. The plans shall be revised to reflect to proposed design.*

  Response: The Department of Public Works has provided our office with the current design drawings for the Kennebec Street Improvement Project. The drawings for 178 Kennebec Street have been updated to be consistent with these plans.

- *It is my assumption that Bruce Hyman will be providing detailed comments on sidewalk facilities. I would note that the current plan does not depict a ramp at the Parris Street corner and the Brattle Street ramp is not acceptable as depicted. Revisions to match the City project will address these issues.*

  Response: Bruce Hyman has provided detailed comments on sidewalk facilities, and our office responded to them in a letter on July 3, 2018.

- *Parking spaces meet City dimensional standards. The aisle width does not comply with City standards and thus the applicant shall request a formal waiver with supporting documentation.*

  Response: A waiver request document is provided.

- *It is suggested that short-term 15-minute parking be provided on Parris Street between Kennebec Street and the proposed driveway.*

  Response: A note specifying short term parking has been added to the site plan in the location suggested.

- *The driveway for 53 Brattle Street is being eliminated. It is unclear how parking for this lot is being addressed.*

  Response: 53 Brattle Street is owned by Ross Furman, whom the applicant has partnered with for the proposed development. Mr. Furman will provide parking for the resident of 53 Brattle on an adjacent parcel that he owns.

- *A utility pole is being relocated to directly in front of 53 Brattle Street. Details on pedestrian accessibility for the relocated pole should be documented.*

  Response: The sidewalk in front of 53 Brattle is approximately 5.5' wide. The site plan indicates that the pole shall be installed in a location that maintains 4' clear width on the sidewalk.

- *The applicant shall provide information/data that supports the parking demand estimate provided in the application.*

  Response: A Parking Assessment was prepared by Bill Bray, P.E. of Traffic Solutions, and has been previously uploaded to the city's electronic review system.

- *The applicant has conducted a trip generation estimate for the project and back-up calculations for all project uses shall be provided. The project will not generate traffic levels that will require a Traffic Movement Permit.*

  Response: The proposed project includes 46 residential units and approximately 5,429 SF of artist studio space on the first floor. For the residential units, the ITE Trip Generation Manual estimates that approximately 24 vehicles trips during the PM peak hour and approximately 270 vehicle trips on a weekday. Calculations are below:

  Residential Apartments:
  - 5.86 trips/unit on an average weekday x 46 units = 269.6 trips/weekday
  - 0.52 trips/unit during the PM peak hr x 46 units = 23.9 trips/PM peak hr

There are no land use codes in the ITE Manual appropriate for estimating the number of trips expected to be generated by the proposed artist studio space. As noted in the Parking Assessment prepared by Traffic Solutions, use of the artist studio space is expected to be sporadic and light. A conservative estimated range of PM peak hour trips for this use is 3 – 5 trips.

As noted in the reviewer's comment, the project will not generate enough traffic to require a Traffic Movement Permit.

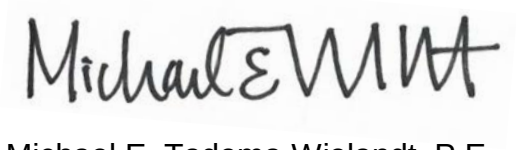
- *The proposed driveway on Parris Street does not comply with City standards for driveway separation. The applicant shall request a formal waiver with supporting documentation.*

  Response: A waiver request document is provided.

Please contact me at (207) 632-9010 or mtw@terradynconsultants.com if you have any questions or require additional information.

Sincerely,

TERRADYN CONSULTANTS LLC



Michael E. Tadema-Wielandt, P.E.
Vice President

Enc. Waiver Requests

WAIVER REQUESTS

178 Kennebec Street
Portland, Maine

The following waiver requests are made for the proposed 46-unit residential development located at 178 Kennebec Street in Portland, Maine. The applicant is Maine Workforce Housing, LLC. Below is a summary of the three waivers being requested by the applicant.

Parking Space Dimensions

Eleven parking spaces along the southern side of the proposed building have dimensions less than the required 9' wide by 18' long. The proposed parking spaces are 8.5' wide by 17' long. Effort has been made to keep the parking spaces as close to required dimensions as possible. The applicant requests a waiver to reduce the parking spaces to 8.5' wide by 17' long. Site constraints that require these reduced parking space dimensions include:

- Effective sidewalk width and ADA: To help prevent vehicles from overhanging the proposed sidewalk along the south side of the building and reducing its effective width to less than 3', the sidewalk was widened to 6.5' wide from the face of the building to the face of curb. The adjacent parking spaces had to be reduced by 1' to 17' long to accommodate this. This will keep the effective width of the sidewalk usable for ADA accessibility.
- Drive aisle width: The drive aisle is designed to be narrower than city dimensions and should not be reduced further to lengthen spaces to the required 18'. The available space for parking on-site was balanced between a reduced parking space length and reduced drive aisle instead of more greatly reducing the drive aisle width.
- Required transformer pad size: This project requires a transformer pad that is 9'x9'. To provide adequate area for the transformer pad with plantings and bollard protection, the parking spaces were each reduced to 8.5' wide and the curbed island was increased to house this utility.

Drive Aisle Width

The proposed parking drive aisle width is less than 24' wide. The drive aisle is proposed to be 22' wide. Effort has been made to keep the drive aisle as wide as possible by reducing adjacent parking space length in some locations. The applicant requests a waiver to reduce the drive aisle width as shown on the Site Plan. Site constraints that require a narrower drive aisle include:

- Property lines and setbacks: the proposed building and parking area dimensions are constrained by the property line locations and required zoning setbacks from the property. As a result, the building location contributes to the reduction in drive aisle width.
- Existing structures: An existing building and gravel parking area exist south of the project site and constrain the site area available for parking and drive aisles. As a result, the proposed drive aisle is reduced by 2' to provide adequate separation from existing structures.
- ADA Accessibility and sidewalk width: The sidewalk along the southern side of the building was designed to provide adequate width for ADA accessibility, which contributes to the reduction in drive aisle width.

Driveway Separation:

The proposed driveway onto the site from Parris Street does not meet the driveway separation requirements to the adjacent driveway to the south. The applicant requests a waiver to reduce the driveway separation distance as shown on the site plan. Today the area of these driveways is all an open gravel area, so the proposed driveway is an improvement. Site constraints include property line locations and existing site conditions on this and surrounding properties. The owner of the adjacent driveway is a partner with the applicant on this development.

CLOSURE

the requested waivers will not result in a loss of functionality on the site or reduce safety on site or in the surrounding area.

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CLOSURE

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CONFORMITY WITH B-7 PERFORMANCE STANDARDS – SEC. 14-299
178 KENNEBEC STREET

OVERVIEW

This project conforms to all applicable Performance Standards of the B-7 Mixed Development District Zone.

(a) Storage

1. Storage of new materials, finished products, or related equipment: Not Applicable.
2. All waste will be stored inside the building in the trash room.
3. Food processing: Not Applicable.
4. There are no proposed exterior enclosures to be used for storage of waste materials or products.
5. Outdoor storage of refuse or debris: Not Applicable.
6. Dumpsters: Not Applicable.

(b) Noise:

1. Noise levels are expected to meet the permitted levels for the B-7 Zone.
2. Noise resulting from construction activities are expected to take place between 7am and 10pm and meet applicable standards for construction.

(c) Vibration:

Any vibration generated is expected to meet the performance standards of the B-7 Zone.

(d) Federal and state environmental regulations:

The project is expected to comply with all federal and state environmental statutes and regulations regarding emissions into the air.

(e) Storage of vehicles:

Unregistered vehicle storage or storage of automotive tires will not be permitted on the site.

(f) Off-street parking and loading: Off-street parking is provided.

1. None of the spaces occupy all or a portion of a sidewalk within a street right-of-way.
2. Driveway entrances meet the City of Portland Technical Manual standards. The driveway entrances are designed with 15' radii for passenger vehicles. The width of the driveway from Brattle Street is 24' and the width of the driveway from Parris Street is 23' wide.
3. The parking area meets the landscape and buffer standards of the City of Portland Technical and Design Manuals to the greatest extent practical. There are landscape islands between the parking spaces and both Parris Street and Brattle Street. These landscaped islands have been expanded to provide as much buffering as possible, while not reducing the number of parking spaces available on site. The landscaped islands will house trees and other plantings, as specified on the project landscape plan.

(g) Shoreland and flood plain management regulations:

The project site is not located in a flood hazard zone according to FEMA map community panel 230051 0013 B. The project site is not located within the shoreland zone as identified on the City Shoreland Zoning map.

The proposed project was designed with sea level rise in mind, and the proposed residential lobby and mechanical room finish floor elevation were raised approximately 2.5' above the proposed street elevation.

(h) Glare, radiation or fumes:

The proposed project is expected to meet the B-7 Zone performance standards for glare, radiation or fumes.

(i) Enclosure of uses:

All uses shall operate within a fully enclosed structure, except for those customarily operated in open air.

(j) Materials or wastes:

Materials are not expected to be stored outside except during construction. Outdoor storage during construction is outlined in the construction management plan to provide a clean and safe site.

(k) Odor:

The proposed project is expected to meet the B-7 Zone performance standards and the odor regulations of the IL zone.

(l) Smoke:

No smoke will be discharged from the site.

(m) Discharges into sewers:

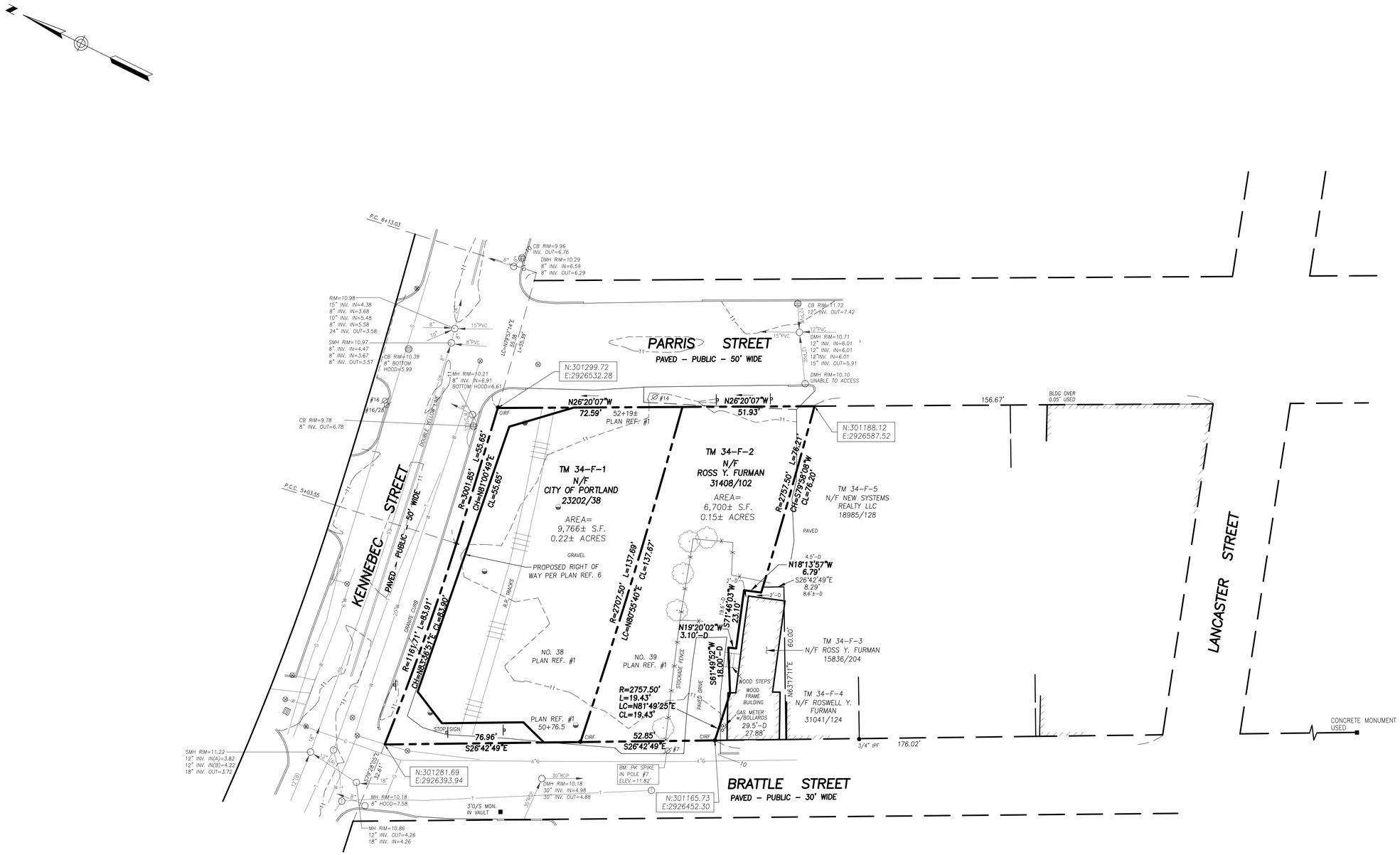
A wastewater capacity application was submitted to the City of Portland for the proposed project. No discharge from the site will contaminate any water supply, the harbor, or otherwise cause the emission of dangerous or objectional elements.

(n) Lighting:

The proposed project lighting was designed to meet the site lighting standards of the City of Portland Technical Manual and the requirements of the B-7 Zone. Proposed lighting includes cut-off fixtures.

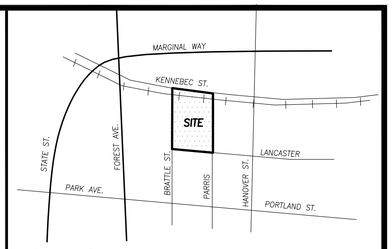
(o) Building entrances:

The proposed building has two uses with separate entrances. The residential portion of the building has a lobby entrance along the Parris Street frontage, and an emergency egress stairwell on the Brattle Street frontage. The first-floor artist studio/retail spaces have four proposed entrances along Kennebec Street, with additional entrances on the southern side of the building facing the proposed parking lot.



SCALE : 1" = 20'

0' 10' 20' 40'



LOCATION MAP

N.T.S.

LEGEND

●	IRON PIPE OR ROD FOUND	X—X	FENCE
■	MONUMENT FOUND	═══	CURB
⌀	UTILITY POLE	OHW	OVERHEAD WIRES
○	MANHOLE	W	WATER LINE
EM/GM	ELECTRIC/GAS METER	G	GAS LINE
	SIGN	T	TELEPHONE
	CATCH BASIN	SD	STORM DRAIN
	HYDRANT	SS	SANITARY SEWER
⊗	WATER VALVE OR SHUTOFF	111	1' CONTOUR
⊗	GAS VALVE	IPF/IRF	IRON PIPE OR ROD FOUND
	DECIDUOUS TREE	N/F	NOW OR FORMERLY
	PROPOSED BORING	000/000	DEED BOOK / PAGE
		D	DEED DISTANCE

PLAN REFERENCES

1. RIGHT OF WAY & TRACK MAP PORTLAND TERMINAL COMPANY STATION 0+00.00 TO STATION 52+80.00 JUNE 30, 1916 OFFICE OF CHIEF ENGINEER PORTLAND, MAINE V.I.C./1.

2. VARIOUS PLANS OF E.C. JORDAN COMPANY FROM 1900 TO DATE.

3. PORTLAND TERMINAL CO., PORTLAND, MAINE, SALE PLAN – TERMINAL DIVISION, V.S. 1C MAP 2 SEPT. 15, 1998.

4. STANDARD BOUNDARY SURVEY ON KENNEBEC STREET, PORTLAND, MAINE, PORTLAND TERMINAL COMPANY TO ROSS Y. FURMAN MAY 11, 1999 BY OWEN HASKELL, INC.

5. BOUNDARY SURVEY AT 20– KENNEBEC STREET, PORTLAND, MAINE MADE FOR NORTHLAND MANAGEMENT CORPORATION MAY 12, 2017, REV. SEPT. 27, 2017 BY OWEN HASKELL, INC.

6. PLAN OF BOUNDARY SURVEY 181 FOREST AVENUE & 178 KENNEBEC STREET PORTLAND, MAINE MADE FOR CITY OF PORTLAND BY TITCOMB ASSOCIATES DATED SEPTEMBER 13, 2017 REVISED THROUGH 12/01/17.

GENERAL NOTES

1. BEARINGS AND COORDINATES ARE BASED ON CITY OF PORTLAND CONTROL POINTS:

T116–6–106	T116–5–104
N: 301548.37	N: 301732.74
E: 2926198.20	E: 2925919.22

2. ELEVATIONS BASED ON CITY DATUM, CITY BENCHMARK: "MARGINAL 1" 3 FOOT OFFSET MONUMENT IN FRONT OF CENTURY TIRE, ELEVATION = 9.45'.

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1–888–DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

RANDY R. LOUBIER, PLS #2407

6/21/18

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

REV		
1	6/21/18	ADDED PROPOSED RIGHT OF WAY AND DEED REFERENCE

BOUNDARY & TOPOGRAPHIC SURVEY
AT
178 KENNEBEC ST. & 57 BRATTLE ST.
PORTLAND, MAINE
MADE FOR
THE SZANTON COMPANY
482 CONGRESS STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: RS / JLW	DATE: DEC. 1, 2017	JOB NO. 2017-351 P	
CHECKED BY: RRL	SCALE: 1" = 20'	DRWG. NO. 1	

SITE DEVELOPMENT PLANS
FOR
178 KENNEBEC STREET
PORTLAND, MAINE
MARCH 2018
PERMIT DOCUMENTS

APPLICANT:
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, MAINE 04101

PROJECT PARCELS
CITY OF PORTLAND TAX ASSESSOR'S MAP, BLOCK, & LOT NUMBERS

MAP	BLOCK	LOT	RECORD OWNER
34	F	1	CITY OF PORTLAND
34	F	2	ROSS Y. FURMAN

SHEET INDEX

C-1.0	COVER SHEET
C-1.1	GENERAL NOTES & LEGEND
1	BOUNDARY & TOPOGRAPHIC SURVEY
C-2.0	RECORDING PLAT - IN PROGRESS
C-2.1	CONSTRUCTION MANAGEMENT PLAN
C-3.0	SITE PLAN
C-4.0	GRADING, DRAINAGE & EROSION CONTROL PLAN
C-5.0	UTILITY PLAN
C-6.0	SITE DETAILS
C-6.1	UTILITY AND DRAINAGE DETAILS
C-6.2	EROSION CONTROL NOTES & DETAILS
L-1	LANDSCAPE PLAN
P-1	LIGHTING PHOTOMETRIC PLAN

LOCATION MAP
SCALE: 1"=500'

PERMITS

TYPE OF PERMIT	GOVERNING BODY	STATUS
SITE PLAN/SUBDIVISION APPROVAL	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL, 389 CONGRESS STREET PORTLAND, ME 04101 TEL. 207.874.8722	SUBMITTED 3/28/2018
BUILDING PERMIT	CITY OF PORTLAND CODE ENFORCEMENT OFFICE CITY HALL, 389 CONGRESS STREET PORTLAND, ME 04101 TEL. 207.874.8900	TO BE SUBMITTED BY BUILDING CONTRACTOR
UTILITY / STREET OPENING	CITY OF PORTLAND PUBLIC SERVICES DIVISION 55 PORTLAND STREET PORTLAND, ME 04101 TEL. 207.874.8801	TO BE FILED BY SITE CONTRACTOR

UTILITIES

SEWER/STORM
CITY OF PORTLAND
PUBLIC SERVICES DIVISION
55 PORTLAND STREET
PORTLAND, MAINE 04102
207.874.8850

WATER
PORTLAND WATER DISTRICT
22 DOUGLASS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.774.5961

ELECTRIC
CENTRAL MAINE POWER COMPANY
162 CANCO ROAD
PORTLAND, ME 04103
(207) 842-2367

TELEPHONE
FAIRPOINT COMMUNICATIONS
5 DAVIS FARM ROAD
P.O. BOX 11560
PORTLAND, MAINE 04103
888.984.1515

NATURAL GAS
UNITIL
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
866.933.3821

DIG SAFE SYSTEM, INC.
TEL. 1-888-DIG-SAFE (344-7233)
WWW.DIGSAFE.COM

PREPARED BY:

CIVIL ENGINEER:
TERRADYN CONSULTANTS, LLC
565 CONGRESS STREET, SUITE 310
PORTLAND, MAINE 04101
207.926.5111
CONTACT: MICHAEL TADEMA-WIELANDT

ARCHITECT:
ARCHETYPE ARCHITECTS
48 UNION WARF
PORTLAND, ME 04101
207.772.6022
CONTACT: DAVID LLOYD

SURVEYOR:
OWEN HASKELL, INC.
309 U.S. ROUTE ONE, UNIT 10
FALMOUTH, MAINE 04105
207.774.0424
CONTACT: RANDY LOUBIER

ELECTRICAL/MECHANICAL ENGINEER:
BENNETT ENGINEERING
P.O. BOX 297
FREEPORT, MAINE 04032
207.865.9475
CONTACT: WILLIAM BENNETT

PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
NUMBER 12867
LICENSED PROFESSIONAL ENGINEER
Michael E Wielandt

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 3-28-2018

NO.	DATE	REVISIONS	APP'D BY
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW

565 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102
OFFICE: (207) 926-5111 FAX: (207) 221-1317
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CUMBERLAND HALL
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

TERRADYN CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, MAINE 04101
COVER SHEET

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	AS NOTED
DESIGNED:	ARF
JOB NO:	1747
FILE: 1728 COVER.DWG	
SHEET	C-1.0

GENERAL NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXITS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS.
3. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-DIGSAFE). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO EXTRA EXPENSE TO THE OWNER.
5. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
6. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
7. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS, WHICHEVER IS MORE STRINGENT.
8. TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY OWEN HASKELL, INC. ELEVATIONS BASED ON CITY DATUM, CITY BENCHMARK: "MARGINAL 1" 3' O/S MONUMENT IN FRONT OF CENTURY TIRE, ELEVATION 9.45'. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM MAINE WEST NAD83.
9. FEMA MAP COMMUNITY PANEL NUMBER 230051 0013 B. THE SITE IS LOCATED IN A C ZONE.
10. THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED IN THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL THE PROPERTY WHICH APPEARS IN THE RECORD OF THE PLANNING BOARD PROCEEDINGS ARE CONDITIONS OF THE APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVALS IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING AUTHORITY.
11. ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
12. ALL CURB SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AS NOTED ON THE PLANS: GRANITE CURB SHALL MEET THE REQUIREMENTS OF MaineDOT SPECIFICATIONS 609.03 AND CITY OF PORTLAND TECHNICAL STANDARDS.
13. ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
14. THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, NATURAL GAS, AND UNDERGROUND POWER.
15. THE CONTRACTOR IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PUBLIC WORKS INSPECTION SERVICES DIVISION (874-8300 EXT. 8838), CODE ENFORCEMENT OFFICE AND DEVELOPMENT REVIEW COORDINATOR IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING MAY BE REQUIRED TO INCLUDE THE PUBLIC WORKS AUTHORITY OR DEVELOPMENT REVIEW COORDINATOR.
16. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
17. WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN MUST BE EMPLOYED ON ADJACENT STREETS AS NECESSARY. THE CONTRACTOR SHALL COORDINATE AND SEEK APPROVAL FROM THE PUBLIC SERVICE DIVISION FOR THE PLACEMENT/PARKING OF EQUIPMENT WITHIN THE PUBLIC RIGHT OF WAY.
18. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12. ALL SALVAGED MATERIAL WITHIN THE PUBLIC R.O.W.(SIDEWALKS, BRICKS, GRANITE CURB) NOT REUSED SHALL BE DISPOSED OF AS DIRECTED BY THE PORTLAND PUBLIC SERVICES DEPARTMENT AT NO EXTRA COST TO THE OWNER.
19. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
20. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR'S EXPENSE.
21. A STREET OPENING PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COMPLETED IN CONFORMANCE TO THE CITY'S RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN PUBLIC RIGHT OF WAYS.
22. CONTRACTOR MUST MAINTAIN THROUGH TRAFFIC ON ADJACENT STREETS AT ALL TIMES.
23. ALL METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS IDENTIFIED HEREIN SHALL CONFORM TO THE CITY OF PORTLAND CONSTRUCTION AND TECHNICAL STANDARDS AND SPECIFICATIONS AND/OR CURRENT MaineDOT STANDARDS AND SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
24. RECORD DRAWINGS MUST INCLUDE ALL BURIED UTILITIES INCLUDING, BUT NOT LIMITED TO, BENDS, APPURTENANCES, AND OTHER FEATURES, TO BE LOCATED IN THE FIELD BY GIS AND RECORDED AS AN AS-BUILT PLAN BY THE CONTRACTOR AT THE END OF THE PROJECT. THIS PLAN SHALL ALSO BE PROVIDED TO THE OWNER.
25. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS PREPARED BY ARCHETYPE ARCHITECTS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE POINTS.
26. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
27. CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITIES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST THREE (3) BUT NOT MORE THAN (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A.

GRADING AND DRAINAGE NOTES:

1. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF n = 0.013 OR LESS. UNLESS A SPECIFIC PIPE MATERIAL IS CALLED FOR ON THE CONTRACT DRAWINGS. PVC PIPING SHALL NOT BE USED IN AREAS OF EXPOSED SUNLIGHT.
2. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
3. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
4. ALL PAVING WITHIN THE PUBLIC R.O.W. SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF PORTLAND RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC R.O.W.
5. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
6. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
7. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES AND PHYSICAL FEATURES THAT ARE OUTSIDE THE SCOPE OF WORK. THE CONTRACTOR SHALL MAINTAIN SITE STABILITY DURING CONSTRUCTION TO AVOID EROSION AND SEDIMENT TRANSPORT. CONTRACTOR SHALL RESTORE ALL AREAS TO A FINAL STABILIZED CONDITION AS DIRECTED BY DESIGN DRAWINGS.
8. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
9. EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.
10. SUBGRADE FILL PLACED BENEATH ALL PERMANENT PAVEMENT, SIDEWALK OR CONCRETE SURFACES EXCLUDING ANY BUILDING AREAS, SHALL BE GRANULAR BORROW. SUBGRADE FILL PLACED BENEATH ALL LANDSCAPE AREAS EXCEPT THOSE ADJACENT THE FOUNDATION SYSTEMS MAY BE A COMMON BORROW MATERIAL SUITABLE FOR EMBANKMENT CONSTRUCTION, FREE FROM FROZEN MATERIAL, PERISHABLE RUBBLE, PEAT, ORGANICS, ROCKS LARGER THAN 12" IN DIAMETER, VEGETATION AND OTHER MATERIAL UNSUITABLE FOR ROADWAY AND SUBGRADE CONSTRUCTION. EXCAVATED ON-SITE MATERIALS MAY BE USED FOR FILL PROVIDED THE MATERIAL IS FREE FROM UNSUITABLE MATERIAL DESCRIBED IN THIS NOTE AND UPON APPROVAL OF THE ENGINEER. EXCAVATED ONSITE MATERIALS MAY NOT BE USED AS COMPACTED STRUCTURAL FILL BENEATH THE BUILDING AREAS OR AS FOUNDATION BACKFILL. GRANULAR BORROW AND COMMON BORROW SHALL COMPLY WITH MaineDOT SPECIFICATIONS.
11. ALL FILLS SHALL BE PLACED IN LAYERS NOT MORE THAN 12" LOOSE DEPTH AND COMPACTED BY HEAVY COMPACTION EQUIPMENT. MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ASTM 1557, MODIFIED AND FIELD DENSITY ASTM D2922 (NUCLEAR METHODS).
12. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

CONSTRUCTION MANAGEMENT NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH 2009 NFPA 1 CHAPTER 16 SAFE GUARDS DURING BUILDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS.
2. ANY CUTTING AND WELDING WORK PERFORMED ONSITE SHALL REQUIRE A "HOT WORK" PERMIT FROM THE PORTLAND FIRE DEPARTMENT.
3. THE GENERAL CONTRACTOR SHALL POST EMERGENCY CONTACT INFORMATION ON THE PROJECT SITE PROPERTY DURING CONSTRUCTION IN THE EVENT OF AN AFTER HOURS EMERGENCY. THIS CONTACT INFORMATION SHALL ALSO BE PROVIDED TO THE PORTLAND FIRE DEPARTMENT.
4. IF THE SITE IS SECURED BY TEMPORARY OR PERMANENT FENCING WITH LOCKED GATES, THEN THE APPLICANT OR ASSIGNED REPRESENTATIVE SHALL PURCHASE A KNOX PADLOCK FROM THE PORTLAND FIRE DEPARTMENT TO ALLOW ACCESS BY THE PORTLAND FIRE DEPARTMENT.
5. STREETS SHALL MAINTAIN A 20' WIDTH FOR FIRE DEPARTMENT ACCESS AT ALL TIMES.
6. FIRE HYDRANTS SHALL NOT BE BLOCKED OR ENCLOSED BY FENCING. A 3' CLEARANCE SHALL BE MAINTAINED AT ALL TIMES AROUND FIRE HYDRANTS.

UTILITY NOTES:

1. ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED BETWEEN THE SITE WORK CONTRACTOR AND DIVISION 22/26 CONTRACTOR(S). THE SITE WORK CONTRACTOR SHALL BE RESPONSIBLE TO EXTEND ALL PROPOSED UTILITIES TO WITHIN FIVE (5) FEET OF THE BUILDING TO A LOCATION COORDINATED WITH THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES WITHIN FIVE (5) FEET AND INSIDE THE BUILDING OR UNDER SLAB.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH FAIRPOINT COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER, THE TELECOMMUNICATIONS SERVICE WITH FAIRPOINT COMMUNICATIONS, AND THE CABLE SERVICE WITH TIME WARNER CABLE. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS OR UTILITY COMPANY STANDARDS, WHICHEVER IS MORE STRINGENT.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
6. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL, AT NO EXTRA EXPENSE TO THE OWNER.
8. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. A 12 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
9. THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOBSITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER, AND AFFECTED BUSINESSES.
10. ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT. ALL SANITARY SERVICES AND APPURTENANCES TO BE ABANDONED SHALL BE PROPERLY RECORDED WITH PORTLAND PUBLIC WORKS ENGINEERING DEPARTMENT. A DIGITAL VIDEOTAPE SHALL BE MADE OF SANITARY SEWER SYSTEMS TO BE UTILIZED PRIOR TO CONSTRUCTION; UPSTREAM PIPES INTENDED FOR ABANDONMENT SHALL BE INSPECTED TO VERIFY THAT THEY NO LONGER SERVE OTHER FACILITIES.

PERMITTING NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

DIMENSIONAL REQUIREMENTS (B7 ZONE)		
STANDARD	B7	PROVIDED
MIN. LOT SIZE	NONE	16,553 SF
MIN. FRONTAGE	NONE	110 Ft
MIN. LOT AREA PER DWELLING UNIT	NONE	360 SF/UNIT
MIN. FRONT YARD	NONE REQUIRED	< 1 FT
MIN. SIDE YARD	NONE REQUIRED	< 1 FT ON BRATTLE ST 3.5 FT ON PARRIS ST
MIN. REAR YARD	NONE REQUIRED	VARIES
MAXIMUM STREET SETBACK	10 FT	3.50 Ft
MAX. LOT COVERAGE	100%	44%
MAXIMUM STRUCTURE HEIGHT	105 FT	83 Ft
PARKING	TBD BY PLANNING BOARD	19
BICYCLE PARKING	2 SPACES PER EVERY 5 UNITS (18 SPACES)	18

LEGEND

- EXISTING PROPERTY LINE
- PROJECT SITE BOUNDARY
- EXISTING SETBACK LINE
- PROPOSED EASEMENT
- 124 EXISTING MINOR CONTOUR
- 124 EXISTING MAJOR CONTOUR
- 124 PROPOSED CONTOUR
- SD EXISTING STORMDRAIN
- SD PROPOSED STORMDRAIN
- S EXISTING SANITARY SEWER
- S PROPOSED SANITRY SEWER
- W EXISTING WATER LINE
- W PROPOSED WATER LINE
- UD EXISTING UNDERDRAIN
- UD PROPSED UNDERDRAIN
- OHE EXISTING OVERHEAD ELECTRIC & TELEPHONE
- OHE PROPOSED OVERHEAD ELECTRIC & TELEPHONE
- UGE EXISTING UNDERGROUND ELECTRIC & TELEPHONE
- UGE PROPOSED UNDERGROUND ELECTRIC & TELEPHONE
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- PROPOSED EDGE OF GRAVEL
- EXISTING CURB
- PROPOSED CURB
- PROPOSED FENCE
- SF SILT FENCE
- TP-A TEST PIT
- EXISTING VALVE
- PROPOSED VALVE
- EXISTING HYDRANT
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- EXISTING UTILITY POLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING DRAIN MANHOLE
- PROPOSED DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- 30.20 EXISTING SPOT GRADE
- 30.20 PROPOSED SPOT GRADE
- SURVEY CONTROL POINT
- EXISTING MONUMENT
- EXISTING IRON PIPE
- EXISTING SIGN
- PROPOSED SIGN
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED PAVEMENT
- PROPOSED BRICK

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12867
LICENSED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 3-28-2018

NO.	DATE	REVISIONS	BY
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW

TERRADYN CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting
CUMBERLAND HALL
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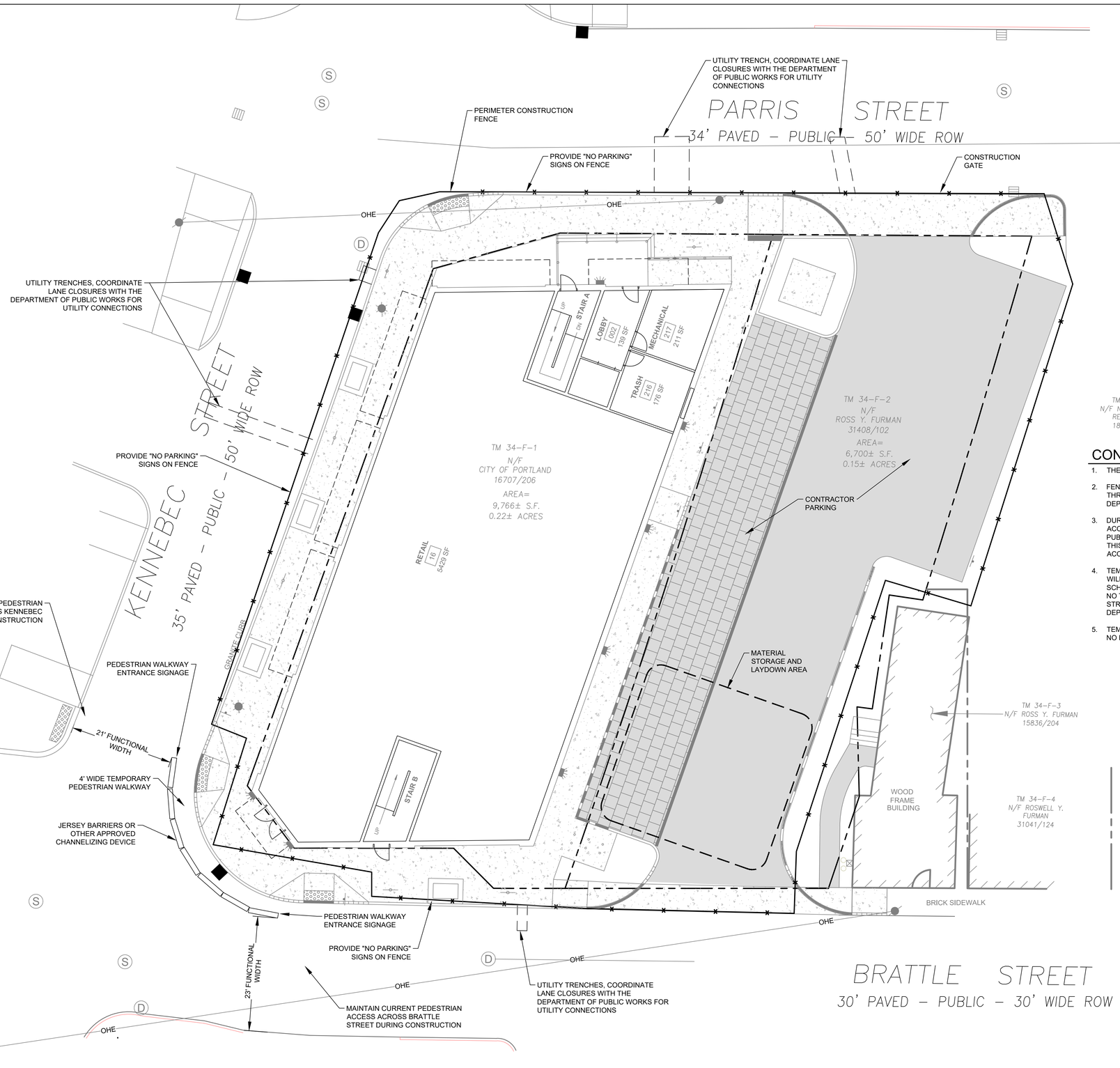
SUITE 310
PORTLAND, ME 04102
OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, MAINE 04101
GENERAL NOTES & LEGEND

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	AS NOTED
DESIGNED:	ARF
JOB NO:	1747
FILE: 1562-COVER.DWG	
SHEET	C-1.1

PRELIMINARY - NOT FOR CONSTRUCTION



CONSTRUCTION MANAGEMENT NOTES:

1. THE CONSTRUCTION GATE SHALL SWING INTO THE PROJECT SITE
2. FENCING AROUND THE PERIMETER OF THE CONSTRUCTION WORK ZONE WILL BE MAINTAINED THROUGHOUT BUILDING CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
3. DURING CONSTRUCTION OF THE PROPOSED BRICK SIDEWALK, THE EXISTING PEDESTRIAN ACCESS ACROSS BRATTLE AND KENNEBEC STREETS WILL BE IMPACTED. THE DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF CLOSURES. DURING THIS TIME, A TEMPORARY WALKWAY AND SIGNAGE SHALL BE PROVIDED AS SHOWN. ADA ACCESSIBILITY SHALL BE MAINTAINED AT ALL TIMES.
4. TEMPORARY PARTIAL TRAVEL LANE CLOSURE OF KENNEBEC, PARIS, AND BRATTLE STREETS WILL BE NECESSARY DURING UNDERGROUND UTILITY INSTALLATION. THIS WORK SHALL BE SCHEDULED AND SEQUENCED TO MINIMIZE THE DURATION OF ANY STREET OCCUPANCY. AT NO TIME CAN CONSTRUCTION ACTIVITY INCLUDING DELIVERY VEHICLES CLOSE OR BLOCK STREETS OR AFFECT PUBLIC SAFETY ACCESS WITHOUT PRIOR NOTICE AND APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.
5. TEMPORARY PEDESTRIAN WALKWAYS SHALL BE PROVIDED WITH A FUNCTIONAL WIDTH OF 4'. NO PORTION OF THE 4' WIDTH MAY BE BLOCKED BY SIGNAGE OR BARRIERS.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10121
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-19-2018

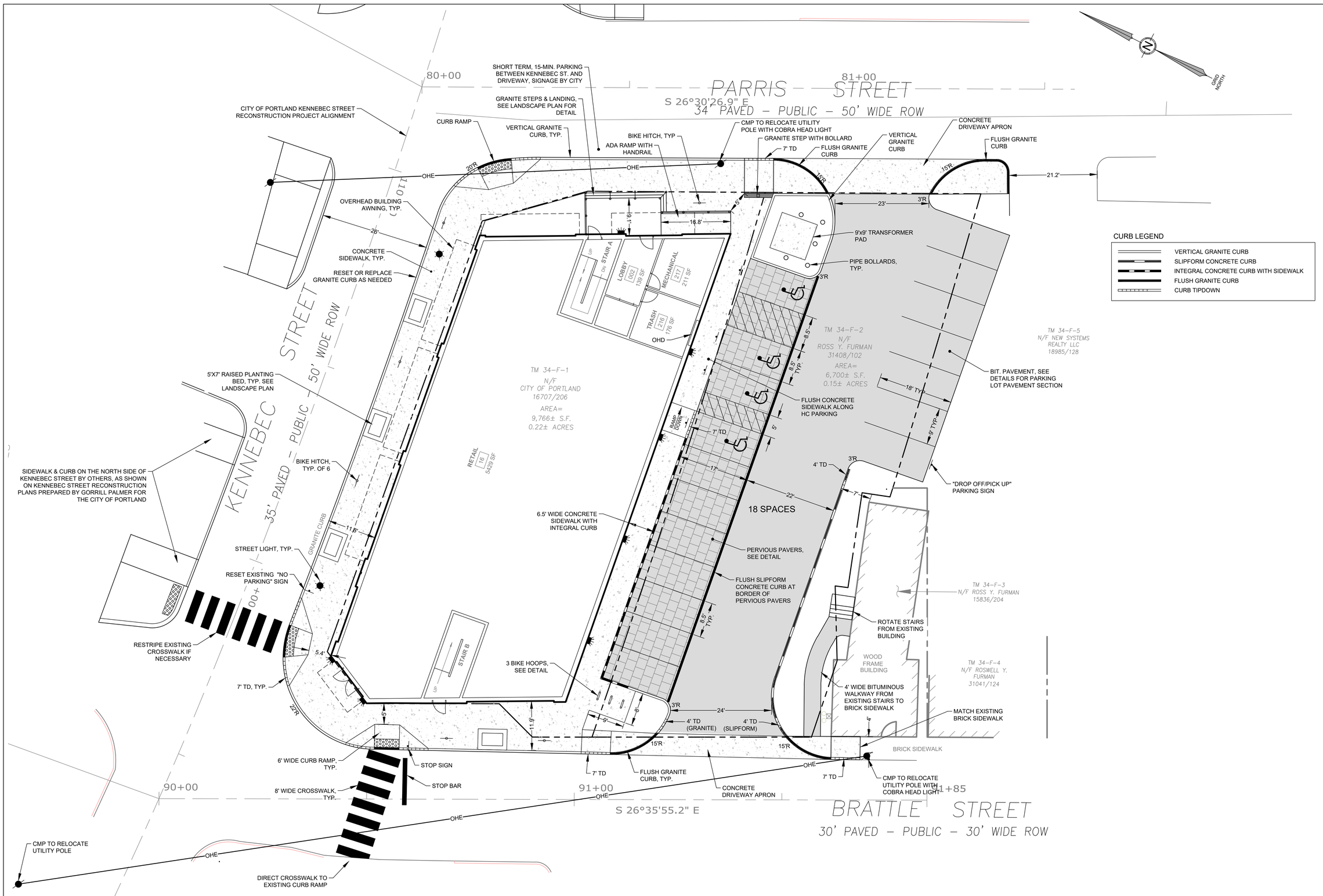
NO.	DATE	REVISIONS	APPD BY
6	7-19-2018	ADDED TRANSFORMER PAD, REVISED PARKING DIMENSIONS	MTW
5	7-9-2018	MODIFIED ADA PARKING, LANDSCAPE ISLAND, AND UNDERDRAIN	MTW
4	7-3-2018	MODIFIED PLANS PER CITY COMMENTS	MTW
3	5-11-2018	MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS	MTW
2	5-4-2018	MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD	MTW
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW

TERRADYN CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting
CUMBERLAND HALL
44 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260
565 CONGRESS STREET
SUITE 410
PORTLAND, ME 04102
OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
CONSTRUCTION MANAGEMENT PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-2.1



PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12121
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-19-2018

NO.	DATE	REVISIONS	APPD BY
6	7-19-2018	ADDED TRANSFORMER PAD, REVISED PARKING DIMENSIONS	MTW
5	7-9-2018	MODIFIED ADA, PARKING, LANDSCAPE ISLAND, AND UNDERDRAIN	MTW
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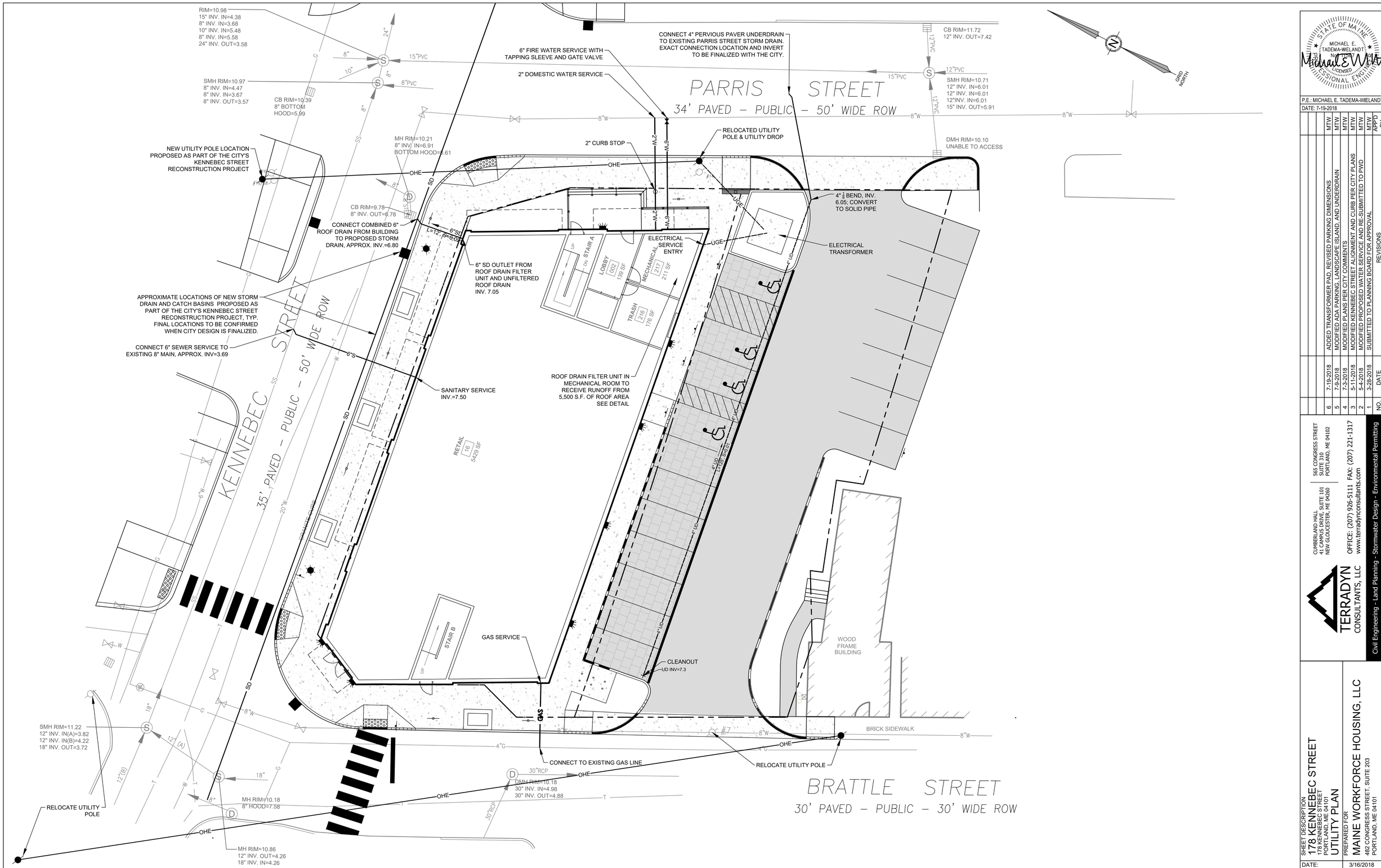
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW

TERRADYN CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting
565 CONGRESS STREET
7TH FLOOR
PORTLAND, ME 04102
CUMBERLAND HALL
41 MIDDLE ROAD, SUITE 101
NEW GLOUCESTER, ME 04260
OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
SITE PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-3.0



PRELIMINARY - NOT FOR CONSTRUCTION

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12111
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-19-2018

NO.	DATE	REVISIONS	BY	APP'D
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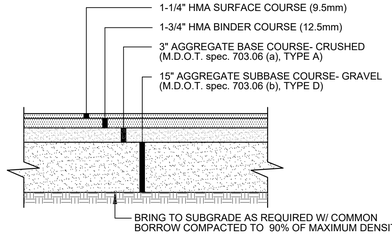
TERRADYN CONSULTANTS, LLC
CUMBERLAND HALL
61 MAIN STREET, SUITE 101
NEW GLOUCESTER, ME 04260
565 CONGRESS STREET
SUITE 410
PORTLAND, ME 04102
OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
UTILITY PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-5.0

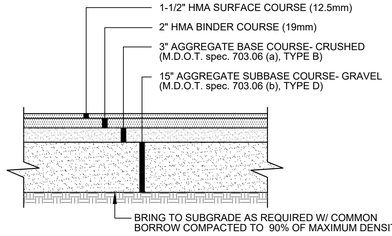


NOTES:

1. COMPACT GRAVEL SUBBASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

TYP. PAVED PARKING LOT SECTION

NOT TO SCALE

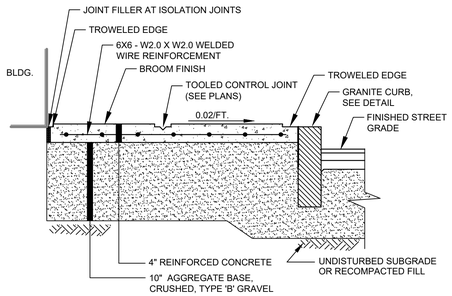


NOTES:

1. FOR USE ON LOCAL STREETS WITHIN THE CITY OF PORTLAND

TYP. SECTION - PAVEMENT REPAIR IN CITY RIGHT OF WAY

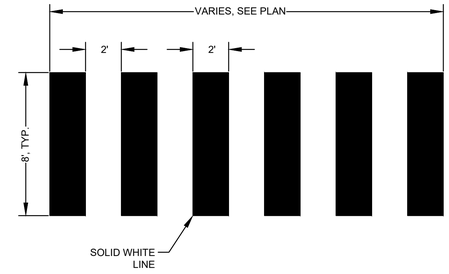
NOT TO SCALE



NOTE:
INSTALL 4.5' DEEP SELECT FILL BELOW ENTRANCE SIDEWALKS WITHIN 5' OF BUILDING FOUNDATION WALL.

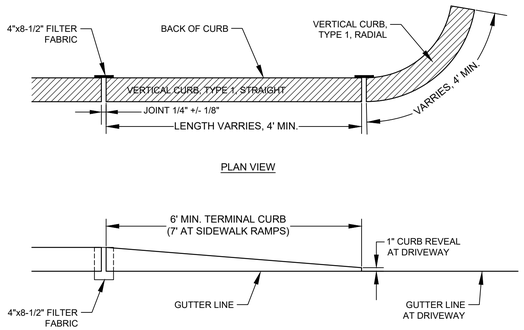
CONCRETE SIDEWALK WITH GRANITE CURB

NOT TO SCALE



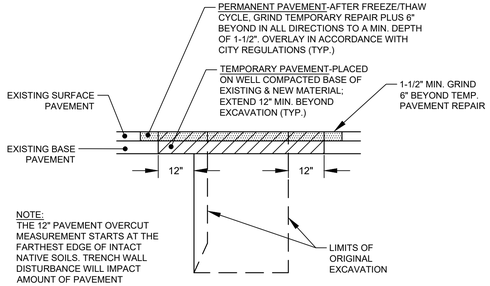
CROSSWALK STRIPING DETAIL

NOT TO SCALE



PLAN VIEW

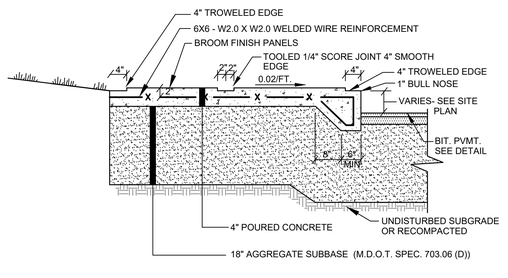
TERMINAL CURB PROFILE



NOTE:
THE 12" PAVEMENT OVERCUT MEASUREMENT STARTS AT THE FARTHEST EDGE OF INTACT NATIVE SOILS. TRENCH WALL DISTURBANCE WILL IMPACT AMOUNT OF PAVEMENT REMOVAL REQUIRED

TYP. EXCAVATION IN CITY RIGHT OF WAY

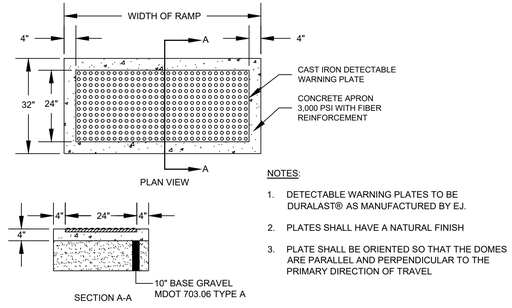
NOT TO SCALE



NOTE:
INSTALL 5'-0" SQUARE AREA BY 4' DEEP OF FROST-FREE MATERIAL BELOW ALL HANDICAP RAMPS AND ENTRY POINTS AT BUILDING.

CONCRETE SIDEWALK WITH INTEGRAL CURB

NOT TO SCALE

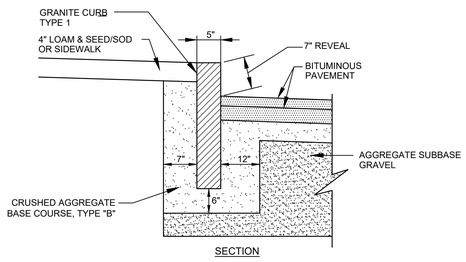


NOTES:

1. DETECTABLE WARNING PLATES TO BE DURALAST® AS MANUFACTURED BY EJ.
2. PLATES SHALL HAVE A NATURAL FINISH
3. PLATE SHALL BE ORIENTED SO THAT THE DOMES ARE PARALLEL AND PERPENDICULAR TO THE PRIMARY DIRECTION OF TRAVEL

DETECTABLE WARNING PLATE DETAIL

NOT TO SCALE

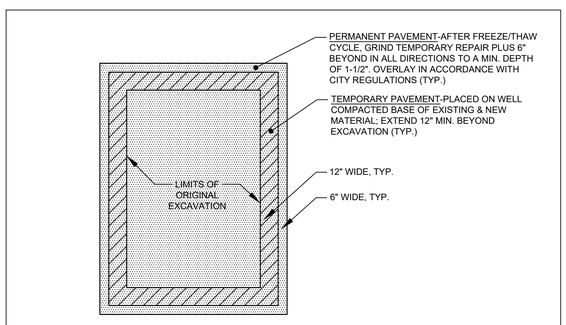


NOTES:

1. MIN. LENGTH OF STRAIGHT CURB STONES: 4', MAX. LENGTH: 8'
2. CIRCULAR CURB REQ. FOR RADIUS LESS THAN 50'
3. BASE GRAVEL SHALL BE COMPACTED TO A FIRM EVEN SURFACE PRIOR TO SETTING OF CURB.

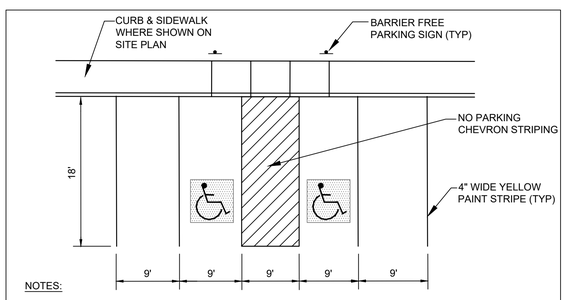
VERTICAL GRANITE CURB

NOT TO SCALE



PLAN VIEW OF MINOR EXCAVATION PAVEMENT REPAIR

NOT TO SCALE



NOTES:

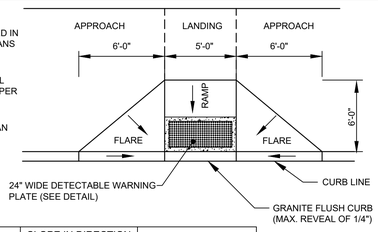
1. SEE SITE PLAN FOR NUMBER AND LOCATION OF BARRIER FREE PARKING SPACES.
2. BARRIER FREE GRAPHIC SYMBOL (PAINTED WHITE) TO BE CENTERED IN PARKING STALL. SYMBOL TO BE PAINTED ON BLUE NON-SKID BACKGROUND.

TYPICAL PARKING STALL DIMENSIONS

NOT TO SCALE

NOTES:

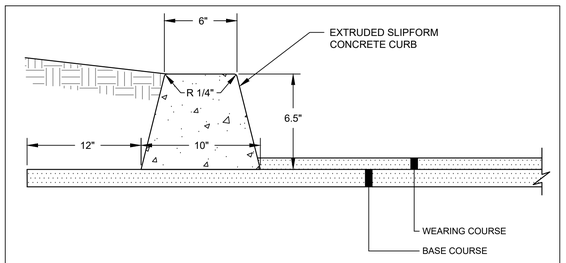
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
2. ALL RAMPS SHALL HAVE DETECTABLE WARNINGS THE FULL DEPTH AND WIDTH OF THE RAMP PER SECTION 4.29 OF THE ADA.
3. A TACTILE WARNING STRIP IS REQUIRED WHERE RAMP ABUTS AN AREA USED BY VEHICLES.



DESIGN ELEMENT	SLOPE IN DIRECTION OF TRAVEL	CROSS SLOPE
APPROACH	8.33% MAXIMUM	2%
LANDING	2%	2%
RAMP	8.33% MAXIMUM	MATCH STREET GRADE
FLARE	10% MAXIMUM AT CURB	-
SIDEWALK	MATCH STREET GRADE	2%

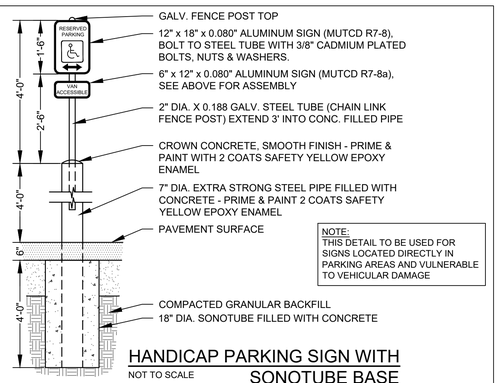
HANDICAP RAMP

NOT TO SCALE



VERTICAL SLIPFORM CONCRETE CURB DETAIL

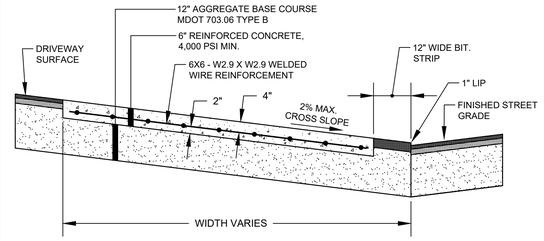
NOT TO SCALE



NOTE:
THIS DETAIL TO BE USED FOR SIGNS LOCATED DIRECTLY IN PARKING AREAS AND VULNERABLE TO VEHICULAR DAMAGE

HANDICAP PARKING SIGN WITH SONOTUBE BASE

NOT TO SCALE



REINFORCED CONCRETE DRIVEWAY APRON

NOT TO SCALE

PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12071
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-3-2018

NO.	DATE	BY
4	7-3-2018	MTW
3	5-11-2018	MTW
2	5-4-2018	MTW
1	3-28-2018	APPD

REVISIONS
SUBMITTED TO PLANNING BOARD FOR APPROVAL
MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD
MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS
MODIFIED PLANS PER CITY COMMENTS

565 CONGRESS STREET
SUITE 410
PORTLAND, ME 04102

CUMBERLAND HALL
41 MAIN STREET, SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.teradynconsultants.com

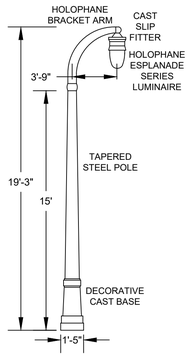
TERRADYN CONSULTANTS, LLC

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
SITE DETAILS

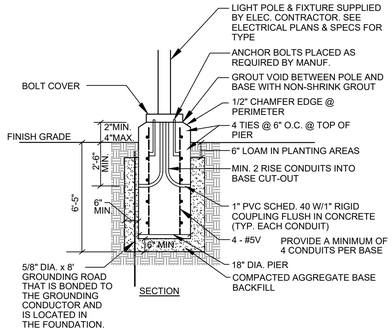
PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

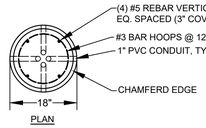
DATE:	3/16/2018
SCALE:	N.T.S.
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-DETAILS.DWG
SHEET	C-6.0



LUMINARE:
HOLOPHANE LIGHTING MODEL ESU175MH12A4-R
LUMINARE SHALL BE FURNISHED AND INSTALLED BY THE CENTRAL MAINE POWER COMPANY UNDER THE MUNICIPAL LEASE AGREEMENT FOR STREET LIGHTING.
LUMINARE SHALL BE CUSTOM COLOR RAL-7016 (DARK GRAY)
LAMP:
HOLOPHANE LIGHTING MODEL S-M175/U 64471
VERTICAL MOUNTED, 175 WATT MOGUL BASE CLEAR METAL HALIDE LAMP.
BRACKET ARM:
HOLOPHANE LIGHTING MODEL OUC 8063-T6
ALUMINUM CROSSARM WITH A POST-TOP FITTING FOR A 3-1/2" BY 8" LENGH.
BRACKET ARM SHALL BE CUSTOM COLOR RAL-7016 (DARK GRAY)
SLIP FITTER:
HOLOPHANE LIGHTING MODEL BHLF200-SCA/AS (BOSTON HARBOR SERIES)
2-3/8" O.D. WITH SWIVEL CAST FITTER.
SLIP FITTER SHALL BE CUSTOM COLOR RAL-7016 (DARK GRAY).
LIGHTING POLE:
TAPERED STEEL POLE SHAFT RATED FOR A 90MPH WIND LOAD WITH A 1.3 GUST FACTOR. PROVIDE FOUR HOT-DIPPED GALVANIZED STEEL L-TYPE ANCHOR BOLTS.
LIGHTING POLE SHALL BE CUSTOM COLOR RAL-7016 (DARK GRAY)
DECORATIVE POLE BASE:
HOLOPHANE LIGHTING MODEL CAMBRIDGE SERIES
DECORATIVE CLAMSHELL CAST ALUMINUM BASE.
HARDWARE SHALL BE STAINLESS STEEL.
DECORATIVE POLE BASE SHALL BE CUSTOM COLOR RAL-7016 (DARK GRAY).

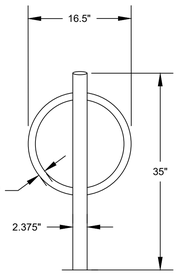
BAYSIDE DISTRICT MEDIUM SCALE RESIDENTIAL LIGHT DETAIL
NOT TO SCALE





NOTES:
1. CONCRETE f'c=5,000 PSI @ 28 DAYS.
2. REINF. STEEL GRADE 60 NEW BARS.
3. CONCRETE 3/4" AGG., 6 +/- 1% ENTRAINED AIR.
4. PROVIDE 2 COATS BITUMINOUS DAMPROOFING FOR ALL CONCRETE BELOW GRADE.
5. EXPOSED CONCRETE TO BE PAINTED WITH 2 COATS OF ACRYLIC PAINT. COLOR TO MATCH POLE COLOR.
6. INSTALL BASE 3'-0" ABOVE FINISH GRADE IN LOCATIONS WHERE POLES ARE IN PARKING LOT PAVEMENT.

PRECAST CONCRETE LIGHT POLE FOUNDATION



NOTES:

PRODUCT:
DERO BIKE HITCH AS MANUFACTURED BY DERO BIKE RACKS

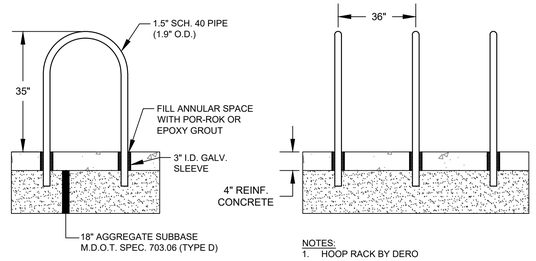
CAPACITY:
2 BIKES

MATERIALS:
CENTERBEAM 2" SCHEDULE 40 PIPE (2.375" OD)
RING 1.5" OD 11 GAUGE TUBE

INSTALLATION METHODS:
IN-GROUND MOUNT IS EMBEDDED INTO CONCRETE BASE, SURFACE MOUNT HAS ONE 5"x6" FOOT WHICH IS ANCHORED TO THE GROUND WITH FOUR ANCHORS

SETBACKS:
24" PARALLEL TO WALL
54" PERPENDICULAR TO WALL
36" PARALLEL TO STREET
76" PERPENDICULAR TO STREET

BIKE HITCH
NOT TO SCALE



NOTES:
1. HOOP RACK BY DERO
2. BLACK POWDER COAT FINISH
3. IN GROUND MOUNT
4. SEE SITE PLAN FOR NUMBER OF RACKS

HOOP BIKE RACK DETAIL (IN-GROUND MOUNT)
NOT TO SCALE

PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12107
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-3-2018

NO.	DATE	REVISIONS	BY	APP'D
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1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW	

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41 CONGRESS STREET, SUITE 101
NEW GLOUCESTER, ME 04260

565 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102

TERRADYN CONSULTANTS, LLC

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
SITE DETAILS

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	N.T.S.
DESIGNED:	ARF
JOB NO:	1747
FILE: 1747-DETAILS.DWG	
SHEET	C-6.1

NOTES:

1. A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF ALL PIPE TO MANHOLE JUNCTIONS.

2. THE CONNECTOR SHALL BE KOR-N-SEAL AS MANUFACTURED BY NPC SYSTEMS, INC., OF MILFORD, NH OR EQUAL.

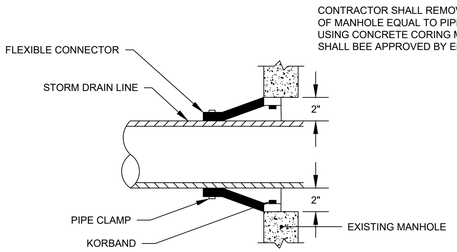
3. THE CONNECTOR SHALL BE THE SOLE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO MANHOLE, NO ADHESIVES OR LUPRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTORS TO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY TO ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS KNOWN TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PROCUCTS FROM SPILLS.

4. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAK-AWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET AT 60/70 IN./LBS.

5. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.

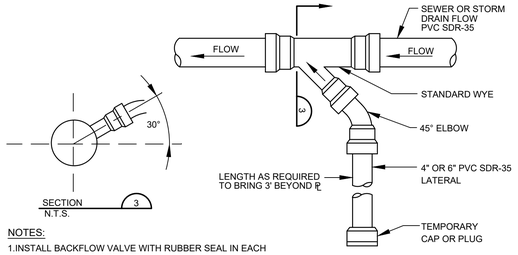
6. THE CONNECTOR SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE MATERIAL AND SIZE BEING UTILIZED ON THE PROJECT.

7. ALL CONNECTORS WHICH ARE CAPPED AWAITING PIPE INSTALLATION AT A LATER DATE MUST BE RESTRAINED.



CORE AND SEAL CONNECTION TO EXISTING STORM DRAIN MANHOLE

NOT TO SCALE



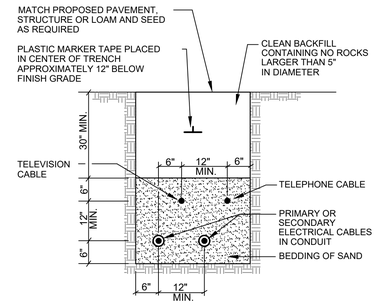
NOTES:

1.INSTALL BACKFLOW VALVE WITH RUBBER SEAL IN EACH FOUNDATION DRAIN SERVICE.

2. IF SUMP PUMP IS UTILIZED INSTALL CHECK VALVE AT SUMP PUMP.

SEWER / ROOF DRAIN SERVICE CONNECTION

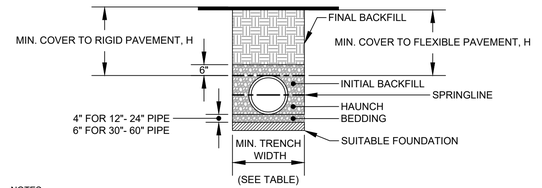
NOT TO SCALE



CABLES TO BE ENCASED IN SCHEDULE 40 PVC CONDUIT WHEN RUN BENEATH PAVED AREAS.

TYPICAL UNDERGROUND CABLE INSTALLATION

NOT TO SCALE



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

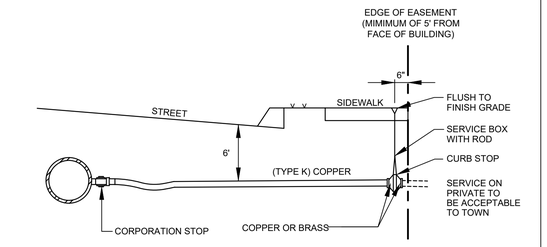
* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

7. INSULATION: RIGID INSULATION SHALL BE PROVIDED FOR PIPES WITH LESS THAN 4' OF COVER IN ACCORDANCE WITH THE FOLLOWING TABLE:

COVER OVER PIPE	INSULATION THICKNESS
12" - 24"	3"
24" - 36"	2"
36" - 48"	1"
48"+	NONE

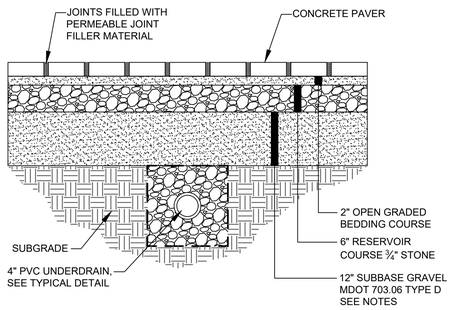
TYPICAL TRENCH DETAIL

NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION

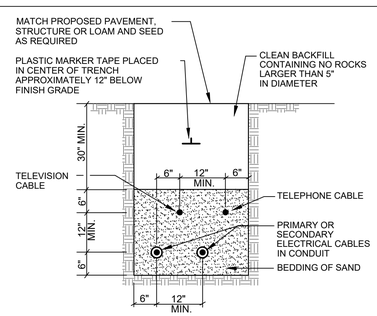
NOT TO SCALE



NOTES:
1. SEE PLAN FOR UNDERDRAIN LOCATIONS
2. SUBBASE GRAVEL SHALL CONTAIN BETWEEN 4% AND 7% FINES (PASSING #200 SIEVE)

PERMEABLE INTERLOCKING CONCRETE PAVER SECTION

NOT TO SCALE



CABLES TO BE ENCASED IN SCHEDULE 40 PVC CONDUIT WHEN RUN BENEATH PAVED AREAS.

TYPICAL UNDERGROUND CABLE INSTALLATION

NOT TO SCALE

NOTES:

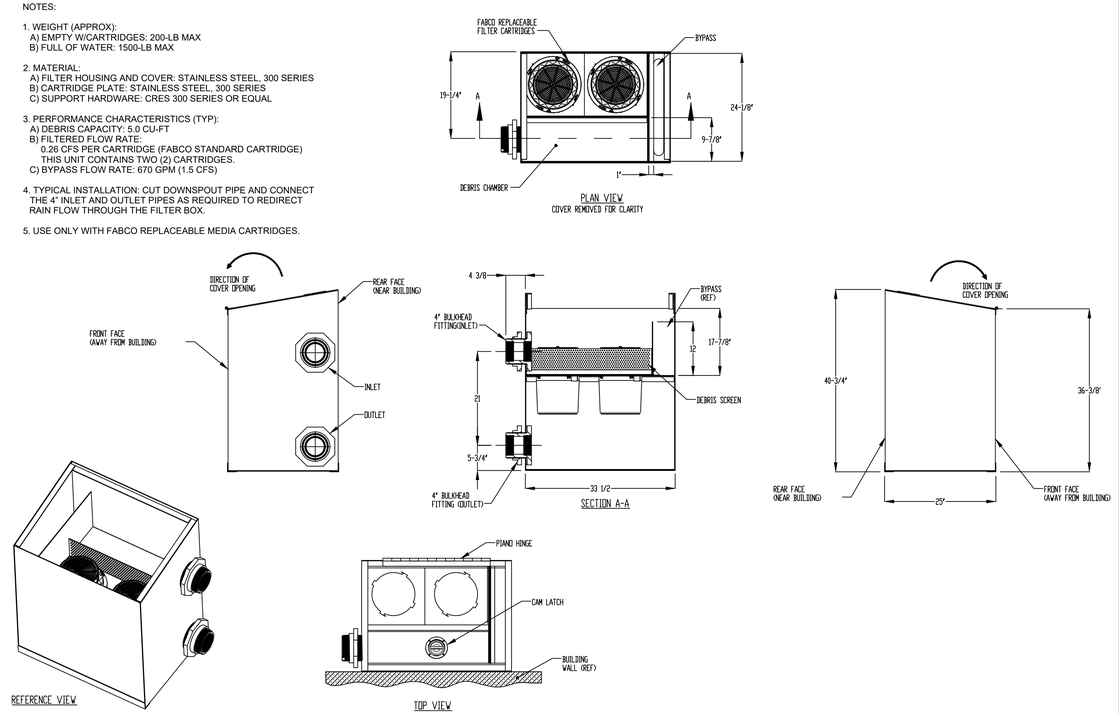
1. WEIGHT (APPROX):
   A) EMPTY W/CARTRIDGES: 200-LB MAX
   B) FULL OF WATER: 1500-LB MAX

2. MATERIAL:
   A) FILTER HOUSING AND COVER: STAINLESS STEEL, 300 SERIES
   B) CARTRIDGE PLATE: STAINLESS STEEL, 300 SERIES
   C) SUPPORT HARDWARE: CRES 300 SERIES OR EQUAL

3. PERFORMANCE CHARACTERISTICS (TYP):
   A) DEBRIS CAPACITY: 5.0 CU-FT
   B) FILTERED FLOW RATE:
      0.26 CFS PER CARTRIDGE (FABCO STANDARD CARTRIDGE)
      THIS UNIT CONTAINS TWO (2) CARTRIDGES.
   C) BYPASS FLOW RATE: 670 GPM (1.5 CFS)

4. TYPICAL INSTALLATION: CUT DOWNSPOUT PIPE AND CONNECT THE 4" INLET AND OUTLET PIPES AS REQUIRED TO REDIRECT RAIN FLOW THROUGH THE FILTER BOX.

5. USE ONLY WITH FABCO REPLACEABLE MEDIA CARTRIDGES.



ROOF RUNOFF DOWNSPOUT FILTER UNIT

NOT TO SCALE

PRELIMINARY - NOT FOR CONSTRUCTION

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12114
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-3-2018

NO.	DATE	REVISIONS	BY	APP'D
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW	
2	5-4-2018	MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD	MTW	
3	5-11-2018	MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS	MTW	
4	7-3-2018	MODIFIED PLANS PER CITY COMMENTS	MTW	

565 CONGRESS STREET
SUITE 410
PORTLAND, ME 04102

CUMBERLAND HALL
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradyncconsultants.com

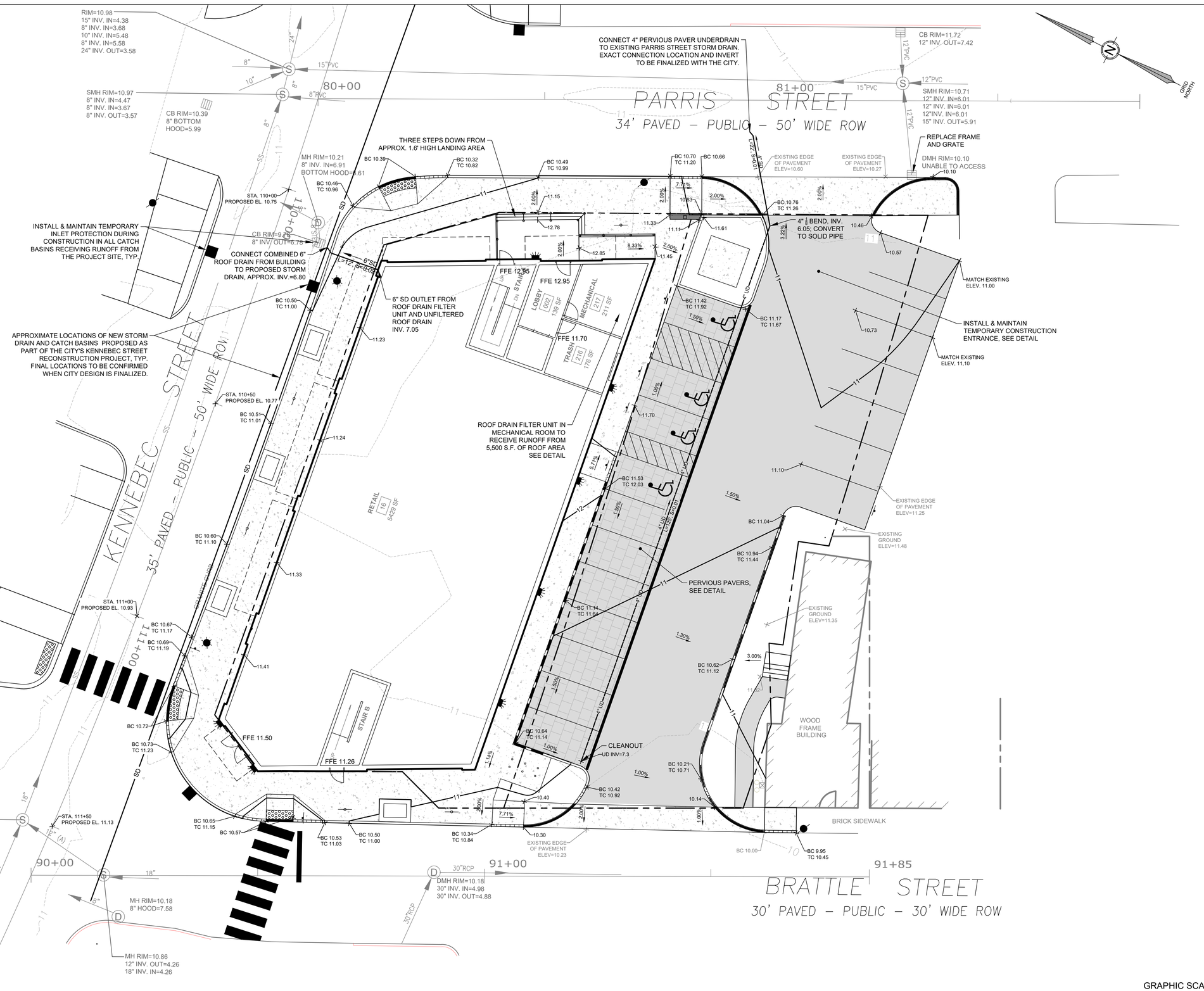
TERRADYN CONSULTANTS, LLC

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
UTILITY & DRAINAGE DETAILS

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	N.T.S.
DESIGNED:	ARF
JOB NO:	1747
FILE: 1747-DETAILS.DWG	
SHEET	C-6.2



PRELIMINARY - NOT FOR CONSTRUCTION

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12111
REGISTERED PROFESSIONAL ENGINEER

P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-19-2018

NO.	DATE	REVISIONS	BY
6	7-19-2018	ADDED TRANSFORMER PAD, REVISED PARKING DIMENSIONS	MTW
5	7-9-2018	MODIFIED ADA, PARKING, LANDSCAPE ISLAND, AND UNDERDRAIN	MTW
4	7-3-2018	MODIFIED PLANS PER CITY COMMENTS	MTW
3	5-11-2018	MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS	MTW
2	5-4-2018	MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD	MTW
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	APPD

Permitting

CUMBERLAND HALL
41 CHAMBERLAIN DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

565 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

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Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
GRADING, DRAINAGE & EROSION PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-4.0

PLANT LIST

TREES & SHRUBS

KEY	COMMON & BOTANICAL NAME	SIZE	ROOT	QTY	NOTES
A	STREETKEEPER HONEYLOCUST G. TRIACANTHOS Var. 'inermis' 'Streetkeeper'	2 ½ " Dia.	B&B	6	8 ' CLEARCANOPY UNDERSTORY
B	THORNLESS COCKSPUR HAWTHORN C.CRUZGALLI 'Inermis'	2 ½ " Dia.	B&B	1	"
C	EUROPEAN HORNBEAM C.BETULUS	2" Dia.	B&B	1	"
D	SHASTA VIBURNUM 'Summer snowflake' V. PLICATUM Var. Tomentosum 'Summer Snowflake'	#5	Cont.	5	

PERENNIALS

			QTY	NOTES
AA	SWITCH GRASS PANICUM VIRGATUM ' Cheyenne Sky'	-------	32	@12" o.c.
BB	SWITCH GRASS PANICUM VIRGATUM ' Shenandoah'	-------	28	@ 12" o.c.
CC	ASTILBE FALSE SPIREA VAR.	-------	-----	@ 15" o.c.
DD	LADY FERN FILIX-FEMINA	-------	3	@ 15" o.c.
EE	MAIDEN HAIR FERN ADIANTUM PEDATUMLAVEN	CONT.	----	----------
FF	HAY SCENTED FERN DENNSTAEDTIA PUNCTILOBA	CONT.	3	@ 15" o.c.
GG	OSTRICH FERN MATTEUCCIA STRUTHIOPTERIS	CONT.	9	@ 2' o.c.
HH	WILD GINGER ASARUM CANADENSE	--------	48	@ 9" O.C.

PLANTING NOTES

1. The contractor shall supply all plants in quantities sufficient to complete the work shown on plan. Any discrepancies between quantities shown on plant list and those required by this drawing shall not entitle contractor to additional remuneration.
2. Any plant substitutions must be approved by the owner.
3. Any tree or shrub which comes over or under any utility shall be relocated on the site by the landscape architect.
4. All lawn areas to have 6" of topsoil unless noted otherwise.
5. All trees and shrubs shall be placed in the designated areas as shown on the plan and before planting shall be approved by the landscape architect.
6. The contractor shall relocate any tree or shrub as directed by the landscape architect.
7. All plant material installed shall meet the specifications of the American Standard for Nursery Stock (latest edition) as set forth by the American Association of Nurserymen.
8. The landscape contractor shall replace or repair to original condition any and all utilities, paving, curbing, etc., damaged as a result of their operations at no additional cost to the owner.

NOTES:
1. TREE SHALL BEAR SAME RELATION TO GRADE AS PRIOR TO PLANTING.
2. NEVER CUT A LEADER, THIN BRANCHES & FOLIAGE BY 1/3 RETAINING NORMAL TREE SHAPE.

NOTE 'B':
SECURE GUYS W/ RUBBER HOSE & #12 GA. WIRE SIM. TO STAKING NOTE 'A'.
2" GALV. TURNBUCKLE (3 GUYS/TREE)
CLAMP FOR GUY REMOVAL
TO METAL DEADMAN ANCHORS DRIVEN INTO SUBGRADE

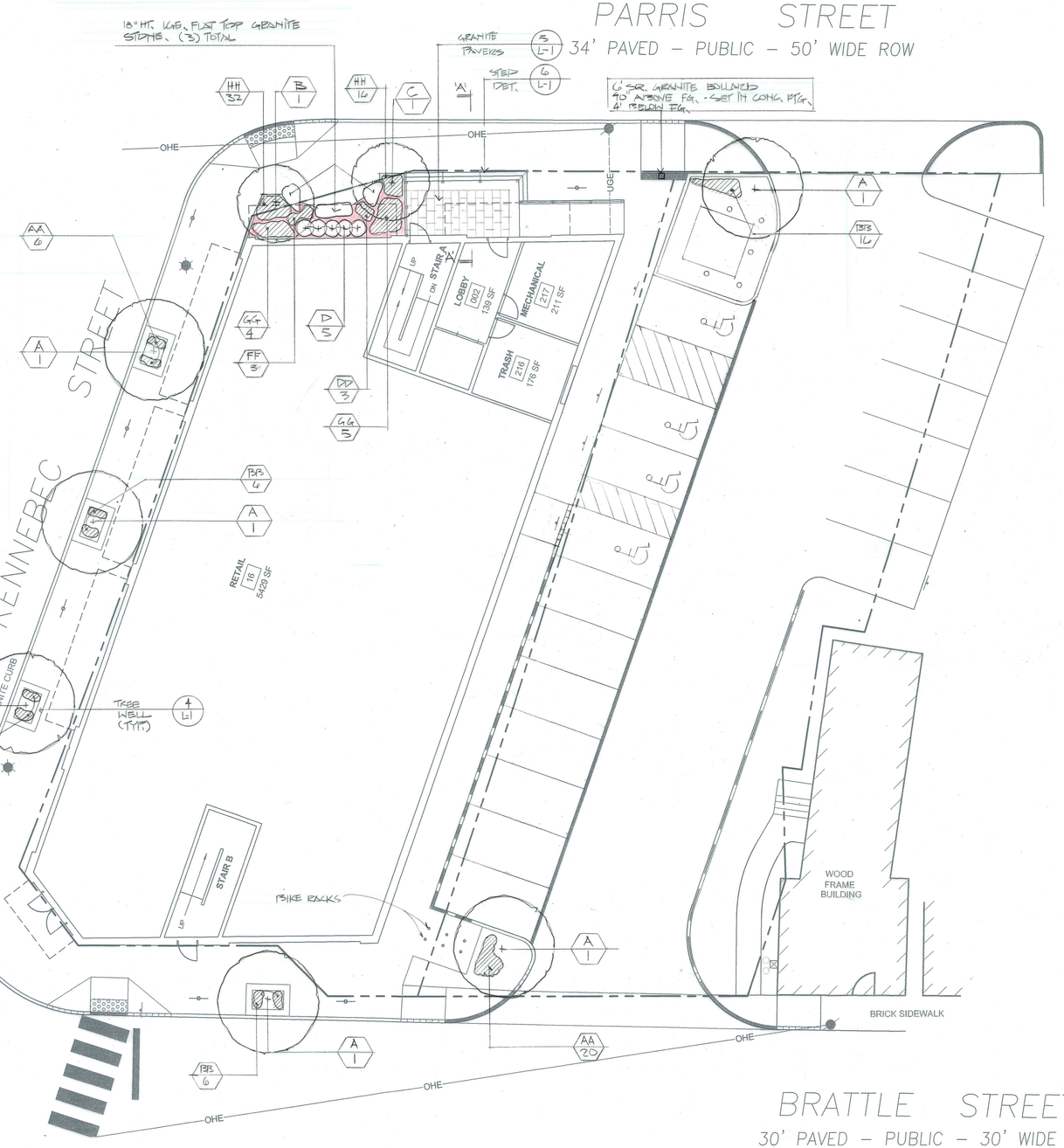
NOTE 'A':
FOR ALL TREES UP TO 2 1/2" CAL. USE 2"x2" OR 2 1/2" □ STAKES W/ 2-#12 GA. GALV. WIRE ENCASED IN 2 PLY REINF. RUBBER HOSE. 1/2" INSIDE DIA.
GUY-ALL TREES OVER 2 1/2" DIA. NOTE 'B'). GUY ALL EVERGREEN TREES.
#12 GA. ANNEALED GALV. WIRE IN RUBBER HOSE (SEE NOTE 'A')
WOOD STAKES - DARK WALNUT OIL STAIN - ONE COAT, 3 STAKES/TREE
APPROVED TREE WRAP. LAP ENDS DO NOT STAPLE. WRAP TO HT. OF 2ND BRANCH
3" SHREDDED BARK MULCH (EXCEPT AS NOTED)
REMOVE BURLAP FROM TOP 1/3RD OF BALL
6" TEMP. SAUCER
SOIL MIX NOTES
FOR DECIDUOUS TREES USE 4 PARTS TOPSOIL, 1 PART MANURE. FOR EVERGREEN TREES USE 4 PARTS TOPSOIL, 1 PART PEAT HUMUS.
4" MOUND FOR DRAINAGE

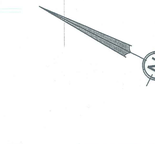
12" 12" 2X BALL DIA.

1 L-1 **TREE PLANTING DETAIL**

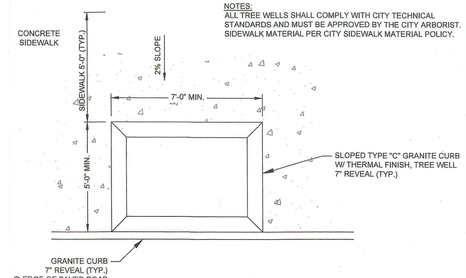
NOTE: SHRUBS SHALL BEAR SAME RELATION TO GRADE AS PRIOR TO PLANTING.
3" BARK MULCH W/ 4" SAUCER
REMOVE BURLAP FROM TOP 1/3 BALL
6" 6"
SOIL MIX NOTES:
4 PARTS TOPSOIL, 1 PART HUMUS FOR EVERGREENS
4 PARTS TOPSOIL, 1 PART MANURE FOR DECIDUOUS SHRUBS

2 L-1 **SHRUB PLANTING DETAIL**

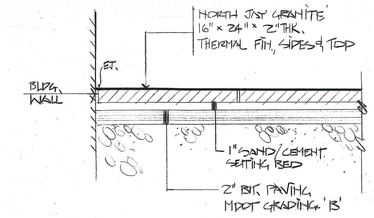




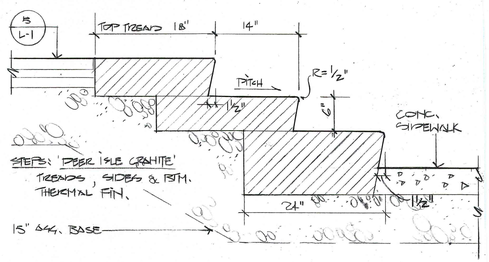
NOTES:
ALL TREE WELLS SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.



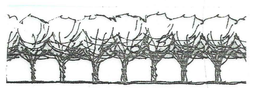
4 L-1 **TREE WELL DETAIL**
CONCRETE WALK
NTS



5 L-1 **GRANITE PAVER DETAIL**
NTS



6 L-1 **STONE STEP DETAIL** A-A
NTS



Anthony Muench Landscape Architect
94 Commercial Street Portland, Maine 04101 207.761.6621
cmuench@maine.rr.com

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

REGISTERED LANDSCAPE ARCHITECT
ANTHONY MUENCH
No. 7
6-20-18
State of Maine

DATE: 5-20-2018

NO.	DATE	REVISIONS	APP'D BY
6	7-19-2018	ADDED TRANSFORMER PAD, REVISED PARKING DIMENSIONS	
5	7-9-2018	MODIFIED ADA PARKING, LANDSCAPE ISLAND, AND UNDERDRAIN	
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NEW GLOUCESTER, ME 04260

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Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
LANDSCAPE PLAN

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

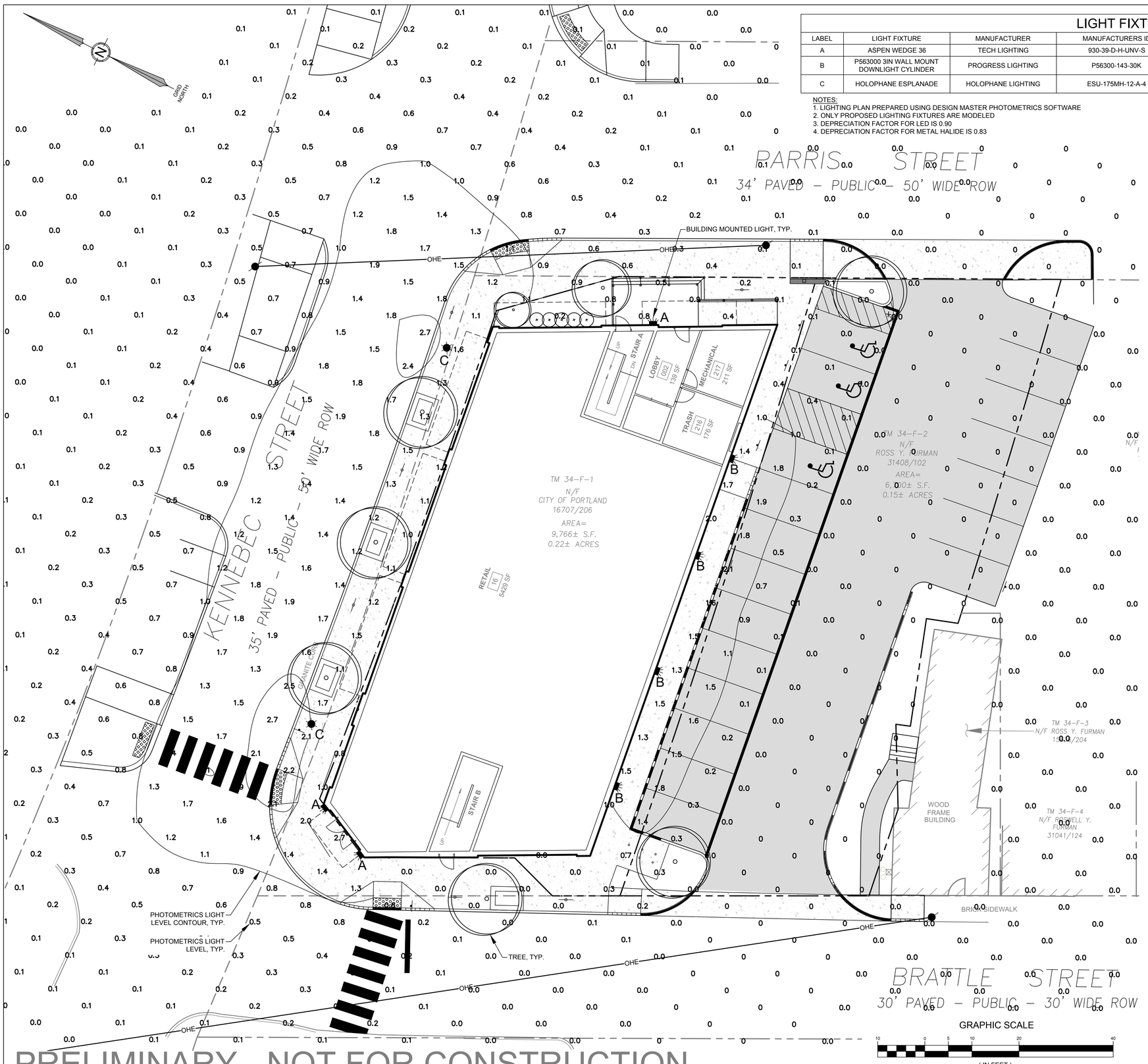
DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	L-1

PRELIMINARY - NOT FOR CONSTRUCTION

LIGHT FIXTURE TABLE

LABEL	LIGHT FIXTURE	MANUFACTURER	MANUFACTURERS ID	NUMBER OF LIGHTS	MOUNTING HEIGHT	MOUNTING LOCATION
A	ASPEN WEDGE 36	TECH LIGHTING	930-39-D-H-UNV-S	3	8'	WALL
B	P563000 3IN WALL MOUNT DOWNLIGHT CYLINDER	PROGRESS LIGHTING	P56300-143-30K	4	8'	WALL
C	HOLOPHANE ESPLANADE	HOLOPHANE LIGHTING	ESU-175MH-12-A-4	2	19'-3"	POLE

NOTES:
1. LIGHTING PLAN PREPARED USING DESIGN MASTER PHOTOMETRICS SOFTWARE
2. ONLY PROPOSED LIGHTING FIXTURES ARE MODELED
3. DEPRECIATION FACTOR FOR LED IS 0.90
4. DEPRECIATION FACTOR FOR METAL HALIDE IS 0.83



PRELIMINARY - NOT FOR CONSTRUCTION

ASPEN WEDGE 36 WALL SCONCE

TECH LIGHTING

The Aspen Wedge outdoor wall sconce creates a tapered rectilinear column of beautifully diffused light that can be mounted with the wedge angled up or down. The Aspen Wedge is available in four sizes (8", 15", 26", 36") to meet architectural scale; ideal for way-finding and general outdoor illumination. The Aspen Wedge features energy-efficient, fully dimmable integrated LED lamping. Available in two finishes: Bronze and Charcoal.

High quality LM80-tested LEDs
for consistent long-life performance and color

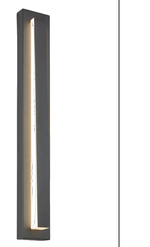
Outstanding protection against the elements:
- Marine-grade powder coat finishes
- Stainless Steel mounting hardware
- Impact-resistant, UV stabilized frosted acrylic lensing
- IP-65 Rated

SPECIFICATIONS

DELIVERED LUMENS	1508
WATTS	48
VOLTAGE	Universal 120-277V, with integral transient 2.5kV surge protection (driver)
DIMMING	0-10, ELV
LIGHT DISTRIBUTION	Symmetric
MOUNTING OPTIONS	Wall
PERFORMANCE OPTIONS	In-Line Fuse / Surge Protector
CCT	2700K, 3000K
CRI	90+
COLOR BINNING	3 Step
BUG RATING	B0-U4-G2
DARK SKY	Non-compliant
WET LISTED	IP65
GENERAL LISTING	ETL
CALIFORNIA TITLE 24	Can be used to comply with CEC 2016 Title 24 Part 6 for outdoor use. Registration with CEC Appliance Database not required.
START TEMP	-30°C
FIELD SERVICEABLE LED	Yes
CONSTRUCTION	Aluminum
HARDWARE	Stainless Steel
FINISH	Marine Grade Powder Coat
LED LIFETIME	L70; 70,000 Hours
WARRANTY*	5 Years

* Visit techlighting.com for specific warranty limitations and details.

ASPEN WEDGE 36
shown in bronze


ASPEN WEDGE 36
shown in charcoal

ORDERING INFORMATION

700OWASPW	CRI / CCT	LENGTH	LENS	FINISH	VOLTAGE	DISTRIBUTION	OPTIONS
	927 90 CRI, 2700K 930 90 CRI, 3000K	36 36"	D DIFFUSE	Z BRONZE H CHARCOAL	UNV 120V-277V UNIVERSAL	S SYMMETRIC	NONE LF IN-LINE FUSE SP SURGE PROTECTION LFSP IN-LINE FUSE & SURGE PROTECTION

P563000 3IN Wall Mount Downlight Cylinder

Wall mounted · Wet location listed PROGRESS LED

Description:

Sleek, cylindrical forms in elegant finish selections. Die-cast aluminum wall brackets and heavy-duty aluminum framing. Fade and chip-resistant. UL listed for wet locations. Can be used indoor or outdoor. Ideal for residential and commercial applications.

Specifications:
- Graphite (-143) (Painted)
- Aluminum construction:Clear
- 3" LED wall mount downlight cylinder
- This sleek, contemporary cylinder is ideal for indoor or outdoor applications
- A Graphite finish complements a variety of exteriors
- Warm white, 3000K, color temperature, 90 CRI
- 919 lumens, 77 lumens per watt
- Die-Cast Aluminum construction with durable powder coated finish
- Dimmable to 10% brightness with many Forward Phase (triac) dimmers
- covers a standard 4" octagonal recessed outlet box
- Mounting strap for outlet box included
- 6" of wire supplied
- ENERGY STAR® qualified
- Meets California Title 24 JA8-2016

Performance:

Number of Modules	1
Input Power	12w
Input Voltage	120 V
Input Frequency	60 Hz
Lumens/LPW	907/75 (LM-79)
CCT	3000 K
CRI	90 CRI
Life (hours)	50,000 (L70/TM-21)
EMI/RFI	FCC Title 47, Part 15 Class B
Min. Start Temp	-10 °C
Max. Operating Temp	40 °C
Warranty	5 year warranty
Labels	CSA Wet location listed ENERGY STAR® qualified Meets California Title 24 JA8-2016

P563000-143-30K

Images:

Dimensions:

Width: 4-1/2
Depth: 5-1/2"
Height: 5-5/8"
H/CTR: 3"

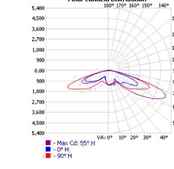
5/31/2018 ESU175MH00X4

OUTDOOR PHOTOMETRIC REPORT
CATALOG: ESU175MH00X4

TEST #:	47269
TEST LAB:	ACUITY BRANDS LIGHTING GRANVILLE LAB
TEST DATE:	1/31/2008
CATALOG:	ESU175MH00X4
DESCRIPTION:	ESPLANADE
SERIES:	TEARDROP
LAMP CATALOG:	MVR175/U - E-28
LAMP:	175W CLEAR MH
LAMP OUTPUT:	1 LAMP, RATED LUMENS/LAMP: 14000
INPUT WATTAGE:	198
LUMINOUS OPENING:	VERTICAL CYLINDER (DIA : 14.4", H: 14.4")
TER VALUE:	43 (BF = 1)
TER CATEGORY:	AREA & SITE LIGHT - TYPE IV
MAX CD:	5,394.0 AT HORIZONTAL: 55°, VERTICAL: 65°
CUTOFF CLASS:	CUTOFF
ROADWAY CLASS:	SHORT, TYPE IV
EFFICIENCY:	76.8%

AcuityBrands.
HOLOPHANE

Polar Candela Distribution



Isofootcandle Plot

MICHAEL E. TADEMA-WIELANDT
STATE OF MAINE
LICENSED PROFESSIONAL ENGINEER
P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: 7-3-2018

NO.	DATE	REVISIONS	APPD BY
4	7-3-2018	MODIFIED PLANS PRE CITY COMMENTS	MTW
3	5-11-2018	MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS	MTW
2	5-4-2018	MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD	MTW
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW

555 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102

CUMBERLAND HALL
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

TERRADYN
CONSULTANTS, LLC

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
PHOTOMETRICS LIGHTING PLAN

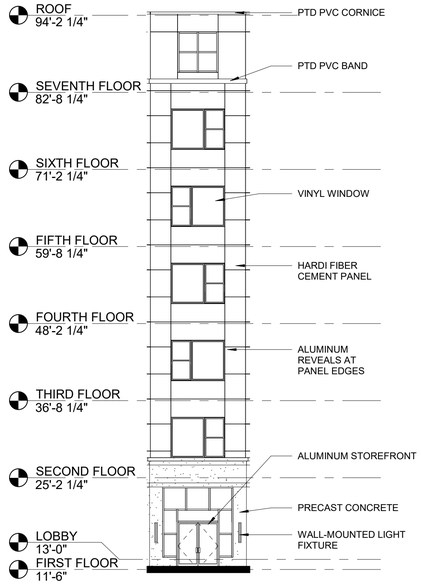
PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-Photometrics.DWG
SHEET	P-1

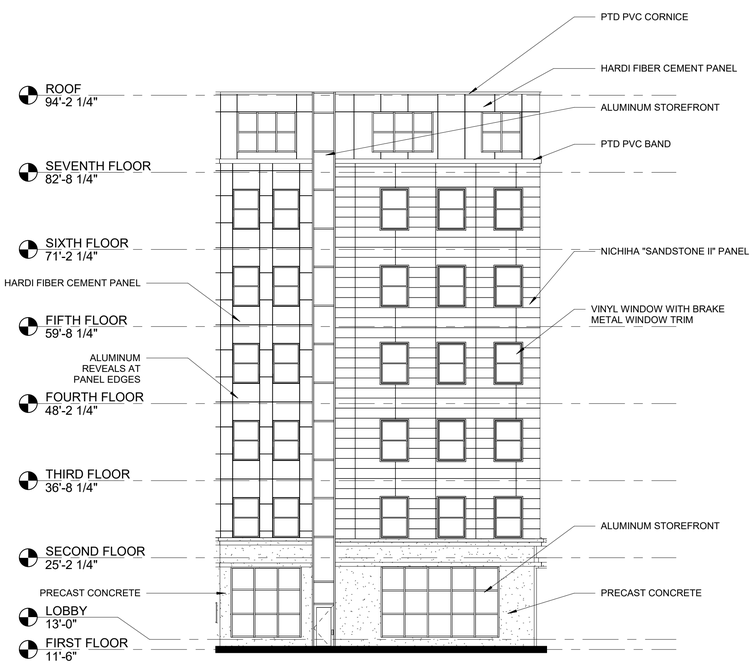
1 NORTH ELEVATION
3/32" = 1'-0"

4 EAST ELEVATION
3/32" = 1'-0"

2 SOUTH ELEVATION
3/32" = 1'-0"



5 SOUTH WEST ELEVATION
3/32" = 1'-0"



3 WEST ELEVATION
3/32" = 1'-0"

Prepared For:
Owner
Address
City, State

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
KENNEBEC STREET
PORTLAND, MAINE

Revisions:

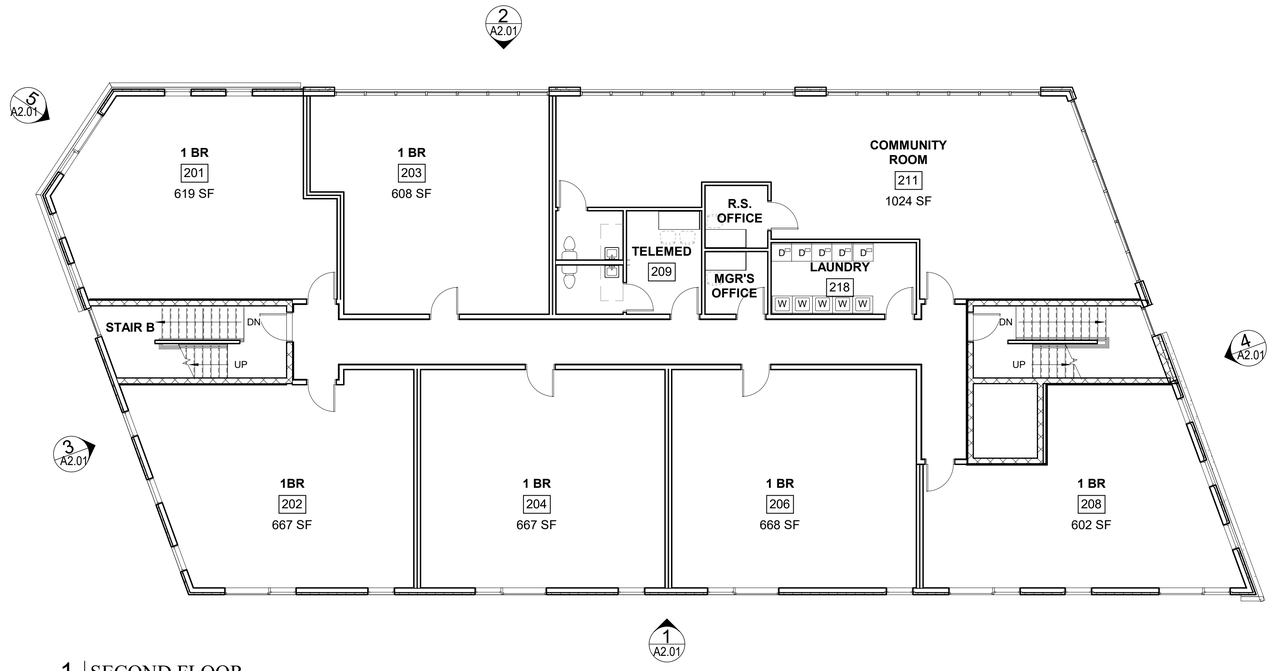
Scale: 3/32" = 1'-0"

Date: JULY 24 2018

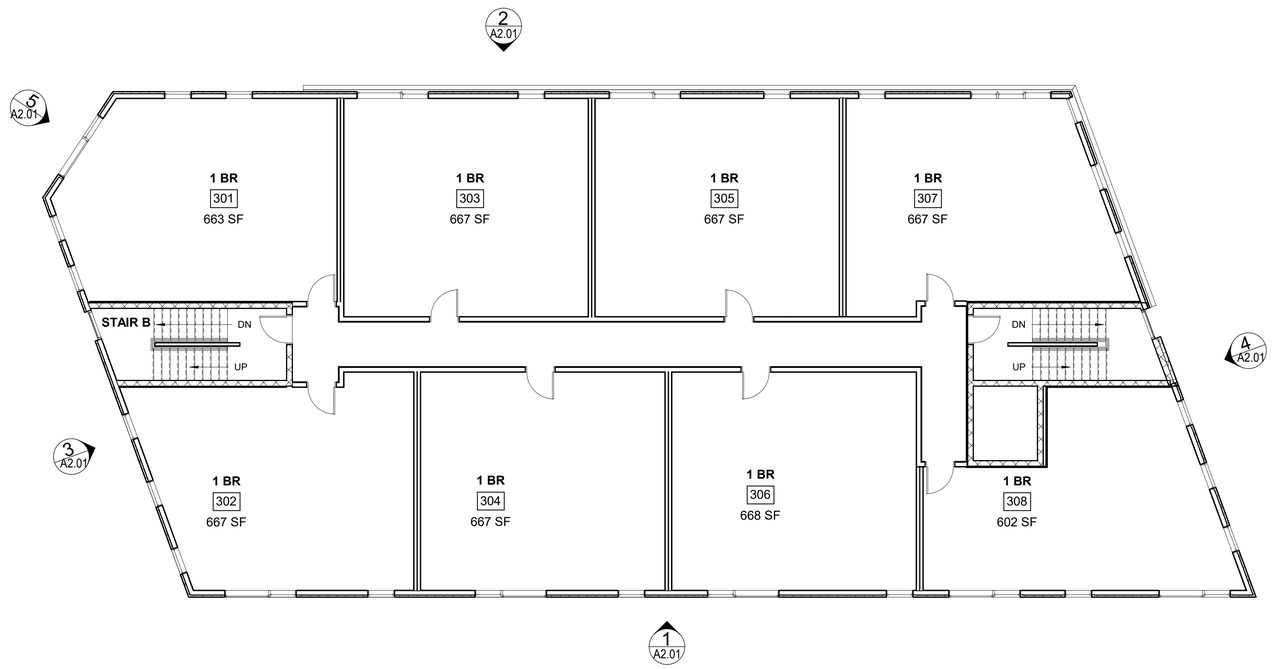
Building Elevations

A2.01

INTERMED



1 | SECOND FLOOR
1/8" = 1'-0"



2 | THIRD FLOOR
1/8" = 1'-0"

PROJECT DATA

FIRST FLOOR 6,667 SF - GROSS	5429 SF RETAIL TRASH ROOM MECHANICAL ROOM
SECOND FLOOR 6,667 SF - GROSS	(5) 1-BR UNITS (1) EFF UNITS TELEMED ROOM LAUNDRY ROOM COMMUNITY ROOM
TYPICAL FLOOR 3-7 6,667 SF - GROSS (5 FLOORS)	(8) 1-BR UNITS

45 1-BR UNITS
1 EFFICIENCIES
46 UNITS TOTAL

Prepared For: Owner
Address
City, State

Consultant:

Architect: ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: KENNEBEC STREET
PORTLAND, MAINE

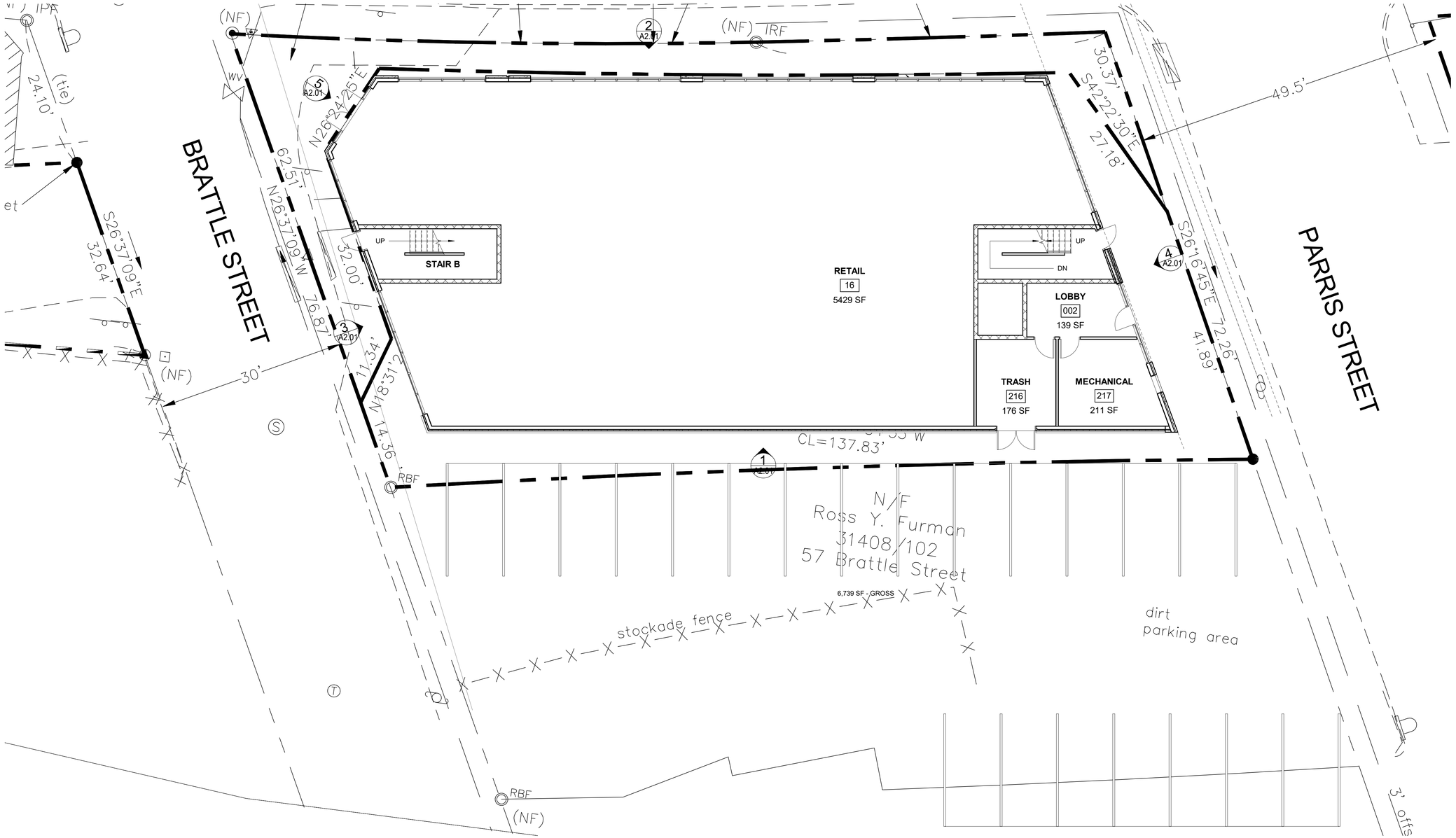
Revisions:

Scale: As indicated

Date: JAN 12 2018

SECOND & TYPICAL FLOOR PLANS

A1.02



1 FIRST FLOOR
1/8" = 1'-0"

PROJECT DATA

FIRST FLOOR 6,667 SF - GROSS	5429 SF RETAIL TRASH ROOM MECHANICAL ROOM
SECOND FLOOR 6,667 SF - GROSS	(5) 1-BR UNITS (1) EFF UNITS TELEMED ROOM LAUNDRY ROOM COMMUNITY ROOM
TYPICAL FLOOR 3-7 6,667 SF - GROSS (5 FLOORS)	(8) 1-BR UNITS

45 1-BR UNITS
1 EFFICIENCIES
46 UNITS TOTAL

Prepared For: Owner

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 ARCHETYPE@ARCHETYPEPA.COM

Project: KENNEBEC STREET
PORTLAND, MAINE

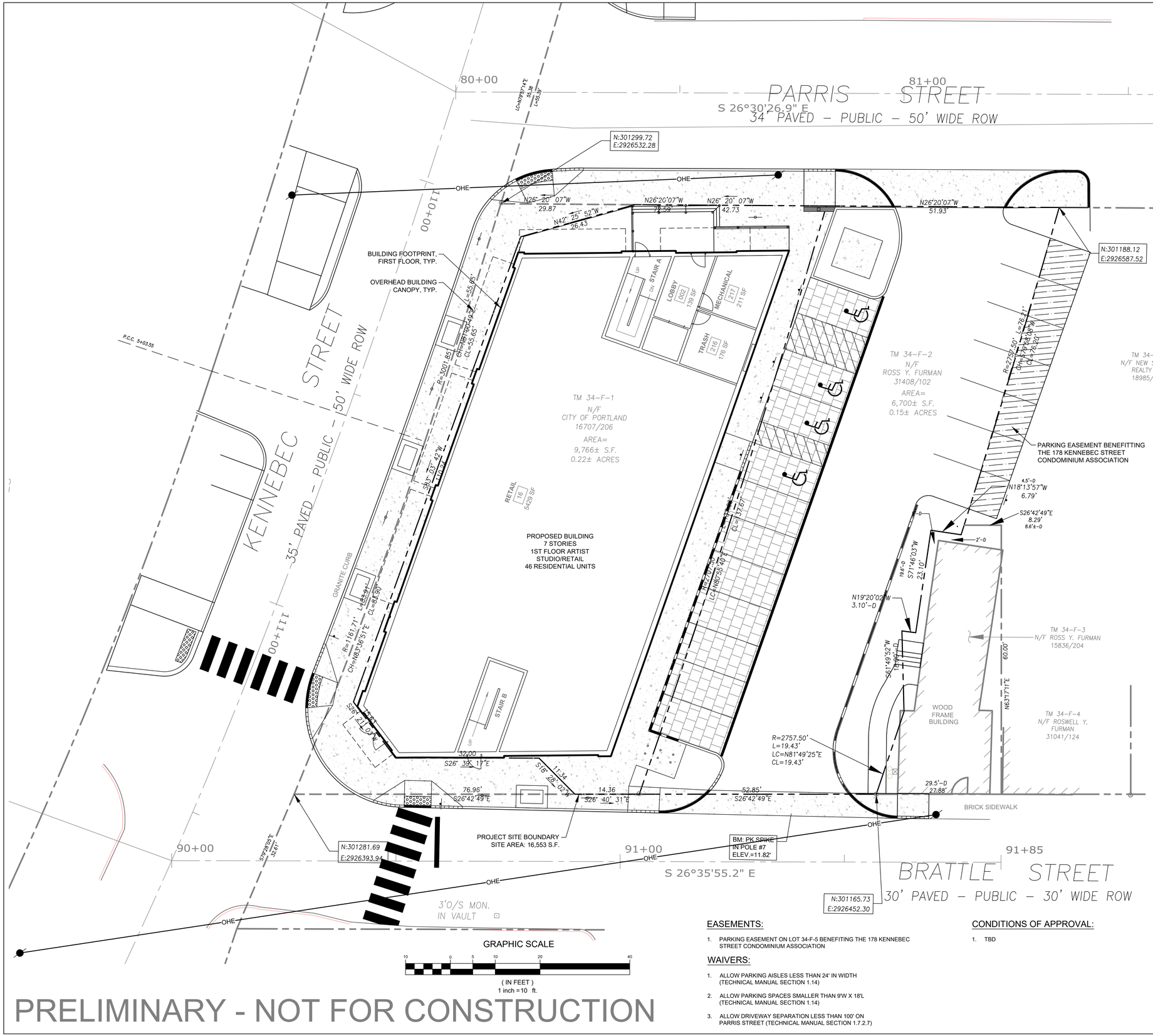
Revisions:

Scale: As indicated

Date: JAN 12 2018

FLOOR PLANS

A1.01



PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND

- EXISTING PROPERTY LINE
- PROJECT SITE BOUNDARY
- PROPOSED EASEMENT
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- EXISTING CURB
- PROPOSED VERTICAL GRANITE CURB
- PROPOSED SLIPFORM CONCRETE CURB
- PROPOSED INTEGRAL CONCRETE CURB WITH SIDEWALK
- PROPOSED FLUSH GRANITE CURB
- PROPOSED CURB TIPDOWN
- PROPOSED FENCE
- EXISTING IRON PIPE
- PIN TO BE SET
- EXISTING BUILDING
- PROPOSED BUILDING

GENERAL NOTES:

1. OWNERS OF RECORD: CITY OF PORTLAND
   TAX MAP 34 BLOCK F LOTS 1
   BOOK 16707 PAGE 206

   ROSS Y. FURMAN
   TAX MAP 34 BLOCK F LOT 2
   BOOK 31408 PAGE 102

   NEW SYSTEMS REALTY, LLC (ROSS FURMAN)
   PORTION OF TAX MAP 34 BLOCK F LOT 5
   BOOK 18985 PAGE 128
2. APPLICANT: MAINE WORKFORCE HOUSING, LLC
   482 CONGRESS STREET, SUITE 203
   PORTLAND, ME 04101
3. CIVIL ENGINEER: TERRADYN CONSULTANTS, LLC
   565 CONGRESS STREET, SUITE 310
   PORTLAND, ME 04101
4. ARCHITECT: ARCHETYPE ARCHITECTS
   48 UNION WHARF
   PORTLAND, ME 04101
5. SURVEYOR: OWEN HASKELL, INC.
   390 US ROUTE ONE, SUITE 310
   FALMOUTH, ME 04105
6. ZONING DISTRICT: B7 MIXED DEVELOPMENT DISTRICT
7. TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY OWEN HASKELL, INC. CITY BENCHMARK = "MARGINAL 1" 3 FOOT OFFSET MONUMENT IN FRONT OF CENTURY TIRE, ELEVATION=9.45', NGVD 1929 DATUM.
8. BEARINGS AND COORDINATES ARE BASED ON CITY OF PORTLAND CONTROL POINTS:
   T116-6-106 T116-5-104
   N: 301548.37 N: 301732.74
   E: 2926198.20 E: 2925919.22
9. FEMA MAP COMMUNITY PANEL NUMBER 230051 0013 B. THE SITE IS LOCATED IN A C ZONE.
10. THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, STORM DRAIN AND UNDERGROUND POWER.

PLAN REFERENCES:

1. RIGHT OF WAY & TRACK MAP PORTLAND TERMINAL COMPANY STATION 0+00.00 TO STATION 52+80.00 JUNE 30, 1916 OFFICE OF CHIEF ENGINEER PORTLAND, MAINE V.I.C./1.
2. VARIOUS PLANS OF E.C. JORDAN COMPANY FROM 1900 TO DATE.
3. PORTLAND TERMINAL CO., PORTLAND, MAINE, SALE PLAN - TERMINAL DIVISION, V.S. 1C MAP 2 SEPT. 15, 1998.
4. STANDARD BOUNDARY SURVEY ON KENNEBEC STREET, PORTLAND, MAINE, PORTLAND TERMINAL COMPANY TO ROSS Y. FURMAN MAY 11, 1999 BY OWEN HASKELL, INC.
5. BOUNDARY SURVEY AT 20- KENNEBEC STREET, PORTLAND, MAINE MADE FOR NORTHLAND MANAGEMENT CORPORATION MAY 12, 2017, REV. SEPT. 27, 2017 BY OWEN HASKELL, INC.

EASEMENTS:

1. PARKING EASEMENT ON LOT 34-F-5 BENEFITING THE 178 KENNEBEC STREET CONDOMINIUM ASSOCIATION

WAIVERS:

1. ALLOW PARKING AISLES LESS THAN 24' IN WIDTH (TECHNICAL MANUAL SECTION 1.14)
2. ALLOW PARKING SPACES SMALLER THAN 9'W X 18'L (TECHNICAL MANUAL SECTION 1.14)
3. ALLOW DRIVEWAY SEPARATION LESS THAN 100' ON PARRIS STREET (TECHNICAL MANUAL SECTION 1.7.2.7)

CONDITIONS OF APPROVAL:

1. TBD

STATE OF MAINE

CUMBERLAND COUNTY REGISTRY OF DEEDS

RECEIVED _____, 20___
AT ___ h ___m ____M. AND RECORDED IN
PLAN BOOK _____ PAGE _____

ATTEST _____ REGISTER

APPROVAL- CITY OF PORTLAND PLANNING BOARD

_____ DATE

_____ CHAIRPERSON

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10111
LICENSED PROFESSIONAL ENGINEER

PLS: P.E.: MICHAEL E. TADEMA-WIELANDT
DATE: DATE: 7-19-2018

NO.	DATE	REVISIONS	BY
6	7-19-2018	ADDED TRANSFORMER PAD, REVISED PARKING DIMENSIONS	MTW
5	7-9-2018	MODIFIED ADA, PARKING, LANDSCAPE ISLAND, AND UNDERDRAIN	MTW
4	7-3-2018	MODIFIED PLANS PER CITY COMMENTS	MTW
3	5-11-2018	MODIFIED KENNEBEC STREET ALIGNMENT AND CURB PER CITY PLANS	MTW
2	5-4-2018	MODIFIED PROPOSED WATER SERVICE AND RE-SUBMITTED TO PWD	MTW
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	APPD

565 CONGRESS STREET
SUITE 310
PORTLAND, ME 04102

CUMBERLAND HALL
64 MAIN STREET, SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
178 KENNEBEC STREET
178 KENNEBEC STREET
PORTLAND, ME 04101
RECORDING PLAT

PREPARED FOR / RECORD OWNER
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	1" = 10'
DESIGNED:	ARF
JOB NO:	1747
FILE:	1747-B.DWG
SHEET	C-2.0

PLANNING BOARD REPORT
PORTLAND, MAINE

Five-Unit Condominium
24 St. Lawrence Street
Level III Site Plan and Subdivision
2017-242
Kelly and Walter Williams, Applicant

Submitted to: Portland Planning Board: Public Hearing Date: July 27, 2018	Prepared by: Shukria Wiar, Planner Date: July 20, 2018

I. INTRODUCTION

Will Savage of Acorn Engineering on behalf of Kelly and Walter Williams has submitted a Level III Site Plan and Subdivision application for the construction of a five-unit condominium building on a 4,671 square feet site at 24 St. Lawrence Street in the East End. It is surrounded by single and multifamily houses. The site is in the Residential R-6 zone.

Figure 1: Aerial of the Proposed Site

This proposal is being reviewed under the Site Plan and Subdivision Ordinance of Land Use Code. The project will also be reviewed against the R-6 Small Infill Development Design Principles & Standards *(Appendix 7 of the Design Manual) and the* Two-Family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters Standards *(Sections (d) and (l), and Appendix 2 of the Design Manual).* This project was submitted on October 10, 2017, which is prior to the Council's action to enact the Interim Overlay Zoning and the subsequent adoption of the R-6 Munjoy Hill Conservation Overlay District. Thus, this project is not subject to review under the interim provisions nor the current R-6 provisions.

The Planning Board has had two workshops on this project on March 27, 2018 and June 26, 2018. Members of the Board at the March 27, 2018 workshop noted there were a number of design and site infrastructure concerns with the project and requested a second workshop. The applicant revised the site plan and the design of the building. These changes were presented in the workshop on June 26th. Since the June 26th workshop, the applicant has revised the plans further for the public hearing, which are outlined below:

Summary of Revisions of Design and Site for Public Hearing

- Exterior Design: The Board recommended that the applicant revise the design details i.e. changing of scale and mass of the proposed building, as well as the material. Below are some of the major changes to the proposal since the workshop:
  - Central parapet wall was returned on sides
  - Bay details revised including cornice profile, panel, brackets

- Juliet balconies added to first two floors on front introducing a third window type to the front facade

Staff Comments: Caitlin Cameron, Urban Designer, reviewed the changes and finds them acceptable, Attachment 3.

- Exterior Design: The Board recommended that the applicant revise the design details i.e. changing of scale and mass of the proposed building, as well as the material. Below are some of the major changes to the proposal since the workshop:
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  - Bay details revised including cornice profile, panel, brackets
  - Juliet balconies added to first two floors on front introducing a third window type to the front facade

  Staff Comments: Caitlin Cameron, Urban Designer, reviewed the changes and finds them acceptable, Attachment 3.

- Site Design/ Life Safety: Separation of Buildings- The Fire Department required a separation of 10 feet between buildings.

  Staff Comments: The Fire Department has reviewed the project and finds the project acceptable. Since there is a 10-foot driveway between the proposed building, with the balconies on the side, and the existing abutting home at 20 St. Lawrence Street, the required separation of 10 feet between buildings per the Fire Department has been met. Below are Fire Comments:

  As you requested, I've reviewed the latest site plan (V.3) for the proposed project at 24 St. Lawrence Street. Based on the submitted site plan, the Fire Department's concern regarding the access to the means of escape for neighboring buildings has been eliminated. Our guide for Development Review specifically states 'The new building shall not affect the egress or required Fire Department access for the neighboring building'. In this case, Fire Department access would be by portable ground ladder, carried between the buildings, and extended to the windows of 20 St. Lawrence Street. This is the tactic we would utilize if there were a fire in the neighboring building as it currently exists. It's my understanding that a deck will protrude from the second floor of the proposed building. Based on the height of the balcony, and required angle of the ground ladder, there is no concern about our ability to perform firefighting operations with the new site plan.

- Retaining walls on the Site: There were a great deal of concern from the abutters regarding the retaining walls at the rear of the property. A geotechnical analysis report has been submitted for review.

  Staff Comments: Lauren Swett, Consultant Engineer has reviewed the geotechnical report that applicant has provided, as well as the independent studies done by abutters, and states that "*I have reviewed the geotechnical evaluation provided for 24 St. Lawrence. I have no issues with what has been provided, pending their final foundation design and construction practices following what is described in the report, the project shouldn't cause any problems.*"

Notices were sent upon receipt of the application and one hundred and eighty-three (183) notices were sent to area residents within 500 feet of the site and the interested party list for the public hearing. A notice also appeared in the July 13th and 16th, 2018 editions of the *Portland Press Herald.*

Applicant Name	Kelly and Walter Williams
Consultants	
Engineer	Will Savage of Acorn Engineering, Inc.
Architect	Andy Hyland, Port City Architecture
Surveyor	Owen Haskell, Owen Haskell, Inc.

Project Reviews

Review	*Applicable Standards*
Site Plan	14-526

Subdivision	14-491
Design Manual	R-6 Small Infill Development Design Principles & Standards (Appendix 7 of the Design Manual) and the Two-Family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters Standards (Sections (d) and (l), and Appendix 2 of the Design Manual)

II. PROJECT DATA

Existing Zoning	Residential R-6
Existing Use	Residential – Two Family
Proposed Use	Residential
Proposed Development Program	5 residential units
- Bedroom Mix	4 two-bedroom units, 1 three-bedroom units
Parcel Size	4,671 SF
Proposed Parking	5 spaces

	Existing	*Proposed*	*Net Change*
Building Footprint	1,526 SF	2,790 SF	1,264 SF
Building Floor Area	4,038 SF	7,424 SF	3,3868 SF
Impervious Surface Area	2,872 SF	3,230 SF	358 SF
Parking Spaces (on site) - handicapped	2 0	4 (2 required) 1	3 1
Bicycle Parking Spaces	0	4 internal	4
Estimated Cost of Project	$2.4 Million		

III. BACKGROUND AND EXISTING CONDITIONS

24 St. Lawrence Street is located on the west side of St. Lawrence Street on Munjoy Hill and is surrounded by residential uses, including both single and multi-family homes. The property is currently developed with a two and half stories, two-family house and a paved surface parking. The site is within the Residential R-6 zone and has retaining walls at the rear and southwest corner to stabilize the slopes and create a buildable envelope (site plan below)

Figure 2: Existing Building the Proposed Site

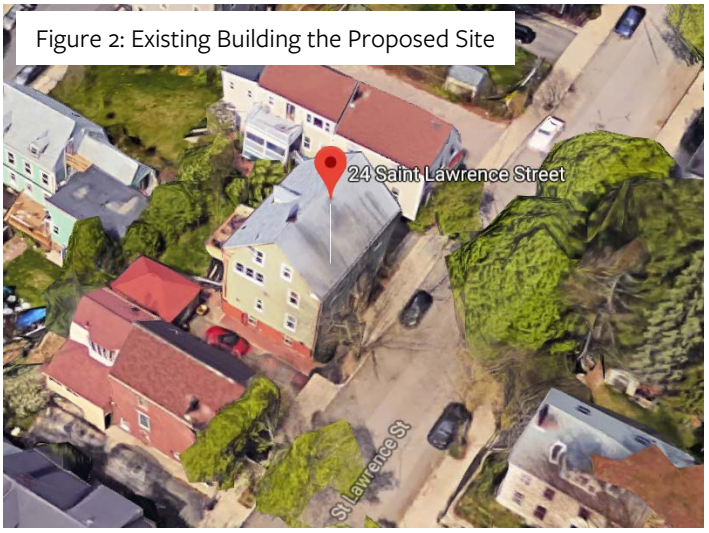
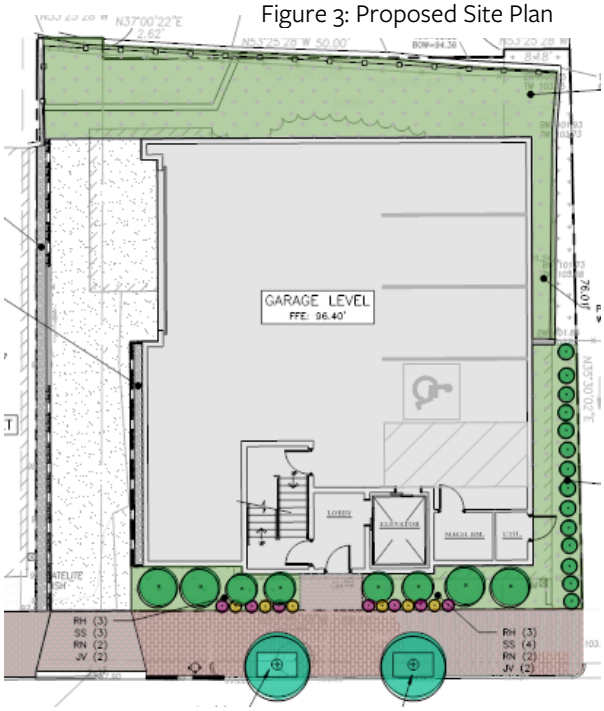


Figure 3: Proposed Site Plan



IV. PROPOSED DEVELOPMENT

The proposal, including floor plans and elevations, are included in the plan set and have been revised to address staff and Board concerns. The development project is proposed as new construction of a five-unit apartment building with four two-bedrooms units and the fifth unit with three-bedrooms. The building now has one stair tower and an elevator at the front of the building. The second stair tower is not required

any longer by international building code because the building is at three stories now. The building height is 38 feet with 2,790 SF footprint. The scale of the apartment building is more in balance the residential uses of the street and neighborhood.

All five of the units will share access via a common entrance on St. Lawrence Street. Vehicular circulation is no longer centrally located on the site but rather accessed from the side driveway from St. Lawrence Street. Parking for each unit will be located underneath the new building. The R-6 zone does not require parking spaces for the first three units. However, the applicant is now proposing five parking spaces (has reduced it by one parking space). Two bicycle parking spaces are also proposed as part of this project in the garage. A designated area for snow storage is located adjacent to the proposed building. Landscaping is shown at the front and rear of the property.

Figure 4: Rendering of Front of Proposed Building

V. PUBLIC COMMENT

For the first workshop, there were fourteen individuals, some of which have submitted multiple written comments for a total of 23 public comments. Concerns raised by abutters were focused mostly on the design of the building, especially the height and massing. Public comments submitted are included in Attachments PC1 to PC31. Concerns raised include the scale of the building, its impact on neighboring buildings, and impacts on retaining walls.

The applicant held a neighborhood meeting on November 2, 2018 and twenty-four (24) members of the public attended, see Attachment V for the meeting minutes. A second meeting was held on June 21, 2018 to discuss the changes to the project.

VI. RIGHT, TITLE AND INTEREST AND FINANCIAL/TECHNICAL CAPACITY

a. The owner of the property is Kelly and Walter Williams. The applicant has provided a copy of a quitclaim deed of sale, recorded at the Cumberland County Registry of Deeds (Book 25609 Page 269), which demonstrates their right, title and interest in the property.

b. The estimated cost of the development is $2,400,000. The applicant has submitted a letter from Gorham Savings Bank, dated October 3, 2017, as demonstration of their financial and technical capacity to complete the proposed development.

VII. ZONING ASSESSMENT

The proposed project is to build a three-story five-unit apartment building. The property is located in the R-6 Residential Zone and is being reviewed under the provisions of R-6 at the time of submittal. The proposed five residential units are permitted and meet the density requirements in the Residential R-6 zone. The height of the building is 38 feet, the maximum building height is 45 feet. For off street parking, Division 20 requires no parking for the first three units and one parking space per unit for residential uses after the first three in the R-6 zone. Even though two parking spaces are required, the applicant is proposing five parking spaces as shown on the site plan.

VIII. DEVELOPMENT REVIEW

A. SITE PLAN SUBMISSION REQUIREMENTS (Section 14-527) and SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

The applicant has submitted a recording plat. The final plat will need to be revised to reflect any waivers and conditions of approval that relate to the subdivision plan. As writing of this report, there is one waiver request.

B. SUBDIVISION (Section 14-497)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's Subdivision Ordinance and applicable regulations. Staff comments are listed below.

1. *Will Not Result in Undue Water and Air Pollution (Section 14-497 (a) 1), and Will Not Result in Undue Soil Erosion (Section 14-497 (a) 4)*
   Lauren Swett, P.E. with Woodard and Curran Engineering, has reviewed the erosion and sediment control plan and is satisfied with the proposed plans. The staff finds the proposal in conformance with this standard.

2. *Sufficient Water Available (Section 14-497 (a) 2 and 3)*
   The project will be served by the existing utility services located in St. Lawrence Street. The existing building is currently served with a ¾-inch domestic water service; the size of this service is undersized for the proposed use. This service will be terminated and a new 4-inch line is proposed to tap into the main with a parent child connection in the right-of-way. A 2-inch line will split off of the 4-inch line and serve as the domestic water line with the 4-inch line functioning as the fire sprinkler line. A capacity letter from Portland Water District has been provided. Ms. Swett has reviewed this information and notes the following:

   Notes should be added to the plan to coordinate retirement of existing services with the respective utilities. It is noted that for the retirement of a sewer service, a permit is required, and the Sewer Maintenance Division must be on site for the work.

   The Applicant has received an Ability to Serve approval letter from the Portland Water District. The Applicant should ensure that any changes to the utility plan are reviewed again by PWD as necessary. It's noted that the layout and location of gate valves and tapping sleeves does not appear to be in accordance with the PWD standards.

   The staff finds the proposal in conformance with this standard subject to the following condition:
   - *The final plans shall be revised to include a note to coordinate retirement of existing services with the respective utilities and that all required permits are obtained, including the requirement that the Sewer Maintenance Division must be on site for the work.*
   - *The Applicant shall submit any revised utility plans for final review and approval by the PWD and for review and approval by DPW and the Planning Authority.*

3. *Will Not Cause Unreasonable Traffic Congestion (Section 14-497 (a) 5)*
   The project now proposes a 10-foot driveway at the southern side of the lot, which is basically modifying the existing curb cut. The proposed entrance will lead into the proposed 20-foot wide parking garage entrance. A fire hydrant and utility pole have to be relocated to accommodate the changes to the curb cut. Furthermore, the proposed driveway/curb cut maintains over 20 feet of face to face separation from the abutting driveways. Tom Errico, P.E. Ty Lin reviewed the proposal's revised details including the access, parking, and vehicle circulation (Attachment 1). Mr. Errico finds the project to be acceptable.

   The proposed project is not anticipated to cause unreasonable traffic congestion. The staff finds the proposed project is in conformance with this standard.

4. *Will Provide for Adequate Sanitary Sewer and Stormwater Disposal (Section 14-497 (a) 6), and Will Not Cause an Unreasonable Burden on Municipal Solid Waste and Sewage (Section 14-497 (a) 7)*
   An existing sewer service was located within St. Lawrence Street. Prior to demolition, the existing service will be disconnected from the main. A new 6" service is proposed to be tied into the existing main as seen on the Utility Plan. Confirmation of ability to serve letter for sewer from Department of Public Service has been submitted to the

Planning Division. The staff finds the proposal in conformance with this standard subject to the condition stated above subparagraph 2.

5. *Scenic Beauty, Natural, Historic, Habitat and other Resources (Section 14-497 (a) 8)*
The proposal site is not within an historic district. It is in an urban neighborhood surrounded by a variety of residential building types. The proposed building does not impact the natural beauty of the area or adversely affect any significant wildlife habitat, rare or irreplaceable natural areas, or any public access to the shoreline. The staff finds the proposal in conformance with this standard.

6. *Comprehensive Plan (Section 14-497 (a) 9)*
The development has been designed to be consistent with the City's Comprehensive Plan, adopted June 2017.

C. SITE PLAN STANDARDS (Section 14-526)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations. Staff comments are listed below.

1. *Transportation Standards*
   a. Impact on Surrounding Street Systems and Access and Circulation- see Subdivision, Paragraph VIII (B) (3), above.

   b. Sidewalks
   The applicant is proposing to install new brick sidewalk along their frontage on St. Lawrence Street meeting city standards. This site is in the brick district.

   c. Public Transit Access
   The public transit requirements do not apply to this project.

   d. Parking
   There are five parking spaces and these are located inside the building and screened from the street view.

   e. Bicycle Parking
   The proposal includes two bicycle parking spaces in the garage of the building, which meets the ordinance standard of two bicycle spaces per 5 vehicle spaces.

2. *Environmental Quality Standards*
   a. Preservation of Significant Natural Features (as defined in Site Plan Ordinance)
   There are no known significant natural features on the site.

   b. Landscaping and Landscape Preservation
   There is one existing, mature tree within the right of way. Originally, this tree was proposed to be removed to accommodate the new driveway entrance. While the final location of the curb cut does not impact the existing tree, the applicant is still proposing to remove the tree. The staff is recommending that efforts be made to preserve the street tree. The staff is recommending the following condition of approval:

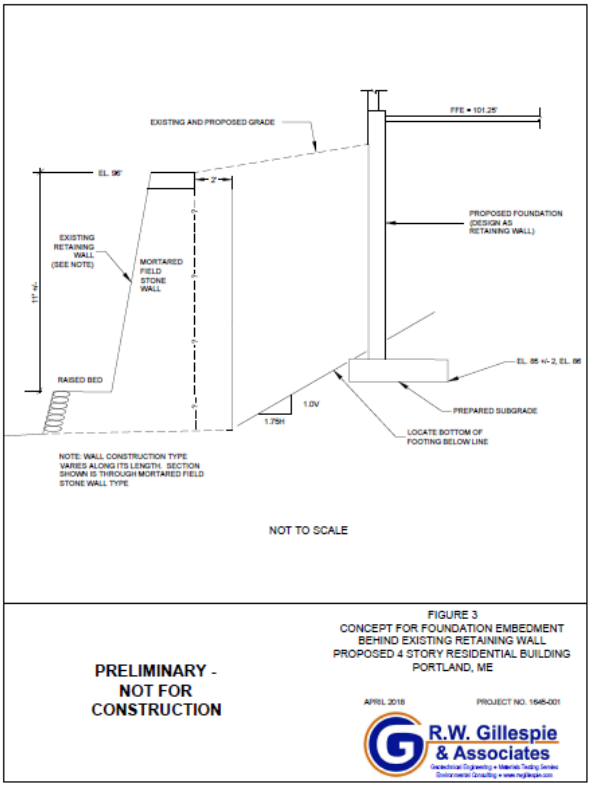
   The site plan shall be revised to show retaining the existing tree and that the applicant and contractor shall submit documentation for review and approval by the City Arborist and Planning Authority that addresses preserving the tree and complies with the standards of the Technical Manual standard, section 4.3 Preservation of Existing Vegetation.

   If the existing tree cannot be saved per the decision of the City Arborist, then the applicant shall replace the street tree. Due to site restrictions, the remaining three street trees cannot be planted on the site. Therefore, the applicant will need to contribute to the City's Tree Fund for the three trees, which is a total of $1,200.

   The site will have landscaping along the front of the building as well as on the side of the property. Landscaping in the form of trees, shrubs, perennials, and grasses around the building will replace this tree as

well as the two proposed 'Accolade' Cherry trees within the right-of-way, as the suggestion of Jeff Tarling, City Arborist, due to overhead utilities. All of Mr. Tarling's previous recommendations have been addressed.

The site has existing retaining walls at the rear and southwest corner, of which portions are shared and cross property boundaries. The applicant is proposing a foundation wall to be designed to serve as a retaining wall as shown below:



The adjoining neighbors have raised concerns about the proposed project and the impacts on the retaining walls. The applicant has submitted a geotechnical report (R.W. Gillespie and Associates- April 2018 and revised July 6, 2018) and two neighbors submitted geotechnical analyses; 1) Casco Bay Engineering, Eric Dube for Martica Sawin, Jan 18, 2018; and 2) Summit Geoengineering Services. William Peterlein, for Rob Whitten, Nov. 6, 2017. Lauren Swett, P.E., Consultant Engineer with Woodard and Curran, has reviewed all of the geotechnical information that has been submitted by the applicant and the neighbors, including the amendment to the Gillespie report and states that:

> *I have reviewed the geotechnical evaluation provided for 24 St. Lawrence. I have no issues with what has been provided, pending their final foundation design and construction practices following what is described in the report, the project shouldn't cause any problems.*

The Planning staff are recommending the following condition of approval:

- *The applicant shall submit to the Planning Authority and Building Authority: i.) confirmation from the Design Engineer that the foundation design, and ii.) confirmation from the General Contractor that the construction practices, were followed per the Geotechnical Report from R.W Gillespie, as amended.*

The applicant is discussing the retaining walls with the adjoining neighbors and has suggested the following two conditions of approval:

- *Applicant shall conduct a pre-construction property assessment survey of the abutters properties located at 20 St. Lawrence, 28 St. Lawrence, 23 St. Lawrence, and 23 Waterville Street provided the abutters allow access. Applicant shall coordinate the timing and access with each of the property owners.*

- *Applicant shall submit for a building permit which is in conformance with the Geotechnical Report, as amended for review and approval by the Department of Permitting and Inspections. Should the plans for the retaining walls be revised pursuant to agreements with neighbors, then the applicant shall submit a revised/amended site plan for review and approval by Planning Authority, for the removal/replacement of the existing retaining wall sections along the Applicant's east, south and west boundaries.*

c. Water Quality, Storm Water Management and Erosion Control

The proposed development disturbs approximately 4,800 square feet (approximately 0.1 acres). According to Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards.

There is currently no drainage infrastructure on site. It is proposed to install a field inlet along the northerly side of the property to help drain runoff from the site and adjacent properties. This inlet will then tie into the foundation drain which will then wye into a storm drain along with the roof drain. The 8" storm drain will connect to the combined sewer. A separate storm drain has been designed so that if the sanitary sewer main is separated in the future along St. Lawrence Street, the storm/groundwater will be able to discharge to the separated storm main.

Lauren Swett, Consultant Engineer has reviewed the stormwater information and states all of the prior comments have been addressed.

3. Public Infrastructure and Community Safety Standards

a. Consistency with Master Plans

See Subdivision, Paragraph VIII (B)6 above.

b. Public Safety and Fire Prevention

The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance address the principles of natural surveillance, access control and territorial reinforcement so that the design of developments enhance the security of public and private spaces and reduce the potential for crime. The applicant has introduced wall mounted lighting at all entrance ways and along the balcony of each unit. Wall mounted lighting will also be provided for the area by the parking garage. The entrances to the building will be well-lit and visible from the street and adjacent walkways to provide natural surveillance.

The Fire Department has reviewed the project and finds it acceptable. Since there is a 10-foot driveway between the proposed building and the existing abutting home at 20 St. Lawrence Street, the required separation of 10 feet between buildings per the Fire Department has been met.

c. Availability and Adequate Capacity of Public Utilities

The project will be served by the existing utility services located in St. Lawrence Street. The Applicant has contacted the Portland Water District and the City Department of Public Services requesting ability to serve letters for water and sewer demand. Confirmation of ability to serve letters for water and sewer from PWD and DPS have been submitted to the Planning Division.

4. Site Design Standards

a. Snow and Ice Loading

Snow removal will only be necessary for the parking garage entrance and walkways. Removal will be minimal and accommodated on site. The applicant is proposing on-site snow storage area to the south of the site.

b. View Corridors
This site is not within a Protected View Corridor as per the "View Corridor Protection Plan" approved by the Portland City Council in 2001.

c. Historic Resources
The site is outside the 100-foot setback of the West End historic district; therefore, the project does not have to be reviewed by Historic Preservation.

d. Exterior Lighting
A lighting and photometric plan has been submitted for review. The proposal has noted wall mounted lighting along all the entrances and at the balconies. According to the applicant, any proposed lighting will be full cutoffs.

e. Noise and Vibration
The mechanical equipment will be on the roof of the proposed building and will be screened from St. Lawrence Street by the proposed Mezzanine. All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will have to be shown on the plans and meet state and federal emissions requirements. The mechanical equipment should be located to the interior of the site, away from abutting residential properties and be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof. This information will have to be submitted for review by the Planning Authority prior to the final site plan and building permit.

f. Signage and Wayfinding
This standard does not apply to the proposal.

a. Zoning Related Design Standards
A design review according to the *City of Portland Design Manual* Standards was performed for the revised proposal for new construction of a multi-family dwelling at 24 St. Lawrence Street. The review was performed by Caitlin Cameron, Urban Designer, Shukria Wiar, Planner, along with Jeff Levine, Department Director, all within the Planning Division of the Department of Planning & Urban Development. The project was reviewed against the *R-6 Small Infill Development Design Principles & Standards* (Appendix 7 of the Design Manual) as well as the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters* (Section I of the Design Manual). Below are some excerpts of the review, refer to Attachment 5 for the complete review:

Design Review Criteria:
The project was reviewed with the Alternative Design Review which has the following criteria:

a. Proposed design is consistent with all of the Principle Statements
b. The majority of the Standards within each Principle are met
c. The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two-block radius in terms of size, scale, materials, and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.
d. The design plan is prepared by an architect registered in the State of Maine.

Findings of the Design Review:
The proposed design **passes** all of the criteria of the R6 Alternate Design Review – please refer to comments in Attachment 3. Revisions include:

- Central parapet wall was returned on sides
- Bay details revised including cornice profile, panel, brackets
- Juliet balconies added to first two floors on front introducing a third window type to the front facade

VII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board approve the proposed development.

VIII. PLANNING BOARD MOTIONS

A. SUBDIVISION PLAT

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in Planning Board Report for application 2017-242 relevant to the Subdivision Ordinance, and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearings, the Planning Board finds the recording plat [is or is not] in conformance with the subdivision ordinance.

B. SITE PLAN

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in Planning Board Report for application 2017-242 relevant to the Site Plan Ordinance, and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearings, the Planning Board finds the plan [is or is not] conformance with the site plan standards of the Land Use Code, subject to the following conditions of approval to be met as noted:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall submit documentation as to how the existing street tree to be saved under the Technical Manual standard, section 4.3 Preservation of Existing Vegetation and tree save measures shall be defined and located in the field as part of the preconstruction meeting.

2. The mechanical equipment should be located to the interior of the site, away from abutting residential properties and be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof. This information shall be submitted for review and approval by the Planning Authority.

3. The final plans shall be revised to include a note to coordinate retirement of existing services with the respective utilities and that all required permits are obtained, including the requirement that the Sewer Maintenance Division must be on site for the work.

4. The Applicant shall submit any revised utility plans for final review and approval by the PWD and for review and approval by DPW and the Planning Authority.

PRIOR TO THE ISSUANCE OF A BUILDING PERMIT

5. Due to site constraints preventing the planting of required street trees in the right of way, the five street trees as required in Section 14-526(2)(b)(iii) of the Site Plan Ordinance cannot be met; the applicant shall contribute to the tree fund of $400 per tree for three trees for a total of $1,200.

6. Applicant shall conduct a pre-construction property assessment survey of the abutters properties located at 20 St. Lawrence, 28 St. Lawrence, 23 St. Lawrence, and 23 Waterville Street provided the abutters allow access. Applicant shall coordinate the timing and access with each of the property owners.

7. Applicant shall submit for a building permit which is in conformance with the Geotechnical Report, as amended for review and approval by the Department of Permitting and Inspections. Should the plans for the retaining walls be revised pursuant to agreements with neighbors, then the applicant shall submit a revised/amended site plan for review and approval by Planning Authority, for the removal/replacement of the existing retaining wall sections along the Applicant's east, south and west boundaries.

PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY

8. The applicant shall submit to the Planning Authority and Building Authority: i.) confirmation from the Design Engineer that the foundation design, and ii.) confirmation from the General Contractor that the construction practices, were followed per the Geotechnical Report from R.W Gillespie, as amended.

IV. ATTACHMENTS

Staff Review Comments

1. Traffic Engineering Review (Tom Errico, TY Lin)
2. Civic Engineer Review, Lauren Swett, dated 06.21.2018
3. Urban Designer Review, Caitlin Cameron, dated 06.05.2018
4. Fire Department Review, Capt. Mike Thompson, dated 06.22.2018

Public Comments

PC 1. Ariana van den Akkar 11-2-17
PC 2. Beth Snyder 1-10-18
PC 3. Carol Stillwell 1-7-18
Carol Stillwell 11-1-17
Carol Stillwell Photo Attachment
PC 4. J. Wuesthoff 1-11-18
PC 5. Jayne Hurley 1-8-18
PC 6. Karen Snyder 10-20-17
Karen Snyder 11-7-17
PC 7. Katherine Collins 11-15-17
PC 8. Kelly Williams 10-23-17
PC 9. Lynn Hallett 11-7-17
PC 10. Maggie W. 1-4-18
PC 11. Martica Douglas 1-8-18
Martica Douglas 12-2-17
PC 12. Martica Sawin 2-23-18
Martica Sawin 10-24-17
Martica Sawin 12-5-17
PC 13. Michael Petit and Pamela Day 10-24-17
Pamela Day 1-3-18
Pamela Day and Michael Petit 06.22.2018
PC 14. Rob Whitten 1-8-18
Rob Whitten 11-20-17
Rob Whitten 3-13-18
PC.15 Carol Stillwell 4-30-18
PC.16 Kris Lape 3-28-18
PC.17 Martica Sawin 4-4-18
PC.18 Matt Dodge 3-27-18
PC.19 Karen Snyder 6-22-2018
PC.20 Peter Murray 6-22-2018
PC21 Martica Sawin 6-22-18
PC22 Maggie Wolf 6-21-18
PC23 Pamela Day 6-22-18
PC24 Linda Tyler 6-26-18
PC25 Debby Murray 6-26-18
PC26 Enoch Wenstrom 6-25-18
PC27 Kris Lape 7-18-18
PC28 Tica Douglas 7-20-18
PC29 Pamela Day 7-20-18
PC30 Enoch Wenstrom 7-20-18
PC31 Ema Koch 7-20-18

Applicant's Submittal

A. Cover Letter
B. Level III Final Site Plan Application
C. Wastewater Capacity
D. Right, Title, or Interest

E. Financial Capacity
F. Construction Management Plan
G. Stormwater Management Report
H. Erosion and Sedimentation Control Report
I. Utilities
J. Solid Waste
K. Fire Department Letter
L. Conformity with Land Use Ordinance
M. Request for Waivers
N. Written Easements
O. Architectural Design Narrative
P. Lighting
Q. Parking Analysis
R. Comment Response Letter
S. Certification Letter
T. Neighborhood Meeting Invitation
U. Sign-In Sheet
V. Neighborhood Meeting Minutes
W. Geotechnical Report
W1. 2018-07-06 Revised Wall Condition and Protection Evaluation 1645-001-signed
X. Architectural Design Review Response
Y. Proposed Site Lighting Catalogue Cut

Plans

Plan1	Cover Sheet
Plan2	General Notes
Plan3	Existing Conditions Plan
Plan4	Construction Management Plan
Plan5	Site Plan
Plan6	Subdivision Plat
Plan7	Landscaping Plan
Plan8	Utility Plan
Plan9	Grading & Drainage Plan
Plan10	Site Details 1
Plan11	Site Details 2
Plan12	Utility Details 1
Plan13	Utility Details 2
Plan14	Drainage Details
Plan15	Erosion & Sedimentation Control Details
Plan16	Building Elevations
Plan17	Garage Level Floor Plan
Plan18	First Level Floor Plan
Plan19	Second Level Floor Plan
Plan20	Third Level Floor Plan
Plan21	Lower Street Rendering
Plan22	Upper Street Rendering
Plan23	Straight-On Model
Plan24	Rear Model
Plan25	Lower Street Model
Plan26	Upper Street Model

Portland Maine | Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

24 St. Lawrence Street - Final Traffic Comment

Tom Errico <thomas.errico@tylin.com> Fri, Feb 9, 2018 at 5:06 PM
To: Shukria Wiar <shukriaw@portlandmaine.gov>
Cc: Keith Gray <kgray@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Hyman, Bruce" <bhyman@portlandmaine.gov>, "Jeff Tarling (JST@portlandmaine.gov)" <JST@portlandmaine.gov>

Hi Shukria – I have reviewed the application materials and I find the project to be acceptable from a traffic engineering perspective. I would note that the driveway width, apron detail and separation to the nearest driveway to the north meet City Technical Standards. On-site parking and circulation is also acceptable.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TY LIN INTERNATIONAL
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Twitter | Facebook | LinkedIn | Google+

"One Vision, One Company"

Portland Maine Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

24 St. Lawrence Street

Lauren Swett <lswett@woodardcurran.com> Thu, Jun 21, 2018 at 11:36 AM
To: Shukria Wiar <shukriaw@portlandmaine.gov>

Hi Shukria,

I have reviewed the geotechnical evaluation provided for 24 St. Lawrence. I have no issues with what has been provided, pending their final foundation design and construction practices following what is described in the report, the project shouldn't cause any problems.

All of my other other prior comments have been addressed.

If you have any questions, or need any other information, let me know.

Thanks,

Lauren

Lauren Swett, P.E.*

Technical Manager

Woodard & Curran

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Portland Maine | Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

24 St Lawrence - Updated Geotech

Lauren Swett <lswett@woodardcurran.com> Fri, Jul 13, 2018 at 10:02 AM
To: Shukria Wiar <shukriaw@portlandmaine.gov>

Hi Shukria,

I've taken a look at the updated Geotech report, and I don't have any comments.

Thanks,

Lauren

From: Shukria Wiar <shukriaw@portlandmaine.gov>
Sent: Tuesday, July 10, 2018 8:54 AM
To: Lauren Swett <lswett@woodardcurran.com>
Subject: Fwd: 24 St Lawrence - Updated Geotech

[Quoted text hidden]

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

Planning and Urban Development Department
Planning Division

Subject: R-6 Small Infill Design Review – 24 St. Lawrence Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Wednesday, July 18, 2018

A design review according to the *City of Portland Design Manual* Standards was performed for the revised proposal for new construction of a multi-family dwelling at 24 St. Lawrence Street. The review was performed by Caitlin Cameron, Urban Designer, Shukria Wiar, Planner, along with Jeff Levine, Department Director, all within the Planning Division of the Department of Planning & Urban Development. The project was reviewed against the *R-6 Small Infill Development Design Principles & Standards* (Appendix 7 of the Design Manual) as well as the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters* (Section I of the Design Manual).

Design Review Criteria:
The project was reviewed with the Alternative Design Review which has the following criteria:

A. Proposed design is consistent with all of the Principle Statements
B. The majority of the Standards within each Principle are met
C. The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two-block radius in terms of size, scale, materials, and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.
D. The design plan is prepared by an architect registered in the State of Maine.

Findings of the Design Review:
The proposed design **passes** all of the criteria of the R6 Alternate Design Review – please refer to comments below.
Revisions include:

- Central parapet wall was returned on sides
- Bay details revised including cornice profile, panel, brackets
- Juliet balconies added to first two floors on front introducing a third window type to the front facade

Design Review Comments *(red text denotes principles or standards that are not met;* ***Bold = new review comments):***
Appendix 7: R-6 Infill Development
Principle A Overall Context –Met – see below.

- *A-1 Scale and Form:* Context: Of the larger multi-family buildings in the neighborhood, the scale is mitigated either by building only 3 stories or if building 4 stories, a narrower, vertical proportion is used – In those rare instances where a larger scale, wider building

has been built, the scale is mitigated by keeping wider setbacks as a buffer and through elements such as bay windows, balconies and porches, varied rooflines, and/or massing changes at the street. Some scale mitigation has been achieved by shifting the building to have a side driveway giving more space between this building and the neighbor, varying the massing, lowering the height where possible. In addition, the project was revised to bury the garage thus creating a three-story building, reducing the scale impact. The mass is varied with a plane change/massing variation at the front circulation core and the addition of a bay window in the central bay. The roof form is a flat roof with has some variation in the parapet to give hierarchy to the façade.

- *A-2 Composition of Principal Facades:* The façade composition was revised to be symmetrical and now follows the typical three-bay composition. The revised façade composition creates three vertically oriented bays and places hierarchy at the middle entrance bay. Previously, the façade composition was impacted by placement of all the circulation at the front façade with no living space facing the street – this was revised and living spaces now face the street on the upper floors above a half buried garage/basement level.
- *A-3 Relationship to the Street:* The street wall is maintained and building placement in relationship to St. Lawrence Street is consistent with the neighboring properties. The project now follows the pattern of building placement on the lot and the spacing of the residential fabric in this neighborhood. The ground floor was revised to be buried and is now raised a partial story more in line with typical residential development patterns. The floor plans and building height were revised to allow living space on the front façade.

Principle B Massing – Met – The building was revised to reduce the width on the street; though the building is wider than the traditional multi-family buildings, the project varies the massing to create more vertical proportions that are contextual with the vertical facades in the streetscape. The roofline has also been varied to give hierarchy to the façade and provide additional variation and emphasis on the vertical rather than horizontal.

- *B-1 Massing:* The building massing was revised to create three bays and emphasize the entry and vertical circulation tower. These design gestures create massing that is broken down into scale and proportions similar to the multi-family buildings found in context.
- *B-2 Roof Forms:* The proposed flat roof form is in keeping with the traditional multi-family building types found in the context. The jog in the roofline at the central portion is not a roofline found in context – in this case it is necessary to house the circulation and is also used as a massing variation to give hierarchy to the entry.
- *B-3 Main Roofs and Subsidiary Roofs:* The roof forms are flat, however, there are multiple levels to the roof whereas the context typically has simple roof forms. In this case, the changes in roof lines provide positive elements such as massing variation, hierarchy, and to respond to zoning stepbacks, but does not create a true main roof with subsidiary roofs.
- *B-4 Roof Pitch:* Flat roofs are allowed provided there is a 12” cornice.
- *B-5 Façade Articulation:* The project employs a covered entry, recessed entry, and a bay window.
- *B-6 Garages:* The garage is on the ground floor but has been buried and the door is on the side of the building thus making it less obvious on the street and bringing the living spaces down closer to street level.

Principle C Orientation to the Street – Met – The project appropriately provides a sense of transition and privacy for the residential uses. The ground floor parking is partially buried into the site with the side drive and garage entry now on the side and rear of the property. This positions the living space of the building closer to the street and creates a similar relationship to the traditional residential buildings with a basement and raised first floor. The building was lowered on story thus removing the need for two circulation towers – this has allowed for more active living space on the front façade and improves the relationship to the street.

- *C-1 Entrances:* The main entry is emphasized by directly facing the street, placement of the bay as a canopy, and prominent door design with sidelites and lighting.
- *C-2 Visual Privacy:* Visual privacy is adequately addressed; all living spaces are above the ground floor.
- *C-3 Transition Spaces:* The project uses a canopy, recessed entry, and a vestibule for transition space.

Principle D Proportion and Scale – Met – The building is wider than the traditional buildings but successfully creates proportions on the front façade typically found in the context (usually a discernable vertical proportion). Individual building elements are human-scaled.

- *D-1 Windows:* The majority of windows are rectangular, vertically proportioned.
- *D-2 Fenestration:* The project appears to meet the 12% fenestration requirement and appropriately scaled to the massing of the building.
- *D-3 Porches:* Not applicable

Principle E Balance – Met – The building façade composition creates a sense of balance with good use of overall and local symmetry and articulation of façade materials. The façade was revised to be symmetrical.

- *E-1 Window and Door Height:* The majority of window and door head heights align along a common horizontal datum.
- *E-2 Window and Door Alignment:* The majority of windows shall stack so that centerlines of windows are in vertical alignment.
- *E-3 Symmetricality:* Primary window compositions are arranged symmetrically around discernable vertical axes.

Principle F Articulation – Met – Articulation is provided through material and trim texture, changes in façade planes, bay window, and recessed entry with canopy.

- *F-1 Articulation:* The design uses dimensional trim, bay window, and the texture of the material to provide surface articulation and visual interest.
- *F-2 Window Types:* Three window types are used.
- *F-3 Visual Cohesion:* The visual cohesion of the façade is good.
- *F-4 Delineation between Floors:* The ground floor is delineated with a different material. Otherwise, the windows and board provide some delineation of the upper floors.
- *F-5 Porches, etc.:* n/a
- *F-6 Main Entries:* The main entry is emphasized with prominent placement facing the street and a “canopy” provided by the bay, recessed entry.
- *F-7 Articulation Elements:* It appears the rake of the roof meets the 6” requirement; trim is provided at the windows, ground floor, and cornice; offsets in the principal façade are at least 12”.

Principle G Materials – Met – The material choices are contextual and fine-grained.

- *G-1 Materials:* The residential context is predominantly clapboards with occasional shingle or brick. The clapboard is an appropriate, fine-grain material in keeping with the context. Brick at the ground floor is logical and grounds the building. Wood panel is used in feature locations such as the bay window and bay is also consistent with the traditional treatment.
- *G-2 Material and Façade Design:* The materials are appropriately placed according to their nature – brick base and clapboard above.
- *G-3 Chimneys:* Not applicable.
- *G-4 Window Types:* Three window types are used on the front façade.
- *G-5 Patios and Plazas:* Entrance areas use brick and concrete.

(i) Two-family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters *(red text denotes standards that are not met)**:***

Standard 1 –Met – See R-6 comments above.

Standard 2 – Met – The building sits close to the street with a slight front yard setback buffer consistent with residential architecture in this neighborhood. The building was revised to follow the established pattern on the street with the building uphill and a side driveway downhill. The residential units are slightly above the ground floor to preserve privacy and in keeping with the typical pattern of a masonry water table and raised ground floor.

Standard 3 – Met – The project provides balcony space for each dwelling unit.

Standard 4 – Met – The project has a high level of fenestration and the provision of balconies also contributes to residents' access to light and air. Storage is provided within each unit.

Standard 5 – Met – The parking is structured and screened from view. The garage door is now on the side of the building away from the street.

Standard 6 – Not Applicable

Portland Maine Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

24 St. Lawrence Street

Robert Thompson <rmt@portlandmaine.gov> Thu, Jun 28, 2018 at 3:18 PM
To: Shukria Wiar <shukriaw@portlandmaine.gov>

Hi Shukria,

As you requested, I've reviewed the latest site plan (V.3) for the proposed project at 24 St. Lawrence Street. Based on the submitted site plan, the Fire Department's concern regarding the access to the means of escape for neighboring buildings has been eliminated.

Our guide for Development Review specifically states 'The new building shall not affect the egress or required Fire Department access for the neighboring building'. In this case, Fire Department access would be by portable ground ladder, carried between the buildings, and extended to the windows of 20 St. Lawrence Street. This is the tactic we would utilize if there were a fire in the neighboring building as it currently exists. It's my understanding that a deck will protrude from the second floor of the proposed building. Based on the height of the balcony, and required angle of the ground ladder, there is no concern about our ability to perform firefighting operations with the new site plan.

Please feel free to contact me if you have any further questions or concerns.

Thank you,
Chief Thompson

--
Robert M. Thompson
Division Fire Chief
Portland Fire Department
(207) 874-8400
rmt@portlandmaine.gov

ACORN ENGINEERING, INC.

Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

October 10, 2017

Subject: Level III Final Site Plan and Subdivision Application
Redevelopment of 24 St. Lawrence Street - Portland, Maine

To Whom It May Concern,

On behalf of Kelly & Walter Williams, we are pleased to submit the accompanying package of submission materials related to the proposed redevelopment of 24 St. Lawrence Street.

This submission package is intended to meet the City's Final Submission requirements as outlined in the Level III Site Plan Application procedures. The proposed project site is located at 24 St. Lawrence Street between Fore Street and Congress Street with the R-6 zone. The lot is currently occupied by a 2,880 square-foot building, containing two single-family units, and a 15 x 20 ft. garage. The property is proposed to be redeveloped into a four-story, five-unit condominium with a six-car parking garage on the ground level.

Along the St. Lawrence Street frontage, the building features several recesses. The setback from the property line ranges from 3.5 feet to 11.9 feet with a weighted average of 7 feet. In comparison, the average setback of the two abutters is 3.7 feet and the required front yard setback in the R-6 zone is 5 feet. Please refer to Site Plan and Section L for more information regarding the zoning standards.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

<u>Documents:</u>

- Section A: Cover Letter
- Section B: Level III Final Site Plan Application
- Section C: Wastewater Capacity
- Section D: Right. Title, or Interest
- Section E: Financial Capacity
- Section F: Construction Management Report
- Section G: Stormwater Management Report
- Section H: Erosion and Sedimentation Control Report
- Section I: Utilities
- Section J: Solid Waste Disposal
- Section K: Fire Department Letter

- Section L: Conformity with Land Use Ordinance
- Section M: Request for Waivers
- Section N: Summary of Written Easements
- Section O: Architectural Design Narrative
- Section P: Lighting
- Section Q: Parking Analysis

Drawings:

- Civil Site Plan Set, Dated 10/6/2017
- Architectural Plan Set, Dated 10/6/17

Kelly & Walter Williams and the design team look forward to your review of this project and are requesting to be placed on the next available workshop meeting with the Planning Board. If you have any questions regarding these materials or the completeness of the application materials, please contact us within the next five (5) days.

Sincerely,

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), Design Manual and Technical Manual.

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719
planning@portlandmaine.gov

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

I. Project Information (Please enter n/a on those fields that are not applicable)

Project Name:	24 St. Lawrence Street Redevelopment
Proposed Development Address:	24 St. Lawrence Street
Project Description:	Urban infill redevelopment into 4-story building with a parking garage and 5 condo's
Chart/Block/Lot:	16-J-006
Preliminary Plan	N/A
Final Plan	See attached

II. Contact Information (Please enter n/a on those fields that are not applicable)

APPLICANT

Name:	Kelly & Walter Williams
Business Name:	
Address:	24 St. Lawrence Street
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207) 671-1193
Home #:	N/A
Cell #:	N/A
Fax #:	N/A
E-mail:	will@hrpmanagement.com

OWNER

Name:	Kelly & Walter Williams
Address:	24 St. Lawrence Street
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207) 671-1193
Home #:	N/A
Cell #:	N/A
Fax #:	N/A
E-mail:	will@hrpmanagement.com

AGENT/REPRESENTATIVE

Name:	Acorn Engineering, Inc
Address:	P.O. Box 3372
City/State:	Portland, ME
Zip Code:	04104
Work #:	(207) 775-2655
Home #:	N/A
Cell #:	(207) 317-1884
Fax #:	N/A
E-mail:	wsavage@acorn-engineering.com

BILLING (to whom invoices will be forwarded to)

Name:	Kelly & Walter Williams
Address:	24 St. Lawrence Street
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207)671-1193
Home #:	N/A
Cell #:	N/A
Fax #:	N/A
E-mail:	will@hrpmanagement.com

ENGINEER

Name:	Acorn Engineering, Inc
Address:	P.O. Box 3372
City/State:	Portland, ME
Zip Code:	04104
Work #:	(207) 775-2655
Home #:	N/A
Cell #:	(207) 317-1884
Fax #:	N/A
E-mail:	wsavage@acorn-engineering.com

SURVEYOR

Name:	Owen Haskell, Inc, Professional Land Surveyors
Address:	390 U.S. Route One
City/State:	Falmouth, ME
Zip Code:	04105
Work #:	(207) 774-0424
Home #:	N/A
Cell #:	N/A
Fax #:	(207) 774-0511
E-mail:	ohi@owenhaskell.com

ARCHITECT

Name:	Port City Architecture
Address:	65 Newbury Street
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207)761-9000
Home #:	N/A
Cell #:	N/A
Fax #:	N/A
E-mail:	mark@portcityarch.com

ATTORNEY

Name:	Tom Jewell
Address:	477 Congress St.
City/State:	Portland, ME
Zip Code:	04101
Work #:	(207) 774-6665
Home #:	
Cell #:	
Fax #:	
E-mail:	tjewell@jewellandbulger.com

DESIGNATED PERSON(S) FOR UPLOADING INTO e-PLAN

Name:	Alyssa Gartley
E-mail:	agartley@acorn-engineering.com
Name:	Sam Lebel
E-mail:	slebel@acorn-engineering.com
Name:	
E-mail:	

III. APPLICATION FEES

LEVEL III DEVELOPMENT (check applicable review)

☑	Less than 50,000 sq. ft.	$750.00
☐	50,000 – 100,000 sq. ft.	$1,000.00
☐	100,000 – 200,000 sq. ft.	$2,000.00
☐	200,000 – 300,000 sq. ft.	$3,000.00
☐	Over 300,000 sq. ft.	$5,000.00
☐	Parking lots over 100 spaces	$1,000.00
☐	After-the-fact Review	$1,000.00 + applicable application fee above

PLAN AMENDMENTS (check applicable review)

☐	Planning Staff Review	$250.00
☐	Planning Board Review	$500.00

OTHER REVIEWS (check applicable review)

☐	Traffic Movement	$1,500.00
☐	Stormwater Quality	$250.00
☑	Subdivision	$500.00 + applicable fee for lots/units below
	# of Subdivision Lots/Units [5] x $25.00 each	$ 125.00
☐	Site Location	$3,500.00 + applicable fee for lots/units below
	# of Site Location Lots/Units [ ] x $200.00 each	$
☐	Change of Use	
☐	Flood Plain	
☐	Shoreland	
☐	Design Review	
☐	Housing Replacement	
☐	Historic Preservation	
	TOTAL APPLICATION FEE DUE:	$ 1,375.00

IV. FEES ASSESSED AND INVOICED SEPARATELY

- Notices to abutters (receipt of application, workshop and public hearing meetings) ($.75 each)
- Legal Ad in the Newspaper (% of total ad)
- Planning Review ($52.00 hour)
- Legal Review ($75.00 hour)
- Third Party Review (all outside reviews or analysis, eg. Traffic/Peer Engineer, are the responsibility of the applicant and will be assessed and billed separately)

V. PROJECT DATA (Please enter n/a on those fields that are not applicable)

TOTAL AREA OF SITE	4,671	sq. ft.
PROPOSED DISTURBED AREA OF THE SITE	4,250	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
IMPERVIOUS SURFACE AREA		
Impervious Area (Total Existing)	2,803	sq. ft.
Impervious Area (Total Proposed)	3,346	sq. ft.
Building Ground Floor Area and Total Floor		
Building Footprint (Total Existing)	1,526	sq. ft.
Building Footprint (Total Proposed)	2,823	sq. ft.
Building Floor Area (Total Existing)	2,872	sq. ft.
Building Floor Area (Total Proposed)	8,951	sq. ft.
ZONING		
Existing	R-6 Residential	
Proposed, if applicable		
LAND USE		
Existing	Residential	
Proposed	Residential	
RESIDENTIAL, IF APPLICABLE		
# of Residential Units (Total Existing)	2	
# of Residential Units (Total Proposed)	5	
# of Lots (Total Proposed)	1	
# of Affordable Housing Units (Total Proposed)	0	
PROPOSED BEDROOM MIX		
# of Efficiency Units (Total Proposed)	0	
# of One-Bedroom Units (Total Proposed)	0	
# of Two-Bedroom Units (Total Proposed)	4	
# of Three-Bedroom Units (Total Proposed)	1	
PARKING SPACES		
# of Parking Spaces (Total Existing)	2	
# of Parking Spaces (Total Proposed)	5	
# of Handicapped Spaces (Total Proposed)	1	
BICYCLE PARKING SPACES		
# of Bicycle Spaces (Total Existing)	0	
# of Bicycle Spaces (Total Proposed)	2	
ESTIMATED COST OF THE PROJECT	$2.4 million	

VI. APPLICANT SIGNATURE

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. **It is not a permit to begin construction. An approved site plan, a** Performance Guarantee, Inspection Fee, **Building Permit, and associated fees will be required prior to construction.** Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	Kelly Wilke
Date:	10-9-17

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
X		1	* Completed Application form
X		1	* Application fees
X		1	* Written description of project
X		1	* Evidence of right, title and interest
N/A		1	* Evidence of state and/or federal permits
X		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
X		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
X		1	* Evidence of financial and technical capacity
X		1	Construction Management Plan
N/A		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
N/A		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
X		1	Stormwater management plan and stormwater calculations
X		1	Written summary of project's consistency with related city master plans
X		1	Evidence of utility capacity to serve
X		1	Written summary of solid waste generation and proposed management of solid waste
X		1	A code summary referencing NFPA 1 and all Fire Department technical standards
X		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
X		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	**Final Site Plans including the following:**
X		Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);	
X		Existing and proposed structures on parcels abutting site;	
X		All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;	
X		Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;	
X		Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;	
X		Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;	
X		Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;	
X		Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;	
N/A		Location of all snow storage areas and/or a snow removal plan;	
N/A		A traffic control plan as detailed in Section 1 of the Technical Manual;	
N/A		Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);	
N/A		Location and proposed alteration to any watercourse;	
N/A		A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;	
N/A		Proposed buffers and preservation measures for wetlands;	
X		Existing soil conditions and location of test pits and test borings;	
X		Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;	
X		A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;	
X		Grading plan;	
X		Ground water protection measures;	
X		Existing and proposed sewer mains and connections;	

- Continued on next page -

X		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
X		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
X		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
X		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
X		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
N/A		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
X		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
X		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
N/A		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
N/A		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
X		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: 10/10/2017

Bradley Roland, P.E.
Water Resources Division

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 24 St. Lawrence Street

Chart Block Lot Number: 16-J-006

Proposed Use: Residential
Previous Use: Residential
Existing Sanitary Flows: 630 GPD
Existing Process Flows: 0 GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
18" Brick combined sewer within St. Lawrence to be tapped into with 6" sanitary lateral and 8" storm drain as seen on C-20

Site Category:
- Commercial *(see part 4 below)* ☐
- Industrial *(complete part 5 below)* ☐
- Governmental ☐
- Residential ☑
- Other *(specify)* ☐

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: TBD
Owner/Developer Name: HR Property Management
Owner/Developer Address: 192 State Street, Portland, ME 04101
Phone: (207) 671-1193 Fax: N/A E-mail: will@hrpmanagement.com
Engineering Consultant Name: Acorn Engineering, Inc
Engineering Consultant Address: P.O. Box 3372, Portland, ME 04104
Phone: (207) 775-2655 Fax: N/A E-mail: wsavage@acorn-engineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 990 GPD
Peaking Factor/ Peak Times: Diurnal Flow pattern
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," __ "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, Other (specify)* State of Maine Subsurface Wastewater Disposal Rules, Effective 8/13/15

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: N/A

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: N/A GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

Calculation of Wastewater Flowrate for 24 St. Lawrence Street Redevelopment

The proposed development will include 5 dwelling units. Based upon the Section 4 of the Maine Subsurface Wastewater Disposal Rules, the project anticipates the following daily flows:

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Residential Units	3-Bedroom	1	270	270
Residential Units	4-Bedroom	1	360	360
			Total Gallons per Day (Existing)	630
Proposed Flow				
Residential Units	2-Bedroom	4	180	720
Residential Units	3-Bedroom	1	270	270
			Total Gallons per Day (Proposed)	990
			Net Change	**+360**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWTAER DISPOSAL RULES, most recent edition				

D. Right, Title, or Interest

The record owners of the parcels of interest are Walter S. Williams and Kelly A. Williams as seen in Book 25609, Page 269, Dated October 29, 2007. A copy of the Deed is included in this section.

QUITCLAIM DEED WITH COVENANT

WALTER S. WILLIAMS, of Portland, Maine, for consideration paid, **GRANTS** to **WALTER S. WILLIAMS AND KELLY A. WILLIAMS,** as joint tenants, both with a mailing address of 24 St. Lawrence Street, Portland, Maine 04101, **with Quitclaim Covenants,** a certain lot or parcel of land situated in the City of Portland, County of Cumberland and State of Maine, and more particularly described as follows:

SEE SCHEDULE A ATTACHED HERETO

Meaning and intending and hereby conveying the same premises described in a deed from Ronald E. Goodwin and Wendy Cole Goodwin to Walter S. Williams dated October 20, 2004 recorded in the Cumberland County Registry of Deeds in Book 21919, Page 227. This conveyance is subject to all existing mortgages of record.

IN WITNESS WHEREOF, the said WALTER S. WILLIAMS has signed this instrument on the 29 day of October, 2007.

Signed, Sealed and Delivered
in the presence of

Witness

Walter S. Williams

State of Maine
County of Cumberland

October 29, 2007

Then personally appeared the above named Walter S. Williams and acknowledged the foregoing instrument to be his free act and deed.

Before me,

~~Notary Public~~/Attorney at Law

GARY D. VOGEL

printed name of notary or attorney

SCHEDULE A

A certain lot or parcel of land, with the buildings thereon, situated on the southwesterly side of St. Lawrence Street, in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

BEGINNING at a point on the southwesterly side of St. Lawrence Street distant ninety (90) feet northwesterly from the northerly corner of a lot of land formerly owned by John M. Molin, and said point being ten (10) feet southeasterly from the easterly corner of a lot of land conveyed by Julia Parsons to one Fitz E. Sargent by deed dated July 12, 1852 and recorded in the Cumberland County Registry of Deeds in Book 239, Page 252.

THENCE northwesterly by said southwesterly side of St. Lawrence Street seventy (70) feet, more or less, to the easterly corner of a lot of land which said Sargent conveyed to Susan J. Locke by deed dated January 8, 1897 recorded in the said Registry of Deeds in Book 727, Page 459;

THENCE southwesterly by the southeasterly side line of said lot so conveyed to said Locke seventy (70) feet, more or less, to the southerly corner of said lot so conveyed to said Locke;

THENCE southeasterly by the southwesterly line of a certain lot of land conveyed by Joseph Smith to said Fitz E. Sargent by deed dated January 18, 1849 recorded in the said Registry of Deeds in Book 214, Page 263 and by the southwesterly side line of said lot of land conveyed to said Sargent by said Julia Parsons, as aforesaid, fifty-eight (58) feet, more or less, to the southerly corner of said lot of land conveyed to said Fitz E. Sargent by said Julia Parsons.

THENCE southwesterly by the northerly line of a ten (10) foot strip of land conveyed to said Fitz E. Sargent by Moses Gould by deed dated May 22, 1855 recorded in the said Registry of Deeds in Book 264, Page 395 four (4) feet, more or less, to the westerly corner of said ten (10) feet to southerly corner of said ten (10) foot strip;

THENCE southeasterly and parallel with said St. Lawrence Street ten (10) feet to the southerly corner of said ten (10) foot strip;

THENCE northeasterly parallel with and ten (10) feet distant from the southeasterly side line of said lot so conveyed by said Parsons to Sargent seventy-three (73) feet, more or less, to said St. Lawrence Street to the point of beginning.

Received
Recorded Register of Deeds
Nov 09,2007 10:58:08A
Cumberland County
Pamela E. Lovley

Section E

Financial Capacity

Gorham
SAVINGS BANK

October 3, 2017

RE: Walter and Kelly Williams

RE: 24 St. Lawrence Street, Portland

To Whom It May Concern,

Walter and Kelly Williams have been commercial customers here at Gorham Savings Bank since 2005. All their loans have been handled as agreed.

Final approvals are subject to complete a complete application and underwriting of the construction budget, plans and specs. A commitment, subject to all approvals would be issued in writing.

If you have any further questions, I can be reached at 207-222-1495.

Sincerely,

Julie L. Viola
Vice President

10 Wentworth Drive, Gorham, ME 04038 • Tel. (207) 839-3342
Customer Service Center (207) 839-4796 • www.gorhamsavingsbank.com

F. Construction Management Plan

Project Address: 24 St. Lawrence Street

Project Description:

The proposed project includes the development of five condominium units on three floors with a ground level parking garage accessed from St. Lawrence Street. Six parking spaces will be accommodated within the garage.

Project Team Summary:

Owner:	Will and Kelly Williams
General Contractor:	TBD
Civil Engineer:	Acorn Engineering, Inc.
Architect:	Port City Architecture

The Owner/GC and all subcontractors will work with the City of Portland and adjacent landowners to minimize any project impacts.

The GC will remain responsible for enforcement of all compliance with 1) all contract plans and specifications in their scope of work and 2) all site working conditions and safety requirements, day and night, for both persons and property, in each case for the duration of their work. These include OSHA, NIOSH, U.S. EPA, local ordinance and any other applicable governmental regulations. Both the Owner/GC and any subcontractors will remain responsible for safeguarding the general public.

The GC shall review all permits and conditions associated with the project. Refer to the Civil/Site Plan Set, Sheet C-03 Construction Management Plan for visual representation of the measures to be taken during construction.

The following outline has been developed in accordance with the City of Portland Construction Management Plan General Template and shall be referenced by the GC during construction.

A. Construction Management Principles

The control of noise, vibrations, ground movement, truck traffic, and other construction related factors will be of utmost importance. Care shall be taken to minimize these effects in the best interest of neighbors and the general public. GC to ensure that work hours conform to the City of Portland's Ordinance.

B. Development Review of Construction Management Plan

Logistics and safety program shall be submitted at or prior to the preconstruction meeting by the GC with all pertinent information required by the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

C. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

Guarantees and fees will be paid at the time of the respective application. Sections 14-530 and 13-532 will be complied with all necessary permits will be obtained prior to work.

1. Street Opening and Street Occupancy Permits:

   Required permits regarding street opening and occupancy will be obtained from the Department of Public Works. The requests shall conform to the approved Construction Management Plan.

2. Blasting:

   Although not anticipated, if blasting occurs, it shall conform to Article VIII. In Chapter 14 of the City Code and Section 3.7 in the City's Technical Manual.

3. Building Code:

   Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code.

D. Construction Administration and Communication

The Contractor will work closely with adjacent abutters, businesses, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. Communication in order to comply with all agreements, ordinances, and special permits will be of the utmost importance. Contractor contact information shall be posted on a sign on the construction fence along the St. Lawrence Street frontage. Additional signage necessary for communication shall be provided, but will be temporary and removed upon completion of the project. The contract information for the project personnel (Owner) is:

Walter & Kelly Williams
(207) 671-1193

GC and Subcontractor information will be posted along the St. Lawrence Street frontage once contracted.

E. Construction Schedule

The GC shall submit a construction timeline at or prior to the preconstruction meeting. Construction may occur during the daytime hours as defined in Section 17-18. Construction Activities for Building permit and City Code Section 25-129, Noise, dust and debris. Between September 1 and May 31, the following year, no person shall engage in construction activities generating noise exceeding 50 decibels, between the hours of 7 pm and 7 am of the following day within 500 feet of any buildings. From June 1 to August 31, construction activity may continue until 8 pm. No construction activity shall begin before 8 am on a Saturday, Sunday, or legal holiday. Extended hours or night work may be requested for special circumstances and street utility work if needed. These requests will

be subject to approval by the Public Works Authority.

Due to the limited space within the project parcel, deliveries will need to be stored in an alternate location or deliveries must be small enough to fit within the property. Deliveries will be scheduled between 7 am and 5 pm.

The estimated timeframe of the proposed project is outlined below:

Project Start Date:	Spring 2018
Project End Date:	Fall 2019

F. Security

1. The Construction Management Plan, Sheet C-03, depicts all proposed fencing and other barriers, with the intent of separating pedestrian and vehicle circulation from the construction site. Construction entrances per detail shall be installed.

2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16. *Safeguarding Construction, Alteration, and Demolition Operations.*

3. Fire Safety Program: Prior to construction, an overall construction and demolition fire safety program shall be developed. Essential items to be emphasized include the following:
    - Good Housekeeping
    - On-site security
    - Installation of new fire protection systems as construction progresses
    - Preservation of existing systems during demolition
    - Organization and training of an on-site fire brigade
    - Development of a pre-fire plan with the local fire department
    - Rapid communication
    - Consideration of special hazards resulting from previous occupancies
    - Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations.

4. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual.

5. Temporary security lighting shall be shown on the Construction Management Plan, and all fixtures shall be full cutoffs.

G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets

    Construction activity in the public right-of-way shall be compliant with Chapter 25 Article VII of the City Code. At no time will it be permissible for construction activity including delivery vehicle to close or block streets or affect public safety access without prior notice an approval of the Department of Public Works.

2. Sewer and Stormwater

   Sewer and stormwater system connections are controlled by Chapters 24 and 32 of the City code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual. This will apply to the new connection within St. Lawrence Street.

3. Traffic Control Plans

   Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. The contractor shall submit a satisfactory "Maintenance of Traffic" (MOT) plan prior to any street opening permit approval. This document shall contain all pertinent information from the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

   The MOT will address the work required for utility connections in St. Lawrence Street. Traffic will be channelized utilizing drums and cones. Proper signage will be installed prior to the through work zone. Alternating traffic will be controlled with flaggers. Trenches will be patched with pavement daily.

   The MOT plan shall provide for the safe passage of the public through or along the construction work zone. It may be permissible to close St. Lawrence Street during utility connections and/or detour a mode of traffic when absolutely necessary for safety. All requests shall be subject to City approval. MOT plans shall employ the appropriate techniques and devices as called for in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

   - Construction speed signing may be used as needed to slow traffic.
   - Traffic Control signs shall not be placed where they would create any obstructions to bicycles or pedestrians.
   - Flaggers will be utilized when necessary.

   All existing modes of travel in the work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning and laying out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. The MOT should also address on-street parking impacts, including deliveries and parking for adjoining businesses and property owners, analysis of roadway capacity or diversion capacity if street closure or change to roadway capacity is required, and coordination with other on-going or future construction or utility projects in the vicinity.

   - Traffic control bicycle and pedestrian facilities or routes through work zones shall be maintained until the bicycle and pedestrian facilities or routes are ready for safe operation. Traffic control will not be removed to allow auto travel at the expense of bicycle and pedestrians.

- Barrier systems utilized to separate the construction activity from the public street and /or sidewalk shall not inhibit sight distances, particularly for visibility of pedestrians and bicyclists.
- ADA compliance in all capacities shall be maintained.

Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

H. Site Management and Controls

1. Regular trash and debris shall be managed appropriately and its removal shall comply with all local, state, and federal regulations.

2. Street cleaning and sweeping shall be followed as outlined in the erosion and sedimentation control notes and report. Damage to the street shall be avoided and shall be the responsibility of the contractor.

3. Dust shall be controlled and shall comply with Section 25-129 and the erosion and sedimentation control notes, plan, and details.

4. Noise shall be controlled and shall comply with Section 17-18 and Section 25-129.

5. Rodent Control shall be provided, if applicable, by a professional exterminator and shall be consistent with Chapter 22 of the City Code.

6. Snow and Ice Removal shall be provided. Pursuant to Section 25-173, the Contractor shall ensure a safe means of travel within the work zone by the following steps:

    a. Snow/ice removal or commence automatically from 1" or greater of snow or ice
    b. Remove snow as needed within the work zone, including parking spaces. Driveways and site lines shall not be blocked by piles of snow.
    c. Clear all walks and ramps within the work zone
    d. Sand or salt as needed
    e. Clear all basin or drainage to help snow melt
    f. The above steps shall be carried out Sunday-Saturday including holidays.

I. Erosion & Sedimentation Control

1. The Contractor shall install all erosion and sedimentation controls as depicted on the approved Construction Management Plan, C-03, and the approved erosion and sedimentation control report, prior to the pre-construction meeting for inspection by the City. The Contractor shall regularly inspect the control measures, no less than weekly and after storm events (0.5" or more in 24 hours). Additionally, temporary or permanent stormwater management systems shall be inspected and maintained to ensure working order. The Contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection (MDEP) or the U.S. Environmental Protection Agency (EPA) upon request.

2. Due to the existing, sparse landscaping on site, no protection during construction will be necessary.

3. Stored materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Contractor shall submit a plan with locations depicted for the location of material staging areas, the location of on-site temporary construction trailers, the location of on-site truck delivery holding areas, the location of on-site truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. This plan shall be submitted at or prior to the pre-construction meeting. Any open storage areas shall be shown on the plan.

2. Delivery Truck Holding Areas On-Site: The majority of materials delivered to the site will be scheduled such that they are able to be off-loaded immediately. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of trucks until they can be unloaded. Once at the site all vehicles will be brought within the fence line and will make every attempt to avoid queuing on public streets. If, for any reason, on-site holding of trucks is not feasible, an off-site location must be designated and shown on the submitted plan referenced above in J.1.

3. All deliveries for materials shall comply with the City's noise requirements.

K. Parking During Construction

1. Adequate parking for construction workers shall be provided along St. Lawrence Street, or arrangements for off-street parking at an off-site location shall be provided.

2. Truck Routes and Volumes: The following quantities are estimated as part of the reconstruction:

    - Common Fill – TBD upon final surface analysis. Earthwork contractor(s) pit to project site.
    - Loam – 20 CY – Earthwork contractor(s) pit to project site
    - Gravel & Stone – 100 CY – Earthwork contractor(s) pit to project site.
    - Hot Mix Asphalt – 5 tons – Paving contractor(s) pit to project site.

L. Special Measures as Necessary

No special measures are necessary for the proposed reconstruction.

ACORN
ENGINEERING, INC.

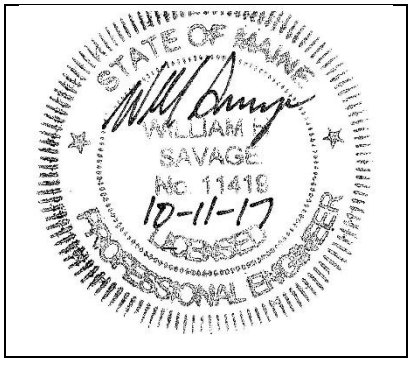
STORMWATER MANAGEMENT REPORT

Prepared For:

Walter & Kelly Williams
24 St. Lawrence Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
158 Danforth Street
Portland, Maine 04102



October 2017

ACORN ENGINEERING, INC.

INTRODUCTION

Acorn Engineering, Inc. has been retained by Walter & Kelly Willaism to provide civil engineering services for the proposed redevelopment of 24 St. Lawrence Street. The proposed project is to redevelop a two-unit townhouse building into a four-story, five-unit condominium. The first floor is proposed to be a six-car parking garage.

A stormwater analysis has been prepared to demonstrate that the project will meet the following requirements of the City of Portland (the City):

- City of Portland Land Use Ordinance Chapter 14, Article V. Site Plan Section 14-523. Required Approvals and Applicability (F) Level III Site Plan Review.
- City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.

EXISTING CONDITIONS

The proposed project site is located on St. Lawrence Street. A boundary plan has been prepared by Owen Haskell, Inc of Falmouth, Maine dated November 30, 2016.

All abutting uses are residential within the R-6 zone.

Over 60% of the property is covered by impervious surfaces including two structures, pavement, brick, pavers, and retaining walls. The remaining surface is vegetation in the form of grass and brush. The majority of the site slopes towards the south (towards Waterville Street), with the rear sloping over 10% in some areas. The northerly half of the dwelling's roof drains to St. Lawrence Street which then slopes towards Fore Street at an average of 9%.

The project team is not aware of the presence of any existing significant natural features located on the site. Given the urban setting and existing impervious surfaces, a field inventory of significant natural feature was not undertaken. The project is not located within a watershed classified as an Urban Impaired Stream.

PROPOSED DEVELOPMENT

The proposed project is a four-story building with five dwelling units and first floor parking garage. The parking garage will have six parking spaces. Pedestrian access to the site shall be provided off St. Lawrence Street. The development will be served by Portland Water District, Department of Public Works (sewer), Unitil (natural gas), CMP (electric), Charter (cable), and Fairpoint (telephone). All utilities will be routed underground.

The proposed project will increase the site's impervious area by approximately 540 square-feet. This

impact is below the 1,000 square-foot threshold and therefore, stormwater management features for quality and quantity control have not been designed due to the insignificant increase in impervious area.

Stormwater will enter roof drains before connecting to a storm drain outlet that is proposed to tap into the 18" combined sewer main within St. Lawrence. The foundation drain will also connect to this storm drain outlet. Lastly, a field inlet will collect stormwater within the green space at the northerly side of the building and will be wyed into the foundation drain, eventually making its way to the combined sewer within the street.

The stormwater flows to the street are expected to marginally increase while the flows to the existing 15-foot retaining wall and abutting properties are expected to significantly decrease.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value

Soils Type	Subsurface	Substratum
Hinckley	0.17	0.17

The soil "K" values for the soils, listed above, show a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although soil "K" values for the soils show a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

Conclusion

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way.

Attachments

Attachment A: Soils Map
Attachment B: Pre-Construction Watershed Map
Attachment C: Post-Construction Watershed Map

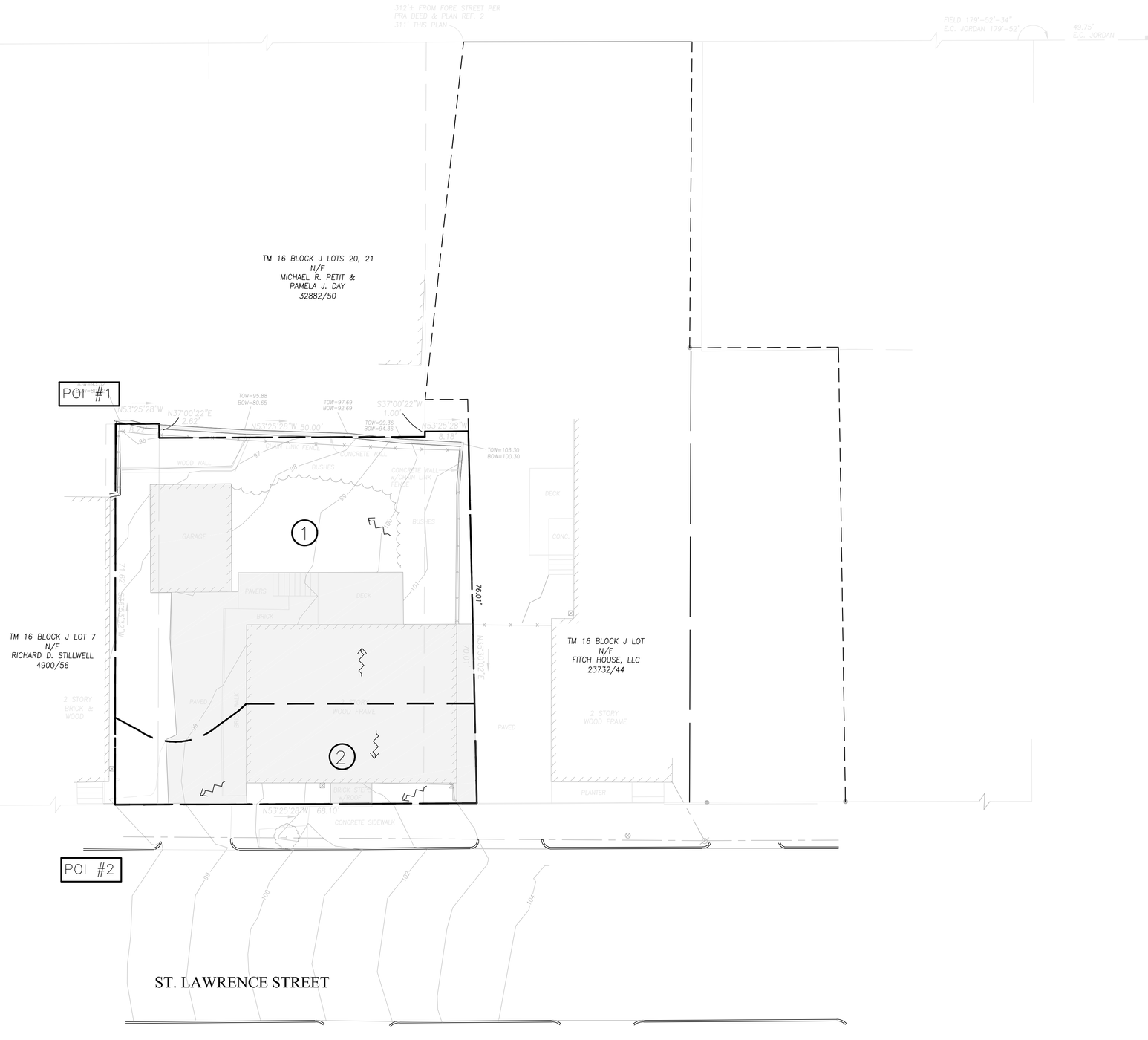
GENERAL NOTES:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION
2. GREY HATCH DENOTES IMPERVIOUS AREA

1 — SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 — POINT OF INTEREST (POI)



PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
CITY APP.	WHS	10/10/17

DRAWING NAME: **PRE-DEVELOPMENT PLAN**

PROJECT NAME: **24 ST. LAWRENCE REDEVELOPMENT**

CLIENT: HR PROPERTY MANAGEMENT
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND IF MODIFIED, ALTERED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

FILE:	1088_CIVIL
JN:	1088
SCALE:	1"=10'
DESIGNED BY:	ADG
DRAWN BY:	ADG
CHECKED BY:	WHS

DRAWING NO.
PRE

GENERAL NOTES:

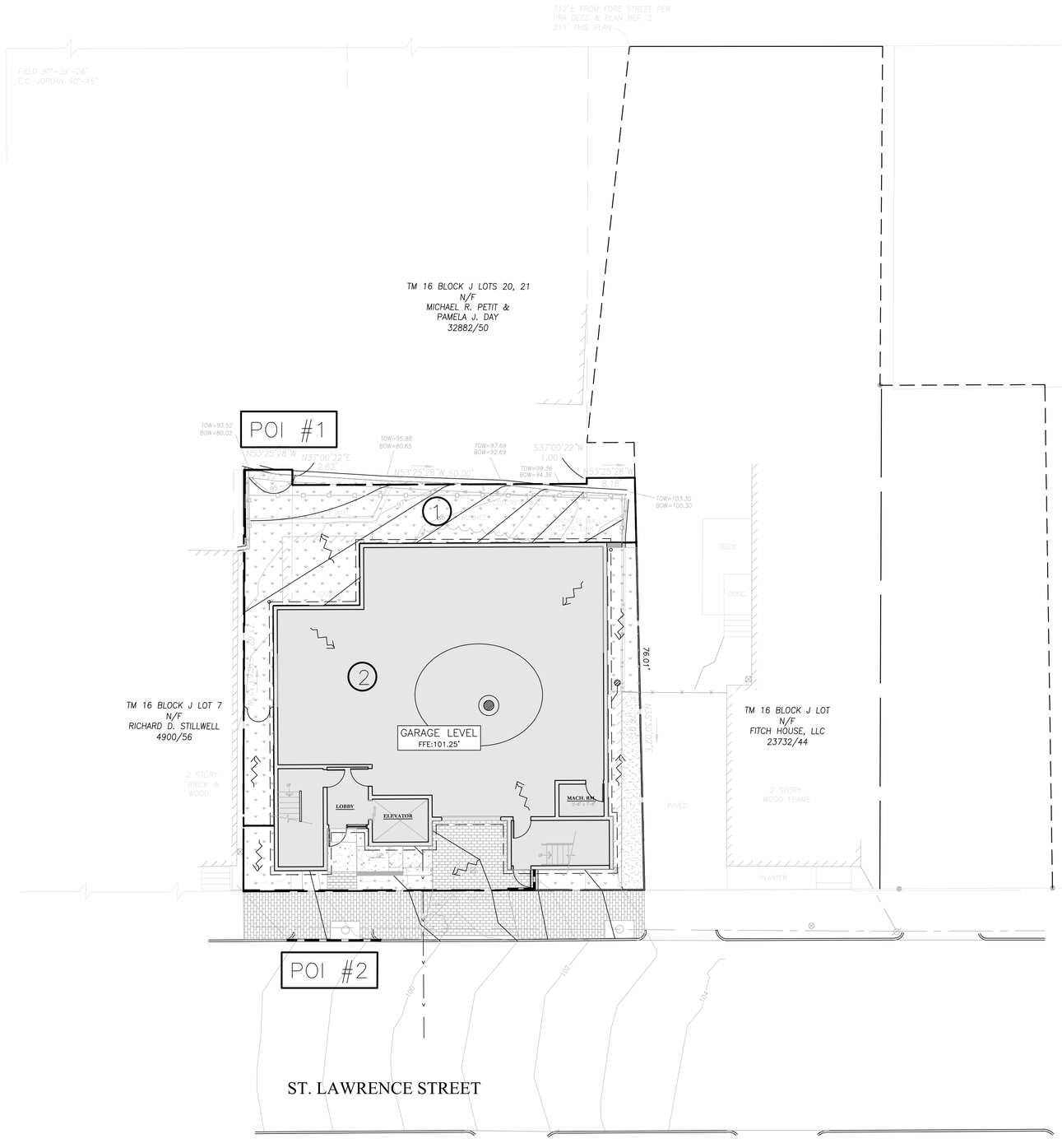
1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

1 — SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

UNDERDRAIN

POI #1 — POINT OF INTEREST (POI)



PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
PRELIM. APP.	WHS	x/x/x

DRAWING NAME: **POST-DEVELOPMENT PLAN**

PROJECT NAME: **24 ST. LAWRENCE REDEVELOPMENT**

CLIENT: HR PROPERTY MANAGEMENT
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN WITHOUT ACORN ENGINEERING, INC.'S WRITTEN PERMISSION OR OTHERWISE SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

FILE:	1088_CIVIL
JN:	1088
SCALE:	1"=10'
DESIGNED BY:	ADG
DRAWN BY:	ADG
CHECKED BY:	WHS

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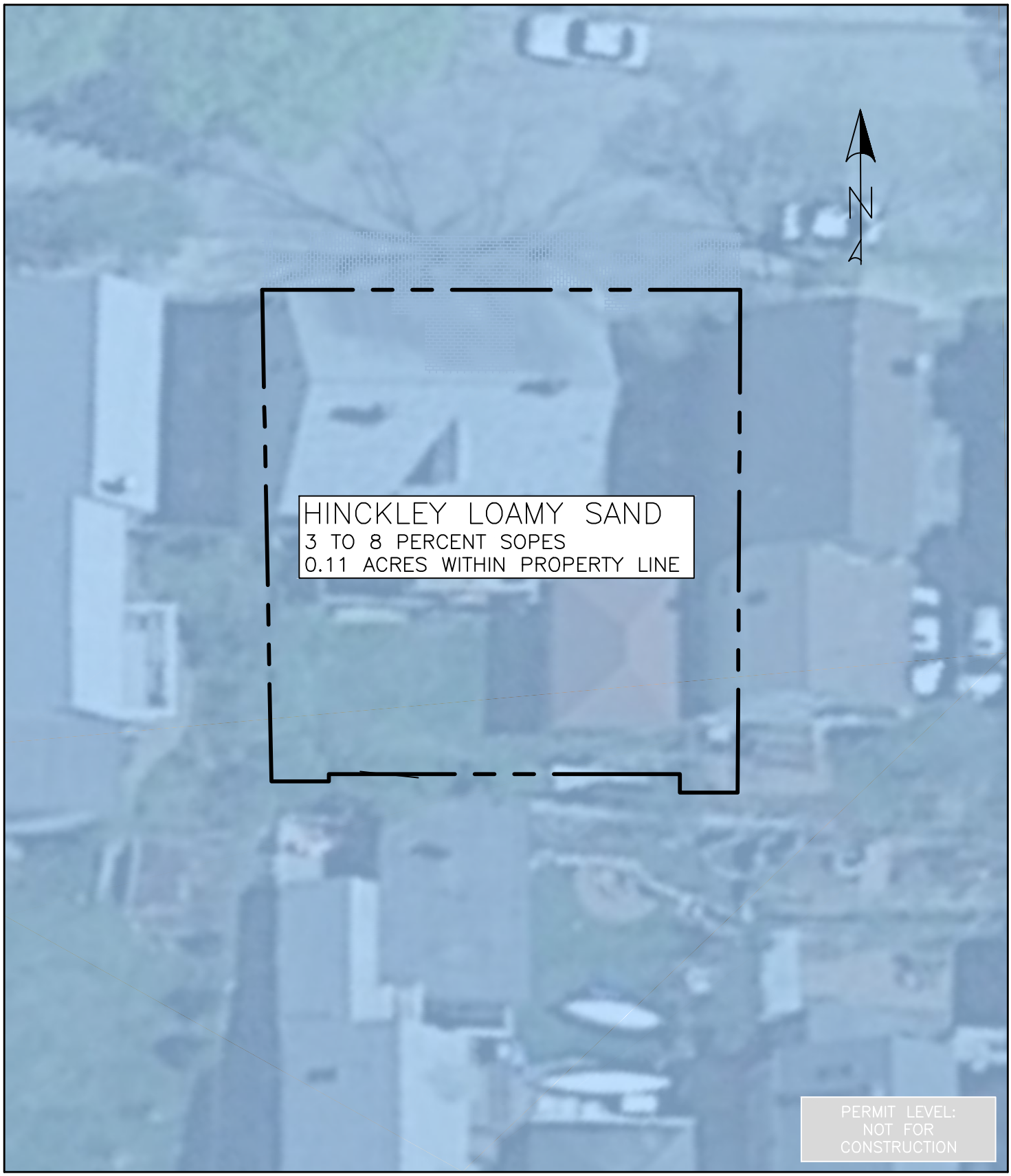
POST



THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.
SOILS

FILE:	1088_CIVIL
DATE:	9/22/17
JN:	1088
SCALE:	NTS
DESIGN BY:	ADG
DRAWN BY:	ADG
CHECKED BY:	WHS

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372
PORTLAND, MAINE 04104 (207) 775-2655

DRAWING NAME:
SOILS MAP

PROJECT NAME:
24 ST. LAWRENCE STREET
REDEVELOPMENT

CLIENT:
HR PROPERTY MANAGEMENT

ISSUED FOR	BY	DATE
CITY APP.	WHS	10/10/17
REV.	DATE	

ACORN
ENGINEERING, INC.

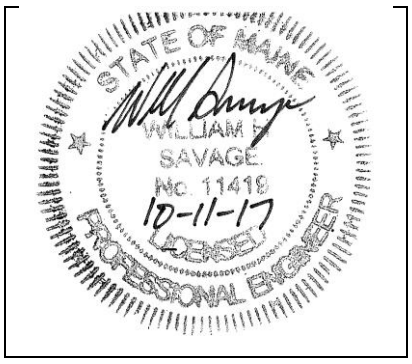
EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

Kelly & Walter Williams
24 St. Lawrence Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
158 Danforth Street
Portland, Maine 04102



October 2017

INTRODUCTION

Acorn Engineering, Inc. has been retained by Kelly & Walter Williams to provide civil engineering services for the proposed multifamily dwelling unit at 24 St. Lawrence Street. The proposed project includes replacing the existing two-family dwelling with a five-unit condominium and a six-space parking garage on a total of four floors.

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The proposed project site is located on St. Lawrence Street. A boundary plan has been prepared by Owen Haskell, Inc of Falmouth, Maine dated November 30, 2016.

All abutting uses are residential within the R-6 zone.

A large portion of the site is occupied by the existing structures. The site is also comprised of a paved driveway and landscaping. The grades are relatively flat, with the exception of the southwest side of the parcel. The surface drops away from the house, towards the southwest, at a slope of approximately 10% to retaining walls.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because of sthe waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value

Soils Type	Subsurface	Substratum
Hinckley	0.17	0.17

The soil "K" values for the soils, listed above, show a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although soil "K" values for the soils show a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

Critical areas that would require special attention during construction include, but are not limited to, the retaining walls, and slope stabilization located within the vicinity during earthwork and foundation construction.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches, or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public road ways.

2.1.2 Siltation fence or erosion control berm shall be installed down gradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam.

2.1.3 Hay mulch including hydro seeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.

2.1.5 St. Lawrence Street shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.

2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.

2.2.2 All stormwater devices shall be installed and tributary areas stabilized prior receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Erosion and Sedimentation Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become

ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Commence installation of drainage infrastructure.
4. Install all other erosion control devices as necessary throughout the remainder of this schedule.
5. Commence earthwork operations, associated with the roadway construction.
6. Commence installation of utilities.
7. Continue earthwork and grading to subgrade as necessary for construction.
8. Complete installation of drainage infrastructure, as well as other utility work.
9. Complete remaining earthwork operations.
10. Install sub-base and base gravels in paved areas.
11. Install paving, curbing and brickwork.
12. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
13. Once the site is stabilized, 90% catch of grass has been obtained, or mulching of landscape areas is complete remove all temporary erosion control measures.
14. Touch up areas without a vigorous catch of grass with loam and seed.
15. Complete site signage and striping.
16. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan
- Permanent Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

PERMANENT SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of permanent seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.
Kentucky Bluegrass	0.46
Creeping Red Fescue	0.46
Perennial Ryegrass	0.11
Total	1.03

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Recommendations

Permanent seeding is recommended to be completed in the spring. Later summer seeding is allowed if completed prior to September 1st. If seeding cannot be accomplished during the periods recommended for permanent seeding, then the contractor shall perform temporary seeding per the temporary seeding plan.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to permanent seeding and mulching.

I. Utilities

The proposed project will include installation of new utility services to the building and individual units.

Water:

As identified in the Existing Conditions Plan, the site receives water from a 3/4-inch diameter copper domestic service line. This service line connects to the existing 8-inch water main within St. Lawrence Street. Prior to demolition, the existing service will be retired. A new 4 inch line is proposed to tap into the main with a parent child connection in the right-of-way. A 2 inch line will split off of the 4 inch line and serve as the domestic water line with the 4 inch line functioning as the fire sprinkler line.

Sewer:

An existing sewer service was located within St. Lawrence Street. Prior to demolition, the existing service will be disconnected from the main. A new 6" service is proposed to be tied into the existing main as seen on the Utility Plan.

Stormwater:

There is currently no drainage infrastructure on site. It is proposed to install a field inlet along the northerly side of the property to help drain runoff from the site and adjacent properties. This inlet will then tie into the foundation drain which will then wye into a storm drain along with the roof drain. The 8" storm drain will connect to the combined sewer. A separate storm drain has been designed so that if the sanitary sewer main is separated in the future along St. Lawrence Street, the storm/groundwater will be able to discharge to the separated storm main.

UGE/T/C:

The existing dwelling is currently served by overhead lines. All proposed service lines will be rerouted underground from the existing utility pole adjacent to the subject property.

Gas:

An existing service line runs from the gas main within St. Lawrence Street to the existing building. It is proposed to extend this line and route it to the proposed building.

Ability to serve letters have been sent out to the respective utility companies on September 21st, 2017 in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(7). Responses from the utility companies can be found attached to this section.

ACORN ENGINEERING, INC.

Portland Water District
Attn: MEANS Department
225 Douglass Street
Portland, Maine 04104

September 21, 2017

Subject: 24 St. Lawrence Street Redevelopment
Re: Ability to Serve

To Whom It May Concern:

On behalf of HR Property Management, we are pleased to submit the following request for Portland Water District's (PWD) ability to serve the proposed development. The proposed project is located at 24 St. Lawrence Street (Chart, Book, Lot 16, J, 006), within the R-6 Residential Zoning District in Portland, Maine. The lot is to be redeveloped into a four-story, 5-unit apartment building, in which the first floor is a 6-car parking garage. The parking garage will be accessed from St. Lawrence Street on the first level. The existing two-unit building and separate garage will be demolished to facilitate the redevelopment.

We believe that there is an existing water service, to the property, from the existing 8" water main as identified on the existing conditions survey (attached). It is proposed that the existing service be retired. A 4" sprinkler line and 2" domestic line are proposed to service the redevelopment. Based upon the Section 4 of the Maine Subsurface Wastewater Disposal Rules, and assuming that the units will be comprised of four 2-bedroom units and one 3-bedroom unit, the project anticipates the following design flows:

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Residential Units	3-Bedroom	1	270	270
Residential Units	4-Bedroom	1	360	360
Total Gallons per Day (Existing)				630
Proposed Flow				
Residential Units	2-Bedroom	4	180	720
Residential Units	3-Bedroom	1	270	270

Total Gallons per Day (Proposed)	990
Net Change	**+360 GPD**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWTAER DISPOSAL RULES, most recent edition	

The proposed project is anticipated to increase the net flow by approximately 360 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. Additionally, the number of bedrooms per unit may change later in the design process. We will provide any changes to the anticipated water demand.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within St. Lawrence Street; more specifically, confirmation of the location and size of the services to the existing property and the size and material of the water main on St. Lawrence Street.
2. Alternative connection locations from the property to the existing system.
3. PWD's proposed infrastructure improvements within the project vicinity.
4. Flow data for adjacent hydrant.
5. PWD's ability to serve the project.

I have attached a fixture count, an existing conditions plan created by Owen Haskell, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Alyssa Gartley, E.I.
Design Engineer / Construction Inspector
Acorn Engineering, Inc.

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

October 2, 2017

Alyssa Gartley
Acorn Engineering
158 Danforth Street
Portland, ME 04104

Re: 24 Saint Lawrence Street, PO
Ability to Serve with PWD Water

Dear Ms. Gartley:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on September 21, 2017. Based on the information provided per plans dated September 21, 2017, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- A new 2-inch domestic service and 4-inch fire service may be installed from the water main in Saint Lawrence Street. The service should enter through the properties frontage on Saint Lawrence Street at least 10-feet from any side property lines.

- The existing building is currently served with a ¾-inch domestic water service; the size of this service is undersized for the proposed use. This service must be terminated by shutting the corporation valve and cutting the pipe from the water main.

Prior to construction, the owner or contractor will need to make an appointment to complete a service application form and pay all necessary fees. The appointment shall be requested through MEANS@pwd.org or by calling 207-774-5961 ext. 3199. Please allow (3) business days to process the service application paperwork. PWD will guide the applicant through the new development process during the appointment.

Existing Site Service

According to District records, the project site does currently have existing water service. A 3/4-inch diameter copper domestic service line provides water service to the site. Please refer to the "Conditions of Service" section of this letter for requirements related to the use of this service.

Water System Characteristics

According to District records, there is an 8-inch diameter cast iron water main in Saint Lawrence Street and a public fire hydrant located approximately 30 feet from the site. The most recent static pressure reading was 64 psi on March 16, 2017.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Robert A. Bartels, P.E.
Senior Project Engineer

A C O R N
ENGINEERING, INC.

Central Maine Power Company
Attn: Mr. Jamie Cough
162 Canco Road
Portland, Maine 04103

September 21, 2017

Subject: 24 St. Lawrence Street Redevelopment
Re: Ability to Serve

Dear Mr. Cough:

On behalf of HR Property Management, we are pleased to submit the following request for Central Maine Power's (CMP) ability to serve the proposed development. The proposed project is located at 24 St. Lawrence Street (Chart, Book, Lot 16, J, 006), within the R-6 Residential Zoning District in Portland, Maine. The lot is to be redeveloped into a four-story, 5-unit apartment building, in which the first floor is a 6-car parking garage. The parking garage will be accessed from St. Lawrence Street on the first level. The existing two-unit building and separate garage will be demolished to facilitate the redevelopment.

It is proposed that the existing lines be rerouted underground to the new structure from the utility pole on St. Lawrence Street.

At this point in the design phase, single-phase power is anticipated. On behalf of the client, we are requesting the following information:

1. Any easements for overhead services currently crossing the proposed development.
2. Alternative connection locations from the development to the existing system.
3. CMP's proposed infrastructure improvements within the project vicinity.
4. CMP's ability to serve the project.
5. Access requirements to the CMP meters.

I have attached an existing conditions plan created by Owen Haskell, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Alyssa Gartley, E.I.
Design Engineer / Construction Inspector

Acorn Engineering, Inc.

From:	Cough, Jamie
To:	Alyssa Gartley
Cc:	William Savage
Subject:	RE: 24 St. Lawrence Street Redevelopment - Ability to Serve
Date:	Friday, September 22, 2017 5:52:39 AM
Attachments:	image001.jpg

9/22/17

Alyssa Gartley
Acorn Engineering, Inc
PO Box 3372
Portland, ME 04104
Sent via email to: agartley@acorn-engineering.com
RE: CMP Ability to Serve Letter for 24 St. Lawrence Street, Portland

Project Description:

The project will consist of construction of a single phase service to 4 story 5 unit apartment building with 6 car parking garage.

Dear Ms. Gartley:

CMP has the ability to serve the proposed project in accordance with our CMP Handbook (web link below). We can provide you the desired pad or pole mounted transformers per your request and city approval, in accordance with our CMP Standards Handbook. If you have any questions on the process, or need help in completion of the documents, **please contact CMP at 800-565-3181.**

In answer to your specific questions:

1. Existing easements can be found at the Registrar's Office. I don't have access to those at this time.
2. Alternate locations from the development can be determined at your site visit with the field planner
3. CMP will not be able to determine what infrastructure is required without completion of the load sheets. However, there are service limitations to single phase (800a total service) so you may have to install three phase. This is usually driven by either elevator load and/or hvac loads.
4. CMP must preapprove meter locations. In general, preference is for outdoor meters. If inside, we need a separate outside door directly to the meter room. This will need to be discussed.

New Service Milestones

- Connect to http://www.cmpco.com/YourAccount/GetConnected/installationchecklists.html. This will show you which documents you need depending on your project.
- Contact CMP at 1-800-565-3181 and set up an SAP Notification to begin the process. At that time, the CMP Representative will discuss the relevant documentation and will be able to answer any questions relative to your project.

In general:

- Submit any electronic drawings (PDF (preferred) or DWG files) of the site layout and proposed electrical connections if you have them to your contact AFTER you have established your SAP Notification. You may also be asked to submit Load information. If so, please complete this CMP spreadsheet using load information. This may not be necessary for a single family development.
- Contact your local telephone company if you want telephone service. In some cases, they may be installing the poles.
- Submit the easement information worksheet. Please complete this CMP form and either email or fax back to us.
- Preliminary meetings with CMP to determine the details of job
- Field planner design appointment to cost out job and develop CMP Invoice.
- Submit invoice for payment.
- Easements signed and payment received.
- Applicable State or Local Permits for poles or underground locations
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer delivery, potential substation upgrades, return of completed paperwork, and other jobs in the system that may be ahead of yours. In addition, contact with the other utilities, including telephone and cable, should be commenced as soon as practical. They may have additional work

or charges in addition to the CMP work required to bring your project on line.

For your convenience, here is a link to the CMP Website which contains our Handbook with details on most service requirements:

CMP Handbook of Standard Requirements
(http://www.cmpco.com/MediaLibrary/3/6/Content%20Management/YourAccount/PDFs%20and%20Docs/handbook.pdf)

Please be advised that if you plan to install solar/wind/hydro generation, you must complete an application under the MPUC mandated Chapter 324 Interconnection Standards. If you go to http://www.cmpco.com/YourAccount/puc324.html and follow the instructions for the Small Generator Interconnection Procedures, CMP can do this work in parallel to your service request that will be handled by me. If you project is under 660 KW You will be able to have a Customer Net Energy Billing contract. Information concerning Chapter 313 (Customer Net Energy Billing) can be accessed thru the Chapter 324 website or by clicking here: Net Energy Billing .

If you have any questions, please contact me.

Attachments:
Excel Load Sheet
Easement Worksheet and Sample Standard Easement

Regards,

Jamie

Jamie Cough
Energy Services Advisor
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207-842-2367 office
207-458-0382 cell
207-626-4082 fax

From: Alyssa Gartley [mailto:agartley@acorn-engineering.com]
Sent: Thursday, September 21, 2017 4:34 PM
To: Cough, Jamie
Cc: William Savage
Subject: 24 St. Lawrence Street Redevelopment - Ability to Serve

Jamie,

Acorn is providing civil engineering services for our client's proposed residential redevelopment project at 24 St. Lawrence Street, Portland. On behalf of our client, HR Property Management, please find attached the formal ability to serve letter and the preliminary utility plan. Please do not hesitate to contact me if you have any questions.

Thanks,

Alyssa Gartley
Design Engineer | Construction Inspector

Licensed E.I. in Maine

Acorn Engineering, Inc
PO Box 3372
Portland, Maine 04104
www.acorn-engineering.com

ACORN ENGINEERING, INC.

Fairpoint Communications
5 Davis Farm Road
Portland, Maine 04103

September 21, 2017

Subject: 24 St. Lawrence Street Redevelopment
Re: Ability to Serve

To Whom It May Concern:

On behalf of HR Property Management, we are pleased to submit the following request for Fairpoint's ability to serve the proposed development. The proposed project is located at 24 St. Lawrence Street (Chart, Book, Lot 16, J, 006), within the R-6 Residential Zoning District in Portland, Maine. The lot is to be redeveloped into a four-story, 5-unit apartment building, in which the first floor is a 6-car parking garage. The parking garage will be accessed from St. Lawrence Street on the first level. The existing two-unit building and separate garage will be demolished to facilitate the redevelopment.

It is proposed that the existing lines be rerouted underground to the new structure from the utility pole on St. Lawrence Street.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within St. Lawrence Street.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the property to the existing communication system.
4. Fairpoint's proposed infrastructure improvements within the project vicinity.
5. Fairpoint's ability to serve the project.

I have attached an existing conditions plan created by Owen Haskell, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Alyssa Gartley, E.I.
Design Engineer / Construction Inspector
Acorn Engineering, Inc.

From:	Baumgardner, Earl
To:	Alyssa Gartley
Cc:	William Savage
Subject:	RE: 24 St. Lawrence Street Redevelopment - Ability to Serve
Date:	Monday, September 25, 2017 1:29:36 PM

Hi Alyssa,

I forwarded this to our engineering and outside plant teams. Thanks.

Earl

From: Alyssa Gartley [mailto:agartley@acorn-engineering.com]
Sent: Thursday, September 21, 2017 4:36 PM
To: Baumgardner, Earl
Cc: William Savage
Subject: 24 St. Lawrence Street Redevelopment - Ability to Serve

Earl,

Acorn is providing civil engineering services for our client's proposed residential redevelopment project at 24 St. Lawrence Street, Portland. On behalf of our client, HR Property Management, please find attached the formal ability to serve letter and the preliminary utility plan. Please do not hesitate to contact me if you have any questions.

Thanks,

Alyssa Gartley
Design Engineer | Construction Inspector

Licensed E.I. in Maine

Acorn Engineering, Inc
PO Box 3372
Portland, Maine 04104
www.acorn-engineering.com

B. 207.775.2655
C. 207.446.1837

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ACORN ENGINEERING, INC.

Charter Communications
Attn: Mr. Mark Pelletier
118 Johnson Road
Portland, Maine 04102

September 21, 2017

Subject: 24 St. Lawrence Street Redevelopment
Re: Ability to Serve

Dear Mr. Pelletier:

On behalf of HR Property Management, we are pleased to submit the following request for Charter's ability to serve the proposed development. The proposed project is located at 24 St. Lawrence Street (Chart, Book, Lot 16, J, 006), within the R-6 Residential Zoning District in Portland, Maine. The lot is to be redeveloped into a four-story, 5-unit apartment building, in which the first floor is a 6-car parking garage. The parking garage will be accessed from St. Lawrence Street on the first level. The existing two-unit building and separate garage will be demolished to facilitate the redevelopment.

It is proposed that the existing lines be rerouted underground to the new structure from the utility pole on St. Lawrence Street.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within St. Lawrence Street.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the property to the existing communication system.
4. Charter's proposed infrastructure improvements within the project vicinity.
5. Charter's ability to serve the project.

I have attached an existing conditions plan created by Owen Haskell, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Alyssa Gartley, E.I.
Design Engineer / Construction Inspector
Acorn Engineering, Inc.

From: Pelletier, Mark
To: Alyssa Gartley
Subject: RE: 24 St. Lawrence Street Redevelopment - Ability to Serve
Date: Tuesday, September 26, 2017 10:35:09 AM

Alyssa,

I will answer your questions 1-5 as you have them listed.

1) Utility Mapping.. we are on the existing pole line on Lawrence St. we have no ownership on poles, just pay a rental space on poles.
2) Easements are done by the pole ownership(s). We piggy back on those easements as we are a renter.
3) Alternative connections again depends on pole(s) moving, new poles etc, riser poles, and conduit placements are not done by us, We just follow route and pathway. Poles moved, new pole sets etc are done by pole owner, conduit runs provided for us by developer etc.
4) Infrastructure Improvements costs are done as needed. When request are done by bldg owner/developer. Usually no costs for them.
5) Charter can provide services to this project.

Hope this helps,

Mark

From: Alyssa Gartley [mailto:agartley@acorn-engineering.com]
Sent: Thursday, September 21, 2017 4:32 PM
To: Pelletier, Mark <Mark.Pelletier@charter.com>
Cc: William Savage <wsavage@acorn-engineering.com>
Subject: 24 St. Lawrence Street Redevelopment - Ability to Serve

Mark,

Acorn is providing civil engineering services for our client's proposed residential redevelopment project at 24 St. Lawrence Street, Portland. On behalf of our client, HR Property Management, please find attached the formal ability to serve letter and the preliminary utility plan. Please do not hesitate to contact me if you have any questions.

Thanks,

Alyssa Gartley
Design Engineer | Construction Inspector

Licensed E.I. in Maine

Acorn Engineering, Inc
PO Box 3372

ACORN ENGINEERING, INC.

Unitil Service Corp.
Attn: Bridget Harmon
376 Riverside Industrial Parkway
Portland, Maine 04103

September 21, 2017

Subject: 24 St. Lawrence Street Redevelopment
Re: Ability to Serve

Dear Mrs. Harmon:

On behalf of HR Property Management, we are pleased to submit the following request for Unitil's ability to serve the proposed development. The proposed project is located at 24 St. Lawrence Street (Chart, Book, Lot 16, J, 006), within the R-6 Residential Zoning District in Portland, Maine. The lot is to be redeveloped into a four-story, 5-unit apartment building, in which the first floor is a 6-car parking garage. The parking garage will be accessed from St. Lawrence Street on the first level. The existing two-unit building and separate garage will be demolished to facilitate the redevelopment.

We believe there is an existing gas line servicing the property. It is proposed to extend this line and route it to the new building, or replace it if necessary.

On behalf of the client, we are requesting the following information:

1. Any additional utility mapping such as gas lines on St. Lawrence Street.
2. A confirmation of an existing gas main on St. Lawrence Street, as well as the size of any gas lines and services.
3. Unitil's proposed infrastructure improvements within the project vicinity.
4. Unitil's ability to serve the project.

I have attached an existing conditions plan created by Owen Haskell, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Alyssa Gartley, E.I.
Design Engineer / Construction Inspector
Acorn Engineering, Inc.

September 25, 2017

Acorn Engineering, Inc.
Alyssa Gartley, E.I.
PO Box 3372
Portland Maine 04104

Re: 24 St. Lawrence Street, Portland Maine

Dear Ms. Gartley:

Thank you for your interest in using natural gas for the above referenced project.

This is to confirm that natural gas can be made available from our distribution system to serve your proposed project. The existing service to this address will have to be disconnected from the main prior to demolition.

Any improvements to the existing distribution system necessary to provide this service, as well as the design of the gas system in the project itself will be established as the overall design and scope of your project progresses.

All work necessary to provide service will be performed in accordance with the Maine Public Utilities Commission requirements.

If you have any further questions or require additional information, please contact me directly at (207) 541-2536 or at harmon@unitil.com.

Sincerely,

ME GAS CUSTOMER ENERGY SOLUTIONS
376 Riverside Industrial Parkway
Portland, ME 04103

T 207-541-2508 www.unitil.com

Bridget Harmon
Business Development
Unitil Corporation
(o) 207-541-2536 (f) 207-541-2586

J. Solid Waste Disposal

The five condo owners, or their property management company, shall be responsible for locating the solid waste and recyclable material to the space allocated for solid waste storage as noted on the Site Plan (C-10).

The solid waste containers will be fully enclosed and screened from the public view.

ACORN ENGINEERING, INC.

Assistant Chief Keith Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

October 10, 2017

Subject: 24 St. Lawrence Street – Fire Department Checklist
Section K of Application

On behalf of Kelly & Walter Williams, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

   Kelly & Walter Williams
   24 St. Lawrence Street
   Portland, Maine 04101
   (207) 671-1193

2. Name address, telephone number of architect

   Port City Architecture
   62 Newbury Street
   Portland, Maine 04101
   (207) 761-9000

3. Proposed uses of any structures [NFPA and IBC classification]

   NFPA: Apartments

   IBC: R-2

4. Square footage of all structures, including decks [total and per story]

Garage Level	2,823	sf
1st Floor	2,160	sf
2nd Floor	2,160	sf
3rd Floor	1,808	sf
Total	8,951	**sf**

5. Elevation of all structures

   The proposed building height is just under 45 feet which meets the zoning ordinance. See the elevations provided by the Architect for additional information.

6. Proposed fire protection of all structures

   The building will have a sprinkler system with additional protection per code. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior the request for a building permit.

7. Hydrant locations

   An existing hydrant is located approximately 11 feet from the east corner of the proposed structure. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

8. Water main size and location

   The development will be serviced by the existing water main within St. Lawrence Street. A 4" fire service line will extend from the existing water main to the building fire suppression system. The building is expected to have internal sprinkler risers and a Fire Department pump connection on the street side of the building.

9. Access to all structures [min. 2 sides]

   Main access to the structure is provided on St. Lawrence Street. In the event of an emergency, additional access may be accessible to the west of the subject property via a paved driveway that abut the property line.

10. The Architect has provided a code summary (to be attached at a later date).

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is located in a densely developed area and is fronted by a public street. The following pavement street width is currently available:

- St. Lawrence Street: 50 feet

Per NFPA 1 – Chapter 18.2.3.3.1, there will be public street access within 50 feet of at least one exterior door. Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety
3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Response: Not applicable

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Response: As depicted on the site plan, the proposed building layout provides a minimum of two paved access points to the structure: one from St. Lawrence Street directly as well as the northerly abutter's paved driveway.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*
- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along the public street for emergency vehicles.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: The building will be provided with exterior doors that will be within 50' of a Fire Department access route, namely St. Lawrence Street.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: Not applicable

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

Response: The elevators will be sized to accommodate an 80 x 24 stretcher, per the Architect's designs.

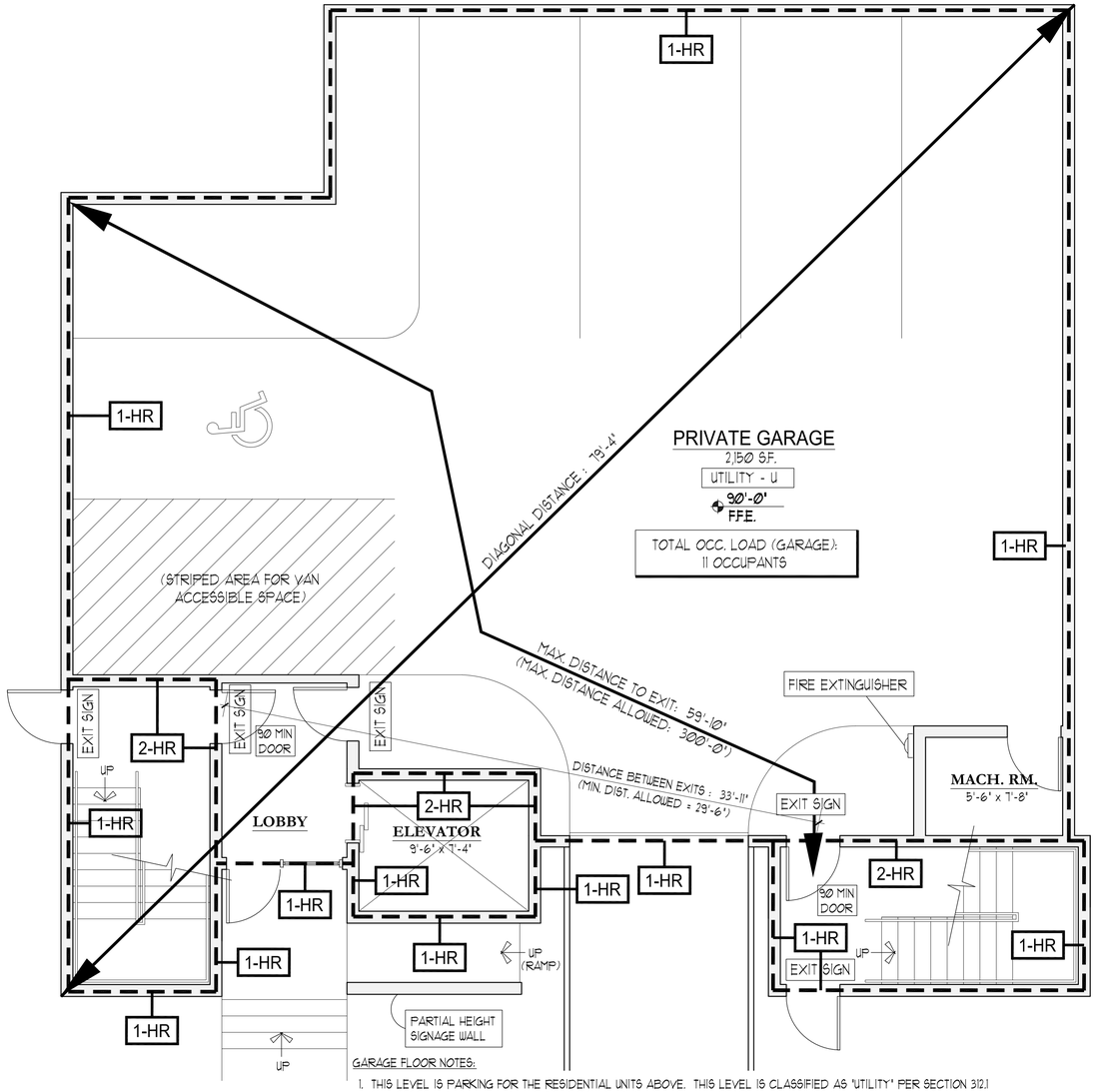
3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The applicant will work with the City's Public Works Division to assign street addresses and numbering to meet City Standards.

Please let me know if you have any additional questions or comments.

Sincerely,

William H. Savage, P.E.
Principal
Acorn Engineering, Inc.

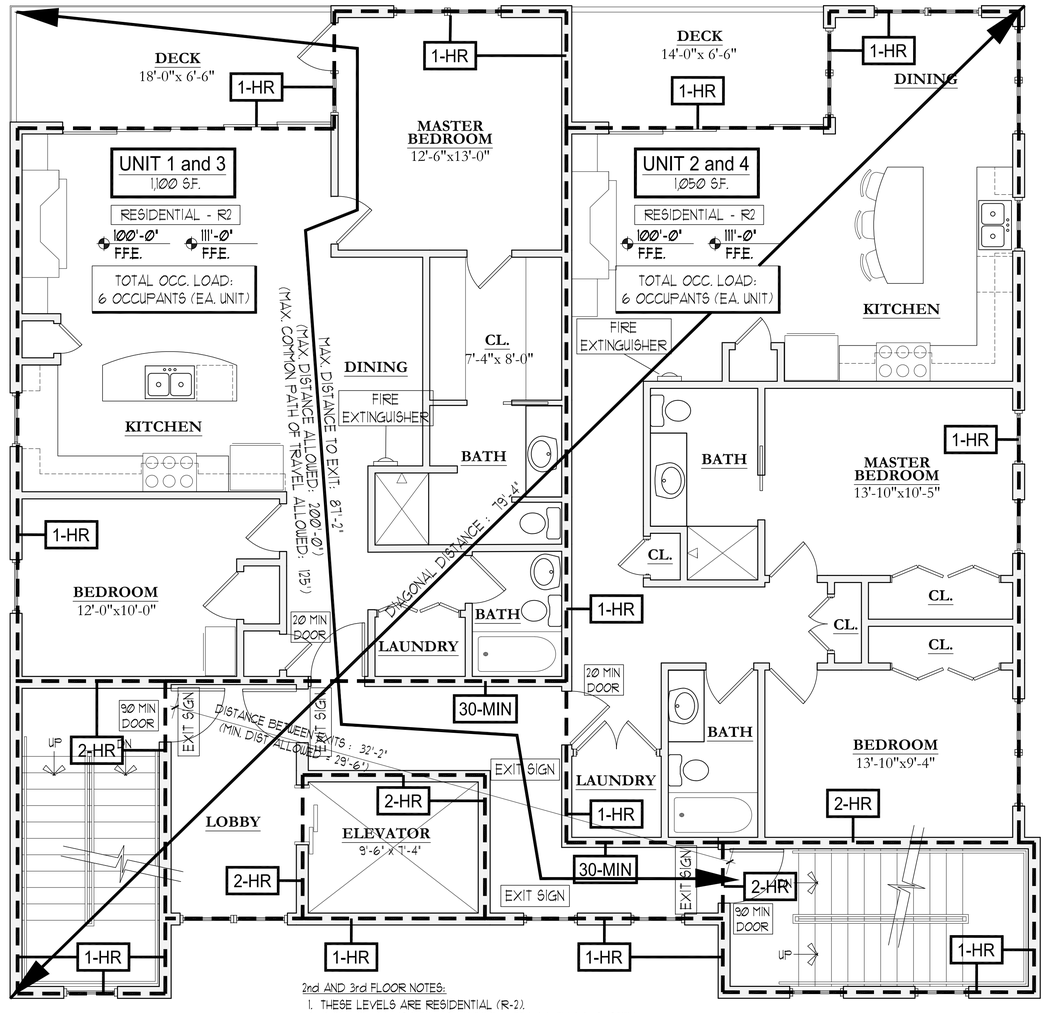


GARAGE FLOOR NOTES:

1. THIS LEVEL IS PARKING FOR THE RESIDENTIAL UNITS ABOVE. THIS LEVEL IS CLASSIFIED AS "UTILITY" PER SECTION 312.1 AND IS SEPARATED FROM THE RESIDENTIAL UNITS ABOVE PER 406.1.4.1. (1-HR PER IBC TABLE 601 - TYPE 5A)
2. THE BUILDING IS FULLY SPRINKLED WITH AN NFPA 13 SYSTEM.
3. THE EXTERIOR WALLS ARE REQUIRED TO BE 1-HR PER IBC TABLE 601 (CONSTRUCTION TYPE 5A).
4. TWO EXITS ARE REQUIRED AS THE BUILDING EXCEEDS THE VALUES IN IBC TABLE 1021.2. EXITS TO BE SPACED ⅓ OF THE DIAGONAL DUE TO THE SPRINKLER SYSTEM.
5. A 2-HR SEPARATION IS REQUIRED TO SEPARATE THE ELEVATOR AND STAIR SHAFTS FROM THE REMAINDER OF THE BUILDING AS THEY CONNECT 4 STORIES (IBC SECTION 708.4).

1 EGRESS / LIFE SAFETY PLAN - GARAGE

0 4'-0" SCALE: 1/4" = 1'-0"



2nd AND 3rd FLOOR NOTES:

1. THESE LEVELS ARE RESIDENTIAL (R-2).
2. THE BUILDING IS FULLY SPRINKLED WITH AN NFPA 13 SYSTEM.
3. THE EXTERIOR WALLS ARE REQUIRED TO BE 1-HR PER IBC TABLE 601 (CONSTRUCTION TYPE 5A).
4. TWO EXITS ARE REQUIRED AS THE BUILDING EXCEEDS THE VALUES IN IBC TABLE 1021.2. EXITS TO BE SPACED ⅓ OF THE DIAGONAL DUE TO THE SPRINKLER SYSTEM.
5. A 2-HR SEPARATION IS REQUIRED TO SEPARATE THE ELEVATOR AND STAIR SHAFTS FROM THE REMAINDER OF THE BUILDING AS THEY CONNECT 4 STORIES (IBC SECTION 708.4).
6. ONE EXIT IS REQUIRED OUT OF EACH UNIT (SPACE) PER 1015.1.
7. THE HORIZONTAL AND VERTICAL DWELLING UNIT SEPARATIONS ARE 1-HR RATED AS THEY ARE ALSO BEARING (CONSTRUCTION TYPE 5A).
8. THE CORRIDOR WALLS SHALL BE 30-MIN DUE TO THE SPRINKLER (PER 1018.1) - UNLESS THEY ARE BEARING WALLS (SEE NOTE 7).

2 EGRESS / LIFE SAFETY PLAN - 2nd & 3rd

0 4'-0" SCALE: 1/4" = 1'-0"

PORT ▪ CITY ARCHITECTURE
65 NEWBURY STREET
PORTLAND, ME 04101
207.761.9000

Consultants:

DESIGN DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

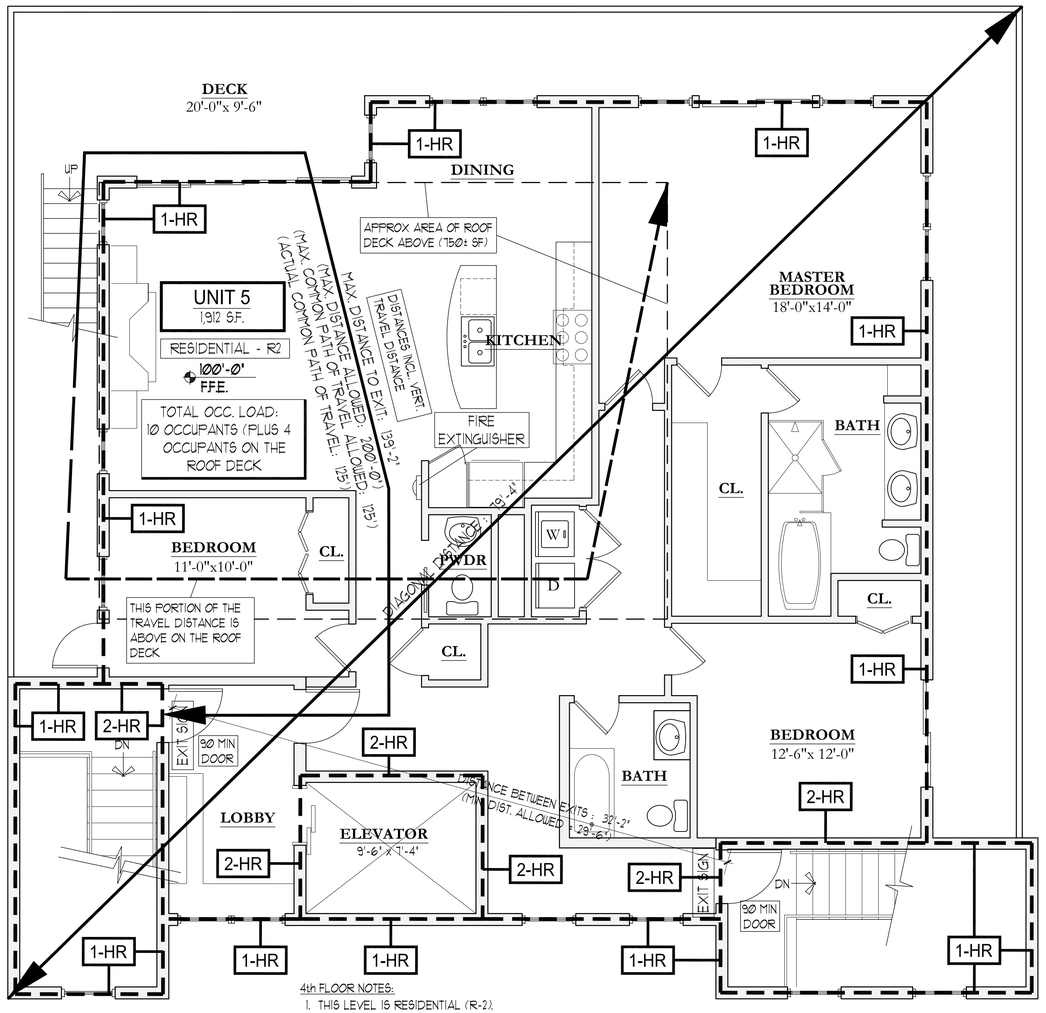
#	DATE	DESCRIPTION

Date Issued JUNE 6, 2017
Project Number 16015
Drawing Scale 1/8" = 1'-0"

LIFE SAFETY / EGRESS PLAN

Drawn By JAP, CG
Checked By MC

LS 1.0



4th FLOOR NOTES:

1. THIS LEVEL IS RESIDENTIAL (R-2).
2. THE BUILDING IS FULLY SPRINKLED WITH AN NFPA 13 SYSTEM.
3. THE EXTERIOR WALLS ARE REQUIRED TO BE 1-HR PER IBC TABLE 601 (CONSTRUCTION TYPE 5A).
4. TWO EXITS ARE REQUIRED AS THE BUILDING EXCEEDS THE VALUES IN IBC TABLE 1012. EXITS TO BE SPACED ⅓ OF THE DIAGONAL DUE TO THE SPRINKLER SYSTEM.
5. A 2-HR SEPARATION IS REQUIRED TO SEPARATE THE ELEVATOR AND STAIR SHAFTS FROM THE REMAINDER OF THE BUILDING AS THEY CONNECT 4 STORIES (IBC SECTION 708.4).
6. ONE EXIT IS REQUIRED OUT OF EACH UNIT (SPACE) PER 1015.1.
7. THE HORIZONTAL AND VERTICAL DWELLING UNIT SEPARATIONS ARE 1-HR RATED AS THEY ARE ALSO BEARING (CONSTRUCTION TYPE 5A).
8. ANY BEARING WALLS WITHIN THIS UNIT ARE REQUIRED TO BE 1-HOUR RATED.

1 EGRESS / LIFE SAFETY PLAN - 4th FLOOR

0 4'-0" SCALE: 1/4" = 1'-0"

Code Review - Title 5, Chapter 337: Maine Human Rights Act

Subchapter 4: Fair Housing (4582-C. Standards for Multifamily and Public Housing)

Section 1.C.(1) - This facility is a "Covered Multifamily Dwelling" as it contains four (5) units and an elevator.

Section 3.A.(1) - The public use and common use portions of the building are accessible.

Section 3.A.(2) - All doors are (or can be modified) to have 32" clear (in one unit, see Section 3.B.).

Section 3.A.(3) - In one of the units (see Section 3.B.), there is an accessible route, environmental controls under 48" maximum above the floor, blocking in the bathroom walls for future grab bars, and usable kitchens for persons in a wheelchair. The bathroom can be easily modified to provide ADA fixtures and the required maneuvering spaces (by removing the fixtures and installing an ADA shower and sink).

Section 3.B. - The above sections are applicable to a minimum of one (1) unit in this facility.

Code Review - NFPA 101 (Life Safety) 2009

Chapter 6 - Classification of Occupancy

Section 6.1.8 - The upper three stories of this building are classified as an "Apartment Building" per Section 6.1.8.1.5.

Section 6.1.13 - The lower story of this building (except for the exits) is classified as a "Storage" occupancy per Section 6.1.13.1.

Section 6.1.14.1 - This occupancy shall be classified as a "Multiple Occupancy" and further defined as a Separated Occupancy.

Section 6.1.14.4.1 - The requirements of a Separated Mixed-Use occupancy shall be utilized and the code requirements shall apply to each occupancy respectively.

Table 6.1.14.4.1(b) - The fire separation between Apartment Buildings and Storage Low and Ordinary Hazard is 2-HR, but is allowed to be reduced to 1-HR due to the sprinkler system (Section 6.1.14.4.3).

Section 6.2.2.3 - The contents of the garage area is defined as "Ordinary Hazard".

Chapter 7 - Means of Egress

Section 7.1.3.2.1(2) - The stair connects four (4) stories and shall have a 2-HR separation from the units. Note: The top flight of stairs to the roof deck is part of that unit, as the roof deck is accessible by that unit only.

Section 7.2.1.2.3.2(3) - Door openings in the means of egress are allowed to be 28" wide (34" minimum provided).

Section 7.2.1.4.2(1) - Doors are not required to swing in the direction of egress travel as they serve less than 50 occupants.

Section 7.2.1.4.3.1 - Doors in the means of egress shall not leave less than half of the required egress width clear during its swing.

Section 7.2.1.5.9.3 - The egress doors to the individual living units are allowed to have locking devices that comply with this section.

Table 7.2.2.2.1.1(a) - The egress stair width shall be 36" minimum (per 7.2.2.2.1.2) with 7" risers maximum and 11" treads minimum.

Section 7.2.2.3.1 - Stairs shall have landings at all door openings at least 36" along the path of egress travel.

Section 7.2.2.4.1.1 - Stairs shall have handrails on both sides of the stair.

Table 7.3.1.2 - Occupant Load: see Egress Plans.

Storage (Garage Bays): NA (defined as a Storage Occupancy per 6.1.13.1 and a Separated Mixed-Use)

Note: Use the occupant load for Parking Garages in the IBC code.

Residential: 1 person per 200 square feet

Section 7.5.1.3.3 - Exits shall be separated by a minimum of 1/3 the overall diagonal of each space due to the sprinkler system.

Section 7.5.4.1 - Accessible means of egress are not required as the dwelling units are not required to be accessible.

Table 7.6 - Residential Occupancy (Apartments / New / Sprinkled): Common Path Limit = 50'; Dead-End Limit = 50'; Travel Distance Limit = 325'. Storage Occupancy (Parking Structure, enclosed / Sprinkled): Common Path Limit = 50'; Dead-End Limit = 50'; Travel Distance Limit = 200'. Note: Common Path of Travel limits do not include travel within a unit per Section 30.2.5.3.2.

Section 7.10.2.1 - Exit signs shall be installed per this section as required by Chapters 30 and 42 (see Egress Plans).

Chapter 8 - Features of Fire Protection

Table 8.2.1.2 - Construction shall by Type V (111). Note: See the IBC code review other sections for the requires fire-ratings (stair, between uses, and between dwelling units, bearing walls).

Table 8.3.4.2 - For any 1-hour vertical shafts, the openings shall be 1-HR rated. For the 2-HR vertical shafts, the openings shall be 90-minute rated.

Section 8.6.5(1) - The shaft enclosure for the stairs are 2-HR as they connect 4 stories.

Note: Also see section 7.1.3.2.1(2)

Chapter 30 - Apartment Buildings

Section 30.1.2.3(1)(2) - Due to the sprinkler system, and the separation between the residential units and the storage (garage) area, the residential units are allowed to be located over the non-residential occupancy.

Section 30.2.1.2 - Only one means of escape from the dwelling units is required due to the sprinkler system (also see 24.2.2.1.2).

Section 30.2.2.1.2 - Due to the sprinkler system, the exit enclosures are permitted to be 1-HR. However, due to the requirements of IBC, the stairway connects 4 stories is required to be 2-HR.

Section 30.2.4.4 - A single exit is permitted by this section (requirements 1-8). Note: Two exits are provided due to the requirements of IBC.

Section 30.2.5.3.2 - The common path of travel shall not exceed 50' (and does not include the travel within the units).

Section 30.2.5.4.2 - Dead-end corridors shall not exceed 50'.

Section 30.2.6.2 - Travel distance within a unit shall not exceed 125'.

Section 30.2.6.3.2 - The travel distance from the entrance door to a unit, to the exit shall not exceed 200'.

Section 30.2.8 - The means of egress are required to be illuminated per Section 7.8

Section 30.2.9 - Emergency lighting shall be provided.

Section 30.3.4.1.2 - A fire alarm system is required.

Section 30.3.4.5 - Smoke alarms are required in every sleeping area, outside every sleeping area, and on every level.

Section 30.3.5.2 - An automatic sprinkler system is required and is allowed to be a 13R system.

Section 30.3.5.12 - Fire extinguishers are not required due to the sprinkler system. However, due to the requirements of IBC, fire extinguishers shall be provided (see Egress Plans for locations).

Section 30.3.7.2 - Dwelling units shall be separated from each other by 30-minute fire separation assemblies due to the sprinkler system. However, due to the requirements of IBC, 1-HR fire separations shall be provided.

Chapter 42 - Storage Occupancies

Section 42.2.4.1.(2) - A single means of egress is permitted provided the exit can be reached in 50' (per Table 42.2.5), however, due to section 42.8.2.4.1, two means of egress are required (parking structure).

Table 42.2.5 - Dead-end corridors: 100' / Common Path of Travel: 50' (parking structure, see 42.8.2.5.1).

Table 42.2.6 - Maximum travel distance to exit: 400'.

Section 42.2.8 - Means of egress shall be illuminated.

Section 42.2.9 - Emergency lighting shall be provided..

Section 42.2.10 - Exit signs shall be provided.

Section 42.3.4.1.2 - A fire alarm system is not required, but will be provided due to requirements elsewhere in this code.

Section 42.3.5 - There are no extinguishment requirements, however, the lower level will be sprinkled due to requirements elsewhere in this code and in the IBC code.

Section 42.8.1.2.2 - No repair facilities are located in this building.

Section 42.8.2.4.1 - Two means of egress out of the parking area are required.

Section 42.8.2.5.1 - Common path of travel = 50'.

Section 42.8.2.5.2 - Dead ends shall not exceed 50'.

Table 42.8.2.6.1 - Maximum travel distance to an exit = 200'.

Section 42.8.3.4.1.1 - A fire alarm system is not required per this section.

Code Review - IBC 2012

Chapter 3 - Use and Occupancy Classification

Section 310.1 - The majority (2nd, 3rd, and 4th floors) of this building is classified as Use Group R-2 (Residential).

Section 312.1 - The first level parking area is classified as Use Group U (Utility - Private Garage).

Note: Due to the intermingling of the uses, this will be a Mixed-Use, Separated building. See Section 508.4.

Chapter 4 - Special Detailed Requirements Based on Use and Occupancy

Section 406.1.2 - The parking level is allowed to be Use Group U as it is under 3,000 square feet.

Section 406.1.4 - The separation between the parking level and the dwelling units is allowed to be ⅝" Type X, with solid core wood or honeycomb steel doors. However, it will be 1-HR due to the requirements of the Type 5A Construction Type.

Chapter 5 - General Building Heights and Areas

Table 503 - This building is classified under Type V (A) construction type. For the R-2 classification this building is limited to three (3) stories and 50' above the grade plane, and 12,000 square feet per floor. For the U classification, two (2) stories above the grade plane is allowed and 9,000 square feet per story. Since this is a separated mixed-use, the requirements of this Table shall apply to the respective areas of this building.

Note: The height of the R-2 area will be increased due to a NFPA 13R sprinkler system (Garage is also sprinkled as building is required to be fully sprinkled).

Section 504.2 - The building height for the R-2 portion of the building shall be increased by 20' and 1 additional story above the grade plane due to the NFPA 13R sprinkler system (4 stories and 70' in height are allowed, also see Section 903.3.1.2).

Section 506.3 - The building area is allowed to be increased due to the sprinkler system, but increases are not necessary.

Section 508.4.1 - The requirements of this section to be utilized for this building to allow each occupancy to be individually classified.

Table 508.4 - The separation between the R-2 and the U occupancies is not required to be fire-rated, but will meet the requirements for 1-HR due to the 5A Construction Type.

Note: Footnote C references Section 406.1.4 that allows ⅝" Type X between the two occupancies with solid core wood or honeycomb steel 1⅜" steel doors.

Chapter 6 - Types of Construction

Table 601 - The construction type shall be Type V (A).

Table 602 - The requirements of the Construction Type satisfy this section as the exterior walls are rated 1-HR.

Chapter 7 - Fire and Smoke Protection Features

Table 705.8 - The fire separation distances vary on this buiding from 5' to over 20'. The amount of unprotected openings (sprinkled) are as follows:

5' to 10' (unprotected, sprinkled) = 25%

10' to 15' (unprotected, sprinkled) = 45%

15' to 20' (unprotected, sprinkled) = 75%

over 20' = no limit

Note: See the elevations for the individual elevation opening calculations.

Section 708.4 - The stair connects 4 stories and is required to be 2-hr. The elevator also connects 4 stories and is required to be 2-hr rated.

Section 708.6 - The exterior walls that are part of the stair enclosures are required to be 1-HR due to the requirements for the construction type.

Section 708.14.1(4) - An enclosed elevator lobby is not required due to the sprinkler system.

Section 709.3 - 30 minute fire partitions are required between dwelling units (per Exception 2). However, due to the Type 5A construction type, the separations are also bearing walls and will be 1-HR rated.

Section 713 - At this time the extent and amount of penetrations through the horizontal and vertical fire-separation assemblies is unknown. The HVAC, plumbing, and electrical will be design-build. The rated penetration assemblies will be submitted at that time.

Table 715.4 - Doors in the 2-HR shaft/exit enclosures shall be 90-min. rated. Doors in the 1-HR exterior walls are not required to be 45-min rated per this Table, as the openings are allowed to be unprotected per Table 705.8.2 (also see Elevations for calculations of unprotected openings).

Section 717.2 - Fireblocking shall be installed per this section.

Section 717.3.2 - Draftstopping within the floor/ceiling assembly is not needed as the 1-HR separation between Units 1 and 2, and 3 and 4, extends to the floor deck, and Units 5 comprises the entire floor.

Section 717.4.2 - Draftstopping in the attic is not required as the entire 4th floor contains one unit and the area of the attic is less than 3,000 square feet (also see Section 717.4.3).

Chapter 9 - Fire Protection Systems

Figure 903.2 - A sprinkler system is required in all Residential occupancies. A sprinkler system is also required in the parking level for the building to be considered "fully sprinkled".

Section 903.3.1.2 - A 13R sprinkler system can be used in the residential areas of the building per this section.

Section 906.1 - Portable fire extinguishers are required (see Egress plan for locations).

Table 906.3(1) - Extinguishers shall be rated 2-A with a maximum floor area of 3,000 square feet and a maximum travel distance to an extinguisher of 75'.

Secton 907.2.9.1 - A manual fire alarm system is required (R-2) as there is a dwelling unit located 3 stories above the lowest level of exit discharge.

Section 907.2.9.2 - Smoke alarms are required.

Section 907.2.11.2 - Smoke detectors shall be installed in each sleeping room, outside of each sleeping room, and at least one on each floor of each dwelling unit.

Section 907.5.2.3.4 - All dwelling units and sleeping rooms shall be provided with the capability to support visible alarm notification appliances.

Chapter 10 - Means of Egress

Table 1004.1.1 - Occupant Load = 1 person per 200 square feet, see Egress plans.

Section 1005.2 - Doors in the egress stairs shall not reduce the egress width to less than half of the required width when open.

Section 1006.1 - The means of egress stairs and exit discharge shall be illuminated as they are not within the dwelling units.

Section 1006.3 - The illumination of the egress per 1006.1, shall have emergency power.

Section 1007.1 - An accessible means of egress is not required as none of the dwelling units are required to be accessible (usually this references Sections 1107.6.2.1.1 and 1107.6.2.1.2, however Maine has deleted Chapter 11 and defers to the Maine Human Rights Act).

Section 1008.1.1 - Doors serving in the means of egress shall have 32" clear width (minimum).

Section 1008.1.4.4 - The entrance doors and entrance doors to the units are allowed to have locking hardware that complies with this section.

Section 1009.1(1) - The exit stairways shall have a clear width of 36".

Section 109.4.2 - Riser height shall be 7" maximum and tread depths shall be 11" minimum.

Section 1011.1 - Exit signs will be provided within the egress stairs (not in the individual units per Exception 3). See Egress Plans for locations.

Section 1014.3 - Maine has deleted this section in lieu of NFPA Table A.7.6.

Section 1015.1 - All units are required to have two exits per the number of stories. The parking level is required to have two exits as the common path of travel (50' per NFPA A7.6) is exceeded. Also see 1021.1 for exits from "stories".

Section 1015.2.1(2) - The exits shall be placed a minimum of 1/3 of the diagonal of each space due to the sprinkler system.

Table 1016.1 - The maximum exit travel distance (per this section) shall be 200' for the Residential areas, and 300' for the Parking (Utility) Areas. Note: The increase in distance for a sprinkler is only for a full 13 system. This building will have a 13R system, so the unsprinkled numbers must be used.

Section 1021.1 - The parking level is permitted to have one exit per Table 1021.2, however it is required to have two exits per 1015.1, and the requirements of NFPA. The residential units on the second, third and fourth levels are required to have two exits.

Section 1022.1 - The stair connects 4 stories and is required to be 2-HR rated.

Section 1029.1(1) - Emergency escape and rescue openings are not required due to the automatic sprinkler system (Exception 1).

Chapter 11 - Accessibility

Note: Maine has deleted this chapter in lieu of the Maine Human Rights Act.

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65 NEWBURY STREET
PORTLAND, ME 04101
207.761.9000

Consultants:

DESIGN DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

#	DATE	DESCRIPTION

Date Issued JUNE 6, 2017

Project Number 16015

Drawing Scale 1/8" = 1'-0"

LIFE SAFETY / EGRESS PLAN

Drawn By JAP, CG

Checked By MC

LS1.1

L. Conformity with Land Use Ordinance

The following statement is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14-526.

OVERVIEW

This project conforms with all applicable design standards of Section 14-526 as demonstrated in the following narrative.

(a) Transportation Standards

1. Impact on Surrounding Street Systems:

   The site is located on 24 St. Lawrence Street which is a local street. Currently, the street sees minimal traffic. It is predicted that the proposed project will not produce a significant increase in traffic volume as the available parking will increase from two to six.

2. Access and Circulation:

   a. Site Access and Circulation.

      The project proposes the removal of the existing driveway and replacing with a 12.75-foot driveway. The proposed entrance will lead into the proposed 10-foot wide parking garage entrance. One curb cut is proposed at this entrance, with the existing curb cut being closed. Furthermore, the proposed driveway/curb cut maintains over 20 feet of face to face separation from the abutting driveways.

      (i) The development will provide safe access and internal circulation for both pedestrians and vehicles.

      (ii) It is expected that the proposed ground-level parking garage will serve at full capacity, six vehicles. The parking garage is designed in such a way that limits traffic, entering and exiting the property, to one car. This will be acceptable based on the low turnover of six vehicles. Furthermore, based on a vehicle-circulation model, AutoTurn, vehicles exiting the property will not have to back out onto St. Lawrence Street.

      (iii) The site does not feature drive up services as mentioned in this requirement.

   b. Loading and Servicing:

      (i) Not required. There will be adequate area along adjacent streets and within the proposed drive aisle for infrequent periods of tenants moving in/out of the building.

c. Sidewalks:

(i) The existing sidewalk along St. Lawrence Street is comprised of concrete and will be reconstructed with brick and granite curb per City Standards along the property frontage.

(ii) All sidewalk along the project frontage is in substandard condition and will be replaced.

(iii) Not applicable.

3. Public Transit Access:

a. The development does not exceed twenty (20) or more residential dwelling units.

b. A new transit stop is not proposed as part of the project.

c. A new transit stop is not proposed as part of the project.

4. Parking:

a. Location and Required Number of Vehicle Parking Spaces:

(i) With the proposed five units, six proposed parking spaces surpasses the minimum requirement. The six spaces allow for one space per unit with the flexibility of one ADA accessible space.

(ii) A parking study is not required.

(iii) The amount of parking exceeds the minimum requirement by more than 10%. The justification for this proposal is outlined in Section Q.

(iv) The parking space dimensions are in conformance with City standards and the drive aisles exceed the standards.

(v) The internal parking lot will be constructed with a permanent and durable concrete surface that will drain to an internal oil-water separator. There is no proposed external parking lot.

b. Location and Required Number of Bicycle Parking Spaces:

(i) Wall-mounted bicycle storage will be provided internally within the parking garage for a minimum of 2 bicycle mounts will be provided.

c. Motorcycles and Scooter Parking:

(i) The project does not provide designated motorcycle/scooter parking; however, there is ample space within St. Lawrence Street for parking.

d. Snow Storage:

(i) Snow removal will only be necessary for the parking garage entrance and walkways Removal will be minimal and accommodated on site.

(ii) Not applicable.

5. Transportation Demand Management (TDM):

a. A TDM plan is not required for this project.
b. A TDM plan is not required for this project.
c. A TDM plan is not required for this project.

(b) Environmental Quality Standards

1. Preservation of Significant Natural Features:

a. The existing site contains no prominent significant natural features therefore no issue related to the preservation of these features applies.

b. Not applicable.

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation:

(i) There is one existing, mature tree within the right of way as identified in the Existing Conditions Plan; it is proposed that this tree be removed to facilitate the new driveway entrance. Landscaping in the form of trees, shrubs, perennials, and grasses around the building will replace this tree as well as the two proposed Ash trees within the right-of-way.

(ii) No trees ten inches DBH or greater were identified on the site.

(iii) Due to the sparse landscaping on site, no protection during construction will be necessary.

(iv) Not applicable

(v) Not applicable.

b. Site Landscaping:

(i) Landscaped Buffers:

(a) The solid waste storage located within the garage level will be enclosed and not visible from the public sidewalks, street, or adjacent properties.

(b) The project has 68 linear feet of frontage along St. Lawrence Street; per requirement, it is proposed that a minimum of six shrubs or shrub alternatives

per 45 feet of frontage are planted within this setback as noted in greater detail in the Landscape Plan. This ratio equates to nine shrubs.

(c) Not applicable.

(d) Any existing evergreen vegetated buffers will be preserved where possible

(ii) Parking Lot Landscaping:

a) Not applicable.

b) Not applicable.

c) Not applicable.

d) Not applicable.

e) Not applicable.

f) Not applicable.

(iii) Street Trees:

(a) Per Section 4.6 of the Portland Maine Technical Manual, a minimum of five street trees are required (one per unit). Based on the property's frontage, two shade trees are proposed to be planted within the new sidewalk. Additionally, four evergreen trees are proposed in between the proposed building and the new sidewalk.

(b) It is anticipated to exceed the street tree requirement by one tree as noted above.

3. Water Quality, Stormwater Management and Erosion Control:

a. Stormwater:

(i) The site is proposed to be graded in a similar manner as the existing condition. The grades will tie into the existing grades at the property line and retaining walls, maintaining a similar drainage pattern as the existing condition. There is no anticipated ponding or flooding on adjacent lots using this design. As discussed in the stormwater management report, the flows to the combined sewer are expected to slightly increase while the flows to the abutting properties are expected to significantly decrease.

(ii) The design of water quality treatment is not warranted due to the marginal increase in impervious area.

(iii) The project is not expected to significantly increase the stormwater flows directly within St. Lawrence Street.

(iv) The City's combined system is anticipated to be able to accommodate a marginal increase of stormwater flow.

b. A site specific Stormwater Management Plan has been developed for the project to show compliance with Section 5 of the Technical Manual, including the basic standard of MEDEP Chapter 500. Please refer to the Stormwater Management Plan for more information.

c. The project is not located in a watershed of an urban impaired stream as listed by the MDEP.

d. Not applicable.

e. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The project is serviced by a public wastewater system.

f. The development will provide for adequate and sanitary disposal of sewage in accordance with Section 2 of the Technical Manual.

(c) Public Infrastructure and Community Safety Standards.

1. Consistency with City Master Plans:

   a. The development has been designed to be consistent with the City's Master Plan, adopted June 2017.

   b. Not applicable.

2. Public Safety and Fire Prevention:

   a. The site has been designed to promote safe and inviting public and residential access.

   b. No changes to emergency access conditions within the surrounding streets are proposed.

   c. The proposal has been designed to be consistent with the City public safety standards. A fire hydrant is located approximately 11 feet from the east corner of the proposed structure.

3. Availability and Adequate Capacity of Public Utilities:

   a. Public utilities in the vicinity of the site have the capacity to serve the proposed project. More information on utilities is included within the ability to serve letters to the respective utility companies in Section I.

   b. All electrical service lines will be underground.

   c. All new utility infrastructures will meet the provisions of the Technical Manual.

   d. The project will be served by the proposed connection to the public sewer system within St. Lawrence Street.

e. The sanitary sewer collection system meets all applicable sections of the Technical Manual. The stormwater management system is designed to meet the standards of Chapter 500.

f. The proposed building includes provisions for on-site storage of trash and recyclables temporarily until waste is removed from the site via a private hauler.

(d) Site Design Standards.

1. Massing, Ventilation and Wind Impact:

   a. The bulk, location and height of the proposed building does not result in adverse impacts to abutting properties. Refer to the Architect's renderings for more information.

   b. The proposed building has been designed to minimize bulk and is positioned as such to affect abutting buildings as little as possible while conforming to the maximum height requirement.

   c. The proposed HVAC is designed to direct exhaust away from public spaces and adjacent residential properties.

2. Shadows:

   a. Not applicable.

3. Snow and Ice Loading:

   a. The proposed building features a flat roof. Should a standing seam metal roof be utilized, snow bars will be installed on each rooftop to prevent snow and ice accumulation and prevent it from falling onto adjacent properties or public ways.

4. View Corridors:

   a. The project site is located outside the Downtown Vision View Corridor Protection Plan.

5. Historic Resources:

   a. The development is not located in a historic district, historic landscape district or City designated landmark.

   b. The development is not located adjacent to designated landmarks, historic district, or historic landscape district.

   c. There are no known archaeological resources on the site.

6. Exterior Lighting:

   a. Site Lighting.

      (i) Exterior lighting will be designed to meet the requirements of Section 12 of the

Technical Manual. Cut sheets may be provided for the lighting typical of residential lights. Please let us know if a photometric plan is required for a project of this scale.

(ii) All proposed exterior lighting will employ house-side shielding per requirement.

b. Architectural and Specialty Lighting.

(i) No architectural or specialty lighting is proposed.

(ii) No up-lighting is proposed.

c. Street Lighting.

(i) No new street lights are proposed.

7. Noise and Vibration:

All HVAC and Mechanical equipment shall be in accordance with the applicable zoning requirements.

8. Signage and Wayfinding:

a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

(i) The project is not located in a historic district or subject to Article IX.

(ii) Not applicable.

(iii)All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

9. Zoning Related Design Standards:

a. The project has been designed to meet the design standards within the R-6 Zone.

M. Written Request for Waivers

There are no known project related waivers.

N. Summary of Written Easements

- **Existing Easements** – No existing easements were located by Owen Haskell, Inc on the Existing Conditions Plan.

- **Proposed Easements** – There are no proposed easements at this time.

Section O

Architectural Design Narrative

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24 St. Lawrence Street

Architectural Narrative

Project Summary:
The project is located at 24 St. Lawrence Street, Portland, Maine, in the R-6 zone. The existing two-unit building will be demolished to allow a new 5-unit building to be constructed. The Lower Level will consist of a private (tenant only) parking garage with 5 parking spaces and 1 ADA accessible parking space. The 2nd and 3rd floors will have two condominium units on each floor and the 4th floor will have one larger condominium unit. The building will have two fire-rated stair tower exits and an elevator to service all floors. A rooftop deck will be above the 4th floor and will be available only for the 4th floor unit.

The building will be a 3B Construction Type (IBC) and will be fully sprinkled.

HVAC units will be placed towards the center of the roof as to minimize visual and noise impacts.

Materials:
The exterior materials will mostly consist of dipped cedar shakes or fiber cement shake panels. There are also areas of fiber cement clapboard siding and fiber cement panel trim. The base level will have a dimensional stone veneer for an increase in durability of the lower level (see elevations). See renderings for preliminary color selections

Zoning Analysis and R-6 Design Standards

Zoning Analysis:

City of Portland Zoning Codes: (See bold type for project specific information)
The project will meet all city of Portland zoning codes (listed below) as well NFPA and IBC.
Minimum lot size: 2,000 sf **Actual 4,661 SF**
Minimum lot area/dwelling unit: 725 sf **6 Units Possible, 5 units proposed**
Minimum front yard setback (principal structure): 5 ft
Neighboring properties are closer than 5'. Per the average of the two neighboring properties, the front setback is reduced to 3'-6" (see civil drawings).
Minimum rear yard setback (principal structure) : 10 ft **See attached civil drawings.**
Minimum side yard setback (principal structure): 5 ft **See attached civil drawings.**
Structure Step backs: Portions of a structure above 35ft shall be no closer than 10ft from the side property line and no closer than 15 ft from the rear property line when such property line abuts a residential zone.
See Elevations and plans, This requirement does not apply to Circulation elements (Stairs, Elevators, Lobbies).
Maximum lot coverage: **60% 2,797 SF allowed Proposed 2,795 SF**

Maximum height: (Principal and attached accessory structure): 45ft **Proposed 44'-11 3/8" (see elevations for average grade and height calculations).**

Landscape open space: 20% not include parking areas or other impervious surfaces. **Approximate landscape open space: 1,508 sf (32.3%).**
Maximum garage opening: (front facades) not to exceed the greater of 9 ft or 40% of the front façade, not to exceed 20' (max). **Front façade is 57'-6" (40% = 23'), actual garage door opening is 10'.**

ADA/Pedestrian Access

Current proposed plan and design will meet all ADA requirements as per HUD Fair Housing and Maine Human Rights Act. See civil drawings for ADA ramp to main entry.

City of Portland R-6 Design Standards

Principle A - Overall Context

Scale and Form: The proposed project meets the current City of Portland R-6 height Limit of 45' from average grade. Existing buildings in the surrounding area are mostly between 3-4 stories (see photos at the end of this report). The proposed project is a total of 4 stories including the garage level.

Composition of Principal Facades: Existing buildings in the Area consist of a mixture of typical Portland Regional Architecture, and modern contemporary buildings. There is a very similar project (designed by this office) at 31 Fore Street (corner of Fore and Waterville, see photo). The proposed building incorporates regional design and materials with a contemporary design standard. Large, modern windows/doors, as well as the decks on the rear façade, will take advantage of Casco Bay views and are similar to buildings neighboring the proposed site.

Relationship to street: The proposed project respects the rhythm, spacing and orientation of existing buildings in the neighborhood. The garage entrance and main entrance are on the street façade. Signage and a covered entry assist in main entrance hierarchy. The windows sizes address the street frontage, while still affording the privacy required.

Principle B - Massing

Massing: The buildings massing of the proposed building meets the massing of existing buildings in the area (Rectalinear shapes**)**

Roof Forms: Roof Forms within a 2-block radius include Gables Pitched roofs as well as flat roofs. The proposed building will have a flat roof.

Main Roofs and Subsidiary Roofs: The proposed building has a clear roof form (flat) that is accentuated by the simple cornice band. There is a small subsidiary roof over the main entrance that is also flat with a smaller simple cornice.

Roof Pitch: Not Applicable

Façade Articulation: A recessed main entry, covered by a flat roof is on the street façade. The garage entry is also recessed on the front façade. Covered porches and balconies are incorporated in the proposed design on the rear façade. These porches take advantage of the views of Casco Bay and are visible from Waterville Street.

Garages: The garage entrance is located on the street frontage façade (St. Lawrence) of the property. It has been recessed slightly from the main frontage.

Principle C - Orientation to the Street

Entrances: Main Entrance is clearly articulated to the front façade of the building on St. Lawrence street. A recessed and covered entry, along with a main stair (and ramp), and a building signage wall will assist in defining the main entry. Downlighting at the main entrance and sign lighting will help to define the entry at night.

Visual Privacy: Visual privacy is met on main living spaces with the building being raised a story above public pedestrian paths. Privacy is also achieved by placing the stair towers, elevator, and lobbies on the street, with the units towards the rear of the property.

Transition Spaces: Landscape features create transitions from Public to private. The main entry is also recessed and situated up several steps (or ramp) above the sidewalk. This helps to separate the entrance from the sidewalk and provide the necessary transitional space.

Principle D - Proportion and Scale

Windows: Windows are rectangular and vertically proportioned. Accent windows are square or also vertically proportioned.

Fenestration: Doors, Windows and other openings are scaled appropriately per the buildings massing and exceed 12% of the total façade area (see elevations for actual percentages of openings).

Porches: Not applicable, no porches proposed on front façade.

Principle E - Balance

Window and Door Height: The window and door heights remain consistent (or are centered) within each floor. Also, the floors remain consistent and similar.

Window and Door Alignment: The floors are fairly consistent which lends itself to vertical stacking of elements. Where floors are not consistent, they are similar to adhere to the alignment principle.

Symmetricality: While the overall building is not symmetrical, the windows, doors, and balconies are grouped together to provide several axis lines, rather than only one overall axis line. This reflects the general façade treatments in the neighborhood.

Principle F - Articulation

Articulation: Building trim will be kept simple to reflect the contemporary nature of the structure. However, use of the building trim will be at the traditional locations: at windows/doors, at balconies/decks, at the cornice, and above the first level (to separate materials and to provide a vertical break of the facades).

Window Types: There are two window sizes on the front façade, but they are also grouped together in different configurations to provide visual interest and discourage repetitivity. The windows on the rear elevation reflect the additional fenestration surrounding the doors for the rear decks. There is a third window size on one of the side elevations due to the expected placement of the interior millwork.

Visual Cohesion: There are three materials on the facades of the building. The heavier material of dimensional stone is on the base level, while the shake shingles and clapboard siding are on the other levels above.

Delineation between Floors: The delineation between floors is achieved through the use of materials (lower level to upper levels), the use of a cornice line (lower level to upper levels), vertical separation of windows (upper levels), and porch/balcony roofs and trim (upper levels).

Porches ect…: The front entry is integrated into the design by the use of massing and the windows above that provide vertical alignment. The multi-level balconies/decks on the rear of the building are stacked as to provide the same vertical alignment and massing. The rail/baluster systems will adhere to all codes, while providing a thin profile (cable rail balusters) to keep the focus on the building.

Main Entries: The main entry is recessed, raised above the sidewalk, is covered, lighted and has adjacent signage. It is also emphasized vertically with the massing and windows above. In addition, the only other door on the front façade (for the adjacent stair) has been de-emphasized.

Articulation: Eaves are greater than 6”. Window trim is greater than 4”. The massing offsets in the front façade are approximately 48”, while the offsets for the rear decks are in excess of 6’. There are

two pronounced cornices on the building. The main cornice at the top of the building is reflected in a smaller cornice at the first level.

Principle G - Materials

Materials: The proposed materials mainly consist of Dipped Cedar Shakes, clapboard siding, dimensional stone veneer (lower level only) and Hardie Board or AZEK Trim. Existing buildings in the area materials consist of wood cladding, vinyl siding, cedar shakes, Hardie Board and brick masonry.

Material and Façade Design: The materials are consistent with façade design. The heavy stone veneer is on the lower level, while the clapboard siding and cedar shakes are on the upper levels. There are no small stone areas. Instead, the stone covers the entire lower level to give the structure a visual "base".

Chimneys: Not applicable as none are proposed.

Window Types: Windows are consistent in style and kept to a few sizes between facades.

Patios and Plazas: The only patio that is proposed is the main walkway at the front entrance. The front sidewalk will be constructed of brick pavers, and the entrance walkway, steps, ramp and entrance patio is expected to be concrete.

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St. Lawrence Street

St. Lawrence Street

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St. Lawrence Street

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Waterville Street

Waterville Street

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Fore Street (at Waterville)

Munjoy Street

P. Lighting

Please refer to the attached photometric plan and cut sheets for information regarding the proposed lighting models. These lights will not inflict significant light trespass within abutter's properties or the City right-of-way.

CHARRON
BRIGHTER.

Charron, Inc.
P.603-624-4827
C.207-907-9786

#	Date	Comments

Revisions

Drawn By: MKC
Checked By: MKC
Date:10/13/2017

Scale: 1" = 5'

24 St. Lawrence Street
Site Lightign Plan
Portland, Maine

Housing: One piece die-cast aluminum supplied with universal mounting bracket for direct attachment to 3½" or 4" octagonal wiring box. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: Molded clear glass diffuser ¼" thick with diffused stippled interior surface retained by one piece die-cast aluminum guard, secured by four (4) captive socket head, stainless steel screws threaded into stainless steel inserts. Interior of lamp compartment painted gloss white. Fully gasketed for weather tight operation in any mounting orientation using a molded silicone rubber 'U' channel gasket.

Electrical: 4.3W LED luminaire, 6 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

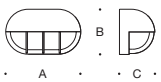
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 3.1 lbs.

Luminaire Lumens: 103

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



		Lamp	A	B	C
33 428	ADA	4.3W LED	8¾	5⅛	4

BEGA-US 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com
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Wall luminaires for light in two directions

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:

Housing: One piece die-cast aluminum supplied with universal mounting bracket for direct attachment to 3½" or 4" octagonal wiring box. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum cover frame, secured by captive socket head, stainless steel screws threaded into stainless steel inserts. Interior of lamp compartment painted gloss white. One piece, handblown clear glass with internal fluted structure and translucent white-painted coating. Glass has a transmittance of 81%.

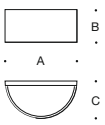
Electrical: 6.3W LED luminaire, 8.6 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.
Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 4.9 lbs

Luminaire Lumens: 260



	Lamp	A	B	C
33334	6.3W LED	9⅞	4⅝	5⅜

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Impact resistant wall luminaires

Housing: One piece die-cast aluminum with mounting holes for direct attachment to the wall over a 3 1/2“ or 4“ octagonal wiring box. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: Molded clear glass diffuser with diffused stippled interior surface, fully gasketed for weather tight operation using a molded silicone rubber O-ring gasket. One piece die-cast aluminum half lid and guard, secured by three (3) captive socket head, stainless steel screws threaded into stainless steel inserts. Interior painted white.

Electrical: 4.3W LED luminaire, 6 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

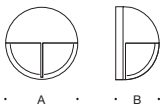
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 3.5 lbs.

Luminaire Lumens: 180
Tested in accordance with LM-79-08

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



	Lamps	A	B
33 528	4.2W LED	8 1/2	4 7/8

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Lumière

DESCRIPTION

Cambria 922 is a small dimmable LED or MR16 low voltage sign lighting luminaire. It attaches to a wall mounted straight arm and delivers full vertical adjustment for easy aiming. Optional 14", 18", 24", 30" or 36" straight arms are available. Various lenses, louvers and color or dichroic filters can be combined - up to three at once - to create multiple lighting effects. Lumiere's exclusive Siphon Protection System (S.P.S.) prevents water from siphoning into the fixture through its own lead wires.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Material
Housing, hood, straight arm and wall mounting plate are precision-machined from corrosion-resistant billet stock 6061-T6 aluminum. Premium metals such as C360 brass, C932 bronze, C110 copper or 303/304 stainless steel are available on request.

Finish
Fixtures constructed from 6061-T6 aluminum are double protected by a chemical film undercoating and polyester powdercoat paint finish, surpassing the rigorous demands of the outdoor environment. A variety of standard colors are available.

Hood
Hood is removable for easy relamping and accepts up to three internal accessories at once (lenses, louvers, filters) to achieve multiple lighting effects. Weep holes prevent water and mineral stains from collecting on the lens, even in the straight-up position.

Gasket
Housing and hood are sealed with a high temperature silicone o-ring gasket to prevent water intrusion.

Lens
Tempered glass lens, factory sealed with high temperature adhesive to prevent water intrusion and breakage due to thermal shock.

Adjustable Mounting Arm
Straight arm with adjustable side swivel provides 340° of vertical adjustment for easy aiming. Optional 14", 18", 24", 30" or 36" straight arms are available (specify option -SA14, -SA18, -SA24, -SA30 or -SA36). Stainless steel aim-locking mechanisms are standard. 4-1/4" diameter wall mounting plate attaches directly to standard J-box with provided screws. Lumiere's exclusive Siphon Protection System (S.P.S. prevents water from siphoning into the fixture through its own lead wires.

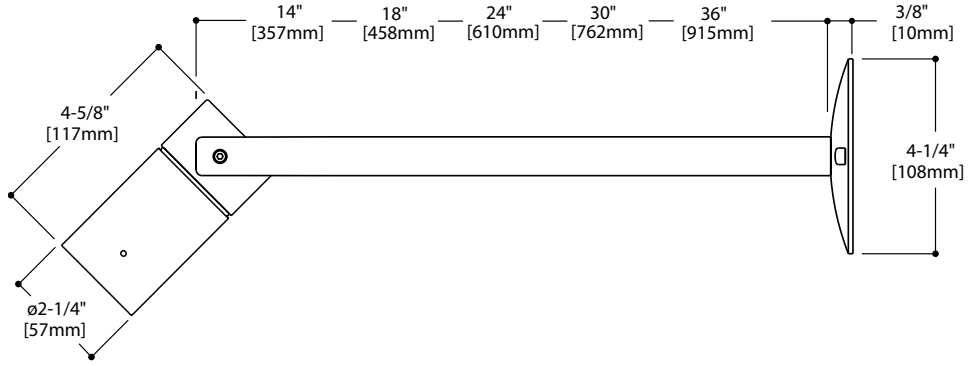
Hardware
Stainless steel hardware is standard to provide maximum corrosion resistance.

Socket
Ceramic socket with 250° CTeflon® coated lead wires and GU5.3 bi-pin base.

Electrical
Remote 12V transformer required (not included). Available from Lumière as an accessory - see the Accessories &Technical Data section of the catalog for details. NOTE: initial power draw on LED equipped fixtures is 15 watts. When sizing transformer use 15 watts per LED fixture. Nominal power draw after start up is 6 watts or 10 watts accordingly.

Lamp
Halogen lamp not included. Soraa lamp compatible (6W Max). LED modules are included and are available in four color temperatures (2700, 3000, 4000, and 5700) and three distributions (spot, narrow, and flood). Both color temperature and distribution must be specified when ordering.

Warranty
Lumière warrants its fixtures against defects in materials & workmanship for three (3) years. Auxiliary equipment such as transformers, ballasts and lamps carry the original manufacturer's warranty.



922
CAMBRIA

LED
HALOGEN

APPLICATIONS:
SIGN LIGHT

WORKS WITH SORAA

CERTIFICATION DATA
UL and cUL Wet Location Listed
LM79 / LM80 Compliant
ROHS Compliant
IP65 Ingressed Protection Rated

TECHNICAL DATA
Low Voltage:
50W Max Halogen MR16
6W LED, L70/60,000 hours at 25°C
10W LED, L70/60,000 hoursat 25°C

ORDERING INFORMATION

Sample Number: 922-10LED2712-12-BK-SA14

Series	Source (for LED, select from each column and combine)			Voltage	Finish	Stem Length
922=LED or MR16 Cambria Sign Light,, Straight Arm, Side Stem, Single Head	**50MR16**=50W max. Halogen MR16 (lamp not included)			**12**=12V	**Painted** **BK**=Black **BZ**=Bronze **CS**=City Silver **VE**=Verde **WT**=White	**SA14**= 14" Length **SA18** = 18" Length **SA24**= 24" Length **SA30**= 30" Length **SA36**= 36" Length
	6LED=6W LED **10LED**=10W LED	**27**=2700K **30**=3000K **40**=4000K **57**=5700K	**12**=12° Spot **21**=21° Narrow **41**=41° Wide			

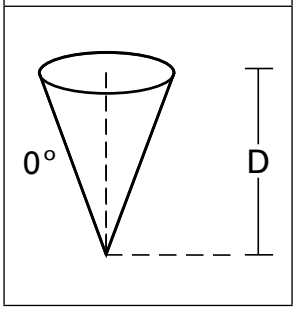
NOTES: 1 Unless noted otherwise, lamps not included. **2** See Accessories &Technical Data section of Lumiere catalog for Mounting Accessories. **3** Consult your customer service representative for additional options and finishes.

OPTICAL ACCESSORIES - ORDER SEPARATELY

Filters (2.00" Diameter)	Optical Lenses (2.00" Diameter)	Optical Louvers (2.00" Diameter)
F71 = Peach Dichroic **F72** = Amber Dichroic **F73** = Green Dichroic **F74** = Medium Blue **F75** =Yellow Dichroic **F76** = Red Dichroic **F77** = Dark Blue Dichroic **F78** = Light Blue Dichroic **F79** = Neutral Density Dichroic **F80** = Magenta Dichroic **F22** = Red Color **F33** = Blue Color **F44** = Green Color **F55** =Yellow Color **F66** = Mercury Vapor	**LSL**=Linear Spread Lens (elongates standard beam spread) **DIF**=Diffused Lens (provides even illumination) **OSL**=Overall Spread Lens (increases standard beam spread)	**LVR**=45° Hex Cell Louver (reduces glare)

CAMBRIA 922 MR16 HALOGEN PHOTOMETRY DATA

CONE OF LIGHT



Horizontal Illuminance on Surface - Cambria 922 Standard Recessed Hood - 50W MR16

Filename	**922-50MR16-12-BK-NSP.ies**	
Lamp	**50W MR16 NSP**	
CBCP	**11,000**	
D	FC	Beam Diameter
2'	2550	1'6"
4'	638	1'0"
6'	283	1'6"
8'	159	2'0"
10'	102	3'0"
15'	45	4'0"

Filename	**922-50MR16-12-BK-NFL.ies**	
Lamp	**50W MR16 NFL**	
CBCP	**3,200**	
D	FC	Beam Diameter
2'	725	1'0"
4'	181	2'6"
6'	81	4'0"
8'	45	5'0"
10'	29	6'6"
15'	13	10'0"

CCT MULTIPLIER TABLE

LAMP WATTAGE	MULTIPLIER
20W	0.32
35W	0.57

Filename	**922-50MR16-12-BK-FL.ies**	
Lamp	**50W MR16 FL**	
CBCP	**2,000**	
D	FC	Beam Diameter
2'	431	1'6"
4'	106	3'0"
6'	48	5'0"
8'	27	6'6"
10'	17	8'0"
15'	7	12'0"

Filename	**922-50MR16-12-BK-WFL.ies**	
Lamp	**50W MR16 WFL**	
CBCP	**1,200**	
D	FC	Beam Diameter
2'	269	2'0"
4'	67	4'6"
6'	30	7'6"
8'	17	9'0"
10'	11	11'6"
15'	5	17'0"

NOTES AND FORMULAS

- Beam diameter is to 50% of maximum footcandles, rounded to the nearest half-foot.
- Footcandle values are initial. Apply appropriate light loss factors where necessary.
- Bare lamp data shown. Consult lamp manufacturers to obtain detailed specifications for their lamps.

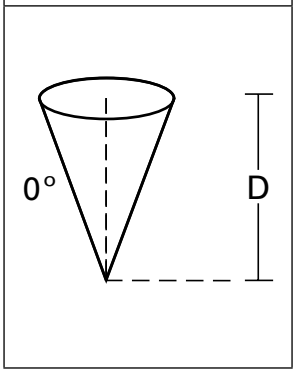
CAMBRIA 922 LED PHOTOMETRY DATA

LED Lumen and CBCP Table - 4000K

OPTIC TYPE (beam spread)	BASE + ACCESSORY OPTIONS	4000K CCT - Standard Hood					
		10W			6W		
		CBCP	LUMENS	LPW	CBCP	LUMENS	LPW
12′	BASE	7931	419	45	5948	314	53
	+ DIF (DIFFUSE)	1178	289	31	884	217	37
	+ OSL (OVERALL SPREAD LENS)	820	350	38	615	263	45
	+ LSL (LINEAR SPREAD LENS)	NA	343	36	NA	257	44
	+ LVR (HEXCELL LOUVER)	7165	339	36	5374	254	43
21′	BASE	2194	344	37	1646	258	44
	+ DIF (DIFFUSE)	683	241	26	512	181	31
	+ OSL (OVERALL SPREAD LENS)	595	290	32	446	218	37
	+ LSL (LINEAR SPREAD LENS)	NA	282	31	NA	212	36
	+ LVR (HEXCELL LOUVER)	2030	249	27	1523	187	32
41′	BASE	1173	304	33	880	228	39
	+ DIF (DIFFUSE)	418	205	22	314	154	26
	+ OSL (OVERALL SPREAD LENS)	595	250	27	446	188	32
	+ LSL (LINEAR SPREAD LENS)	NA	245	27	NA	184	31
	+ LVR (HEXCELL LOUVER)	1078	195	21	809	146	25

Horizontal Illuminance on Surface - Cambria 922 Standard Recessed Hood -4000K

CONE OF LIGHT



Filename: 922-10LED4012-12-BK.ies
Test No.: P184457

D	FC	Beam Diameter
2'	1912.8	0.4
4'	478.2	0.8
6'	212.5	1.2
8'	119.5	1.6
10'	76.5	2.0
15'	34.0	3.2
20'	19.1	4.2
30'	8.5	6.4
40'	4.8	8.4

Filename: 922-10LED4021-12-BK.ies
Test No.: P185207

D	FC	Beam Diameter
2'	548.5	0.6
4'	137.1	1.3
6'	60.9	2.1
8'	34.3	2.8
10'	21.9	3.6
15'	9.8	5.3
20'	5.5	7.2
30'	2.4	10.6
40'	1.4	13.9

Filename: 922-10LED4041-12-BK.ies
Test No.: P185957

D	FC	Beam Diameter
2'	290.7	0.8
4'	72.7	1.6
6'	32.3	2.5
8'	18.2	3.3
10'	11.6	4.2
15'	5.2	6.4
20'	2.9	8.5
30'	1.3	12.6
40'	0.7	16.2

CCT MULTIPLIER TABLE

CCT(K) / COLOR	MULTIPLIER
2700K	0.79
3000K	0.86
4000K	1.00
5700K	1.05
AMBER	0.57

TECHNICAL INFORMATION

1. Dimming is dependant on remote transformer compatibility with LED module. Please see compatibility matrix for dimmer switch and transformer selection.
2. When using a magnetic dimmer switch there are two recommended LED compatible 120V magnetic dimming switches:
   Lutron Ariadni AVLV-600P and Lutron Diva DVLV-600P
3. IMPORTANT: when sizing the transformer use 9 watts for 6LED or 15 watts for 10LED option fixture. Nominal power draw after start up is 6 watts or 10 watts accordingly. The LED module is designed to operate between 10 and 13 volts. Any less or more voltage can cause premature failures.

LED wall luminaires with directed light

Housing: One piece die-cast aluminum provided with a bracket for attachment to a BEGA 19538 small opening wiring box. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum cover frame secured by two (2) captive, stainless steel set screws threaded into stainless steel inserts. Matte safety glass. Fully gasketed for weather tight operation using a molded 'U' channel silicone rubber gasket.

Electrical: 2.1W LED luminaire, 3.4 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an >90 CRI. Available in 4000K (>90 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order

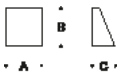
CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP64

Weight: 0.9 lbs.

Luminaire Lumens: 173

Tested in accordance with LM-79-08

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



		Lamp	A	B	C	Wiring box*
22215*	ADA	2.1W LED	3½	3¾	2⅜	**19538**

* Small opening wiring box included.

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ACORN
ENGINEERING, INC.

Q. Parking Analysis

The proposed redevelopment at 24 St. Lawrence Street anticipates five units with one parking space for each unit which exceeds the requirement by more than 10%.

The proposed five spaces would allow each unit to have one designated off-street parking space while alleviating the demand for on-street parking within St. Lawrence Street. Furthermore, the units will likely be inhabited by more than one person per unit. This further increases the need for at least one designated parking space, especially in the winter during parking bans. It is our professional opinion that the five spaces fit the intended use and will alleviate the demand on City resources.

Given the anticipated unit owners and proposed bedroom counts, the applicant respectively requests that the Planning Board allow the applicant to exceed the minimum parking standard by more than 10%.

Please let me know if you have any additional questions or comments.

Sincerely,

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Shukria Wiar – City Planner
Planning Division, City of Portland
389 Congress Street
Portland, ME 04101

March 9, 2018

Subject: Comment Response Letter
24 St. Lawrence Street Redevelopment – Portland, Maine

On behalf of Kelly & Walter Williams and the rest of the project team, we are pleased to respond to the comments provided by multiple reviewers.

To facilitate the review, comments are provided below in italics followed by each team's responder in a designated color:

Acorn, *Engineer*
Port City, *Architect*
Mary Costigan, *Attorney*

Shukria Wiar, Site Plan Review

Comment – *Provide wastewater capacity letter.*

Response – Please refer to Document C. in the previously submitted application materials. It is our understanding that the wastewater capacity and calculations are under review by Public Works.

Comment – *Submit Condo Docs for review.*

Response – Condo docs are typically provided after approval. Please clarify that this standard practice will be used for this project also.

Comment – *Provide cut sheets and photometric plan for all proposed exterior lights.*

Response – Please refer to Document P. in the previously submitted application materials.

Comment – *Show location of HVAC and mechanical equipment. Manufacturer's verification HVAC and manufacturing equipment meets applicable state and federal emissions*

Response – We will show the proposed location of the HVAC and mechanical equipment. A manufacturer's verification cannot be obtained at this time, as the equipment has not been purchased. This can be provided after approval.

Comment – *Is the applicant requesting any waivers?*

Response – No.

Comment – *Neighbor's driveway encroaching on the proposed site – an easement may be required.*

Response – The neighbor's driveway is not encroaching. Although the pavement currently goes up to the existing building, the area on the 24 St. Lawrence property is not driveway. With the new development, the building will be placed further away from that side property line and the landscaping and curbing for 24 St. Lawrence will extend to the property line.

Comment – *There is a new curb cut being introduced. This will cause the loss of on-street parking. Is there a way this can be mitigated?*

Response – The new curb cut will be replacing the existing curb cut for the current driveway, but in a new location.

Comment – *Please submit the following calculations:*
Maximum Lot Coverage
Height calculation based on average grade

Response –

Lot Coverage Calculations:

Total Lot Area: 4,670.7 s.f.
Maximum Lot Coverage Allowed: 4,670.7 s.f. x 60% = 2,802.42 s.f.
Building Area of Ground Floor (to foundation wall): 2,738.2 s.f.
Building Area of Enclosed Living Space Above: 33.4 s.f. + 28.7 s.f. = 62.1 s.f.
Total Building Coverage: 2,738.2 s.f. + 62.1 s.f. = 2,800.3 s.f.

The portion of the decks at the SE corner of the building that do not have living space or a roof above have not been included as lot coverage. This is based upon precedent and the team's interpretation of the definitions. It is our understanding that the Architect has emailed Ann Machado for confirmation on this interpretation.

Average Grade Calculations:

Grade at NW Corner of Building: 104.05
Grade at NE Corner of Building: 98.40'
Grade at SW Corner of Building: 102.30'
Grade at SE Corner of Building: 97.40'
Average Grade: 104.05+ 98.40' + 102.30' + 97.40' = 402.15' / 4 = 100.54'
Maximum Building Elevation Allowed: 100.54' + 45.0' = 145.54'
Actual Maximum Building Elevation: 144.84'
Building Height From Average Grade: 144.84' – 100.54' = **44.30'**

Please see Sheet C-30 and the building elevations for more information.

Robert Thompson, Fire Department Review

Comment – *The building will be required to be sprinkled.*

Response – Understood and will comply.

Comment – *Street address shall be marked on the street side of the structure and shall be as approved by the City E911 Addressing Officer.*

Response – Understood and will comply.

Comment – *Fire Department access to the proposed building is sufficient.*

Comment – *There are adequate fire hydrants in the area.*

Comment – *The new building shall not affect the egress or required fire department access for the neighboring building. After looking at the site plan I just want to verify the new building will have 10 feet between the new building and the existing building to the left; the plan is showing 6'.*

Response – At the closet point, the proposed structure will be located 7.94 feet from the existing building on the neighboring property due to the close proximity of that neighboring building to the property line (in fact, the building was built on top of the deeded property line). The side of the building facing 24 St. Lawrence does not contain any egress windows. The building is accessible from the other three sides of the building. We therefore do not believe that 10 feet is necessary between buildings since that side of the neighbor's building will not be used for egress in an emergency. We would be happy to discuss this issue directly with Robert Thompson.

Tom Errico, Traffic Engineering

Comment – *I have reviewed the application materials and I find the project to be acceptable from a traffic engineering perspective. I would note that the driveway width, apron detail and separation to the nearest driveway to the north meet City Technical Standards. On-site parking and circulation is also acceptable.*

Response – Thank you for your review – we are in agreement.

Jeff Tarling, Landscaping

Comment – *The two street-trees should be changed from Green Ash shown as FP on the plan, (Ash trees no longer recommended due to Emerald Ash Borer threats), would recommend substitution - 'Accolade' Cherry due to overhead utilities. Also the plant sizes for the proposed (JV) Eastern Juniper should be upgraded from 5 gallon sizes to 5-6' size, the 'Emerald Sentinel' is a recommended cultivar and the (JC) Juniper should be upgraded from 3 gallon to 5 gallon size.*

Response – Thank you for your review. All comments have been incorporated into the Landscape Plan.

Woodard & Curran, Civil Engineering

Comment – *In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. We offer the following comments:*

> *a) Basic Standards: Plans, notes, and details have been provided to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in accordance with Appendix A, B, & C of MaineDEP Chapter 500.*
>
> *b) General Standards: The project will result in a de minimis increase in impervious area of approximately 543 square feet. As such, the project is not required to include any specific stormwater management features for stormwater quality control. We encourage the Applicant to review the City's Stormwater Service Charge Credit Manual (available online) to evaluate whether they may want to incorporate stormwater quality treatment measures that qualify for a future Stormwater Service Charge credit.*
>
> *c) Flooding Standards: The project will result in a de minimis increase in impervious area of* approximately 543 square feet. As such, the project is not required to include any specific stormwater management features to control the rate or quantity of stormwater runoff from the site.

Response – Thank you for the review. We have made the Applicant aware of the Stormwater Service Charge Credit benefits.

Comment – *A backflow preventer should be provided on the foundation drain connection to the sewer.*

Response – We have added a backflow preventer to this connection.

Comment – *Per Chapter 2 of the City's Technical Manual, when services 8 inches or greater in size are connected to the main, they should be connected via a manhole structure.*

Response – The storm drain has been downsized to a 6" pipe.

Comment – *The Applicant has received an Ability to Serve approval letter from the Portland Water District. The Applicant should ensure that any changes to the utility plan are reviewed again by PWD as necessary. It's noted that the layout and location of gate valves and tapping sleeves does not appear to be in accordance with the PWD standards.*

Response – Per PWD's request, we will be providing two gate valves for the 4" sprinkler line due to the age of the water main. The final design will be sent to PWD for final review and acceptance.

Comments Submitted by: Caitlin Cameron/Design Review on 2/12/2018

The memo provided on 2/12 did not contain any comments from Caitlin. If you do have any comments from Caitlin, please send them to us.

On behalf of the project team, thank you for the review. Please do not hesitate to contact me with any questions or further comments. We look forward to the planning board workshop tentatively scheduled for March 27, 2018.

Sincerely,

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

November 10, 2017

Subject: 24 Saint Lawrence Street Neighborhood Meeting

I, Will Savage, hereby certify that a neighborhood meeting was held on November 2, 2017 at the East End Community School at 6 pm.

I also certify that on October 23, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development.

2. Residents on the "interested parties" list.

3. A digital copy of the notice was also provided to the Planning Division (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive e-mail notices.

Sincerely,

Date: 11/10/17

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

Included with this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

ACORN ENGINEERING, INC.

October 23, 2017

Dear Neighbor:

On behalf of Kelly & Walter Williams, we are pleased to invite you to a neighborhood meeting to discuss our plans for the proposed project at 24 St. Lawrence Street within the R-6 Zone in Portland. The urban infill project includes the redevelopment of an existing two-family dwelling into a 4-story building with 5 units. The first floor will provide 6 parking spaces to serve the residents. Furthermore, the entire sidewalk along the project frontage will be rebuilt as part of the project.

Meeting Location: East End Community School – 195 North Street, Portland, ME 04101

Meeting Date: Thursday, November 2, 2017

Meeting Time: 6:00 p.m.

The City code requires that property owners within 500 feet of the proposed development and residents on an "interested parties list" be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.

If you have any questions regarding the neighborhood meeting, please don't hesitate to call me or the office at 775 – 2655. We look forward to seeing you at the meeting.

Sincerely,

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

24 St. Lawrence Street Neighborhood Meeting Sign-In Sheet

1. PETER BASS
2. JANICE ISAACSON
3. Carol Stillwell
4. Richard Stillwell
5. Pam Macumber
6. Will Williams
7. Kelly williams
8. IAN JACOB
9. Maggy Wolf
10. Monica Sawer
11. Jayne Hurley
12. ROB WHITTEN ROB@WHITTENARCHITECTS.COM
13. TED Arnold
14. TICA Douglas
15. Pamela Day
16. Michael Petit
17. Andrew Hyland
18. Mark Chalupecky
19. Julie Harry
20. Karen Snyder
21. Deb Murray
22. CHRISTOPH GEFLAND
23. Barry Manter
24. Paul Murray
25. Beth Snyder
26. Morgan McCormack
27. Jo Ann Dowe
28. SAM LEBER
29. Will Savage
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ACORN ENGINEERING, INC.

24 Saint Lawrence Street Redevelopment
Level III Site Plan and Subdivision Application

Neighborhood Meeting Minutes

November 2, 2017 6:00pm
East End Community School

Design Team Attendees:

Kelly & Will Williams	Developer/Presenter
Will Savage	Civil Engineer/Presenter (Acorn Engineering)
Sam Lebel	Civil Engineer/Note Taker (Acorn Engineering)
Mark Chaloupecky	Architect/Presenter (Port City Architecture)
Andy Hyland	Architect (Port City Architecture)

Meeting started at approximately 6:05 pm.

Presentation:

Kelly Williams:

- Introduced the project and gave a history about her family such as living at 24 St. Lawrence for 14 years, attending schools in Portland that are now gone, and raising her daughters in the City.

Will Savage:

- Meeting minutes being taken which will be submitted to the City.
- Sign-In sheet going around to be submitted to the City.
- Existing conditions:
    - Existing two-family building in R-6 zone. Nonconforming with side setbacks. Existing garage and driveway is right on the property line. The existing building is within 3 feet of the property line on the other (uphill) side.
    - Retaining wall at the rear of the property ranging from a few feet to fourteen feet in height. Wall is owned by multiple landowners.
    - 4,671 SF lot, no easement.

  - Drainage patterns, some of the stormwater goes to the street with the majority draining to the rear towards the wall.

- Proposed conditions:
  - Dwelling Units: 6 allowed per ordinance, 5 proposed
  - Vehicle parking: 6 proposed spaces; 1 ADA space and one regular space for each unit with a 10-foot garage door access. Parking was analyzed in AutoTurn, a computer simulation, to ensure functional circulation within the parking garage.
  - The plan proposed to vegetate the side yard adjacent to Stillwell and increasing setback with Fitch House, LLC.
  - Pedestrian access will be provided primarily via an entrance at the southeasterly side of the building, adjacent to the driveway. There will also be another means near the northerly corner of the building along St. Lawrence Street.
  - The neighbor's (28 St. Lawrence Street) portion of the driveway that currently encroaches in the Applicant's property will be repaved after the construction of the building.
  - Two Green Ash street trees are proposed along the project frontage.
  - A new brick sidewalk will replace the concrete sidewalk that currently exists.
  - Proposed cedar fence to the rear with eastern junipers.
  - Required 20% open green space, proposed 28% with a variety of plantings.
  - Utilities designed in accordance with each utility company's requirements.
  - All utilities will be underground including the electric/telephone/cable that is currently an aerial service.
  - Building will be sprinkled with a 4" line.
  - Hydrant located in front of property in sidewalk.
  - The footings/foundation for the building has been designed as such to ensure that the existing retaining wall will not be subject to additional forces from the building's load upon the soils.
  - Within the parking garage, there will be a catch basin with an oil water separator before discharging to the combined sewer.
  - Roof will drain to the combined sewer with the catch basin.
- Level III Site/Subdivision permit from the City, this is the first public meeting. Planning board meeting date is to be determined.

Mark Chaloupecky:

- Introduced himself and Port City.
- General building design – similar to 31 Fore in scaling, mass, and unit tabulation.
- Parking layout on the base level was the first part of the design. Overview of the base level layout.
- Overview of levels 2,3, and 4. Levels 2 & 3 will have two units a piece and the top floor will have one unit.
- 2 stairwells and 1 elevator shaft, requirements of fire code and ADA, respectively. These building elements are not required to comply with the stepbacks at a height of 35' because it's not feasible to step back an elevator shaft or stairwell.

- Overview of the renderings. Front entrance has been reworked a bit with an ADA ramp and reorientation of the small wall.
- The materials will be typical siding including cedar shingles.
- The first story will have a more durable surface, most likely dimensional stone.
- Overview of street landscape with renderings of the new building using Google Street View.

Comments, Questions & Answers:

Please note that the following questions and answers were not recorded verbatim and aim to represent and summarize the actual questions, answers, and discussion that took place at the meeting.

C: I have worked many professions and you are not welcome here. I have a website and will be working on a Conservation District if anyone is interested.

C: I live at 20 St. Lawrence Street and I have written a letter (*letter attached to this document*).

C: I talked with Will Williams about this project a while ago. Plans and renderings went forward. I got the invitation card for the meeting on the 20th. They've had six months and then I get a note that this project is a go. This is not due diligence on the City's part. We need to slow down. 6 parking spaces proposed, but they will need more. These owners will have more than 1 car, which will push another five cars to park on the street. I know one neighbor who moved because of the parking situation. The demolition process will require a lot of equipment parking on the street. The new building makes my house look small. The building does not fit in the neighborhood. I have one neighbor who made an orchard with his property and people take pictures of it when they go by. People will not take pictures of this project. Chapter 14 says the building must fit into the neighborhood.

Q: What caused the zoning to change? It used to be two and three-story buildings and now they're four story buildings.

A (Will S.): The best way to know for sure would be to talk to the Planning Director. It changed two to three years ago in which the number of allowable units was reduced to 1 per 725 SF of lot area. I believe the goal of the City was to increase the core of housing and density.

Q: I thought the goal of that was to increase affordable housing? What will be the price of these units?

A (Kelly): We don't know the pricing yet.

C: Last night the developers provided the pricing.

Q: Do you need five units?

A (Will S.): Construction and land costs are very high right now and to make the numbers work, sometimes you have to increase the number of units.

C: I think we should retain the existing 2-unit for affordability.

Q: What is the square footage?

A (Mark): Each unit is about 1,000 SF except for the top floor which will be one unit a little under 2,000 SF.

Q: Does this project require a zone change?

A (Mark): No.

C: You can sense people are unhappy. We have to live with this building and you speak as if it's a done deal. If you'd gone around and asked the people what they wanted, maybe you'd find out that we don't want five units crammed in. Give them an opportunity to see how they feel.

C: I've lived here since 1975 and I've watched the street become more alive. I'm concerned about the sustainability. I have never heard about this project.

A (Will W.): That's not true, I told you about it in front of your house.

C: Thank you for clarifying, but I have not heard about it since. I am an architect focusing on single-family homes and do little work in Portland, but I understand the fabric and scale of a neighborhood. What faces the street in the rendering has no personality. I'm concerned about the new neighbors. Long-term, it will not be sustainable. This is not a neighborhood home.

A (Will W.): I want to live here for the rest of my life.

C: I think you need to bring some of the energy from the back to the front. Planning staff will not accept this under design review. Can we walk through the building from the street?

A (Mark): You would enter through the main entrance off St. Lawrence Street in either of the two doors and walk to the first stairwell or the lobby where there is another stairwell and an elevator.

Q: I'm curious about the City code and how the building fits in?

A (Mark): Based on the City regulations such as massing, scale, height, and setbacks, it meets the code.

Q: Do you think it fits in?

A (Mark.): Yes.

C: Just because 118 Congress is in our neighborhood, doesn't make it a good building. These are ugly buildings.

C/Q: I would caution you with contextualizing with new buildings. Can you please show the rendering? I would like to echo Rob and Peter. You've created a dead façade. No activity, no holiday lights, no eyes on street. It's a deadened ground floor. Is that a half wall in front of the building?

A (Mark): It's been reworked so the wall will now be parallel with the building and ADA ramp.

C: Egress door has a canopy over it. The hierarchy of doors is odd. You can build it to code, but the opportunity is missed. Too bad about the tree. Windows have no context. Building doesn't say anything. I wanted to say something constructive, but you need to go back to the drawing board. There was a building on the west end that had tension and animosity around it. I would not present this. Nothing positive to say.

C: I live in the building to the north. Need more of a setback. Elevator and stairs on street look too big. Can you change it? Elevator shaft on 31 Fore is wrong because it's placed at the center of the building. You've ignored the ten foot setback, the rest of it should be further back.

A (Will S.): The stepback at 35 feet only applies to the side and rear property lines.

Q: Building is offensive. Siding is asbestos. This land used to be contiguous with mine, that's why the buildings are so close. My windows will be ten feet from the demolition, dust, and asbestos. What do you do to mitigate the effects from the demolition and debris?

A (Mark): There will be materials testing and based on those results, the state regulates the methods for demolition.

C: You won't need to be concerned about dust and debris if we don't let them build it.

Q: I walked around the neighborhood. Is there a building there now? Why would you want to tear it down?

A (Will W.): It was built as a single-family home and converted to a two-family. It doesn't work to have two families living there. It would take hundreds of thousands of dollars to renovate it. Steep stairs, no heat or insulation in the attic. I don't want a big mortgage for the rest of my life.

Q: How long have you lived there?

A (Kelly): 14 years. In addition to the heating issue, it would also be nice to have the bathroom on the same level.

Q: Why $2.4 million as listed on the application? Why not rehab with dormers and extend the building back if you have to?

A (Will W.): We really looked into it, but I don't want a big mortgage for the rest of my life.

Q: How can you say this looks nice?

A (Will W.): I don't think it's a bad looking building and it's not that much bigger.

C: It's 8,900 SF vs 2,900 SF.

A (Will W.): That doesn't include the existing garage. It's 8,900 SF (with parking garage) vs 2,900 SF (without detached garage).
Q: There is a huge wall separating the properties and it's fragile. What will you do specifically to protect it from collapsing? Our rental unit almost touches the wall and we don't want people hurt.

A (Mark): We've hired structural engineers. The foundation will be deep which lowers the angle of influence. This is a 45 degree angle that starts at the bottom of the foundation. This design paired with safe construction methods will prevent additional forces on the wall.

Q: What happens if something goes wrong?

A (Mark): I'm not certain of that answer.

Q: Have the soils been tested? We own some of the wall. What happens if there's a problem?

A (Mark): A requirement will be to have a geotechnical engineer test the soils before construction.

C: I have to leave, but I hope you take the sentiment.

C/Q: I have been watching boxy construction on the Hill. I've live here long and I'm concerned with the aesthetics. You've done your job. The responsibility is with the City who let's this happen. It feels institutional. It's cheesy and is just to increase profit. It bothers me. I have more land space than this and I want to historically preserve it because I owe it to the neighborhood. It's the City who allows this happen. I understand you wanting to make a living here, but can you change the design?

C: It should be known that this is the first step in the process and it's hard for a developer to put this up on a screen.

C: We don't like blocky buildings. 118 Congress is dead. There's nobody going in or out. It's up to us to change the R-6 or have a conservation district. You guys are the real NIMBYers.

C: City sees an old building, not up to code and they want it up to fire code and ADA for wealthy people. It's a win-win for the City.

C: Is there anywhere to bring back zoning? Has anybody pointed it out to the planning board? You're in the cross heirs because you've tapped into frustrated people. The developers last night did a better job for the Monument Street project. Massive, but not maxed out and they had a front porch. It dwarfed the buildings, but it was more aesthetically pleasing. Chapter 14 says it has to fit in with the neighborhood. I apologize you're on the hot seat, you're not the ones to be mad at.

Q: What is the timeline for the project?

A (Mark & Will S.): Break ground in the Spring of 2018 and finish the following Spring. It would be about a year build.

Q: If this goes through, how do we rent or get compensated for rental losses?

C: I have no plans of moving or selling. This is a personal insult, I will be in the house during construction next to jack hammers. This will take one and a half years and there will be no rentals. I have a tenant. How easily can I sell my house now?

C: Why does it have to be so big? So you can make more money and not be part of the neighborhood. This is not the neighborhood.

C: Will has been a good neighbor. When we spoke, I asked does it have to be five feet away. He's been a good neighbor up until this. When I moved here, I could buy 25 houses for a million dollars. I built a wall and equity on my property. You can't do this in a year. I was a painter so I've seen construction and they would bring me on at the end and I would get the complaints for when the project would be done.

Q: I just moved to the neighborhood and have an empty lot next to mine. The owner has had several condos with neighbors. What is the motivation for five units? Why not three? I don't want a mortgage either, but's it's part of living in a beautiful city. What was the decision making?

A (Kelly & Will W.): We need five units to not have a mortgage. We're not living in the top floor penthouse.

C: You have a nice house.

A (Will W.): You haven't lived here for fourteen years, so it's unfair to make that judgement.

A (Will S.): The city wants to see more units with greater diversity. There are fees when you reduce units on a property.

C: We want a smaller building.

C: This construction and loss of Portland's special streets will have a domino effect.

C: You will have opposition. Think of the other projects that won't get built because we opposed them.

Meeting concluded at approximately 7:40 pm.

The abovementioned material was as interpreted and recorded from handwritten notes. Please note and relay any discrepancies or disputed information in the recorded minutes to the below address so that they can be reviewed, revised, and resubmitted as necessary.

Recorded by,

Sam Lebel

Sam Lebel, E.I.
Design Engineer
Acorn Engineering, Inc.
slebel@acorn-engineering.com

Nov 2, 2017

My name is Carol Stillwell.
My husband, Richard Stillwell and I live at 20 St. Lawrence St., next door to the proposed 24 St. Lawrence St. site.

The impact of this proposed plan looms over us, as does the size and scale of the project. The proximaty of the building is 5 feet from our property lines. As close as allowed. That close to our 1890-built brick house And to our's And our neighbor's old construction retaining walls on steep embankments.

We are very concerned about the demolition process and the construction activity And the dangerous And detrimental effects that may be caused ~~on~~ to our property. It is our hope that a fair balance of time will be allowed us in this reviewing process for us to align And protect And gather our resources And that the developer And property owners of 24 St. Lawrence will be forth-coming And show due diligence to ensure that our concerns are addressed.

Thank you

Carol Stillwell

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Environmental Consulting • Materials Testing Services

30 April 2018

Will & Kelly Williams
24 St. Lawrence Street
Portland, ME 04101

Subject: Geotechnical Engineering Services – Retaining Walls
Proposed 4-Story Residential Building
24 St. Lawrence Street
Portland, Maine
RWG&A Project No. 1645-001

Dear Mr. and Mrs. Williams:

R. W. Gillespie & Associates, Inc. (RWG&A) is pleased to present this report in connection with existing retaining walls near the southwest property boundary at 24 St. Lawrence Street. The purpose of RWG&A's services was to evaluate geotechnical aspects of the existing retaining walls relative to a proposed new multi-family residential building. This letter summarizes RWG&A's evaluation and provides preliminary design and construction recommendations relative to the wall.

Background

The property at 24 St. Lawrence Street is currently occupied by a two-story wood-framed residential building and a free-standing single-car garage. The site location is shown on Figure 1, *Locus Map*. Retaining walls are used to accommodate grade changes along portions of the property boundaries at the northwest, southwest, and southeast sides of the site. Survey drawings provided to us indicate the southwest wall is located on both sides of the property boundary separating 24 St. Lawrence Street (Tax Map 16, Block J, Lot 6) and 23 Waterville Street (Tax Map 16, Block J, Lots 20 and 21), and is the primary subject of this report.

The existing buildings would be demolished and replaced with a 4-story, multi-family residential building. The building would have on-grade parking beneath the building at the first-floor level, and no basement. Finished ground floor level would be at elevation 101.25 feet, which is at about the same level as St. Lawrence Street at the garage entrance.

RWG&A's understanding of existing and proposed conditions are based on communications with Acorn Engineering and review of the following information:

- *Boundary and Topographic Survey at 24 St. Lawrence Street, Portland, Maine* prepared by Owen Haskell, Inc., dated 30 November 2016.

- Drawing No. C-30, *Grading & Drainage Plan, 24 St. Lawrence Street Redevelopment,* prepared by Acorn Engineering, Inc., dated 06 October 2017.

- Photographs provided by you taken from below the wooden deck at 23 Waterville Street that show retaining wall conditions below the deck level.

Site Visit

RWG&A geotechnical engineer, Erik J. Wiberg, P.E., made a site visit to observe conditions exposed at ground surface in the area of the subject retaining wall. Mr. Williams was present and arranged for site access. The southwest wall varies in construction materials along its length and appears to be structurally isolated from the residential dwelling structure at 25 Waterville Street. The orientation used for describing the wall below is from the perspective of facing the wall from the front. Photographs are provided in Appendix A.

The left portion of the wall is adjacent to the wood deck at 25 Waterville Street, and is constructed of multiple materials. The lower portion of the wall extends horizontally toward Waterville Street several feet. The exposed lower portion is constructed of dry-laid, stones ranging in shape from flat to subrounded (Photograph 1), and it has a positive batter (i.e., wall face pitches towards the back of the wall). The deck is supported on wood posts that appear to bear on the dry laid stone. The surface of the upper portion of the wall is exposed concrete with some areas of concrete deterioration and spalling. The batter of the concrete portion of the wall ranged from vertical to negative 2 degrees (the wall pitched away from the retained earth in an overturning orientation).

The left end of the wall terminates at a southwest-northeast oriented, 4 to 6-foot high, cast-in-place retaining wall that retains earth at 28 St. Lawrence Street (Map 16, Block J, Lot 5). The southwesterly end of the wall meets another cast-in-place retaining wall that is aligned in a northwest-southeast direction (note: more-or-less parallel to the subject retaining wall). The northwest-southeast wall appears to have a negative batter. A wide crack where the walls meet and multiple steel brackets connecting the two walls indicates that the crack and negative batter developed after its construction.

The central portion of the wall is located behind the residential dwelling, and is inaccessible and mostly obscured, except for a portion of the wall that can be viewed from the sides of the house at 25 Waterville Street. The upper portion of the wall is a continuation of the exposed cast-in-place concrete (Appendix A, Photograph 3) and transitions to a dry-laid and/or mortared stone wall further to the right (southeast). When viewed from the right end, the lower portion appears to be masonry brick in front of dry laid stone (Appendix A, Photograph 4). The top of the masonry brick is capped with cast-in-place concrete with a formed channel to divert surface water.

The right portion of the retaining wall is exposed, and the above grade portions can be observed top to bottom (Appendix A, Photograph 5). The total exposed height is about 13 feet with the lower 2 feet a landscaped bench/planter extending about 3 feet out from the face of the wall. The upper part of the wall is mortared stone with multiple PVC pipes protruding through the face of the wall. It appears the pipes are intended to provide drainage relief for water behind the mortared stone wall. This portion of the wall has a positive batter of about 10 degrees. The wall

construction further to the right behind the southeasterly St. Lawrence Street abutter transitions to apparent dry stacked boulders.

Subsurface Exploration

Two soil borings were drilled behind the wall at the approximate locations shown on Figure 2, *Exploration Location Plan*. The borings were drilled on 22 March 2018 by New England Boring Contractors, Inc. of Derry, New Hampshire using a propane powered, rubber-tracked drill rig. The borings were advanced using hollow-stem augers with an inside diameter of 2 ¼-inches. Split-barrel sampling with standard penetration testing in general accordance with ASTM D1586, *Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils* was performed at about 2 to 5-foot intervals. The borings were advanced to a depth of about 27 feet below local ground surface.

Exploration activities were coordinated and monitored by an RWG&A geologist who also prepared the exploration logs. Soils were described in general accordance with *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. The boring logs are attached in Appendix B, *Exploration Logs*. Stratification depths shown on the logs represent the estimated boundaries between the different soil types; the actual transitions are more gradual and should be anticipated to vary over short distances.

Subsurface Conditions

Subsurface Materials: Subsurface materials encountered in the soil borings consisted of a layer of topsoil and organic matter over about 2 feet of fill or disturbed soil composed of silty fine sand to sandy silt, which in turn overlies naturally deposited soil. Naturally deposited soil in the upper approximately 7 feet, consisted of moist, loose to medium dense, silty sand with occasional cobbles. Below a depth of about 7 feet, the soil graded to very dense to medium dense silty sand with gravel and little clay that extended to more than 27 feet at boring B-1 and to about 16.5 feet below local ground surface at boring B-2. At boring B-2, the silty sand with gravel was underlain by medium dense to loose silty sand with minor amounts of gravel. Refusal surfaces were not encountered within the vertical reach of the borings.

Groundwater: Free water levels were observed at depths of 12 and 16 feet in borings B-1 and B-2, respectively. The observed depths correspond to about 1 to 3 feet below local ground surface in front of the retaining walls. Water levels observed during the subsurface exploration program might have been influenced by the exploration methods and soil condition (e.g., slow groundwater response due to low soil permeability) and may not be representative of stabilized groundwater levels.

Evaluations

Engineering evaluations are based on the subsurface explorations, conditions observed during the site visit, and the preliminary design information that was available to RWG&A when this report was prepared. RWG&A should be notified if site grading, finished floor levels, or building layouts differ from those referenced herein in order to verify the following evaluations are still applicable.

The soils encountered in the soil borings indicated that the retaining wall was built against a naturally deposited earth slope. The slope might have resulted from earthwork to form the flatter and lower lying land in front of the wall. The wall does not appear to be of modern design or construction. The thickness of the wall is uncertain but is likely not more than 2 to 3 feet thick. The retaining wall should be considered sensitive to disturbance. With appropriate design and construction measures, the proposed multi-family building can be built and the retaining wall protected during and after construction.

Foundation Design: The selected foundation system should be designed to limit additional vertical and horizontal loads on the retaining walls. The naturally deposited soils are considered suitable for support of spread footings and slab-on-grade ground floors. The building could also be supported on drilled in displacement piles or on low displacement piles driven to end bearing in dense soils or on bedrock.

To prevent an increase in pressure against the back of the wall from footings, spread footings should be located below a line projecting up and away at a pitch of 1.75 units horizontal to 1 unit vertical (1.75H:1V) from a point located from the wall bottom and 2 feet behind the top of the wall. See Figure 3, *Concept for Foundation Embedment Behind Retaining Wall*. The southwest foundation wall should be designed as a retaining wall and should not rely on soil between the foundation wall and existing wall for lateral support.

Subsurface Drainage: The proposed construction is not expected to adversely affect existing retaining wall subsurface drainage if the proposed building and site design include measures to maintain or reduce infiltration of surface water into soil behind the wall relative to current conditions. Irrigation systems and water bearing utilities between the retaining wall and new building should be avoided. Roof and other surface water drains should not be connected to footing drains. Unlined stormwater management roof dripline filtration or other systems that would promote surface water infiltration into naturally deposited soils should not be used. If dripline filtration is proposed, only lined systems that prevent infiltration into soil and that convey water to a free-draining, closed conduit storm water feature should be used.

Construction Considerations: Preliminary evaluations indicate the depth of excavation needed to construct the new building's southwesterly foundation wall (i.e. foundation wall nearest and parallel to the existing retaining wall) will be about 10 to 12 feet below current ground surface. Similar excavation depths will be needed to construct the northwest and southeast foundation walls near where they connect to the southwest foundation wall.

Because the existing retaining wall construction is uncertain and the wall might rely on soil behind it for support (i.e., the wall might not be a gravity wall), steep open slope excavations behind the wall more than a 2 to 3 feet deep do not appear technically practical. Additional investigation of the construction of the wall would be needed in order to determine the ability of the wall to be self-supported. The need for temporary excavation support should be anticipated to construct foundations in the southwest part of the new building. Underpinning of cast in-place retaining wall(s) near the west corner of the property might be also be needed.

Design of temporary earth support and underpinning systems should be performed by a Licensed Professional Engineer retained by the Contractor. It is anticipated the Contractor's Engineer will evaluate soil properties, as appropriate, to the temporary earth support systems and underpinning

selected by the Contractor. The Contractor's temporary earth support design, and excavation and pile installation procedures should be submitted for technical review and approval by the Structural Engineer and Civil Engineer, as appropriate, prior to construction. RWG&A is available to assist with the above reviews, if requested. Construction documents and specifications should require daily monitoring of the support system and the existing retaining wall. Temporary earth support considerations are discussed further below.

Temporary Earth Support: Soldier pile and lagging support is recommended in the southwest part of the site. The soldier pile and lagging support should be setback from the retaining wall as much as practicable to construct the foundation wall. Sheet piles should not be used for temporary earth support. Soldier piles should be low-displacement piles such as steel H-piles to reduce soil disturbance and vibration amounts during construction. Predrilling could also be used at soldier pile locations to reduce construction vibrations and to probe for buried obstructions. Soldier piles should be driven with lower energy impact hammer to required depths; vibratory hammers should not be used.

Underpinning: Underpinning is a construction technique used to transfer the loads of an existing foundation, such as a cast-in-place retaining wall, to a new foundation bearing below the zone of influence of an excavation. Pit underpinning might be practical where the excavation does not undercut existing footings more than a few to several feet. Pile underpinning used together with temporary excavation support appears to be a technically feasible method for construction of deeper excavations. Typical pile types include, but are not necessarily limited to, helical piles, steel H-piles, and auger piles. It should be noted that driven displacement pile types such as timber, steel pipe or pre-cast concrete are not recommended.

Construction Vibrations: Vibrations from construction activities such as pile driving and soil compaction could have deleterious effects on existing structures including the retaining wall. Construction methods to reduce construction-induced vibrations from pile driving are described in *Temporary Earth Support* and *Underpinning* above.

Soil compaction can be a source of construction vibrations. Self-propelled drum rollers may need to be operated in static mode if construction vibrations are excessive. If compaction requirements cannot be met with this approach, then smaller sized and/or hand-operated compaction equipment and thinner fill lifts might be needed to achieve compaction requirements while reducing construction vibrations. Selection of backfill materials can help reduce construction vibrations; crushed stone is an alternative to sand and gravel fill that generally takes less vibratory energy to compact to a dense condition.

Evaluation Limitations

This geotechnical evaluation is preliminary and is suitable for planning and preliminary design purposes only. This report has been prepared for specific application to the proposed 4-Story Residential Building to be built at 24 St. Lawrence Street in Portland, Maine, and for the exclusive use of Will & Kelly Williams. Geotechnical engineering services have been completed in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. In the event that any changes are made in the nature, design, or location of proposed building, the evaluations and recommendations of this report should be reviewed by RWG&A, and confirmed or revised in writing.

The nature of variations between the exploration and other locations might not become evident until a final geotechnical evaluation is completed and/or construction begins. If variations are encountered, it will be necessary for RWG&A to re-evaluate the recommendations presented in this report.

Closure

RWG&A appreciates the opportunity to be of service on this project and looks forward to a continuing relationship during final design and construction. Please contact us if there are any questions about this report or if RWG&A may be of further service.

Sincerely,

R.W. GILLESPIE & ASSOCIATES, INC.

STATE OF MAINE ERIK J. WIBERG No. 9178 4/30/18 LICENSED PROFESSIONAL ENGINEER

Erik J. Wiberg, P.E.
Chief Geotechnical Engineer

Matt R. Grenier, P.E.
Technical Reviewer

EJW:md
In duplicate

Cc: William Savage, P.E., Acorn Engineering, Inc. (via email)

Attachments:

Figure 1, *Locus Map,*
Figure 2, *Exploration Location Plan*
Figure 3, *Concept for Foundation Embedment Behind Retaining Wall*
Appendix A, *Photographs*
Appendix B, *Exploration Logs*

G:\PROJECTS\1600\1645\1645-001-18\Reports\2018-04-30 Wall Condition and Protection Evaluation 1645-001.docx

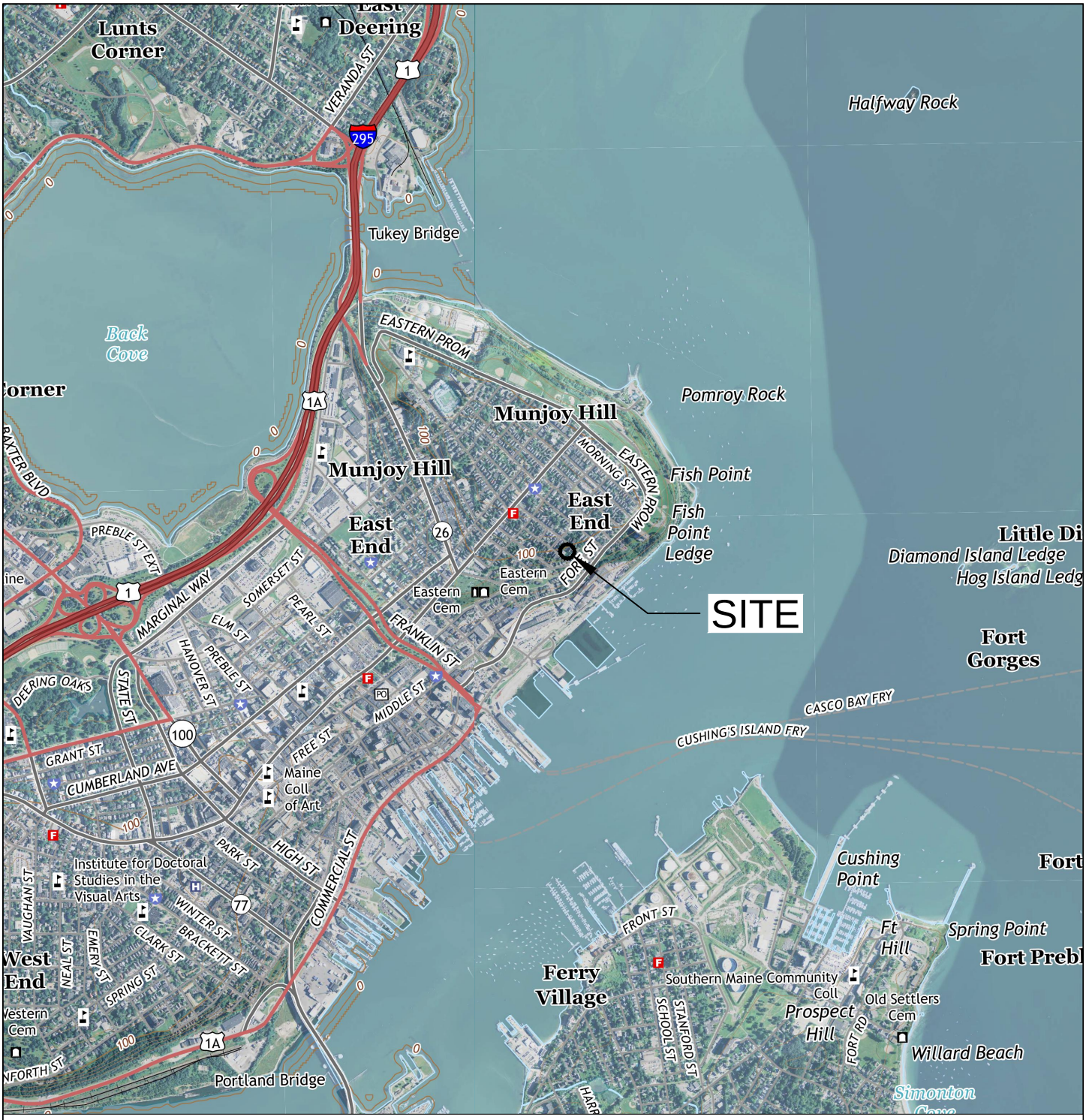

FIGURE 1
LOCUS MAP
GEOTECHNICAL EVALUATION
PROPOSED 4-STORY RESIDENTIAL BUILDING
PORTLAND, MAINE

APRIL 2018 PROJECT NO. 1645-001

SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE OF PORTLAND EAST, ME, DATED 2014 AND PORTLAND WEST, ME, DATED 2014.

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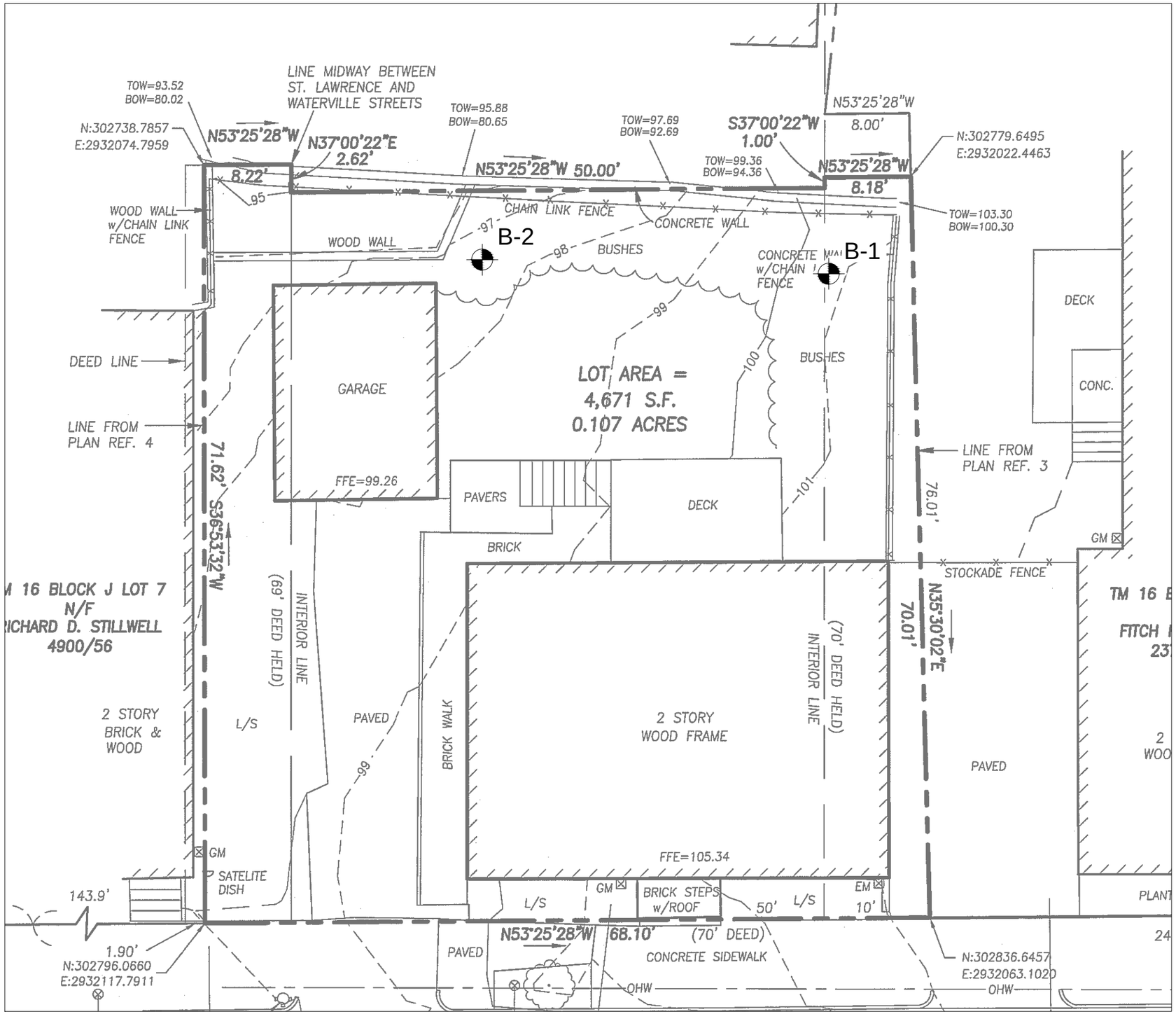
Geotechnical Engineering ● Materials Testing Servies
Environmental Consulting ● www.rwgillespie.com

G:\AutoCad\1600\1645-01\FIG 1, LOCUS MAP 1645-001.dwg, 4/30/2018 2:14:58 PM, DWG To PDF.pc3



LEGEND:

B-1 APPROXIMATE LOCATION OF SOIL BORING DRILLED MARCH 2018.

SOURCE:
DRAWING NO. 1, TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY", PREPARED BY OWEN HASKELL, INC., DATED NOVEMBR 30, 2016.

FIGURE 2
PROPOSED BORING LOCATION PLAN
GEOTECHNICAL EVALUATION
PROPOSED 4-STORY RESIDENTIAL BUILDING
PORTLAND, MAINE

APRIL 2018 PROJECT NO. 1645-001

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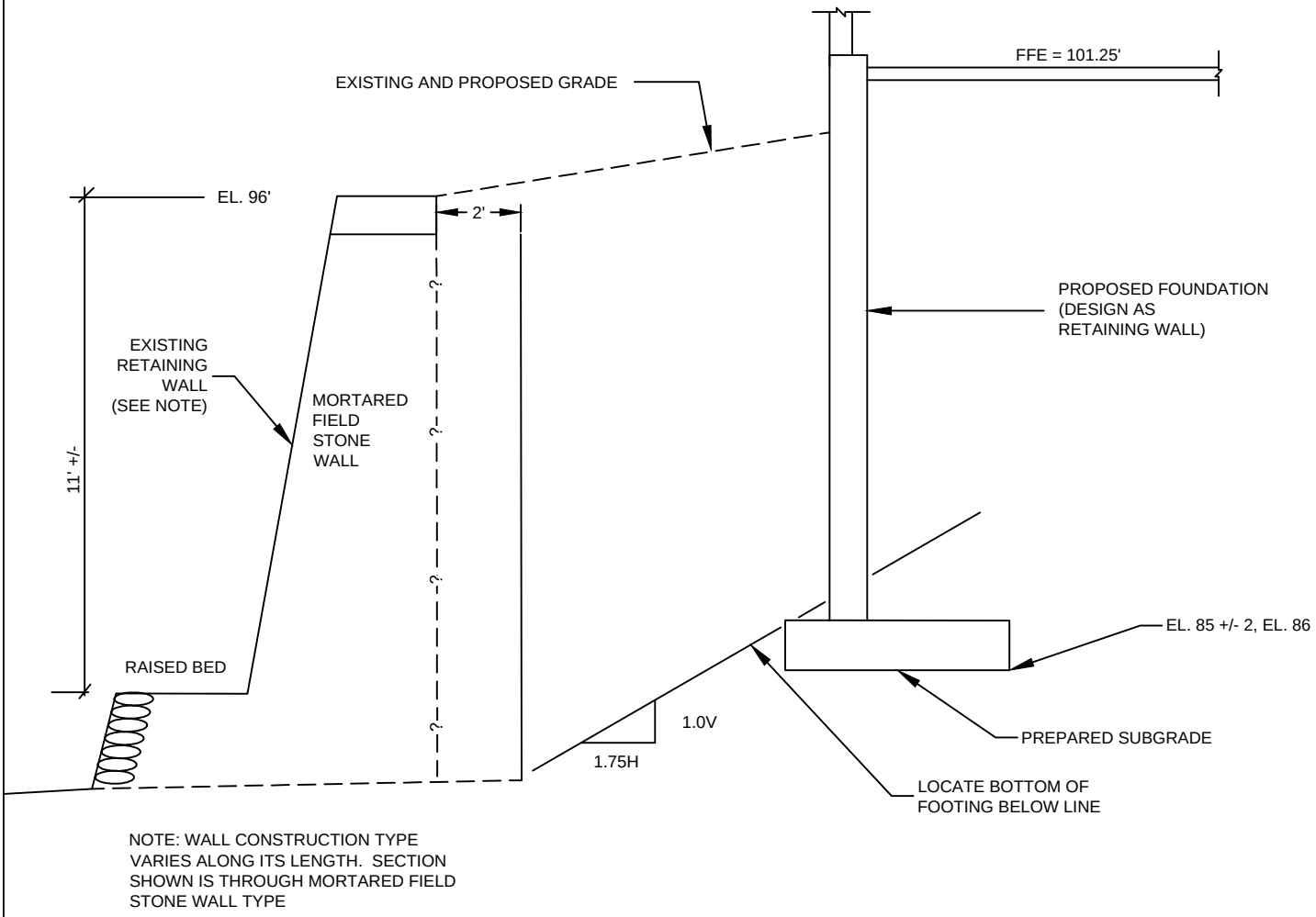
G:\Autocad\1600\1645-001\FIG 2 PROP BORING\P1645-001.dwg 4/30/2018 2:11:31 PM DWG To PDF.pc3



NOTE: WALL CONSTRUCTION TYPE VARIES ALONG ITS LENGTH. SECTION SHOWN IS THROUGH MORTARED FIELD STONE WALL TYPE

NOT TO SCALE

FIGURE 3
CONCEPT FOR FOUNDATION EMBEDMENT
BEHIND EXISTING RETAINING WALL
PROPOSED 4 STORY RESIDENTIAL BUILDING
PORTLAND, ME

PRELIMINARY - NOT FOR CONSTRUCTION

APRIL 2018 PROJECT NO. 1645-001

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G:\Autocad\1600\1645-01\FIG 3, RETAINING WALL 1645-001.dwg, 4/30/2018 2:12:04 PM, DWG To PDF.pc3

APPENDIX A

PHOTOGRAPHS

Geotechnical Engineering Services
Proposed 4-Story Residential Structure
Portland, Maine

Photograph No.: 1
Photo Date: 07 February 2018
Source: RWG&A
Description:
Lower part of retaining wall (left portion) taken from below wood deck at 25 Washington Street dwelling.

Photograph No.: 1
Photo Date: -
Source: Client
Description:

Left portion of retaining wall facing southwest. Wall benched/stepped about mid-height of total retained height.

Photograph No.: 3
Photo Date: 07 February 2018
Source: RWG&A
Description:
Central portion of retaining wall. Wall benched/stepped about mid-height of total retained height. Lower portion inaccessible for direct viewing.

Photograph No.: 4
Photo Date: 07 February 2018
Source: RWG&A
Description:
Right end of central portion of retaining wall.

Photograph No.: 5

Photo Date: 07 February 2018

Source: RWG&A

Description: Right portion of retaining wall.

APPENDIX B

EXPLORATION LOGS

Geotechnical Engineering Services
Proposed 4-Story Residential Structure
Portland, Maine

RWG&A, Inc. soil descriptions are based on the following criteria. Descriptive terminology is used to denote the grain size and percentage of each component. The soil descriptions are based on visual-manual classification procedures, Standard Penetration Test results, and the results of laboratory testing on selected soil samples, where available. The Unified Soil Classification Group Symbol will be indicated in capital letters.

COMPONENT DEFINITIONS BY GRADATION SIEVE LIMITS

Materials	Definitions	Fractions	Upper	Lower
Boulders	Material too large to pass through an opening 12 in. square.			
Cobbles	Material passing through a 12 in. opening and retained on the 3 in. sieve.			
Gravel	Material passing the 3 in. sieve and retained on 1/4" (No. 4 sieve).	Coarse Fine	3 in. 3/4 in.	3/4 in. 1/4 in.
Sand	Material passing the No. 4 sieve and retained on the No. 200 sieve.	Coarse Medium Fine	No. 4 (1/4") No. 10 (1/8") No. 40 (1/32")	No. 10 (1/8") No. 40 (1/32") No. 200
Silt	Material passing the No. 200 sieve which is usually non-plastic in character and exhibits little or no strength when air dried.		No. 200	
Clay	Material passing the No. 200 sieve which can also be made to exhibit plasticity within a certain range of moisture contents and which exhibits considerable strength when air dried.		No. 200	

SOIL DESCRIPTION

General

Soils are described as to the Unified Soil Classification Systems Group Symbol, density or consistency, color, grain size distribution and other pertinent properties such as plasticity and dry strength. The RWG&A order of descriptors is as follows:

1. USCS Group Name and Symbol, or Fill
2. Density or Consistency
3. Moisture
4. Grain Size & Constituent percentages
5. Other pertinent descriptors
6. Color

DESCRIPTIVE TERMINOLOGY DENOTING COMPONENT PROPORTIONS

Descriptive Terms	Range of Proportions
Noun (major component)	≥50%
Adjective (secondary component)	20 - 50%
Some (third component)	25 - 45%
Little (second or third component)	15 - 25%
Few (second or third component)	5 - 15%
Trace	0 - 5%
With	Amount of component not determined. Used as a conjunction only. Does not indicate component percentile

OTHER DESCRIPTIVE TERMS

Where appropriate, geological classifications are also used (Glacial Till, etc.)

TYPICAL DESCRIPTIONS

SAND WITH SILT (SP-SM): Medium dense, moist, coarse to medium sand, few silt, brown.
FILL; Loose, dry, fine sand, some gravel and silt, with brick and concrete fragments, dark brown.
SILTY CLAY (CL); Very stiff, moist, silty clay, olive-brown.

DENSITY OR CONSISTENCY OF SOILS

COHESIVE SOILS

Consistency of Cohesive Soils	Standard Penetration Test (Blows Per Foot) (N)	Undrained Shear Strength (TSF)
Very Soft	0 - 2	Below 0.13 (250 psf)
Soft	2 - 4	0.13 to 0.25 (to 500 psf)
Medium	4 - 8	0.25 to 0.5 (to 1,000 psf)
Stiff	8 - 15	0.5 to 1.0 (to 2,000 psf)
Very Stiff	15 - 30	1.0 to 2.0 (to 4,000 psf)
Hard	Over 30	over 2.0 (over 4,000 psf)

Consistency of cohesive soils is based upon field vane shear, torvane, or pocket penetrometer, or laboratory vane shear or Unconsolidated-Undrained Triaxial Compression tests. Consistency of cohesive soils is based upon the Standard Penetration test when no other data is available.

COHESIONLESS SOILS

Density of Cohesionless Soils	Standard Penetration Test (Blows per Foot) (in)
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	over 50

PENETRATION RESISTANCE

STANDARD PENETRATION TEST (ASTM D1586) - a 2.0-inch diameter, 1-3/8 inch inside diameter split barrel sample is driven into soil by means of a 140-pound weight falling freely through a vertical distance of 30 inches. The total number of blows required for penetration from 6 to 18 inches is the Standard Penetration Resistance (N).

COBBLES AND BOULDERS

The percentage of cobbles and boulders is estimated visually where possible.

Descriptive Term	Estimated Percentage
Very Few	0 - 10%
Few	10 - 25%
Common	25 - 40%
Numerous	40 - 50%

If the percentage cannot be determined, as in a typical test boring, then use “with” to indicate the presence of cobbles and/or boulders. (i.e., gravelly sand with cobbles and boulders).

FILLS

The following terminology is used to denote size range of man-made materials within fill deposits:

Size Range	Comparative Soil Terms
<No. 200 Sieve	Silt - size
No. 200 to 1/4 in.	Sand - size
1/4 in. to 3 in.	Gravel - size
3 in. to 12 in.	Cobble - size
>12 in.	Boulder - size

SUPPLEMENTAL SOIL DESCRIPTION TERMINOLOGY

Term	Example	
Seam	Typically 1/16 to 1/2 inch thick	1/4 inch sand seams
Layer	Greater than 1/2 inch thick	2-inch sand layers
Occasional	One or less per foot of thickness	
Frequent	More than one per foot of thickness	
Interbedded	Alternating soil layers of different composition	
Varved	Alternating thin seams of silt and clay	
Mottled	Variations in color	

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Geotechnical Engineering • Geohydrology • Materials Testing Services

Boring Log: B-1
Total Depth (ft): 27
Sheet 1 of 1

Project Name: Proposed 4-Story Residential Building
RWG&A Project No. 1645-001
Location: Portland, Maine
Client: Will & Kelly Williams
RWG&A Representative: D. Walker
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: 12'

Drilling Contractor: N.E. Boring Contractors
Drill Rig: M1, Rubber-Track
Driller Rep.: Mike Porter, Jaime
Date Started: 03/22/2018
Date Completed: 03/22/2018
Surface Elevation: N/A
Drilling Method: 2.25" ID HSA
Casing Type: N/A

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0			S-1	TOPSOIL AND ORGANIC MATERIAL (3 inches). Dark brown, moist, silt, frequent roots.	6	1 2 2	4		
			S-2	FILL; Moist, silt, trace fine sand, dark brown.	8	1	6		
				SILTY SAND (SM); Moist, loose to medium dense, fine sand, some silt, trace medium to coarse sand, brown.		1 3 3			
5				Cobble at 4'.		18			
			S-3		14	5 4 9	13		
			S-4	Cobble at 7'.	20	16	63		
				SILTY SAND WITH GRAVEL (SM); Very dense to medium dense, wet, fine sand, some silt, few fine gravel, few to little clay, olive brown. Slightly friable with evidence of mottling.		35 27 36			
10						43			
			S-5	Cobble at 9'.	14	21 23 17	40		
				Mottling no longer observed.		23			
15			S-6		14	7 9 12 13	21		
20			S-7	Clay content increases to little at 20'.	20	6 5 9 12	14		
25			S-8		24	6 6 6 10	12		
				Bottom of Exploration at 27'; Not refusal.					
30									

Notes:

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

Boring Log: B-2
Total Depth (ft): 27
Sheet 1 of 1

Project Name: Proposed 4-Story Residential Building
RWG&A Project No. 1645-001
Location: Portland, Maine
Client: Will & Kelly Williams
RWG&A Representative: D. Walker
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: 16'

Drilling Contractor: N.E. Boring Contractors
Drill Rig: M1, Rubber-Track
Driller Rep.: Mike Porter, Jaime
Date Started: 03/22/2018
Date Completed: 03/22/2018
Surface Elevation: N/A
Drilling Method: 2.25" ID HSA
Casing Type: N/A

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0			S-1	TOPSOIL AND ORGANIC MATERIAL (6 inches). Dark brown, moist, silt, frequent roots.	6	1/12"	2		
				FILL; Moist, fine sand, some silt, trace fine gravel and brick, dark brown.		1			
				SILTY SAND (SM) Moist, medium dense, fine sand, some silt, trace fine gravel, brown.		1			
5			S-2		16	10	26		
						8			
						18			
				SILTY SAND WITH GRAVEL (SM); Medium dense, moist, fine sand, some silt, little fine gravel, few to little clay, olive gray. Mottling of coarse grain sediments.		30			
10			S-3		22	12	25		
						11			
						14			
				Drilling resistance decreases at 14'.		13			
15			S-4		20	3	16		
				Becomes loose, wet at 16', trace clay.		4			
				SAND WITH SILT (SM); Medium dense, moist, fine sand, little silt, reddish brown at 16.5'		12			
						12			
20			S-5	SILTY SAND (SM); Loose, wet, fine sand, some silt, few fine gravel, trace clay, gray.	24	3	8		
						3			
						5			
						7			
25			S-6		24	6	9		
						4			
						5			
				Bottom of Exploration at 27'; Not refusal.		7			
30									

Notes:

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Environmental Consulting • Materials Testing Services

06 July 2018 (Revised)
30 April 2018

Will & Kelly Williams
24 St. Lawrence Street
Portland, ME 04101

Subject: Geotechnical Engineering Services – Retaining Walls
Proposed 4-Level Residential Building
24 St. Lawrence Street
Portland, Maine
RWG&A Project No. 1645-001

Dear Mr. and Mrs. Williams:

R. W. Gillespie & Associates, Inc. (RWG&A) is pleased to present this report in connection with existing retaining walls near the southwest property boundary at 24 St. Lawrence Street. The purpose of RWG&A's services was to evaluate geotechnical aspects of the existing retaining walls relative to a proposed new multi-family residential building. This report summarizes RWG&A's evaluation and provides preliminary design and construction recommendations relative to the wall, and supersedes the report dated 30 April 2018 in its entirety. The report has been revised to address changes in the building's design including a lower ground floor level.

Background

The property at 24 St. Lawrence Street is currently occupied by a two-story wood-framed residential building and a free-standing single-car garage. The site location is shown on Figure 1, *Locus Map*. Retaining walls are used to accommodate grade changes along portions of the property boundaries at the northwest, southwest, and southeast sides of the site. Survey drawings provided to us indicate the southwest wall is located on both sides of the property boundary separating 24 St. Lawrence Street (Tax Map 16, Block J, Lot 6) and 23 Waterville Street (Tax Map 16, Block J, Lots 20 and 21). The southwest wall is the primary subject of this report.

The existing buildings would be demolished and replaced with a 4-level, multi-family residential building. The proposed building has a partially below-grade parking garage beneath three levels of residential dwelling units. Finished ground floor level in the parking garage would be at elevation 96.40 feet, which ranges from about 3 to 7 feet below St. Lawrence Street. A driveway and the entrance into the garage are located at the southeast side of the building.

RWG&A's understanding of existing and proposed conditions are based on communications with Acorn Engineering and review of the following information provided to RWG&A:

- *Boundary and Topographic Survey at 24 St. Lawrence Street, Portland, Maine,* prepared by Owen Haskell, Inc., dated 30 November 2016.

- Plan Set titled *24 St. Lawrence Street Redevelopment,* prepared by Acorn Engineering, Inc., dated 25 May 2018.

- Drawing Nos. A1.1, A1.2, and A2.0 of the plan set titled *Williams 5 Unit Residence,* marked *Design Development,* prepared by Port City Architecture, dated 29 May 2018.

- Photographs, provided by you, taken from below the wooden deck at 23 Waterville Street that show retaining wall conditions below the deck level.

- Letter report dated 18 January 2018 from Casco Bay Engineering, Inc. to Pamela Day and Martica Sawin concerning *Existing Stone/Concrete Retaining Wall Observation, 25 Waterville Street and 28 St. Lawrence Street, Portland Maine.*

- Letter report dated 06 November 2017 from Summit Geoengineering Services, Inc. to Rob Whitten in reference to *Retaining Wall Evaluation, 23 to 25 Waterville Street, Portland, Maine.*

Site Visit

RWG&A geotechnical engineer, Erik J. Wiberg, P.E., made a site visit on 07 February 2018 to observe conditions exposed at ground surface in the area of the subject retaining wall. Mr. Williams was present and arranged for site access. The southwest wall varies in construction materials along its length and appears to be structurally isolated from the residential dwelling structure at 25 Waterville Street. The orientation used for describing the wall below is from the perspective of facing the wall from the front. Photographs are provided in Appendix A.

The left portion of the wall is adjacent to the wood deck at 25 Waterville Street, and is constructed of multiple materials. The lower portion of the wall extends horizontally toward Waterville Street several feet. The exposed lower portion is constructed of dry-laid, stones ranging in shape from flat to subrounded (Photograph 1), and it has a positive batter (i.e., wall face pitches towards the back of the wall). The deck is supported on wood posts that appear to bear on the dry laid stone. The surface of the upper portion of the wall is exposed concrete with some areas of concrete deterioration and spalling. The batter of the concrete portion of the wall ranged from vertical to negative 2 degrees (the wall pitched away from the retained earth in an overturning orientation).

The left end of the wall terminates at a southwest-northeast oriented, 4 to 6-foot high, cast-in-place retaining wall that retains earth at 28 St. Lawrence Street (Map 16, Block J, Lot 5). The southwesterly end of the wall meets another cast-in-place retaining wall that is aligned in a northwest-southeast direction (note: more-or-less parallel to the subject retaining wall). The northwest-southeast wall appears to have a negative batter. A wide crack where the walls meet and multiple steel brackets connecting the two walls indicates that the crack and negative batter developed after its construction.

The central portion of the wall is located behind the residential dwelling, and is inaccessible and mostly obscured, except for a portion of the wall that can be viewed from the sides of the house at 25 Waterville Street. The upper portion of the wall is a continuation of the exposed cast-in-place concrete (Appendix A, Photograph 3) and transitions to a dry-laid and/or mortared stone wall further to the right (southeast). When viewed from the right end, the lower portion appears to be masonry brick in front of dry laid stone (Appendix A, Photograph 4). The top of the masonry brick is capped with cast-in-place concrete with a formed channel to divert surface water.

The right portion of the retaining wall is exposed, and the above grade portions can be observed top to bottom (Appendix A, Photograph 5). The total exposed height is about 13 feet with the lower 2 feet a landscaped bench/planter extending about 3 feet out from the face of the wall. The upper part of the wall is mortared stone with multiple PVC pipes protruding through the face of the wall. It appears the pipes are intended to provide drainage relief for water behind the mortared stone wall. This portion of the wall has a positive batter of about 10 degrees. The wall construction further to the right behind the southeasterly St. Lawrence Street abutter transitions to apparent dry stacked boulders.

Subsurface Exploration

Two soil borings were drilled behind the wall at the approximate locations shown on Figure 2, *Exploration Location Plan*. The borings were drilled on 22 March 2018 by New England Boring Contractors, Inc. of Derry, New Hampshire using a propane powered, rubber-tracked drill rig. The borings were advanced using hollow-stem augers with an inside diameter of 2 ¼-inches. Split-barrel sampling with standard penetration testing in general accordance with ASTM D1586, *Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils* was performed at about 2 to 5-foot intervals. The borings were advanced to a depth of about 27 feet below local ground surface.

Exploration activities were coordinated and monitored by an RWG&A geologist who also prepared the exploration logs. Soils were described in general accordance with *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. The boring logs are attached in Appendix B, *Exploration Logs*. Stratification depths shown on the logs represent the estimated boundaries between the different soil types; the actual transitions are more gradual and should be anticipated to vary over short distances.

Subsurface Conditions

Subsurface Materials: Subsurface materials encountered in the soil borings consisted of a layer of topsoil and organic matter over about 2 feet of fill or disturbed soil composed of silty fine sand to sandy silt, which in turn overlies naturally deposited soil. Naturally deposited soil in the upper approximately 7 feet, consisted of moist, loose to medium dense, silty sand with occasional cobbles. Below a depth of about 7 feet, the soil graded to very dense to medium dense silty sand with gravel and little clay that extended to more than 27 feet at boring B-1 and to about 16.5 feet below local ground surface at boring B-2. At boring B-2, the silty sand with gravel was underlain by medium dense to loose silty sand with minor amounts of gravel. Refusal surfaces were not encountered within the vertical reach of the borings.

Groundwater: Free water levels were observed at depths of 12 and 16 feet in borings B-1 and B-2, respectively. The observed depths correspond to about 1 to 3 feet below local ground surface in front of the retaining walls. Water levels observed during the subsurface exploration program might have been influenced by the exploration methods and soil condition (e.g., slow groundwater response due to low soil permeability) and may not be representative of stabilized groundwater levels.

Evaluations

Engineering evaluations are based on the subsurface explorations, conditions observed during the site visit, and the preliminary design information that was available to RWG&A when this report was prepared. RWG&A should be notified if site grading, finished floor levels, or building layouts differ from those referenced herein in order to verify the following evaluations are still applicable.

The soils encountered in the soil borings indicated that the retaining wall was built against a naturally deposited earth slope. The slope might have resulted from earthwork to form the flatter and lower lying land in front of the wall. The wall does not appear to be of modern design or construction. The thickness of the wall is uncertain but is likely not more than 2 to 3 feet thick. The retaining wall should be considered sensitive to disturbance. With appropriate design and construction measures, the proposed multi-family building can be built and the retaining wall protected during and after construction.

Foundation Design: The selected foundation system should be designed to limit additional vertical and horizontal loads on the retaining walls. The naturally deposited soils are considered suitable for support of spread footings and slab-on-grade ground floors. The building could also be supported on drilled in displacement piles or on low displacement piles driven to end bearing in dense soils or on bedrock.

To prevent an increase in pressure against the back of the wall from footings, spread footings should be located below a line projecting up and away at a pitch of 1.75 units horizontal to 1 unit vertical (1.75H:1V) from a point located from the wall bottom and 2 feet behind the top of the wall. See Figure 3, *Concept for Foundation Embedment Behind Retaining Wall*. The southwest foundation wall should be designed as a retaining wall and should not rely on soil between the foundation wall and existing wall for lateral support.

Subsurface Drainage: The proposed construction is not expected to adversely affect existing retaining wall subsurface drainage if the proposed building and site design include measures to maintain or reduce infiltration of surface water into soil behind the wall relative to current conditions. Irrigation systems and water bearing utilities between the retaining wall and new building should be avoided. Roof and other surface water drains should not be connected to footing drains. Unlined stormwater management roof dripline filtration or other systems that would promote surface water infiltration into naturally deposited soils should not be used. If dripline filtration is proposed, only lined systems that prevent infiltration into soil and that convey water to a free-draining, closed conduit storm water feature should be used.

Construction Considerations: Preliminary evaluations indicate the depth of excavation needed to construct the new building's southwesterly foundation wall (i.e. foundation wall nearest and parallel to the existing retaining wall) will be about 10 to 12 feet below current ground surface. Similar excavation depths will be needed to construct the northwest and southeast foundation walls near where they connect to the southwest foundation wall.

Because the existing retaining wall construction is uncertain and the wall might rely on soil behind it for support (i.e., the wall might not be a gravity wall), steep open slope excavations behind the wall more than a 2 to 3 feet deep do not appear technically practical. Additional investigation of the construction of the wall would be needed in order to determine the ability of the wall to be self-supported. The need for temporary excavation support should be anticipated to construct foundations in the southwest part of the new building. Underpinning of cast in-place retaining wall(s) near the west corner of the property might be also be needed.

Design of temporary earth support and underpinning systems should be performed by a Licensed Professional Engineer retained by the Contractor. It is anticipated the Contractor's Engineer will evaluate soil properties, as appropriate, to the temporary earth support systems and underpinning selected by the Contractor. The Contractor's temporary earth support design, and excavation and pile installation procedures should be submitted for technical review and approval by the Structural Engineer and Civil Engineer, as appropriate, prior to construction. RWG&A is available to assist with the above reviews, if requested. Construction documents and specifications should require daily monitoring of the support system and the existing retaining wall. Temporary earth support considerations are discussed further below.

Temporary Earth Support: Soldier pile and lagging support is recommended in the southwest part of the site. The soldier pile and lagging support should be setback from the retaining wall as much as practicable to construct the foundation wall. Sheet piles should not be used for temporary earth support. Soldier piles should be low-displacement piles such as steel H-piles to reduce soil disturbance and vibration amounts during construction. Predrilling could also be used at soldier pile locations to reduce construction vibrations and to probe for buried obstructions. Soldier piles should be driven with lower energy impact hammer to required depths; vibratory hammers should not be used.

Underpinning: Underpinning is a construction technique used to transfer the loads of an existing foundation, such as a cast-in-place retaining wall, to a new foundation bearing below the zone of influence of an excavation. Pit underpinning might be practical where the excavation does not undercut existing footings more than a few to several feet. Pile underpinning used together with temporary excavation support appears to be a technically feasible method for construction of deeper excavations. Typical pile types include, but are not necessarily limited to, helical piles, steel H-piles, and auger piles. It should be noted that driven displacement pile types such as timber, steel pipe or pre-cast concrete are not recommended.

Construction Vibrations: Vibrations from construction activities such as pile driving and soil compaction could have deleterious effects on existing structures including the retaining wall. Construction methods to reduce construction-induced vibrations from pile driving are described in *Temporary Earth Support* and *Underpinning* above.

Soil compaction can be a source of construction vibrations. Self-propelled drum rollers may need to be operated in static mode if construction vibrations are excessive. If compaction requirements cannot be met with this approach, then smaller sized and/or hand-operated compaction equipment and thinner fill lifts might be needed to achieve compaction requirements while reducing construction vibrations. Selection of backfill materials can help reduce construction vibrations; crushed stone is an alternative to sand and gravel fill that generally takes less vibratory energy to compact to a dense condition.

Evaluation Limitations

This geotechnical evaluation is preliminary and is suitable for planning and preliminary design purposes only. This report has been prepared for specific application to the proposed 4-Level Residential Building to be built at 24 St. Lawrence Street in Portland, Maine, and for the exclusive use of Will & Kelly Williams. Geotechnical engineering services have been completed in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. In the event that any changes are made in the nature, design, or location of proposed building, the evaluations and recommendations of this report should be reviewed by RWG&A, and confirmed or revised in writing.

The nature of variations between the exploration and other locations might not become evident until a final geotechnical evaluation is completed and/or construction begins. If variations are encountered, it will be necessary for RWG&A to re-evaluate the recommendations presented in this report.

Closure

RWG&A appreciates the opportunity to be of service on this project and looks forward to a continuing relationship during final design and construction. Please contact us if there are any questions about this report or if RWG&A may be of further service.

Sincerely,
R.W. GILLESPIE & ASSOCIATES, INC.

STATE OF MAINE
ERIK J. WIBERG
No. 9178
7/6/2018
LICENSED PROFESSIONAL ENGINEER

Erik J. Wiberg, P.E.
Chief Geotechnical Engineer

Marc R. Grenier, P.E.
Technical Reviewer

EJW:md
In duplicate
Cc: William Savage, P.E., Acorn Engineering, Inc. (via email)

Attachments: Figure 1, *Locus Map,*
Figure 2, *Exploration Location Plan*
Figure 3, *Concept for Foundation Embedment Behind Retaining Wall*
Appendix A, *Photographs*
Appendix B, *Exploration Logs*

N

0 2000 3000 4000

SCALE, FEET

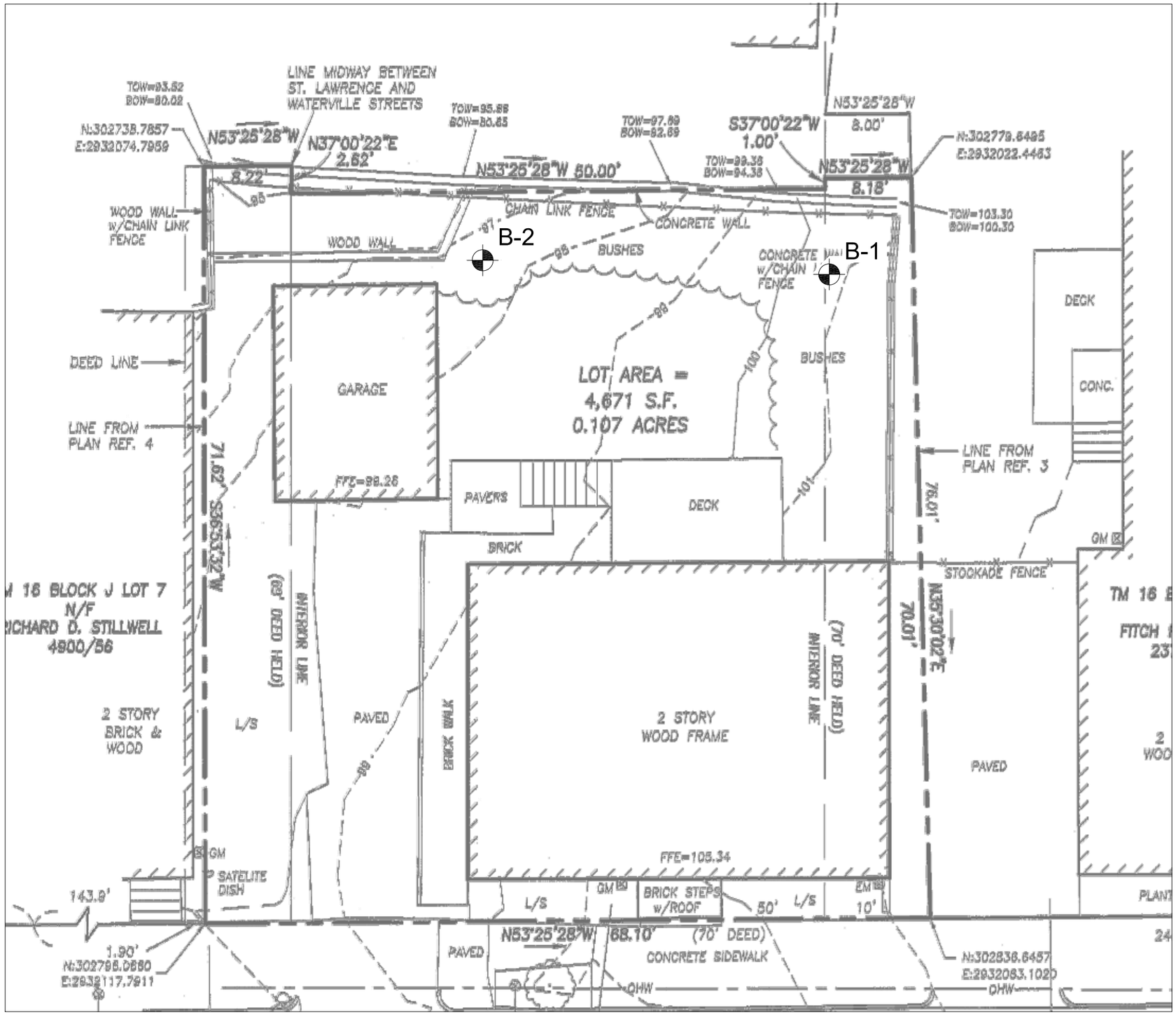
SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE OF PORTLAND EAST, ME, DATED 2014 AND PORTLAND WEST, ME, DATED 2014.

FIGURE 1
LOCUS MAP
GEOTECHNICAL EVALUATION
PROPOSED 4-LEVEL RESIDENTIAL BUILDING
PORTLAND, MAINE

JULY 2018 PROJECT NO. 1645-001

R.W. Gillespie & Associates
Geotechnical Engineering • Materials Testing Servies
Environmental Consulting • www.rwgillespie.com

G:\Autocad\1600\1645-01\FIG 1, LOCUS MAP 1645-001.dwg, 7/6/2018 2:42:45 PM, \\SACO\Xerox WorkCentre 7855 PCL



LEGEND:

B-1 APPROXIMATE LOCATION OF SOIL BORING DRILLED MARCH 2018.

SOURCE:
DRAWING NO. 1, TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY", PREPARED BY OWEN HASKELL, INC., DATED NOVEMBR 30, 2016.

N

0 10 15 20
SCALE, FEET

FIGURE 2
PROPOSED BORING LOCATION PLAN
GEOTECHNICAL EVALUATION
PROPOSED 4-LEVEL RESIDENTIAL BUILDING
PORTLAND, MAINE

JULY 2018 PROJECT NO. 1645-001

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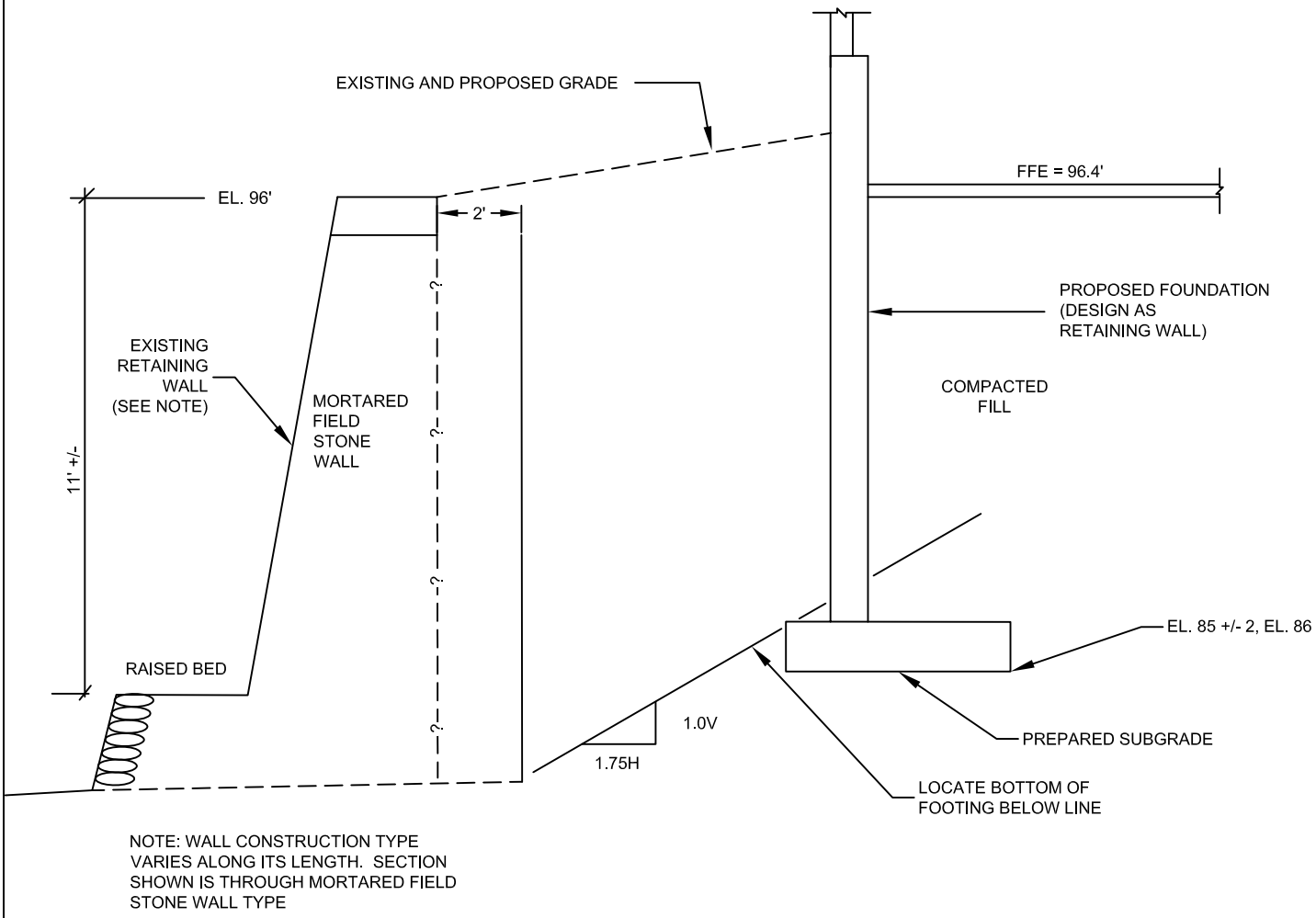
G:\Autocad\1600\1645-01\FIG 2, PROP BORING LP 1645-001.dwg, 7/6/2018 2:41:30 PM, Adobe PDF (SMALLEST FILE SIZE).pc3



NOT TO SCALE

FIGURE 3
CONCEPT FOR FOUNDATION EMBEDMENT
BEHIND EXISTING RETAINING WALL
PROPOSED 4-LEVEL RESIDENTIAL BUILDING
PORTLAND, ME

PRELIMINARY - NOT FOR CONSTRUCTION

REV. JULY 2018
APRIL 2018

PROJECT NO. 1645-001

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G:\Autocad\1600\1645-01\FIG 3, RETAINING WALL 1645-001.dwg, 7/6/2018 2:39:55 PM, Adobe PDF

APPENDIX A

PHOTOGRAPHS

Geotechnical Engineering Services
Proposed 4-Level Residential Structure
Portland, Maine

Photograph No.: 1
Photo Date: 07 February 2018
Source: RWG&A
Description:
Lower part of retaining wall (left portion) taken from below wood deck at 25 Washington Street dwelling.

Photograph No.: 1
Photo Date: -
Source: Client
Description:

Left portion of retaining wall facing southwest. Wall benched/stepped about mid-height of total retained height.

Photograph No.: 3
Photo Date: 07 February 2018
Source: RWG&A
Description:
Central portion of retaining wall. Wall benched/stepped about mid-height of total retained height. Lower portion inaccessible for direct viewing.

Photograph No.: 4
Photo Date: 07 February 2018
Source: RWG&A
Description:
Right end of central portion of retaining wall.

Photograph No.: 5
Photo Date: 07 February 2018
Source: RWG&A
Description: Right portion of retaining wall.

APPENDIX B

EXPLORATION LOGS

Geotechnical Engineering Services
Proposed 4-Level Residential Structure
Portland, Maine

RWG&A, Inc. soil descriptions are based on the following criteria. Descriptive terminology is used to denote the grain size and percentage of each component. The soil descriptions are based on visual-manual classification procedures, Standard Penetration Test results, and the results of laboratory testing on selected soil samples, where available. The Unified Soil Classification Group Symbol will be indicated in capital letters.

COMPONENT DEFINITIONS BY GRADATION SIEVE LIMITS

Materials	Definitions	Fractions	Upper	Lower
Boulders	Material too large to pass through an opening 12 in. square.			
Cobbles	Material passing through a 12 in. opening and retained on the 3 in. sieve.			
Gravel	Material passing the 3 in. sieve and retained on 1/4" (No. 4 sieve).	Coarse Fine	3 in. 3/4 in.	3/4 in. 1/4 in.
Sand	Material passing the No. 4 sieve and retained on the No. 200 sieve.	Coarse Medium Fine	No. 4 (1/4") No. 10 (1/8") No. 40 (1/32")	No. 10 (1/8") No. 40 (1/32") No. 200
Silt	Material passing the No. 200 sieve which is usually non-plastic in character and exhibits little or no strength when air dried.		No. 200	
Clay	Material passing the No. 200 sieve which can also be made to exhibit plasticity within a certain range of moisture contents and which exhibits considerable strength when air dried.		No. 200	

SOIL DESCRIPTION

General

Soils are described as to the Unified Soil Classification Systems Group Symbol, density or consistency, color, grain size distribution and other pertinent properties such as plasticity and dry strength. The RWG&A order of descriptors is as follows:

1. USCS Group Name and Symbol, or Fill
2. Density or Consistency
3. Moisture
4. Grain Size & Constituent percentages
5. Other pertinent descriptors
6. Color

DESCRIPTIVE TERMINOLOGY DENOTING COMPONENT PROPORTIONS

Descriptive Terms	Range of Proportions
Noun (major component)	≥50%
Adjective (secondary component)	20 - 50%
Some (third component)	25 - 45%
Little (second or third component)	15 - 25%
Few (second or third component)	5 - 15%
Trace	0 - 5%
With	Amount of component not determined. Used as a conjunction only. Does not indicate component percentile

OTHER DESCRIPTIVE TERMS

Where appropriate, geological classifications are also used (Glacial Till, etc.)

TYPICAL DESCRIPTIONS

SAND WITH SILT (SP-SM): Medium dense, moist, coarse to medium sand, few silt, brown.
FILL; Loose, dry, fine sand, some gravel and silt, with brick and concrete fragments, dark brown.
SILTY CLAY (CL); Very stiff, moist, silty clay, olive-brown.

DENSITY OR CONSISTENCY OF SOILS

COHESIVE SOILS

Consistency of Cohesive Soils	Standard Penetration Test (Blows Per Foot) (N)	Undrained Shear Strength (TSF)
Very Soft	0 - 2	Below 0.13 (250 psf)
Soft	2 - 4	0.13 to 0.25 (to 500 psf)
Medium	4 - 8	0.25 to 0.5 (to 1,000 psf)
Stiff	8 - 15	0.5 to 1.0 (to 2,000 psf)
Very Stiff	15 - 30	1.0 to 2.0 (to 4,000 psf)
Hard	Over 30	over 2.0 (over 4,000 psf)

Consistency of cohesive soils is based upon field vane shear, torvane, or pocket penetrometer, or laboratory vane shear or Unconsolidated-Undrained Triaxial Compression tests. Consistency of cohesive soils is based upon the Standard Penetration test when no other data is available.

COHESIONLESS SOILS

Density of Cohesionless Soils	Standard Penetration Test (Blows per Foot) (in)
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	over 50

PENETRATION RESISTANCE

STANDARD PENETRATION TEST (ASTM D1586) - a 2.0-inch diameter, 1-3/8 inch inside diameter split barrel sample is driven into soil by means of a 140-pound weight falling freely through a vertical distance of 30 inches. The total number of blows required for penetration from 6 to 18 inches is the Standard Penetration Resistance (N).

COBBLES AND BOULDERS

The percentage of cobbles and boulders is estimated visually where possible.

Descriptive Term	Estimated Percentage
Very Few	0 - 10%
Few	10 - 25%
Common	25 - 40%
Numerous	40 - 50%

If the percentage cannot be determined, as in a typical test boring, then use “with” to indicate the presence of cobbles and/or boulders. (i.e., gravelly sand with cobbles and boulders).

FILLS

The following terminology is used to denote size range of man-made materials within fill deposits:

Size Range	Comparative Soil Terms
<No. 200 Sieve	Silt - size
No. 200 to 1/4 in.	Sand - size
1/4 in. to 3 in.	Gravel - size
3 in. to 12 in.	Cobble - size
>12 in.	Boulder - size

SUPPLEMENTAL SOIL DESCRIPTION TERMINOLOGY

Term	Example	
Seam	Typically 1/16 to 1/2 inch thick	1/4 inch sand seams
Layer	Greater than 1/2 inch thick	2-inch sand layers
Occasional	One or less per foot of thickness	
Frequent	More than one per foot of thickness	
Interbedded	Alternating soil layers of different composition	
Varved	Alternating thin seams of silt and clay	
Mottled	Variations in color	

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Geotechnical Engineering • Geohydrology • Materials Testing Services

Boring Log: B-1
Total Depth (ft): 27
Sheet 1 of 1

Project Name: Proposed 4-Story Residential Building
RWG&A Project No. 1645-001
Location: Portland, Maine
Client: Will & Kelly Williams
RWG&A Representative: D. Walker
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: 12'

Drilling Contractor: N.E. Boring Contractors
Drill Rig: M1, Rubber-Track
Driller Rep.: Mike Porter, Jaime
Date Started: 03/22/2018
Date Completed: 03/22/2018
Surface Elevation: N/A
Drilling Method: 2.25" ID HSA
Casing Type: N/A

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0			S-1	TOPSOIL AND ORGANIC MATERIAL (3 inches). Dark brown, moist, silt, frequent roots.	6	1 2 2	4		
			S-2	FILL; Moist, silt, trace fine sand, dark brown.	8	1	6		
				SILTY SAND (SM); Moist, loose to medium dense, fine sand, some silt, trace medium to coarse sand, brown.		1 3 3			
5				Cobble at 4'.		18			
			S-3		14	5 4 9	13		
			S-4	Cobble at 7'.	20	16	63		
				SILTY SAND WITH GRAVEL (SM); Very dense to medium dense, wet, fine sand, some silt, few fine gravel, few to little clay, olive brown. Slightly friable with evidence of mottling.		35 27 36			
10						43			
			S-5	Cobble at 9'.	14	21 23 17	40		
				Mottling no longer observed.		23			
15			S-6		14	7 9 12 13	21		
20			S-7	Clay content increases to little at 20'.	20	6 5 9 12	14		
25			S-8		24	6 6 6 10	12		
				Bottom of Exploration at 27'; Not refusal.					
30									

Notes:

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

Boring Log: B-2
Total Depth (ft): 27
Sheet 1 of 1

Project Name: Proposed 4-Story Residential Building
RWG&A Project No. 1645-001
Location: Portland, Maine
Client: Will & Kelly Williams
RWG&A Representative: D. Walker
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with cuttings
Observed Water Depth: 16'

Drilling Contractor: N.E. Boring Contractors
Drill Rig: M1, Rubber-Track
Driller Rep.: Mike Porter, Jaime
Date Started: 03/22/2018
Date Completed: 03/22/2018
Surface Elevation: N/A
Drilling Method: 2.25" ID HSA
Casing Type: N/A

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0			S-1	TOPSOIL AND ORGANIC MATERIAL (6 inches). Dark brown, moist, silt, frequent roots.	6	1/12"	2		
				FILL; Moist, fine sand, some silt, trace fine gravel and brick, dark brown.		1			
				SILTY SAND (SM) Moist, medium dense, fine sand, some silt, trace fine gravel, brown.		1			
5			S-2		16	10	26		
						8			
						18			
				SILTY SAND WITH GRAVEL (SM); Medium dense, moist, fine sand, some silt, little fine gravel, few to little clay, olive gray. Mottling of coarse grain sediments.		30			
10			S-3		22	12	25		
						11			
						14			
				Drilling resistance decreases at 14'.		13			
15			S-4		20	3	16		
				Becomes loose, wet at 16', trace clay.		4			
				SAND WITH SILT (SM); Medium dense, moist, fine sand, little silt, reddish brown at 16.5'		12			
						12			
20			S-5	SILTY SAND (SM); Loose, wet, fine sand, some silt, few fine gravel, trace clay, gray.	24	3	8		
						3			
						5			
						7			
25			S-6		24	6	9		
						4			
						5			
				Bottom of Exploration at 27'; Not refusal.		7			
30									

Notes:

Portland Maine | Yes. Google's good here.

Shukria Wiar <shukriaw@portlandmaine.gov>

24 St Lawrence

Mark Chaloupecky <mark@portcityarch.com> Wed, Jul 18, 2018 at 11:29 AM
To: wsavage@acorn-engineering.com, Sam Lebel <slebel@acorn-engineering.com>, "Wiar, Shukria" <shukriaw@portlandmaine.gov>
Cc: will@hrpmanagement.com, kellyamaine@gmail.com, boepple@nhlandlaw.com

Shukria - Attached are the revised drawings. We updated the front façade per Staff's direction.

Will - Since you have been uploading all the drawings to the portal, can you please update our portion of the submittal? I included all the drawings even though we only updated the elevations.

Everyone - Here are my responses to Staff's direction on the front façade.

- the project already has multiple roof lines, increasing the height of the bay is not productive to the design nor in making the building contextual. The bay should terminate either at the main cornice line or below (as it was previously presented). The bay now terminates at the main roof line.

- the panel details on the bay are awkward and not contextual. Probably excluding these is best given this is a 21st-century building. If there is a desire for decorative paneling on the bay, then it should be consistently applied below both windows and typical design is more of a three panel. The cross panels between the two center windows has been removed.

- the juliet balconies are okay, adds more articulation with the railings, though also introduces another window type. No change.

- raising the brick material on the central part of the building is not necessary and pushes the building more commercial. In the context, the watertable foundations are a consistent line across the building, as was presented in the previous version. The brick section has been lowered and the watertable is consistent across the façade.

- though the Board commented on the windows on the side and rear of the building, our design purview is what is visible from the public right-of-way and so we are not so concerned about the level of fenestration or the window types on the back since they are not seen in conjunction with the front. No change.

- Lowering the roof line on the sides now causes the top floor windows to be too close to the eave and looks crowded/proportions off. The roof lines on the two sides (with the windows) has remained consistent at 35'. What I referenced was the roof line on either side of the bay window element (without the windows). On the

sides with the windows, we originally had the windows on the sides at 7'-6" (head height) and this has been lowered to 7'-0". Not sure I can go any lower, and the roof height is at the 35' max.

Let me know if you need anything further or have any questions.

Mark Chaloupecky, LEED-AP

Port City Architecture

65 Newbury Street

Portland, Maine 04101

207-761-9000

207-650-6512 cell

PORT CITY
ARCHITECTURE

3 attachments

24 St Lawrence (context) Revised 7-18.pdf
2215K

24 St Lawrence (model) Revised 7-18.pdf
2325K

24 St Lawrence (Planning Board Submission - Plans) Revised 7-18.pdf
977K

LED wall luminaires with directed light

Housing: One piece die-cast aluminum provided with a bracket for attachment to a BEGA 19538 small opening wiring box. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum cover frame secured by two (2) captive, stainless steel set screws threaded into stainless steel inserts. Matte safety glass. Fully gasketed for weather tight operation using a molded 'U' channel silicone rubber gasket.

Electrical: 2.1W LED luminaire, 3.4 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an >90 CRI. Available in 4000K (>90 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order

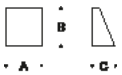
CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP64

Weight: 0.9 lbs.

Luminaire Lumens: 173

Tested in accordance with LM-79-08

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



		Lamp	A	B	C	Wiring box*
22215*	ADA	2.1W LED	3½	3¾	2⅜	**19538**

* Small opening wiring box included.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com
©copyright BEGA 2017 Updated 02/17

Google Groups

RE: Development at 24 St. Lawrence St.

Ariana van den Akker <ariana.daly@gmail.com> Nov 2, 2017 12:14 PM
Posted in group: **Planning Board**

Dear Chair and Board Members:

I'm writing regarding the plan to demolish 24 St. Lawrence Street and rebuild as condos. As a former renter at 28 St. Lawrence (next door), and a current resident of Munjoy Hill, I have several concerns:

1. The increasing lack of affordable rental/housing units in Munjoy Hill. Munjoy Hill is full of expensive new condo projects offering units at rates that most people who live and work in Portland year-round cannot afford. As an employee of a non-profit, I can only afford to live in Portland because of landlords like Martica Sawin at 28 St. Lawrence, who rented her unit at a reasonable rate because she didn't want to push people like my roommate (who also works at a non-profit) and me out of the neighborhood. This project will push current renters out, decrease the diversity of the neighborhood, and worsen the problem of the lack of affordable housing.

1. The building does not fit the character of those around it. One of the best aspects of St. Lawrence Street is how much space there is between houses, which allows for more gardens and green space than other places in the city. Although there are several multiple family houses and condos already on St. Lawrence St., there is adequate spacing between them and neighboring buildings. This building at 24 St. Lawrence as proposed is unnecessarily tall and close to neighboring houses.

1. The plan, as rendered, blocks essentially all sunlight to the neighboring property of 28 St. Lawrence Street, which decreases property value and quality of life.

Thank you for your consideration of this matter,

Ariana van den Akker

Google Groups

Re: proposed tear-down and construction at 24 Lawrence Street

me <jmy@portlandmaine.gov> Jan 10, 2018 8:45 AM
Posted in group: **Planning Board**

Good Morning,

Thank you for your e-mail. Your public comment will be included in the review and will become part of the public record.

If you have any further questions, please contact me.

Jennifer Munson, Office Manager
Planning and Urban Development Department
4th Floor, 389 Congress Street
Portland, ME 04101
Phone: (207)874-8719
Email: planningboard@portlandmaine.gov

On Wednesday, January 10, 2018 at 6:30:19 AM UTC-5, Beth Snyder wrote:

> To the Planning Board of the City of Portland,
>
> I live at 81 North Street, a brick house built in 1854 by Moses Gould. I value the historic character of our Munjoy Hill neighborhood and have watched homes being torn down and replaced with structures that are jarring with the character of the neighborhood.
>
> I'm writing you to oppose the proposed project at 24 Lawrence Street. After attending a meeting at our East End Elementary School where the architects showed drawings and explained their design for a new structure, I was dismayed. It looked like a medical building. It promoted no engagement on the street. Cars would enter the first floor parking and residents would take an elevator to their condo, in which all activity was oriented to the back of the building. The structure was huge in scale. It would look ridiculous between the flanking, much smaller homes. It would block light and destroy the appeal of the surrounding homes.
>
> I remember well how upset the large number of neighbors were after seeing and hearing the presentation that evening. The developer and the architects have not fully considered and implemented the the rules specified in the City's Design Manual in Appendix 7, the Design Principles listed in Section II, and the Alternative Design Review in Section IV.
>
> "*The Planning Authority may request that consideration be made of buildings in the neighborhood that are comparable in size, scale and use to that which is being proposed, or that consideration be made of the characteristics of buildings which were originally designed for a similar use to that which is proposed. The Planning Authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site.*"
>
> ***PRINCIPLE A*** *Overall Context*

A building design shall contribute to and be compatible with the predominant character-defining architectural features of the neighborhood.

Explanatory Note: The central idea behind good design in an established neighborhood is to reinforce positive features of the surrounding area, which provide its unique identity. To a large degree, the scale, mass, orientation, and articulation of an infill building should be compatible with that of the buildings that surround it.

Compatibility refers to the recognition of patterns and characteristics which exist in a given setting and the responsiveness of a new design with respect to these established patterns and characteristics. While there is no one specific solution for a given setting, there are a number of building characteristics which can be used to gauge visual compatibility of new residential construction in an existing neighborhood. These characteristics include design elements such as:

1. Scale and Form: height, massing, proportion of principal facades, roof shapes and scale of the architectural features of the structure.
2. Composition of Principal Facades: proportion of facades; orientation of openings; ratio of solids to openings; rhythm of fenestration; entrance porches and other projections; and
relations of materials, texture and color.
3. Relationship to the Street: walls of continuity; rhythm of spacing and structures on streets; and orientation of principal elevations and entrances to the street.

Please hold developers and designers to the standards outlined by the city. We do not want to regret ten or twenty years from now our actions, or inactions, of today.

Thank you,

Beth Snyder
81 North Street
Portland, ME 04101

PC3

Google Groups

24 St.Lawrence Street proposed plans

rstillwell@maine.rr.com <rstillwell@maine.rr.com> Jan 7, 2018 3:42 PM
Posted in group: **Planning Board**

To the city of Portland planning board members,
I am writing in regard to the proposed tearing down of the 2-family house at 24 St.Lawrence St. and the building of a 5-unit, 4-story building on that site. My husband, Richard Stillwell and I live next door and own the property at 20 St. Lawrence Street. Richard bought our house in 1975. I have lived there with him since 1983. We are abutting neighbors to this proposed project.

A project of this size causes a lot of forethought, foresight and unfortunately, worry.
We, as well as our immediate neighbors, would like to see a plan of action that we feel will protect our properties. That will ensure that the ground work is done beforehand to ensure this project can be done in a safe manner and is in keeping with the neighborhood.

Our concerns. Our connected retaining walls, our foundations. The proximity of the project proposed is 5 feet from our property lines.

We would like to be assured by the developer and the property owners of 24 St.Lawrence Street that the construction activity will not harm our retaining walls, our house's foundations and walls. An additional in depth engineering study should be conducted, showing due diligence.
A bond of guarantee against damages should be in place beforehand.

A pest control plan should be mobilized before approval of the tear down to eradicate any existing rodents.

Hours of construction activity should be agreed upon and adhered to.

Property lines should be agreed upon.

The scale of this project is huge, it uses 75% of the property. It is not in keeping with the neighborhood. The proposed building stands alone in it's height.
We feel is should be scaled down.

The form does not integrate into the neighborhood. It is rear-facing. It does not share like features of the surrounding houses. There is nothing that joins this building with the others.
There should be a higher standard.
For the integrity of the street and the neighborhood.

There has been an inflexibility with the developer and thus presented, their credibility and approach, to us is in question. There has not been to this point a desire to integrate this project with neighbors in mind or the neighborhood.

I am enclosing a photo of the section of the retaining wall at the rear of 24 St. Lawrence Street and the rear of the property at 25 Waterville Street, owned by Michael Petit and Pamela Day. The distance between our common retaining wall and their building is illustrated.

This project is just too close for comfort or safety.

Thank you for your consideration in evaluating this proposed project.

Sincerely,
Carol Stillwell

PC3a

Google Groups

24 St.Lawrence Street proposed plans

rstillwell@maine.rr.com <rstillwell@maine.rr.com> Nov 1, 2017 3:51 PM
Posted in group: **Planning Board**

October 31,2017

I am writing from 20 St. Lawrence Street regarding the proposed tearing down and building of a 5 unit structure at 24 St. Lawrence St.
My husband has owned our 1890 brick building since 1975, where he has lived and I have lived since 1983. We are opposed to this project for several reasons.

We do not feel that it's scale or design is appropriate in the neighborhood. I have enclosed photos, starting with the property north of 24 St. Lawrence, 20 St. Lawrence and the houses that follow south to the end of the street. When I see the architectural rendering of the proposed property, I say, " What is wrong with this picture?". Sighting chapter 14 of the Land Usage Zoning Ordinance, it does not fit the scale of the surrounding buildings. It shares no architectural features. It looms by itself. It is not a cohesive blend.

Our other concern is a concern of safety. The proximity of the building, the footprint is 5 feet from our property lines. Living on a hill,we are concerned about the stability of our retaining walls during the tearing down of the present house and the deep, vibrating process of drilling for construction for the new 4 story building. We have, throughout the years repaired and replaced walls on our steep embankments. We have shared walls with our neighbors on Waterville Street. The proximity of the proposed building is at best alarming. What guarantee do we have that we will not have damaged or collapsed walls or damage to our close proximity home. I also am enclosing, as the last photograph, a photo taken from my wall, that we share with Michael Petit and Pamela Day's Waterville Street property. In the photo, it shows how close this wall is to their house and the reason for our concern.

Thank you for your time and consideration.
Carol Stillwell

THULE

PC4

Google Groups

24 St. Lawrence St. Development Proposal

J Wuesthoff <jwuest@maine.rr.com> Jan 11, 2018 12:39 PM

Posted in group: **Planning Board**

Dear Members :

Since the late ’60’s I have worked or lived in Portland currently,and for the last 19 years,on Morning Street.

I am familiar with the above site and the attractive structure sitting on it.The proposed replacement does not add to nor enhance that neighborhood.While there may be several buildings in a 2 block radius which might be compatible with the proposed structure in terms of size,scale and character they are not indicative of the general character of the established neighborhood.

I ask that you deny a permit for the proposed development.

Thank you.

R. John Wuesthoff
11 Morning St(780-6557)

PC5

Google Groups

24 St Lawrence St Proposed Condominiums

Jayne Hurley <jhurley@cspinet.org> Jan 8, 2018 4:26 PM

Posted in group: **Planning Board**

Dear City of Portland Planning Board:

I am writing to express my concern about the proposed condo development at 24 St Lawrence St. Like the developers of 31 Fore St., 30 Merrill St., and other recently constructed buildings on Munjoy Hill, it appears the architect chose to follow the "*Alternate Design Review* "option which allows builders to bypass current architectural standards and build "big box" condominium buildings that are hugely out of scale with the rest of the neighborhood and exhibit none of the characteristics of the surrounding buildings.

Craig Cooper, owner of Rainbow Construction, and the builder for another big box gem slated for construction at 25 Monument St., said to me, "If Portland doesn't want developers to build these types of buildings, why did they write the R6 zoning codes to allow it?" And, "Obviously builders are going to construct the biggest building allowed to get the most bang for the buck."

Take another look at the changing landscape of Munjoy Hill. It seems that developers, builders, and architects have gotten your (unintended?) message loud and clear: go big or go home.

It's not too late to send 24 St Lawrence St. back to the drawing board! Make the necessary adjustments now so that the new building will blend more seamlessly into the existing neighborhood.

Thank you for considering my comments.

Jayne G. Hurley

11 St. Lawrence St.

Portland, ME 04101

PC6

Google Groups

New Newsflash 24 St. Lawrence Street - Concerns- Another Example

Karen Snyder <karsny@yahoo.com> Oct 20, 2017 8:49 AM
Posted in group: **Planning Board**

Greetings Planning Board Members and City Planner Wiar,

I am writing to voice my concerns and protest to the below 24 St. Lawrence submitted plan by a property management investment company called HR Property Management.

This submitted plan is a perfect example of what is wrong with the Portland Planning Board process and the Portland City Planning department and it's lack of effort in protecting Munjoy Hill's rich historical New England architecture and housing stock for the local residents in an attempt to replace with a generically modern architecturally-sterile looking building with condos not affordable to most Portlanders (See attached photos).

Unlike the West End which is historically protected, the East End needs also needs preservation/conservation protection before the historic charm of what is loved about Munjoy Hill is ruined and destroyed for ever.

I have attached the photos of what is currently on site versus proposed for 24 St. Lawrence. It is quite disturbing to surrounding property owners.

When surrounding neighbors and property owners are virtually in tears or appalled by a submitted plan, then there is something seriously wrong with the Portland planning board process and the City Planning Dept in allowing this to continue. Portland City Planning Dept mission statement reads ...."The Planning and Urban Development Department promotes and plans for the future vitality, livability and prosperity of this remarkable city and all its people." Who exactly is the Portland Planning Department mission statement geared towards because it appears to be just lip service while the city coffers grow off of the backs of pushing out Portlanders/local residents from their own city and ruining the current vitality of the neighborhoods that made Portland so popular in the first place.

We would appreciate you to seriously think about scaling this submitted plan down so that it fits with the surrounding neighborhood appropriately in size and architecture as well as consider affordable housing for some of the units if a perfectly habitable property is proposed to be demolished.

Regards,
Karen Snyder
72 Waterville St

Attachments:
24SaintLawrence_20171019.JPG
24SaintLawrenceProposed_20171019.JPG

View this in your browser

October 19, 2017

24 St. Lawrence Street

… Read on

You are receiving this message because you are subscribed to New Development Review Project Notices on www.portlandmaine.gov. To unsubscribe, click the following link: Unsubscribe

----- Forwarded Message -----
From: New Development Review Project Notices <listserv@civicplus.com>
To: karsny@yahoo.com
Sent: Thursday, October 19, 2017 11:18 AM
Subject: New Newsflash 24 St. Lawrence Street For cp-stcity2.civicplus.com

PORT
ARCHITE

PC6a

Portland Maine Yes. Google's good here.

Jennifer Munson <jmy@portlandmaine.gov>

11/7/2017 Week - Efforts for Saving Munjoy Hill Neighorhood

Karen Snyder <karsny@yahoo.com> Tue, Nov 7, 2017 at 8:02 AM
Reply-To: Karen Snyder <karsny@yahoo.com>
To: Mary Casale <dirtgirl1@aol.com>, Douglas Martica <tica1529@gmail.com>, "Maggy W." <mswnola@gmail.com>, Pa Ag <pagopian1@yahoo.com>, Pamela Day <pday2304@gmail.com>, Pam Macomber <pam@ninestonesspa.com>, Barbara Vestal <vestal@chesterandvestal.com>, Ian Jacob <iancasperjacob@gmail.com>, Rob Whitten <rob@whittenarchitects.com>, Berry Manter <berrymanter@yahoo.com>, Peter Macomber <pbm@macomber.com>, Carol and Richard Stillwell <rstillwell@maine.rr.com>, Peter Murray <pmurray@gwi.net>, Jayne Hurley <jhurley@cspinet.org>, Stacy Mitchell <stacy.ilsr@gmail.com>
Cc: Jmy <jmy@portlandmaine.gov>

Hi All,

Since all of you were either at the Neighborhood Meetings for 25 Monument and/or 24 St. Lawrence last week, you realized that not one of us surrounding property owners was happy with both or either proposed development designs.

We ALL need to be consistent and voice our opinions to the city this week the following ways:

Action #1: Please send email to City-Planning Board/Planning Dept regarding 25 Monument and/or 24 St. Lawrence Neighborhood meeting (separate emails if you do both)

Send to: planningboard@portlandmaine.gov, jlevine@portlandmaine.gov, sgo@portlandmaine.gov; jmy@portlandmaine.gov
Copy: Anyone you wish and if you want Councilor Belinda Ray bsr@portlandmaine.gov

Action #2: Attend and voice your concern at the District 1 Meeting this Wedensday, 11/8/2017 at 6:30pm at East End Community School
- Please voice your concern at this meeting.

Action #3: Please send this email to anyone else you know that needs to get involved with this. The more of us Munjoy Hill property owners/tenants that group together to voice our concern, the more they will take notice.

If there are any questions, concerns or issues, please do not hesitate to contact me.

Regards,
Karen Snyder
72 Waterville

Google Groups

24 Saint Lawrence Street

Katherine Collins <collins.katherine.m@gmail.com> Nov 15, 2017 10:53 PM
Posted in group: **Planning Board**

Dear Elizabeth, Sean, David, Brandon, Carol, Maggie, and Lisa,

First of all, thank you for taking the time to sit on the planning board for this great city! It takes a team of dedicated and thoughtful individuals to successfully mange the growth and development of a community.

My letter is specifically in regard to the development planned for 24 Saint Lawrence Street.

As a member of the Munjoy Hill community for the past 10 years, it has been exciting to experience the revitalization of the hill in so many ways. As someone who lives and works in the city, I have felt so fortunate to be a part of such a beautiful and engaging neighborhood.

Something that continues to be concerning, however, is a trend away from multi-family units and houses towards luxury condos. It is no secret that the city, like many burgeoning cities across the country, is experiencing a housing crisis. During my tenure in Portland, I have lived in 7 separate apartments in the East End, all within a ½ mile radius. The first two bedroom I rented was $700 with heat included. Two bedroom apartments now, in the same area, have sky rocketed to $1500 or more within a decade. I see the affects of this first hand as someone who's job involves helping others secure housing. I scour craigslist regularly and with each month that passes it becomes harder and harder to find affordable housing in the city. A one-bedroom apartment is often over $1,000 and well beyond what is reasonable for the wages most Portlanders earn.

I understand, of course, that rents will naturally increase as communities develop and make space to include more individuals, however, this rapid expansion has many negative implications for the city as a whole.

- Part of what makes Portland charming and attractive is that it is accessible. It lends itself to being a small city that has the amenities of a big city while feeling like a neighborhood because it is made up of people who both work and live here. It's life blood is the lobstermen, restaurant workers, social workers, teachers, and hospitality workers who commute by foot or public transit to most of their places of employment. This is only possible while Portland retains its affordability, which it is already at risk of shedding. As a social worker myself, I brace myself with each move wondering if this will be the time that I cannot afford to stay in the city. And thankfully through much diligence I have found a handful of property owners committed to keeping Portland affordable. I've had at least two property owners say that they specifically want to keep the city economically diverse and try to manage their rent so that individuals with lower incomes can afford to live here, but that possibility is quickly dissolving. The more we allow luxury condos into the city the sooner we resign ourselves to losing our identify as a city as it will necessarily be filled by wealthy investors from away.

- With each new condo that goes up in residential neighborhoods, several other homes lose sunlight and "breathing room." This is especially true for the planned structure at 24 Saint Lawrence St. The potential new

building would be stories higher than the buildings surrounding it, blocking the light considerably and affecting the quality of life for those who live on either end.

- Additionally, the proposed architectural plan is massively out of sync with the character of the street and neighborhood as a whole. In the rendering, the building looks foolishly out of place. There are many opportunities to build new, efficient structures that fit the aesthetic of the neighborhood while still adding a modern flair, such as the Avesta buildings in the center of Munjoy Hill. Filling an entire lot with a condo building completely eliminates one of the reasons the neighborhood and city is so attractive: opportunity to utilize outside space.

For these reasons, please reconsider the approval of tearing down 24 Saint Lawrence Street in favor of a four-story luxury condo building.

Thank you for your time,

Katherine Collins

proud resident of Munjoy Hill!

PC8

Google Groups

Fwd: 24 Saint Lawrence Street Condo Project

Kelly Williams <kellyamaine@gmail.com> Oct 23, 2017 1:00 PM
Posted in group: **Planning Board**

Sent from my iPhone

Begin forwarded message:

From: Kelly <kellyamaine@gmail.com>
Date: October 23, 2017 at 12:13:25 PM EDT
To: "planningboard@portlandmainegov.com" <planningboard@portlandmainegov.com>
Cc: bsr@portlandmaine.gov, Will W <will@hrpmanagement.com>, William Savage <wsavage@acorn-engineering.com>
Subject: 24 Saint Lawrence Street Condo Project

Dear Planning Board members,

We are in receipt of Karen Snyder's email to your board and would like to clarify a few points.

We have lived at 24 St. Lawrence Street since 2004 and our daughter attended Portland Public schools. Prior to that we lived on Vesper Street and two other homes on the West End. If our development moves forward we will still be living at the property and returning one additional unit as a rental. So we are not reducing housing stock but rather adding it, at the same time with 6 car parking on site we would be reducing the number of cars parking on our street. Originally we looked into making changes to the existing building but found it not to be cost effective or meet our desired needs in the future, as we get older.

I wonder who exactly Ms Snyder is referencing when she speaks of local people? Our neighbor whom she is referring to is at 28 St. Lawrence Street, a two unit owned by an out of state owner with a New York address. They are not happy about losing some of their views and have made it clear to us that they would try to block us from moving forward before we even had any drawings or plans done. On the other hand, I AM the local person. I lived on Elmwood Street as a child and attended a local school that is no longer there. My father worked at Westbrook College when it was there and at UMPG before it became USM. We shopped for school clothes at Levinsky's and I remember the pool on the Hill. I am from "here".

As for Ms. Snyder's comments on modern architecture, I would guess that most people would find 118 Congress (end of our street) and 9-11 St. Lawrence Street to be much more modern design than ours. Almost behind our house sits Peter Bass's 3 unit building on Waterville, another building neighbors said didn't fit, but our neighbor Rob Whitten spoke out in their behalf during that time.

In terms of scale and fitting in with the neighborhood - you can see all over the hill there are new buildings- including on the next street, probably less than 500 feet away is 31 Fore Street, which our neighbors did not object to. We feel it is a " not in my backyard" push. 118 Congress Street, a 12 unit, was said to be too large for the space, but there it sits at the end of our street. There are other buildings on St. Lawrence Street that are comparable size to ours.
29, almost across the street is 6160 sq ft
47 (6 unit) 5659 sq ft
57 (7 unit). 9600 sq ft
65 (6 unit) 7040
On every street on the Hill there is a mix of large and small buildings, pitched roof, flat roof, new, old, single family, condo.....

My husband and I have worked hard for everything we have and have invested what is a lot of money to us, into this project.

In closing, this is our home, has been our home, and we want to continue to live here. So I

agree with Ms. Snyder, if preference is given (and again,we are not asking for any changes or variances- only want the same zoning rules that are being applied to other development in this area) it should be given to locals not people moving here that feel entitled to change the rules for their benefit. We greatly appreciate your taking the time to read this and for your consideration on this. Sincerely. Kelly and Will Williams

Sent from my iPad

PC9

Google Groups

Re: 24 St. Lawrence Street Neighborhood Meeting

Lynn Hallett <lhallett@townandshore.com> Nov 7, 2017 9:07 AM

Posted in group: **Planning Board**

Hello All,

I attended the neighborhood meeting regarding the proposed project at 24 St. Lawrence Street held last week at the East End school. This meeting was well-attended by neighbors from throughout the Munjoy Hill neighborhood. All those in attendance voiced deep concerns about the scope and aesthetics of the proposed project at 24 St. Lawrence.

Although the proposal fits within the guidelines set forth by the R-6 zoning rules, the building would be an aberration in terms of aesthetics, size and density. The proposed building would be roughly three times the square footage of the existing house. The number of inhabitants and vehicles would also increase by three-fold, at a minimum. The design of the proposed building is frankly offensive, as the street-side facade is a wall with small-scale windows and there is an absence of design elements that reflect the neighborhood's traditional lines.

This is a small and close neighborhood, and it is a quiet side street. It is a lovely mix of historic and 'modern' buildings. I will note that I live at 9 Saint Lawrence Street, which was constructed along with #11 in 2015. Although the style of my house may not be to everyone's taste, it is an architect's design that blends minimalist, modern aesthetics with traditional New England elements. The roofline and dimensions of the building are reflective of the colonial-style 'New Englanders' that line this street. The volume and occupancy of #'s 9-11 are consistent with the building that was formerly on the site.

Perhaps it is time to re-visit the decision to make the changes to the R-6 zone that have given rise to this hyper-development. It is my impression that these changes were intended to stimulate the construction of affordable housing.

As a realtor, I am a proponent of development. I am also cognizant of the fact that we must only approve development that is not detrimental to the quality of life in our City.

Thank you for your consideration of my thoughts and views.

Regards,
Lynn Hallett

--

LYNN HALLETT

Associate Broker / Owner

Town & Shore Associates, LLC

One Union Wharf

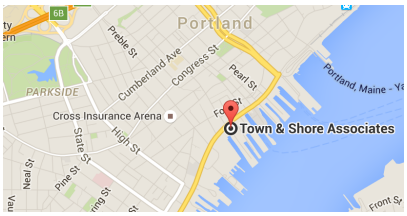
Portland, Maine 04101

c. 207-671-8187

lhallett@townandshore.com

www.townandshore.com

#1 Office In Sales Volume On Portland's Peninsula for 2016!



Google Groups

24 Saint Lawrence project

Maggy W <mswnola@gmail.com> Jan 4, 2018 9:40 AM
Posted in group: **Planning Board**

To City of Portland Planning Board.

I live at 28 Saint Lawrence Street, which abuts the 24 St. Lawrence Street property which is the site of the proposed project. I am very concerned about the proposed development at #24 for several reasons and request that the Planning Board deny site approval for the project as it is currently proposed.

1 - Primarily, it seems that the developer has ignored the rules delineated in the City's Design Manual in Appendix 7, the Design Principles listed in Section II, and the Alternative Design Review in Section IV.

"*Special attention shall be given to the existing buildings on both sides of the street within the block of the proposed site*."

And this: "*The Planning Authority may request that consideration be made of buildings in the neighborhood that are comparable in size, scale and use to that which is being proposed, or that consideration be made of the characteristics of buildings which were originally designed for a similar use to that which is proposed. The Planning Authority may determine other considerations that shall be made of the proposed building in relation to the neighborhood, due to unique characteristics of a given site.*"

Even the Alternative Design Review described in Section IV uses the same language above as well as the following:

"The guiding principle for new construction under the alternative design review is to be compatible with the
surrounding buildings in a two block radius, in size, scale, materials and siting, as well as the general character of the established neighborhood."

The proportions of the proposed building are hugely out of scale with the neighboring buildings, dwarfing them and robbing them of their own character. The "big box" design reflects none of the characteristics of the neighboring houses. This building will stick out not only in the streetscape up and down St. Lawrence Street but also from Waterville Street and

in the view of Munjoy Hill from the harbor, from where we currently see a harmonious pattern of houses stepping up the hill.

2. Historic character - . Many of the houses on the slope down to Fore Street pre-date the Great Fire of 1866 and are older even than most of the buildings in the Old Port; visitors to our city are very interested by this aspect of our unique neighborhood. If the Williams replace their 1850 house with something that is comparable in scale, at least we will preserve the historic character of the rest of the street. The proposed building will interrupt the existing roof lines and stick out like a sore thumb on the Munjoy Hill streetscape.

3. Loss of daylight - their proposed height would dwarf the building where I reside, although we are uphill from the proposed development. Currently the houses on the hill reflect the slope, with a gradual step up the incline of Saint Lawrence Street, allowing each uphill house to have a bit of daylight and "breathing room". The proposed building at 24 is designed to use the maximum height and minimum set-backs allowed by the zoning land use. This would mean that my 2nd floor apartment will be looking out on what amounts to an air-shaft with no view of the sky.

4. Retaining walls - currently the lots on this section of Munjoy Hill fit together like a jigsaw puzzle with interlocking retaining walls. If one of these walls collapses, there is a great risk that others will be compromised as well. There is a retaining wall separating the property at 28 Saint Lawrence from the proposed building, which if undermined in any way, could lead to serious damage to the 19th century house at #28.

For these reasons the proposed project should not receive site plan approval. In addition, as the Planning Board considers any possible redevelopment of this site, the following steps should be taken.

A. An elevation survey should be done prior to submittal of site plans. The renderings show that the rear lot has been elevated up to the level of the uphill retaining wall, which may lead to an erroneous average grade calculation. The current elevation of that parcel, which is 3-4 feet lower than the retaining wall should be used for height calculations.

B. An engineering study should be done of the areas of the site near retaining walls and no proposal should be considered that does not guarantee that those walls and neighboring properties will not be displaced or damaged.

I plan to attend any hearings scheduled on this application and to submit additional information for the Planning Board to consider in ruling on it. Please keep me advised of all filings in this case and of any workshops or hearings .

Sincerely,

Maggy Wolf

28 Saint Lawrence St, Apt 2

Portland, ME

Google Groups

24 St. Lawrence St.

Martica S. Douglas <mdouglas@dougden.com> Jan 8, 2018 1:26 PM
Posted in group: **Planning Board**

To City of Portland Planning Board:

As a 40+ year resident of Munjoy Hill, I write to ask the Board to deny approval of site plan for the project proposed for 24 St. Lawrence St. This building is an affront to residents of the street and the neighborhood.

The City's Design Manual states that an applicant has a "public responsibility to add to and enhance the neighborhood." The fact that the neighbors are up in arms over this proposal reflects the fact that the project not only would not enhance the neighborhood- it would despoil it.

The Manual requires an applicant to demonstrate that the proposal is consistent with five distinct "Design Principles." [App. 7, Section I: Purpose] The proposed design must be consistent with all five principles even under the Alternative Design Review, which states:

> **The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two block radius in terms of size, scale, materials and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.**

PRINCIPLE A relates to "Overall Context" and states:

> **A BUILDING DESIGN SHALL CONTRIBUTE TO AND BE COMPATIBLE WITH THE PREDOMINANT CHARACTER-DEFINING ARCHITECTURAL FEATURES OF THE NEIGHBORHOOD.**

Standards A-1, A-2, and A-3 identify the key components of Principle A as scale and form, composition of principal facades, and relationship to the street. Special attention must be given to the existing streetscape on both side of the street within the block of the proposed site. The proposed building is big box that dwarfs and crowds the neighboring buildings- like a big bully on the block to whom the rules do not apply.

PRINCIPLE B relates to “Massing” and states:

THE MASSING OF THE BUILDING REFLECTS AND REINFORCES THE TRADITIONAL BUILDING CHARACTER OF THE NEIGHBORHOOD THROUGH A WELL COMPOSED FORM, SHAPE AND VOLUME.

The explanatory note states**: “**Massing is a significant factor that contributes to the character of a building. The building’s massing (as defined by its bulk, size, physical volume, scale, shape and form) should be harmonious with the massing of existing buildings in a two block radius.” Again, the proposed building dwarfs and crowds the neighboring buildings- to say that its massing is harmonious is preposterous.

PRINCIPLE C relates to “Orientation to the Street” and states:

THE BUILDING’S FAÇADE SHALL REINFORCE A SENSE OF THE PUBLIC REALM OF THE SIDEWALK WHILE PROVIDING A SENSE OF TRANSITION INTO THE PRIVATE REALM OF THE HOME.

This building has no transition space, no clearly articulated street entrance, no porch, no stoop, no recessed entry- nothing to enhance pedestrian friendliness or the sociability of the streetscape. As originally designed, the building is dead to the street, presenting the neighbors with two stairwells and an elevator shaft.

PRINCIPLE D relates to “Proportion and Scale” and states:

BUILDING PROPORTIONS MUST BE HARMONIOUS AND INDIVIDUAL BUILDING ELEMENTS SHALL BE HUMAN SCALED.

PRINCIPLE E relates to “Balance” and states:

THE BUILDING’S FAÇADE ELEMENTS MUST CREATE A SENSE OF BALANCE BY EMPLOYING LOCAL OR OVERALL SYMMETRY AND BY APPROPRIATE ALIGNMENT OF BUILDING FORMS, FEATURES AND ELEMENTS.

This building is just a giant box designed in accordance with an entirely different “Principle:” hogging every square inch to maximize sellable living space. There is nothing balanced or harmonious about the proposed building.

Aesthetics have been entirely sacrificed to this Principle, as has respect for the neighbors and the neighborhood. No effort has been made to accommodate the needs of the immediate neighbors for space and sunlight.

Again, an applicant must demonstrate that the proposed design is consistent with all five of the above principles under both standards of review set forth in the manual. The applicant cannot make this showing with the project as proposed.

For the sake of the neighborhood and the neighbors, I ask that you deny approval for the proposed site plan.

Thank you for considering my views.

Tica Douglas

11 Munjoy St.

PC11a

Google Groups

Re: 24 St. Lawrence St.- proposed 5 condo project

me <jmy@portlandmaine.gov> Dec 4, 2017 8:23 AM
Posted in group: **Planning Board**

Good Morning,

Thank you for your e-mail. Your public comment will be included in the review and will become part of the public record.

If you have any further questions, please contact me.

Jennifer Munson, Office Manager
Planning and Urban Development Department
4th Floor, 389 Congress Street
Portland, ME 04101
Phone: (207)874-8719
Email: planningboard@portlandmaine.gov

On Saturday, December 2, 2017 at 4:24:27 PM UTC-5, Martica S. Douglas wrote:

> Dear Planning Board:
>
> I write to urge you to deny the pending application to tear down the 2-family house at 24 St. Lawrence St. and put up a 5-condo complex. The proposed building is grossly disproportionate to the surrounding buildings—it's like a bully on the block- elbowing the neighbors on both sides out of its way- towering over them, encroaching on their space- stealing their sunlight. It's destructive of neighborhood integrity and ignores unique neighborhood characteristics, both of which have consistently been identified as important values in Portland's planning documents, including, e.g. the Eastern Waterfront Master Plan and the 2017 Comprehensive Plan. It's also just plain ugly.
>
> At one of the neighborhood meetings even owner Will Williamson admitted that the proposed building was "not the greatest looking building." Its "design" is clearly dictated solely by maximizing dollars. It turns its back on the street. Stairwells and an elevator shaft are presented street-side.
>
> I suggest that in the course of reviewing this project you all walk up St. Lawrence street. It's a beautiful street- the houses are mostly 19th century—most have small yards, front steps, and respect their neighbors' space and light and air. There are also a few newer buildings that integrate well into the existing architectural fabric. I understand that not all older buildings can or should be preserved-- some are not in good condition- others may have little historic value- but new buildings should bear some correspondence to the height and mass of the surrounding buildings.
>
> Please send these folks back to the drawing board with a directive to reduce the number of units to 3; to have the building face the street so that passers-by can see signs of life, and to incorporate design features that relate to the other buildings on the street.
>
> Thank you for your time and attention.

Tica Douglas

11 Munjoy St.

PC12

Martica Sawin
Fitch House LLC
28 St. Lawrence Street
Portland, ME 04101

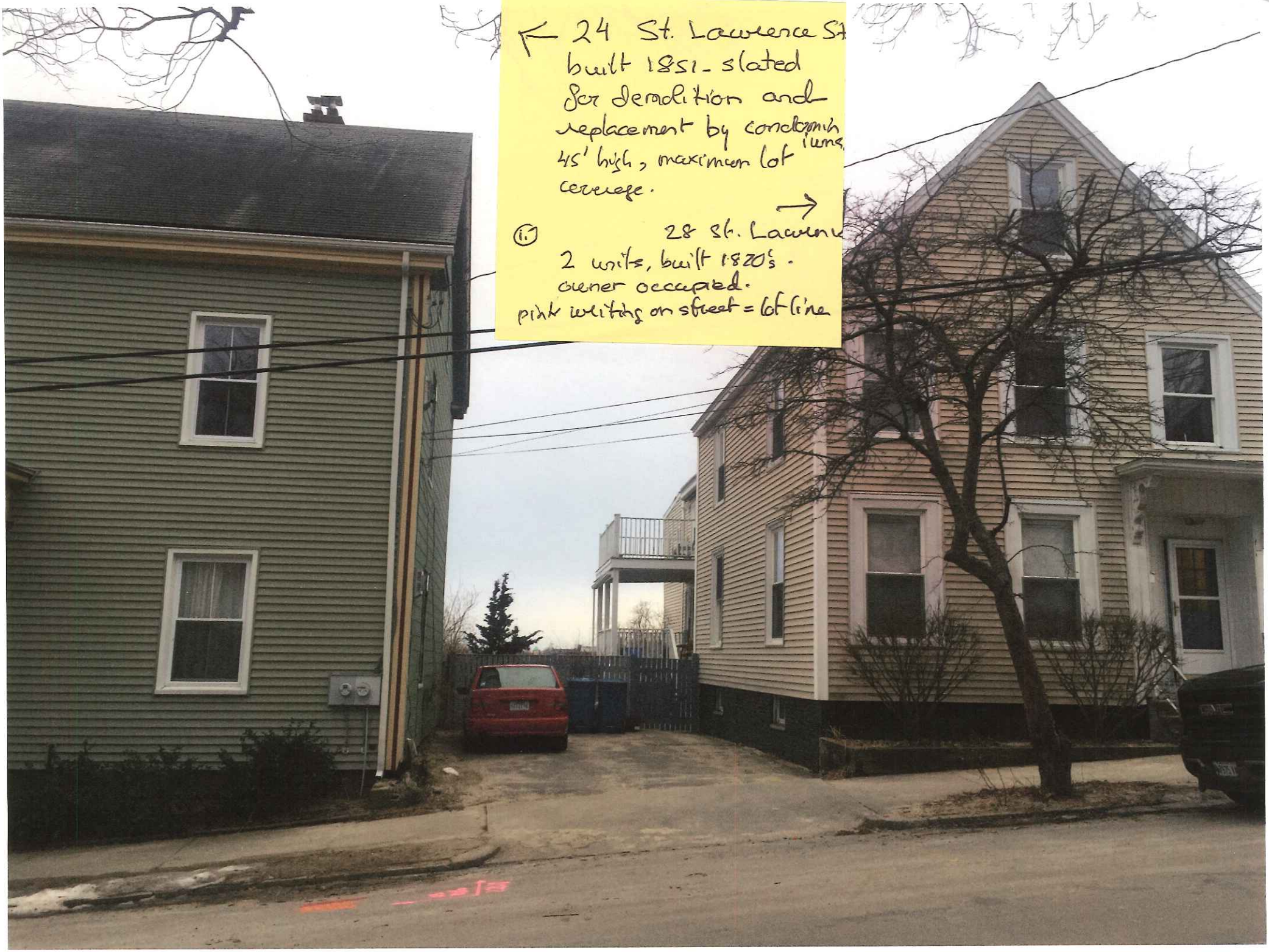
February 23, 2018

To: City of Portland Planning Board
Re: Application ID# 2017-242

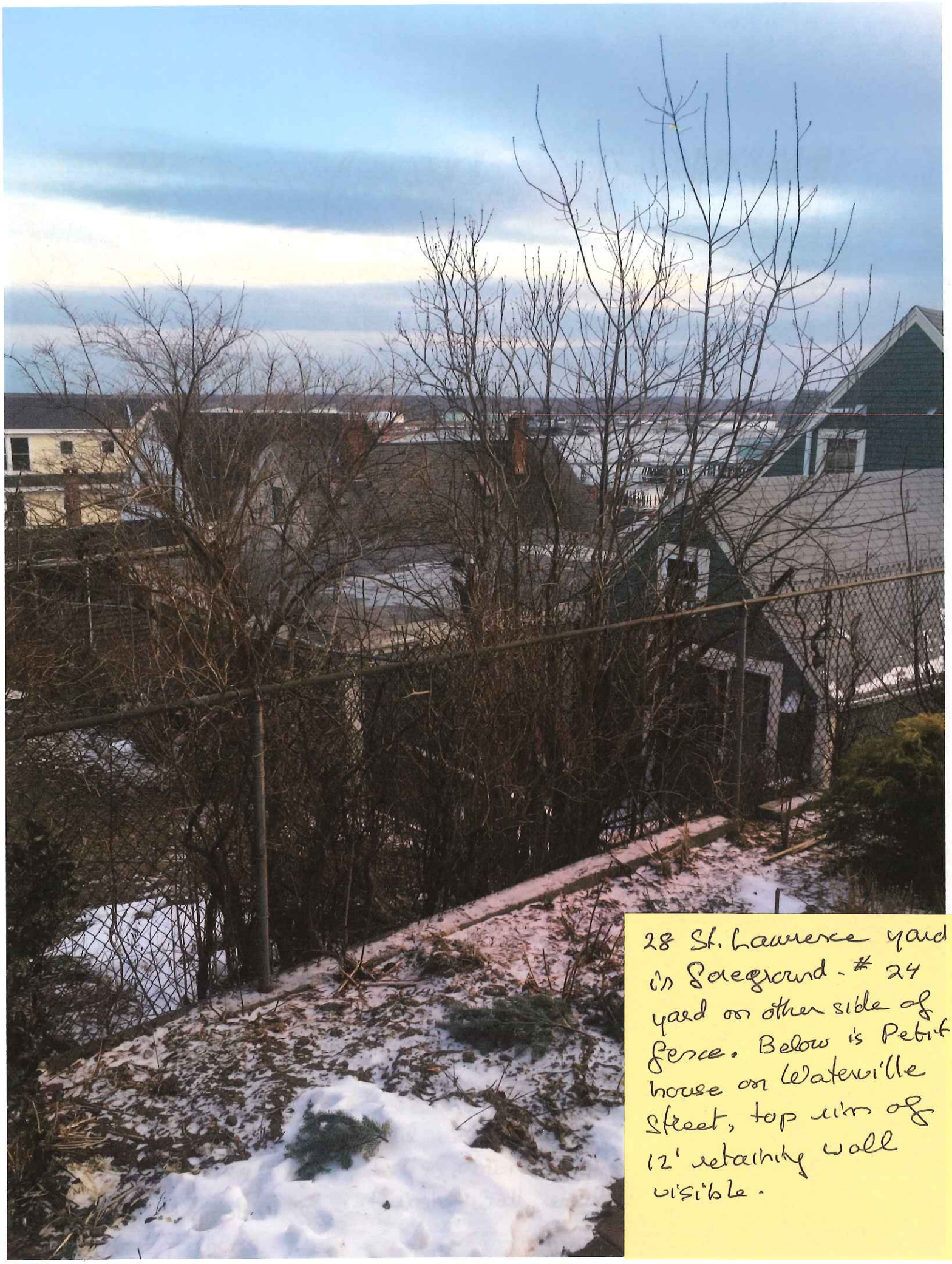
I have previously written to the Planning Board regarding plans filed with the city to demolish the 2 - unit building #24 St. Lawrence Street and replace it with a 45' high 6 condominium building. As the closest abutter, at 28 St. Lawrence, there are numerous ways in which my property will be negatively affected, but my most immediate concern is the proposed removal of a 30' concrete retaining wall along the boundary between #24 and #28, built in 1973 by the previous owners of #28 and long considered to be on their property. Removal would result in the collapse of one yard into another and on-going problems with erosion and run-off. Enclosed are recent photographs that may clarify my earlier written explanation of the necessity of keeping this wall in place.

Thank you for your consideration.

Martica Sawin


← 24 St. Lawrence St
built 1851 - slated
for demolition and
replacement by condominium
45' high, maximum lot
coverage.
→ 28 St. Lawrence
2 units, built 1820's.
owner occupied.
pink writing on street = lot line

24 St. Lawrence Street, northwest corner, fence + concrete wall built in 1973 by previous owners of 28 St. Lawrence on land always assumed to be part of #28 lot. Fence runs 30', imbedded in concrete wall ranging from 30" to 48", above ground height.



28 St. Lawrence yard is foreground. # 24 yard on other side of fence. Below is Petit house on Waterville Street, top rim of 12' retaining wall visible.

PLAN NOTES:

1) THE OWNER OF RECORD IS FITCH HOUSE, LLC.

2) THE DEED OF RECORD IS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 23732 PAGE 44.

3) THE CADASTRAL REFERENCE IS CITY OF PORTLAND TAX MAP 18 BLOCK J LOT 5.

4) THE PARCEL DOES NOT FALL IN A "SPECIAL FLOOD HAZARD AREA" PER F.E.M.A. SEE COMMUNITY #230051 PANEL #0014B, EFFECTIVE DATE JULY 17, 1986.

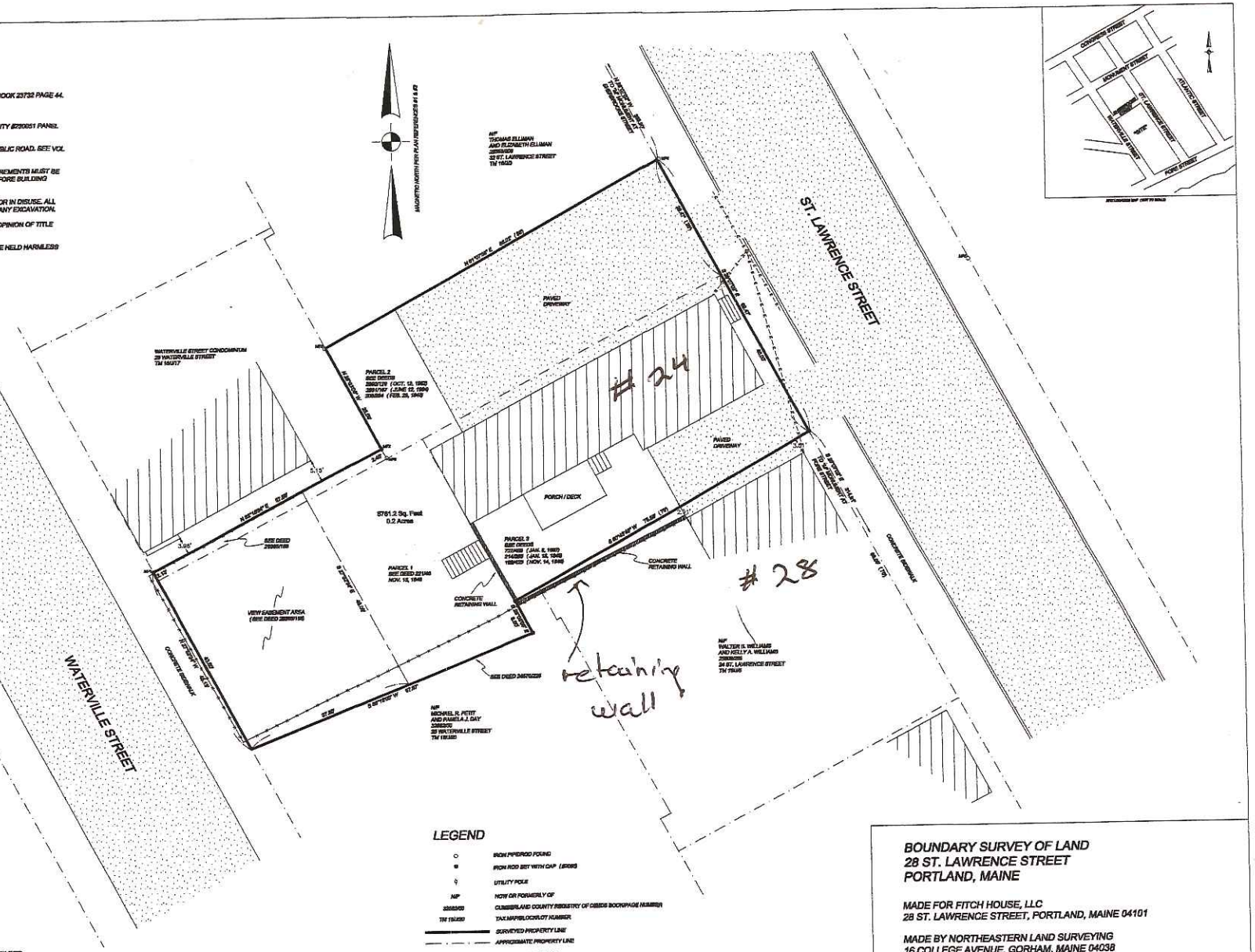
5) WATERVILLE STREET ST. IS A 50' WIDE PUBLIC ROAD. ST. LAWRENCE STREET IS A 50' WIDE PUBLIC ROAD. SEE VOL #1 PG. 79 ACCEPTED OCTOBER 14, 1946.

6) ZONING: THE PARCEL IS IN THE "R-6" ZONE. AN OFFICIAL ZONING DETERMINATION AND REQUIREMENTS MUST BE OBTAINED FROM THE CITY OF PORTLAND AND ALL OTHER APPLICABLE REGULATORY BODIES BEFORE BUILDING IMPROVEMENTS OR CONVEYING LAND OR INTEREST.

8) UTILITY LOCATION SHOWN IS APPROXIMATE. THIS PLAN MAY NOT SHOW ALL UTILITIES USED OR IN DISUSE. ALL APPROPRIATE OFFICES AND THE "DIGSAFE" PROGRAM SHOULD BE CONTACTED BEFORE DOING ANY EXCAVATION.

10) THIS PLAN IS NOT INTENDED TO DEPICT LIMITS OR EXTENTS OF FEE TITLE OWNERSHIP. AN OPINION OF TITLE SHOULD BE RENDERED BY AN ATTORNEY.

10) NORTHEASTERN LAND SURVEYING AND THE SIGNING SURVEYOR RESERVE THE RIGHT TO BE HELD HARMLESS FROM ALL THIRD PARTY CLAIMS.



PLAN REFERENCES:

1) "BOUNDARY SURVEY AT 28 LAWRENCE STREET, PORTLAND, MAINE MADE FOR FITCH HOUSE, LLC" BY OWEN HASKELL, INC. AND DATED JULY 6, 2006. UNRECORDED.

2) "CONDOMINIUM PLAT AND BOUNDARY SURVEY, THE GOOD YELLOW HOUSE CONDOMINIUM AT 18 ST. LAWRENCE STREET, PORTLAND, MAINE" BY BACK BAY BOUNDARY AND DATED OCTOBER 6, 2006. RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 208 PAGE 808.

3) "CONDOMINIUM PLAT, WATERVILLE CONDOMINIUM, 29 WATERVILLE STREET, PORTLAND, MAINE" BY OWEN HASKELL AND DATED MARCH 20, 2008. RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210 PAGE 387.

4) "BOUNDARY AND TOPOGRAPHIC SURVEY AT 24 ST. LAWRENCE STREET, PORTLAND, MAINE. MADE FOR RECORD OWNER WALTER S. & KELLY A. WILLIAMS" BY OWEN HASKELL AND DATED NOVEMBER 30, 2016. UNRECORDED.

LEGEND

- IRON PIPE/ROD FOUND
- IRON ROD SET WITH CAP (ES#)
- UTILITY POLE
- MP — NOW OR FORMERLY OF
- 2839/200 — CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK/PAGE NUMBER
- TM 18/J/22 — TAX MAP/BLOCK/LOT NUMBER
- SURVEYED PROPERTY LINE
- APPROXIMATE PROPERTY LINE
- EXISTING WOOD FENCE
- VIEW EASEMENT BOUNDARY
- EXISTING CHAIN LINK FENCE
- OVERHEAD UTILITY LINE
- BITUMINOUS PAVEMENT
- EXISTING BUILDINGS

MONUMENTATION FOUND
(FIELD EVIDENCE)

MF1) IRON ROD 1" TALL
MF2) IRON ROD W/CAP "OWEN HASKELL #1252"
MF3) IRON ROD W/CAP "WAYNE WOOD #1328"
MF4) 1.5" IRON PIPE 2" BELOW GRADE
MF5) NAIL W/DISC "OWEN HASKELL #1252"
MF6) 1" IRON PIPE 16" BELOW GRADE

BOUNDARY SURVEY OF LAND
28 ST. LAWRENCE STREET
PORTLAND, MAINE

MADE FOR FITCH HOUSE, LLC
28 ST. LAWRENCE STREET, PORTLAND, MAINE 04101

MADE BY NORTHEASTERN LAND SURVEYING
16 COLLEGE AVENUE, GORHAM, MAINE 04038

FEBRUARY 6, 2017 JOB #17-006 SHEET 1 OF 1

SCALE 1" = 10'

0' 10' 20' 30'

QUALIFIED SEAL
(PLAN NOT VALID WITHOUT)

2nd SEAL

STATE OF MAINE
EUGENE SCHLEH
1252
REGISTERED
LAND SURVEYOR

I HEREBY STATE TO FITCH HOUSE, LLC ALONE AND EXCLUSIVE OF ALL THIRD PARTIES, THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS PLAN SUBSTANTIALLY CONFORMS WITH THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS RULES EFFECTIVE APRIL 1, 2001

EUGENE SCHLEH PLS #1252

COPYRIGHT 2017 NORTHEASTERN LAND SURVEYING
ALL RIGHTS RESERVED

PC12b

Google Groups

Application ID#2017-242

Martica Sawin <m.sawin@verizon.net> Oct 24, 2017 12:18 PM
Posted in group: **Planning Board**

To: planningboard@portlandmaine.gov
regarding Application ID# 2017-24

This letter is in response to the application to build a four-story building at 24 St. Lawrence Street. I am the sole owner of Fitch House LLC at 28 St. Lawrence Street, a 2 unit building, ca. 1875, which directly abuts the site in question. (16-J-5) The proposal to demolish the building at 24 St. Lawrence Street and to replace it by a building of twice the bulk and an additional story in height has serious consequences for my property. I had acquired the property in 2006 with intention of building a demonstration solar-powered house on the urban renewal lot (25-27 Waterville Street) attached to the original house lot. Although the 1975 deed stated "for purposes of urban renewal," permission to build on that lot was denied by the zoning administrator. In the existing house there has been a tenant in the first floor apartment since 2007 and since 2013 the second floor has been occupied by my widowed daughter.

When the tenant's lease expired on Oct. 1, 2017 I began minor renovations to make the first floor apartment handicapped accessible so I could move into it myself. I am 88 years old and have degenerative spinal stenosis and am looking forward to living in it as my retirement home. The proposed new building will effectively block the sunlight from the first floor and considerably darken the second floor, porch and side-yard garden. In addition I and my tenant will be subjected to many months of noise, dust and debris from demolition and construction ten feet from our windows. Plans made with Revision Energy for solar panels on the roof will have to be cancelled. According to a current appraisal, the blocking out of the prospect from this hillside site will result in a considerable loss in property value.

Just as disconcerting as the personal loss is the disregard for St. Lawrence Street itself, a tree-lined residential street of largely later 19th century buildings of fairly similar proportions (with the exception of recent construction at the corners of Congress and Fore Streets).
The Williams luxury condominium project is drastically out of scale and would be an intrusive presence on one of the streets that give Portland its distinctive character.

The recent changes in the R6 zoning regulations fail to take into account the neighborhood impact of so much potential new construction. Clearly modifications and additional provisions are called for if the intended purpose of zoning and planning is to be observed.

Submitted by Martica Sawin, Fitch House LLC
28 St. Lawrence Street, Portland, ME 04101

PC12c

Google Groups

ID#2017-24 Proposed construction at 24 St. Lawrence Street

Martica Sawin <m.sawin@verizon.net> Dec 5, 2017 11:34 AM

Posted in group: **Planning Board**

Boundary and Retaining Wall Problems at #24 St. Lawrence Street (owner Kelly and Walter Williams) and #28 St. Lawrence Street (owner Fitch House LLC, sole proprietor Martica Sawin.)

Having examined the site plan for the proposed construction at #24 St. Lawrence Street and met with the project manager for the new building, I would like to bring the following to the attention of the Portland Planning Board:

The existing 2 family building at 24 St. Lawrence Street stands part way down the slope followed by St.Lawrence Street as it runs from Congress Street to Fore Street. The 2 unit building on the abutting property, 28 St. Lawrence Street, stands up hill from #24, separated by a 10' wide parking area near the street, then by a concrete retaining wall running 33' west along the property line . Frederick and Lorraine Ruminski purchased #28 St. Lawrence Street in 1967. In 1973 they constructed a reinforced concrete retaining wall where there was a sharp drop-off between the two properties due to the ledge and boulders that run along the entire ridge. A chain-link fence was embedded in this wall. The wall starts at the northwest corner of the Williams' house and runs west 33', increasing in height from 30" to 44" (not including the buried portion) During the intervening 44 years the concrete retaining wall was accepted as part of the #28 lot. Now, however, the Williams' plans as filed include removing the retaining wall. Due to the slope of the land removal of the wall would have serious consequences for both properties and would result in the collapse of the yard at #28 into the yard at #24, subsequent continuous downward pressure of soil, water, and shifting boulders and a threat to the stability of the foundation of the #28 building.

In 2006 the Ruminski property was purchased by Fitch House L.L.C. At this time Fitch House L.L.C. commissioned a boundary survey from John Schwanda of Owen Haskell, Surveyors. On July 6, 2006, Owen Haskell Inc. submitted a "report of survey." It included the following paragraph:

"The deed descriptions for this lot are vague. It appears that very little, if any, surveying was done on any of these lots. The Portland Renewal Authority bought and later sold some of these lots. It appears that little surveying was done at that time and the deed vagueness was perpetuated." On the accompanying map several "possible deed lines" are indicated.

Obviously before any demolition can start, ownership of the retaining wall should be resolved. More important the consequences of its removal as shown in the site plan need to be taken into consideration
and measures for remediation stipulated, along with appropriate waivers of liability for #28.

Thank you for your consideration.

Martica Sawin
28 St. Lawrence Street
Portland, ME 04101

October 24, 2017

RE: Application ID# 2017-242

City of Portland Planning Board:

We have received notice from the City of Portland Planning Division regarding the site plan application of Kelly and Walter Williams to build a four-story building for five residential condominiums at 24 St. Lawrence Street.

We are writing to voice our concerns and opposition to this project. We believe such a structure poses a threat to the safety and authenticity of several abutting properties, including our own at 25 Waterville Street. Approximately 80' feet border directly on the property to be developed. The area is defined by two steep hills which drain directly onto our property including a rock wall that separates 24 St. Lawrence and 25 Waterville Street. We believe the stability of the wall would be seriously jeopardized by such a large undertaking, moving earth, foundations, drilling, etc. While the wall appears secure in its current usage, we do not think it could withstand heavy construction within feet of it.

The wall rests a few inches from a portion of our home and if it collapsed it would surely plunge into our house. Further, any damage to the wall would require an intervention from Waterville Street which is currently inaccessible because of a unique stone 2 car garage which fronts the street and completely blocks access to the rear. We anticipate that the cost of repairing the wall, should it collapse, would be very high. This, in addition to possible harm to people living here and existing structures, is of great concern.

In reviewing the documents, we have not seen reference to an engineer's assessment of the stability of the wall and surrounding property. Clearly, such an assessment by a neutral party will be essential before any further actions are taken.

In addition to these critical safety concerns, it is important to note that the proposed project would replace an historic home and that the surrounding homes are also historic and well maintained, as opposed to "tear downs." In view of the historic nature of the neighborhood, we believe that the size and scope of the proposed project is ***contrary*** to several key elements of the City of Portland Comprehensive Plan, including:

- Maintaining and enhancing the integrity of our neighborhoods.
- Stabilizing and enhancing historic areas of the city by ensuring quality investment in existing structures and compatible infill development.
- Promoting historic preservation as a key economic, sustainability and community development strategy.
- Ensuring an appropriate balance of continuity and change as Portland grows and evolves.

We are including one photo of the wall and will send additional photos shortly. We urge members of the Planning Board and staff to visit the development site and to evaluate for themselves the precarious nature of the wall and the lack of fit between this proposed building and the surrounding neighborhood.

Please keep us apprised of all developments.

Sincerely,

Michael Petit and Pamela Day
25 Waterville Street
Portland 04101
207-229-4372; Mpetit417@gmail.com
207-461-1461; Pday2304@gmail.com

Google Groups

RE: Application ID# 2017-242

Pamela Day <pday2304@gmail.com> Jan 3, 2018 11:25 AM
Posted in group: **Planning Board**

City of Portland Planning Board:

We are writing to voice our continued concerns and opposition to the site plan application of Kelly and Walter Williams to build a four-story building for five residential condominiums at 24 St. Lawrence Street.

As noted in our letter of October 24, 2017, the proposed structure raises serious concerns about the security and safety of several abutting properties, including our own at 25 Waterville Street. Our immediate personal concern is that a 15' high stone retaining wall between our two properties could collapse during construction activities near the boundary, damaging our home. This could result in physical harm to individuals and a cost likely in six figures to rebuild the wall. We are including an additional photo of the retaining wall for your reference.

We also oppose the scale, mass and form of the proposed structure and the negative impact such a structure would have on this neighborhood of single and dual-family homes.

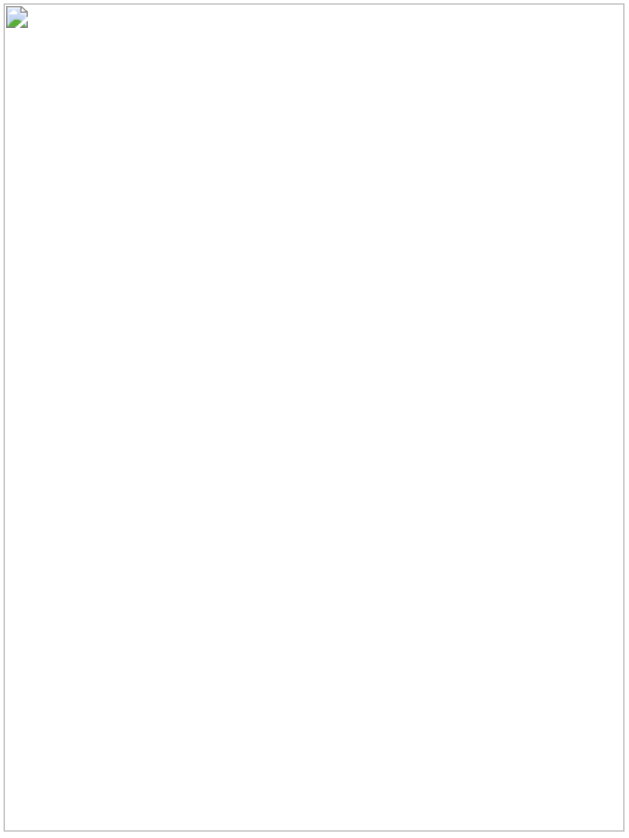
Please inform us of all meetings regarding this application. We plan to appear at hearings and to present additional information at that time.

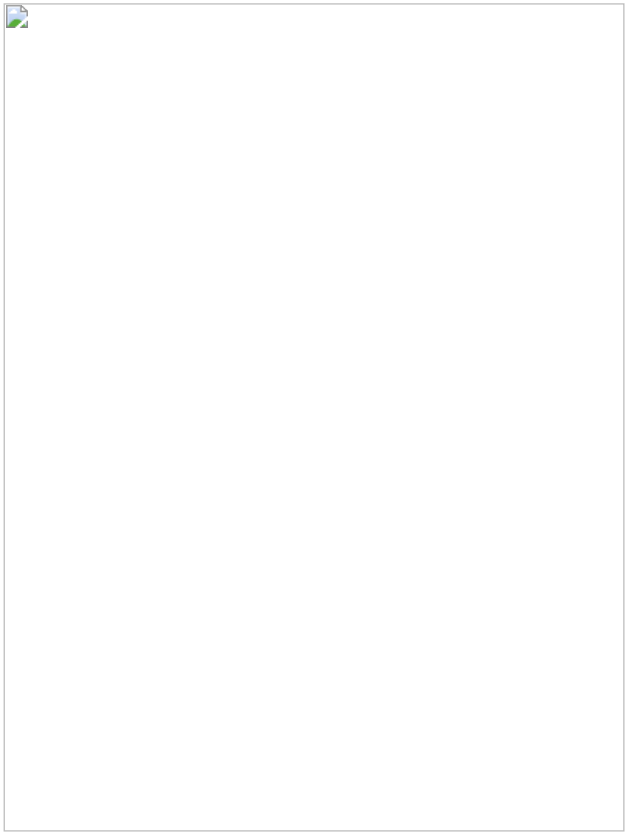
Thank you for your attention to this matter.

Sincerely,

Michael Petit and Pamela Day
25 Waterville Street
Portland 04101
207-229-4372; Mpetit417@gmail.com
207-461-1461; Pday2304@gmail.com

Retaining wall between 25 Waterville Street and 24 St. Lawrence Street





January 22, 2018

Re: Application ID# 2017-242

City of Portland Planning Board:

We are writing to provide additional information regarding the retaining walls between 24 St. Lawrence Street and our properties at 25 Waterville Street and 28 St. Lawrence Street, and to reiterate our opposition to the proposed project. As described in our previous correspondence, these retaining walls provide critical protection to both of our properties and are at risk because of the proposed construction. We are attaching engineering reports from Casco Bay Engineering and Summit Geoengineering Services. The reports raise questions and concerns regarding the proposed project and discuss potential impacts and other factors that need to be addressed by the applicant.

We ask that the Planning Board require the applicant to do the following:

- Prepare and submit a plan to address these questions and concerns, including a complete engineering study to determine whether the proposed structure can be safely constructed along our boundaries and under what conditions it would be safe to build, if at all.
- Guarantee that there will be no damage to our properties from the building itself, the weight of the building to be added to the lot, or related construction activities.
- Develop a written agreement that clearly states how the applicant will remedy any damage that does occur to the walls and adjacent properties.
- Obtain a bond to secure their guarantee.

Thank you for your attention to our concerns.

Respectfully,

Pamela Day and Michael Petit
25 Waterville Street
Portland 04101
Pday2304@gmail.com

Martica Sawin
(sole owner, Fitch House, LLC)
28 St. Lawrence Street
Portland 04101
m.sawin@verizon.net

CASCO BAY ENGINEERING

CIVIL & STRUCTURAL ENGINEERING
www.cascobayengineering.com

424 Fore St., Portland, ME 04101 Phone 207.842.2800 Fax 207.842.2828

January 18, 2018

Ms. Pamela Day
25 Waterville Street
Portland, ME 04101

Martica Sawin
28 St. Lawrence Street
Portland, ME 04101

Re: Existing Stone/Concrete Retaining Wall Observation
25 Waterville Street and 28 St. Lawrence Street, Portland, Maine

Project Number: 18-003

Dear Pamela and Martica:

Eric Dube, P.E. of Casco Bay Engineering made a site visit to observe the existing retaining wall at the above referenced property on January 3, 2017. The purpose of the field visit was to observe the condition of the existing retaining wall and to render an opinion.

The existing retaining wall is comprised of variable types and sized stone with some concrete mixed in and also has some areas that are comprised of concrete. The depth of the wall into the existing earth is unknown at this time. The wall is approximately 80 feet long along the 25 Waterville Street property line, directly behind the existing building(s), the wall has a 90 degree jog for approximately 5 feet and then extends another 40 feet behind the 28 St. Lawrence Street property. The wall travels in the Southeast to Northwest direction and varies in height from approximately 8 feet high to 15 feet high directly behind the rear buildings. There are multiple 4 inch tile foundation drain stubs that extend through the wall. It is unknown if there is a drain line that exists behind the wall that potentially provides appropriate drainage relief. The wall is approximately 12 to 18 inches behind the rear building wall at 25 Waterville Street and the wall supports the rear building wall at 28 St. Lawrence Street. The retaining wall appears to be in adequate condition at this time.

I understand that a new 4 to 5 story building is planned to be constructed directly adjacent to the existing rear retaining wall within the next year and you both have specific concerns with regards to the performance of the wall during and after construction. The preliminary site application shows a location of the proposed building but does not give specific foundation details for the proposed construction. The proposed foundation design for the new building is a crucial design factor and will most likely impact the existing stone retaining wall. The following comments discuss possible impacts and other factors that need to be addressed before and/or during the adjacent construction:

1. The depth and proximity of the excavation will most likely impact the wall and needs to be thoroughly planned before the start of construction.
2. The depth of the proposed concrete foundation could impact the existing wall in a negative way if the influence line of the proposed footing is not located below the existing stone wall.

3. If vibratory equipment, pile driving or other similar type equipment is used during the proposed adjacent construction this could negatively impact the structural integrity of the existing retaining wall.
4. If existing tile drains behind the wall are impacted during construction this could negatively impact the future performance of the existing stone retaining wall.
5. Other miscellaneous impacts during construction may be unforeseen and may lead to ongoing future impacts to the existing retaining wall.

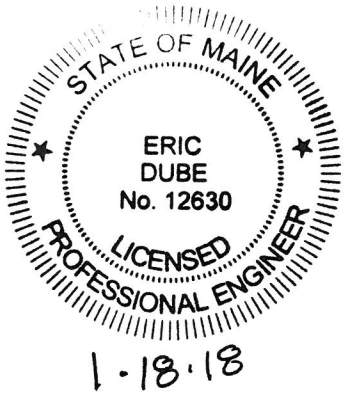
In my professional opinion, prior to any groundbreaking on this project, the developer of the 24 St. Lawrence property should prepare and submit a plan to address the above noted concerns. In addition I recommend that you should have a written agreement in place that clearly states what will happen if any damage occurs either during or after construction. Possible damages to property such as, but not limited to, could be a partial or total collapse of the wall or damage to the adjacent existing structure(s). Please also note that photo documentation and a survey of the existing wall before adjacent construction starts is highly recommended.

Please note that our observations and recommendations should be understood in the context that they are preliminary in nature. The retaining wall structure was not analyzed. Our report is based on visual observations only and should any unforeseen conditions present themselves, our conclusions may change accordingly.

Please let us know if you have any questions.

Sincerely,

Eric Dube, P.E.
Casco Bay Engineering



1·18·18

SUMMIT
GEOENGINEERING SERVICES

November 6, 2017
SGS #17329

Rob Whitten
23 St Lawrence Street
Portland, Maine 04101

Reference: Retaining Wall Evaluation, 23 to 25 Waterville Street, Portland, Maine

Dear Mr. Whitten;

Summit Geoengineering Services (SGS) has completed our evaluation of the existing retaining wall located at the back or north side of the 25 Waterville Street property. The following letter is a summary of our observations and evaluations.

Existing Conditions

The portion of the wall evaluated extends from the northwest corner of the 25 Waterville Street (Tax Map G10SE Lots 016 J020 and 016 J021) to the southeast corner. For the purposes of this report the wall in the northwest corner of the site will be referred to as the western section and the wall section in the southeast corner of the property will be referred to as the eastern section.

The existing wall is separated into three construction types. The eastern portion (first portion) of the wall consists of cast in place concrete. The exposed portion of this wall was about 4.5 feet high. The exposed concrete was in good condition and no cracks or tilting was observed. It is not clear how far this portion of the wall extends below grade. Stacked rock and soil fill was present to a height of 7 feet below the exposed face of this wall section.

The second wall portion (middle section) located directly behind the house is a segment about 21 feet long and consists of a 4.5 feet tall wall over what appears to be a cast in place concrete wall approximately 2 feet thick. The 2 foot thick concrete wall abuts the back of the existing house and appears to extend to the ground surface on the southeast side of the house. This section of wall was not fully accessible. The eastern 15 feet of the upper 4.5 foot wall appears to be cast in place concrete, similar to the eastern portion of the wall. The last 7 feet of this segment consists of a rock wall. The rocks appear to be dry laid with no mortar. A concrete cap has been placed on the dry laid rock section.

The third segment (eastern portion) of the wall consists of a rock and mortar wall with a cast in place concrete cap. The wall extends up 11.5 feet from the surface of a raised bed. The

bed height is about 3 feet. The base of the wall is unknown, but we expect that the wall extends below the bottom of the raised bed. There are a significant number of various size pipes penetrating this wall. The sources of water flowing through these pipes is unknown. The wall appears to have been repointed recently. There is a small crack located in the concrete cap at about the halfway point on this wall. The crack in the cap appears to extend a short distance into the rock and mortar wall. This wall is in good condition overall.

Evaluation

The eastern or first portion of the cast in place concrete wall section is in good condition. This wall is nearly plumb and no cracks or significant deterioration were observed. The thickness, total height, and embedment depth of this wall is not known. This wall appears to be stable in its current condition.

The wall section behind the house (second portion) was not fully accessible and could not be fully evaluated. The eastern 15 or so feet of this wall appears to be cast in place concrete extending from the first wall portion. The concrete appears to be in good condition and overall this section of wall appears to be stable. The last 7 feet of this segment consists of dry laid rocks (no mortar). This wall segment also appears to be stable in its current condition. The underlying 2 foot thick concrete wall was inaccessible.

The eastern wall section is in good condition. There does not appear to be any unstable or structurally unsound portions. In general it is stable in its current condition.

In summary, the existing retaining wall is composed of varying materials and is of varying geometry's and heights. All three wall segments appear to be in good condition for their age and we have no concerns about their overall stability under the current conditions.

Recommendations

We understand that a new multi-story residential building will be constructed on the lot at 24 St Lawrence. The subject retaining wall forms or is close to the back property line of this lot. The two items that could affect the stability of the existing wall are loadings from new wall footings and loads and disturbance from activities during construction of the new building. Of particular concern is the section of dry laid rocks behind the existing house. Construction loadings, vibrations, impacts, and other construction activities may have a significant effect on the condition and stability of the existing wall. Failure of this section of wall will cause significant damage to the adjacent property, especially the existing back wall of the house.

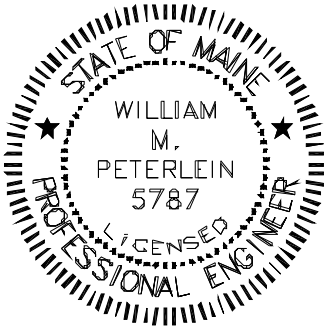
We strongly recommend that the developer of the 24 St. Lawrence Street lot retain the services of a geotechnical consultant to do a more thorough evaluation of the existing retaining wall and evaluate the effects of new building loads and construction activities on

its condition and stability. Information on the composition of the soil behind the existing wall should be obtained as part of this investigation. This investigation should be completed prior to the beginning of construction of the new development.

If there are any questions, please contact me.

Respectfully Submitted,
Summit Geoengineering Services, Inc.

William M. Peterlein, P.E.
President & Principal Engineer



SUMMIT
GEOENGINEERING SERVICES

PHOTOGRAPHIC LOG

Project Name:	**Project No.**
Retaining Wall Evaluation, 25 Waterville Street, Portland	17239

Photo No. 1

Date: 11-1-2017

Description:

Existing wall on the western side of the house at 25 Waterville Street.

Photo No. 2

Date: 11-1-2017

Description:

Wall section directly behind house. Note the rocks of the wall in the foreground appear to be loosely placed (no mortar).

SUMMIT
GEOENGINEERING SERVICES

PHOTOGRAPHIC LOG

Project Name:	**Project No.**
Retaining Wall Evaluation, 25 Waterville Street, Portland	17239

Photo No. 3

Date: 11-1-2017

Description:

Eastern section of wall on the 25 Waterveille Street property.

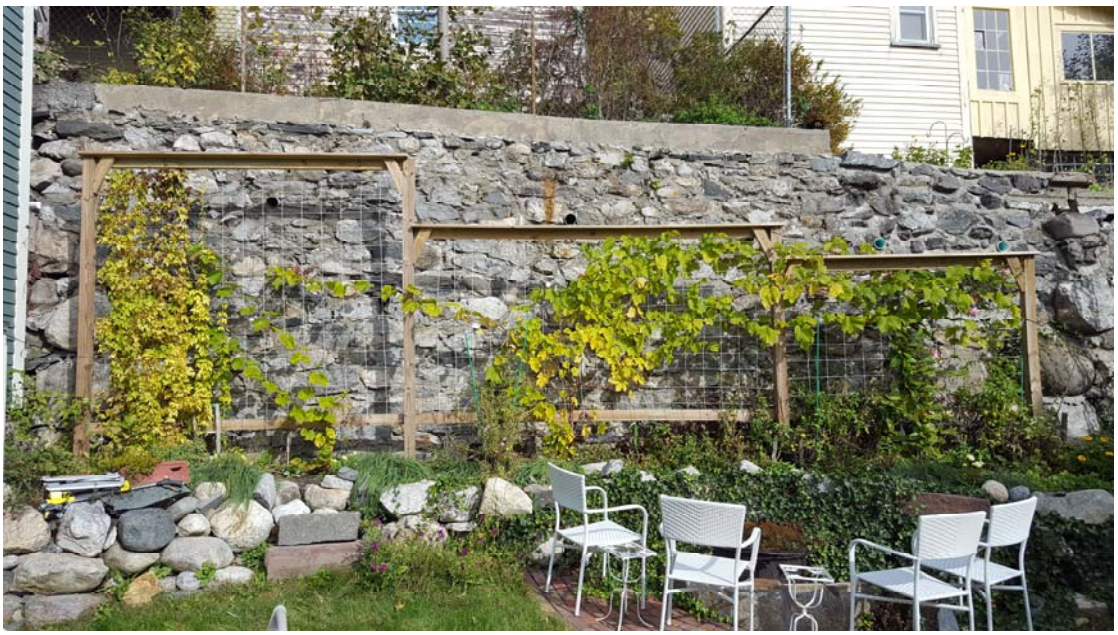
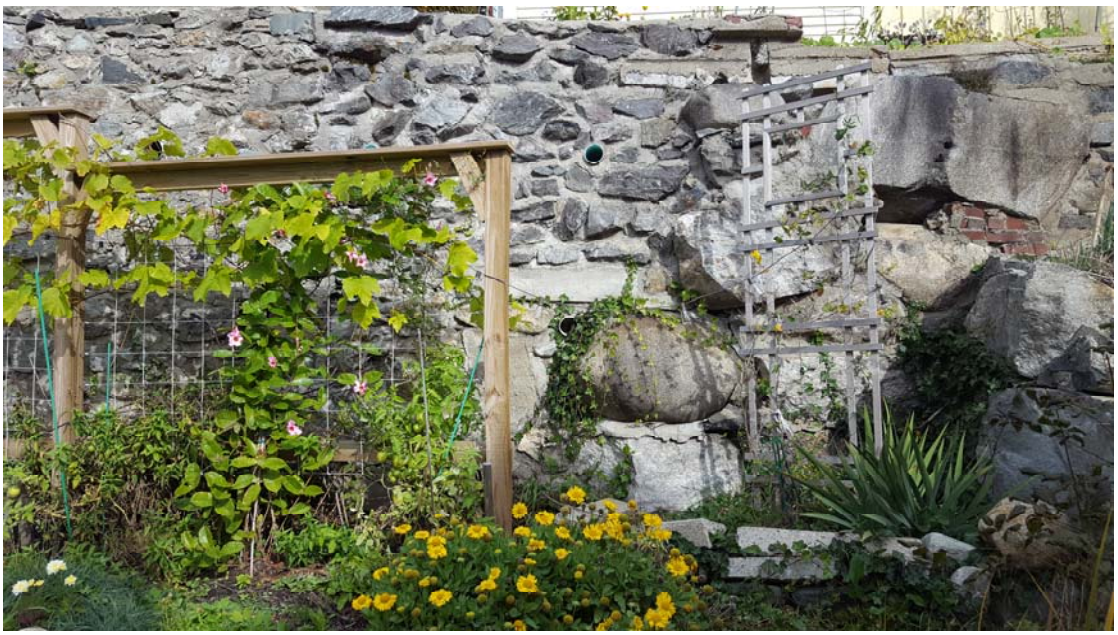


Photo No. 4

Date: 11-1-2017

Description:

Eastern section of wall partially on 25 Waterville property and partially on the adjacent property.



PC14

Google Groups

Fwd: 24 St. Lawrence Street

Shukria Wiar <shukriaw@portlandmaine.gov> Jan 9, 2018 9:09 AM
Posted in group: **Planning Board**

---------- Forwarded message ----------
From: **Rob Whitten** <rob@whittenarchitects.com>
Date: Mon, Jan 8, 2018 at 7:49 PM
Subject: Re: 24 St. Lawrence Street
To: Caitlin Cameron <CCameron@portlandmaine.gov>, "Wiar, Shukria" <shukriaw@portlandmaine.gov>
Cc: "Levine, Jeff" <jlevine@portlandmaine.gov>

To Shukria Wiar, Caitlin Cameron, the Portland Planning Department, and members of the Portland Planning Board,

My wife, Robin F. Whitten, and I are are long term residents, property owners, business owners, and Portland neighbors at 23 St. Lawrence Street. I am a trained, qualified, Maine registered architect who specializes in residential design.

We are strongly opposed and are writing in opposition to the proposed 24 St. Lawrence Street Redevelopment submitted by HR Property Management.

The proposed Redevelopment of 24 St. Lawrence Street does not comply with the City of Portland Design Manual, the design requirements for small residential lot development proposed in the R6 Zone, and Appendix 7 including !V. Alternate Design Review. I did attend the Neighborhood Meeting about 24 St. Lawrence on November 2 at the East End School and expressed my concerns at that meeting; and we have expressed our concerns to the Williams, the owners of 24 St. Lawrence Street.

With respect to the first three Principals of Appendix 7 and the proposed 24 St. Lawrence Street Redevelopment:

Principal A; Overall Context: "To a large degree, the scale, mass, orientation, and articulation of an infill building should be compatible with the buildings that surround it.

1. Scale and Form:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes are 2 story brick and frame structures with pitched roofs of less than 3000 square feet of space.
Proposed: the Redevelopment is a 4 story structure, with a flat roof and a total building area of 8951 square feet of space **-185% increase of footprint, 311% increase of scale and mass, no defining architectural features of the neighborhood.**
2. Composition of Principal Facades:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes have 2 story facades w/ distinct trim, eaves, and rakes; they have 2:1 proportion windows approximately 2.5' wide to 5' high; a centrally located, protected entries, facades of brick, shingle, clapboard with contrasting trim.
Proposed: the Redevelopment windows are 1:1 or 4:1 proportions, the cornice and first floor band are 2 to 4 times wider than surrounding homes. **- 4 story facade, with no windows at street level.**
3. Relationship to the street:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes have equal and evenly spaced yards between neighboring structures, the principal facades face the street with windows and occupied living areas on the street.
Proposed: the Redevelopment street level is a parking garage entry, an elevator core, two stairwells and egress corridors - **no living spaces on the street, no defining architectural features of the neighborhood.**

Principal B; Massing: " The massing of the building reflects and reinforces the traditional building character of the neighborhood through a well composed form, shape and volume."

B-1 Massing:

Existing: the existing structure at 24 St. Lawrence and the surrounding homes are 2 story brick and frame structures with pitched roofs of less than 3000 square feet of space.
Proposed: the Redevelopment is a 4 story structure, a total building area of 8951 square feet of space **-185% increase of footprint, 311% increase of bulk, size, physical volume, scale, and flat form.**
B-2 Roof Forms:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes are 2 story brick and frame structures with pitched roofs that contribute and are compatible with the predominate character-defining architectural features of the neighborhood.
Proposed: The Redevelopment has a flat roof on the street side, flat roofs on the side yards visible from the street - **no pitch roof compatible with the predominate character-defining architectural features of the neighborhood.**
B-3 Main Roofs and Subsidiary Roofs:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes are 2 story brick and frame structures with pitched Main roofs, subsidiary pitched ell roofs, and subsidiary pitched dormers.
Proposed: The Redevelopment has a flat roof on the street side, flat roofs on the side yard visible from the street - **no clear main roof form.**
B-4 Roof Pitch:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes are 2 story brick and frame structures with pitched roofs that vary from 7:12 to 12:12; the slope of the roof is either parallel or perpendicular to the street.
Proposed: The Redevelopment has a flat roof on the street side, flat roofs on the side yard visible from the street - **all flat roofs with no pitch.**
B-5 Facade Articulation:
Existing: the existing structure at 24 St. Lawrence and the surrounding homes have gables and dormers, recessed entries, covered porches, covered entries, covered stoops, bay windows.
Proposed: The Redevelopment has a recessed entry, two projecting stairwells, and protected garage entry **-no dormers, no gables, no bay windows.**
B-6 Garages:
Existing: the existing structure at 24 St. Lawrence and three of the surrounding homes have garages.
Proposed: The Redevelopment does have a recessed garage entry, living space above the garage, the garage door is less than 40% of the width of the building.

Principal C; Orientation to the Street: “The building’s facade shall reinforces a sense of the public realm of the sidewalk while providing a sense of transition into the private realm of the home.” "Design of dwellings can enhance the pedestrian friendliness and sociability of the street while protecting the privacy of the residents’ internal home life."

Existing: the existing structure at 24 St. Lawrence Street and the surrounding homes have entrances from central halls that lead to living spaces on the street level. The existing facades, windows and and first floor living levels include the occupants and neighbors in an active pedestrian and sidewalk experience.
Proposed: the Redevelopment no living spaces in all four levels that face the street. The facade is composed of a central parking entry, a street level garage, an elevator core, and two stair wells **-no living space on the facade, no orientation to the street, no neighborhood participation.**

The 24 St. Lawrence Street Redevelopment project that does not comply with Appendix 7 and the size, scale, and predominant character defining architectural features of the neighborhood.

Please let us know the date of the upcoming Planning Department workshop for the Redevelopment of 24 St. Lawrence Street. I hope the linked images and files help with the Planning Department’s evaluation of the 24 St. Lawrence Street Redevelopment.

Sincerely, Rob.

Rob Whitten / AIA

Whitten Architects
207.774.0111 x101
37 Silver Street
Portland, Maine 04101
www.whittenarchitects.com

https://drive.google.com/open?id=1xuhri-gBRrtVRH7XTLWVMM9A0VxsyWfX

Rob Whitten / AIA

Whitten Architects
207.774.0111 x101
37 Silver Street
Portland, Maine 04101
www.whittenarchitects.com

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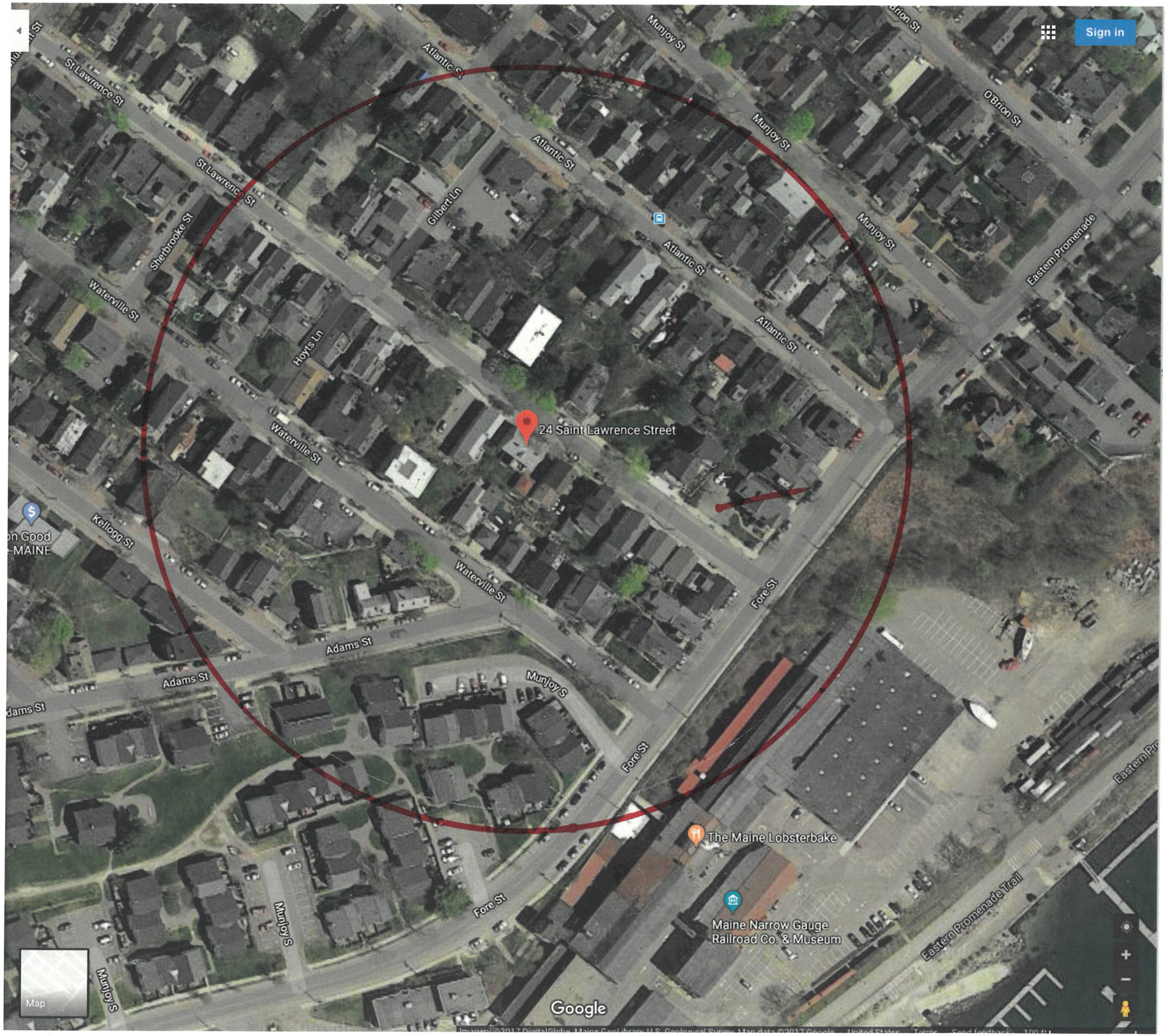
Shukria Wiar, Planner
Planning Division
City of Portland 389 Congress Street
Portland, ME 04101
Ph: 207.756.8083
Fax: 207.756.8258



24 St. LAWRENCE

2 BLOCK

RADIUS

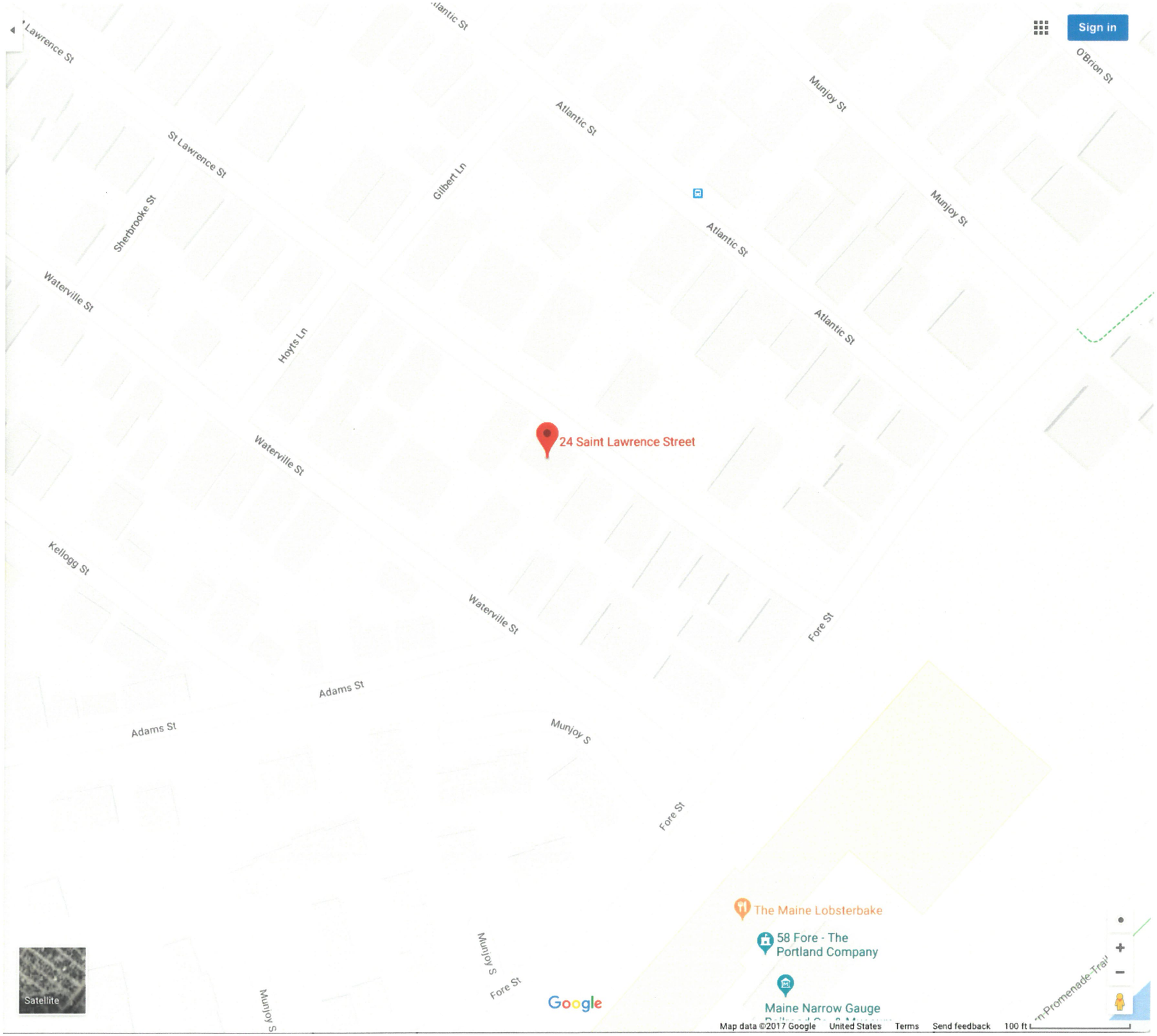
24 St. LAWRENCE

300' RADIUS

24 St. LAWRENCE

APPROXIMATE LOT

W/ EXT'G STRUCTURES



PATTERN OF STRUCTURE TO OPEN SPACE

47 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
GILBERT
HOWIS
St Lawrence St
NO. 2
PROGRESSION
DOWN
ST. LAWRENCE
PAST 24
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

47 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
GILBERT Ln
Hoyts Ln
THIS SIDE OF STREET 2ND & 4TH TUESDAY OF THE MONTH
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

44 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Google

40 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
© 2015 Google
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

32 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
29
24
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

32 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
24
St Lawrence St
Google

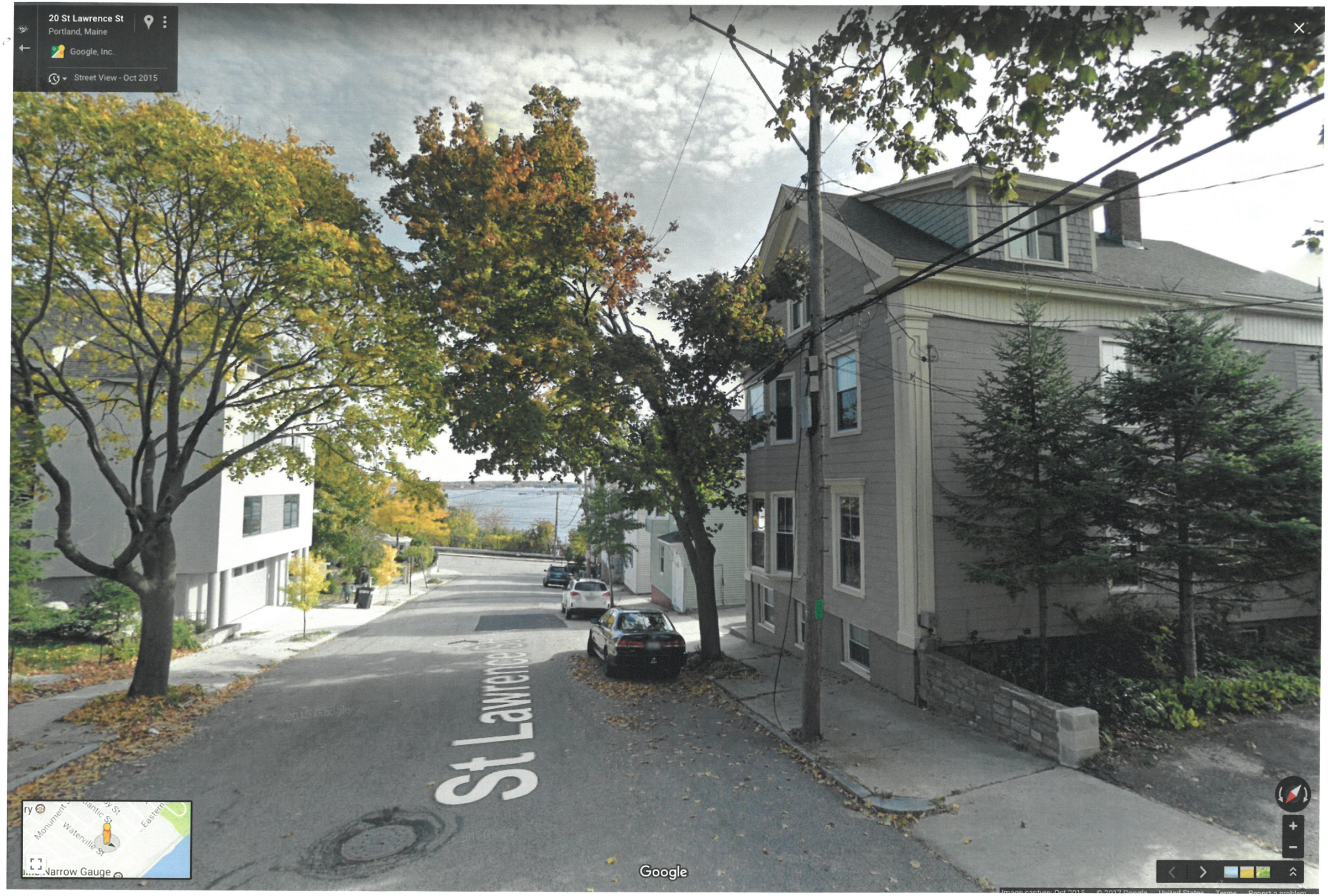
28 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
24
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

FASCIA & EAVE.
63 COURSES OF SIDING
15 COURSES OF BRICK
(40")

24

24 ST. LAWRENCE
ELEVATION

24 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem
24


20 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Google

9 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

PROGRESSION
UP ST. LAWRENCE ST.
PAST 24

9 Fore St
Portland, Maine
Google, Inc.
Street View - Aug 2017
Monument St
Munjoy St
Google
Image capture: Aug 2017 © 2017 Google United States Terms Report a problem

9 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
24
St Lawrence St
Google

13 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
24
St Lawrence St
©2017 Google
Google

17 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
24
PROTECT PORTLAND'S SCENIC BEAUTY
YES ON 2
St Lawrence St
Munjoy St
Atlan
East St
24 Saint La
Narrow Gauge
o. & Museum
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

20 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
24
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

FASCIA & EAVE.
63 COURSES OF SIDING
15 COURSES OF BRICK
(40") = 3'-4"

63
× 4"
252/12 = 21'

SO EAVE @ 25'
24 FROM ℄ FRONT

24 ST. LAWRENCE
ELEVATION

24 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
24
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

28 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

32 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Google

36 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Monument St
Munjoy St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

40 St Lawrence St
Portland, Maine
Google, Inc.
Street View - Oct 2015
St Lawrence St
Google
Image capture: Oct 2015 © 2017 Google United States Terms Report a problem

PROPOSED

24
EXT'G.

APPROX
EXT'G

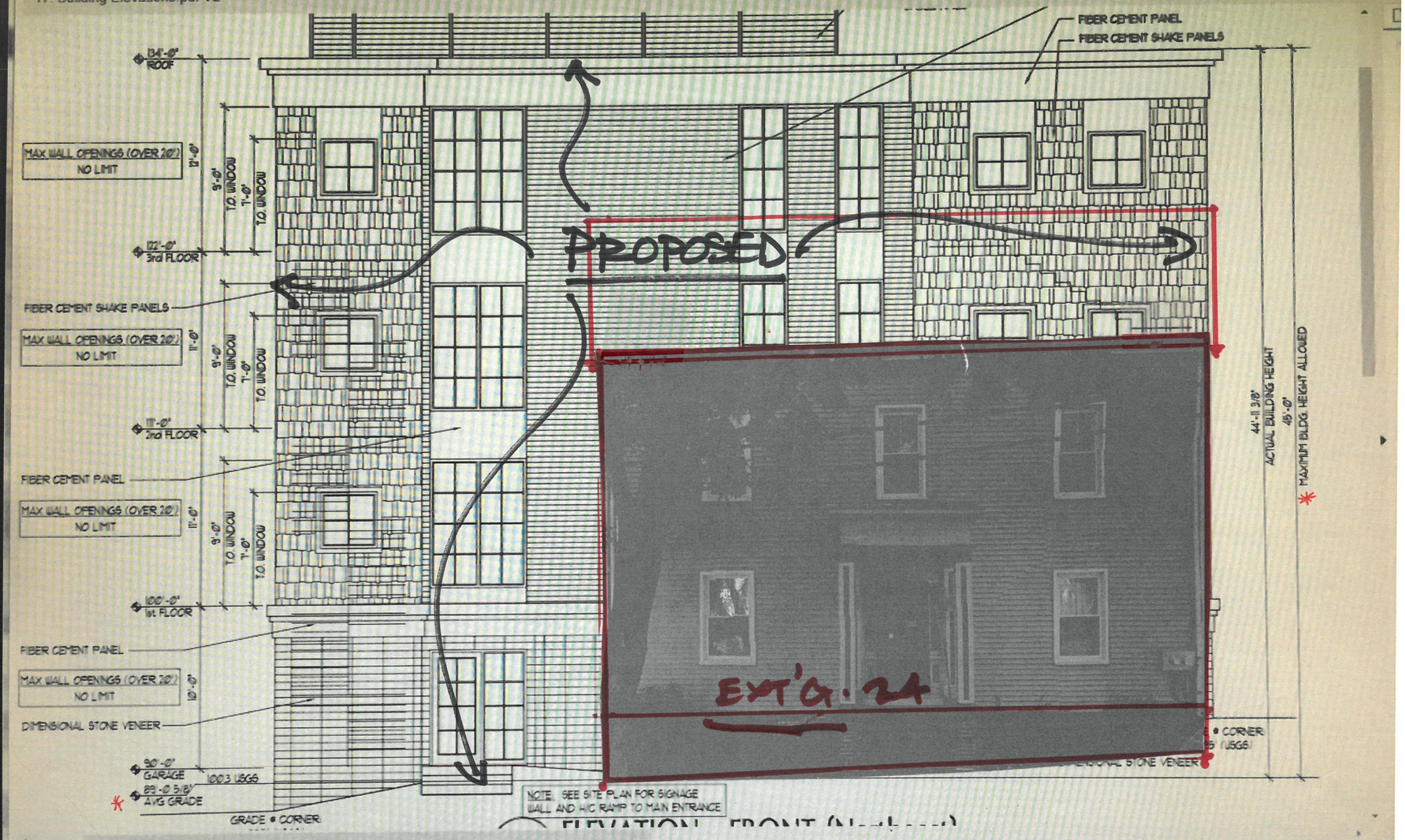
EXCAVATE (ALONG)
EXT'G & PROPOS.

ST. LAWRENCE STREET

Secure | https://eplan.portlandmaine.gov/ProjectDox/Integration/BravaPlugin/HTMLClient/HTMLViewer.aspx?FileID=224712

Review Redact Publish

17. Building Elevations.pdf V2



HDMI DCD

Gateway

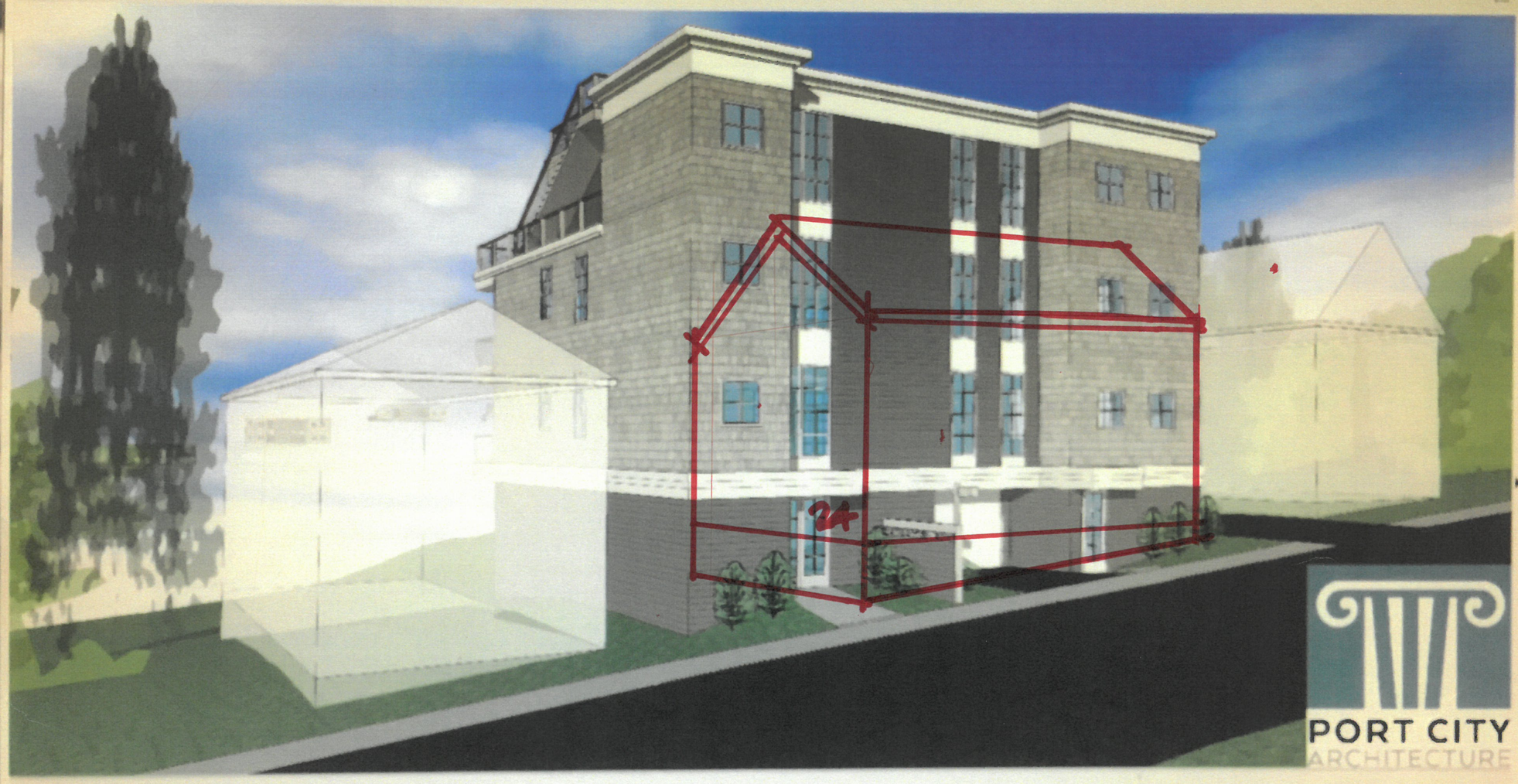
HD video

1680 × 10

Secure | https://eplan.portlandmaine.gov/ProjectDox/Integration/BravaPlugin/HTMLClient/HTMLViewer.aspx?FileID=224158

Redact Publish

19_Front Rendering B.pdf V1



HD video | 1680 × 1050

18. Front Rendering A.jpg - Google Chrome

Secure | https://eplan.portlandmaine.gov/ProjectDox/Integration/BravaPlugin/HTMLClient/HTMLViewer.aspx?FileID=224134

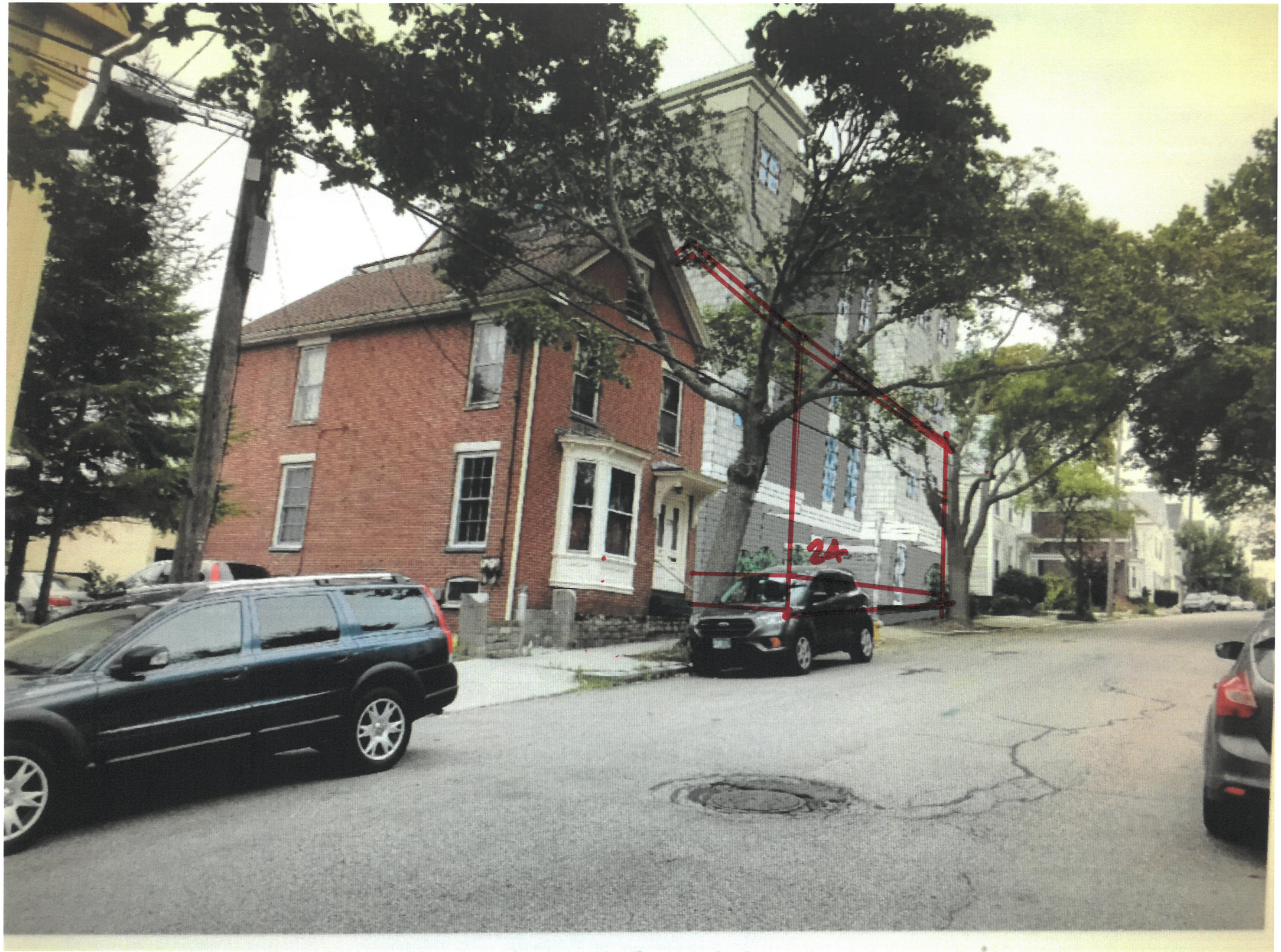
Review Redact Publish

18. Front Rendering A.jpg V1

PORT CITY
ARCHITECTURE

Gateway

HD video | 1680 × 1050 | Universal Inputs


24

24

PC14a

Google Groups

24 St.Lawrence St, 25 Monument Street

Rob Whitten <rob@whittenarchitects.com> Nov 20, 2017 9:54 AM
Posted in group: **Planning Board**

Hello,

My wife, Robin F. Whitten, and I live at 23 St. Lawrence Street on Munjoy Hill. We are very concerned about the proposed demolition of 24 St. Lawrence Street and 25 Monument Street. Both are viable structures that could be renovated and improved. They are part of the fabric of our neighborhood.

Please include us in the public notification list for the pending Planning Board Workshops for both structures.

Thank you.

Sincerely, Rob.

Rob Whitten / AIA

Whitten Architects
207.774.0111 x101
37 Silver Street
Portland, Maine 04101
www.whittenarchitects.com

NEIGHBOR: WHITTEN
23 St. Law

March 13, 2018
EVALUATION OF REVISED R-6 INFILL DEVELOPMENT
DESIGN PRINCIPALS & STANDARDS

REVISED SUBMITTAL OF 24 ST. LAWRENCE STREET

Monday we were notified that a revised Level III Final Site Plan head been submitted for the Redevelopment of 24 St. Lawrence Street. Please find the 01/11/2018 R-6 Small Infill Design Review of the previous application in separate attachment.

We've taken the 01/11/2018 Planning Department Review of the proposed design for 24 St. Lawrence Street in-fill, redevelopment (-see seperate attached document) and compared it to the **03/13/2018 revised design** -see the red text .

01/11/2018 **Planning Department Design Review Comments** *(red text denotes principles or standards that are not met)*:

Appendix 7: R-6 Infill Development
Principle A Overall Context –Not Met – see below.

01/11/2018- *A-1 Scale and Form:* The scale the project is larger than most buildings on this street which is exacerbated by the placement of the circulation on the front and by creating a broad front façade without a proportionate open space buffer.

03/13/2018: The front of the **revised design** is all circulation: emergency exits, a front entry, parking garage entry, two stair wells, one elevator shaft, corridors to living units, and no living space on the St. Lawrence Street side. NO CHANGE.

01/11/2018 **Design Review Comments:** In those rare instances where a larger scale, wider building has been built, the scale is mitigated by keeping wider setbacks as a buffer and through elements such as bay windows, balconies and porches, varied rooflines, and/or massing changes at the street. Staff suggests that massing and programmatic changes should be made to mitigate the bulk and scale of this project. It appears the proposed project exceeds the maximum Lot Coverage.

03/13/2018: The front of the **revised design** now has one of the five recommended strategies: varied roof line at street.

01/11/2018 **Design Review Comments:** It appears the proposed project exceeds the maximum Lot Coverage.

03/13/2018: The **revised design** Lot Coverage should be verified; it is similar to the 01/11/2018 Lot Coverage.

March 13, 2018
EVALUATION OF REVISED R-6 INFILL DEVELOPMENT
DESIGN PRINCIPALS 7 STANDARDS

REVISED SUBMITTAL OF 24 ST. LAWRENCE STREET

01/11/2018- *A-2 Composition of Principal Facades:* The composition of the street-facing façade has very little reference or relationship to the rhythms and patterns found on the streetscape and surrounding buildings.

03/13/2018: very little reference to the surrounding buildings, more vertical elements, the facade is broken into three pieces that step in and out.

01/11/2018 **Design Review Comments:** The project places all the circulation at the front façade with no living space facing the street.

03/13/2018: The front of the **revised design** is all circulation: emergency exits, front entry, parking garage entry, two stair wells, one elevator shaft, corridors to living units, and no living space on the St. Lawrence Street side. NO CHANGE

01/11/2018 **Design Review Comments:** The front façade should relate to the context through compatible rhythm, size, orientation, and proportion of window and door openings and other predominant, character-defining features found in the neighborhood, especially for multi-family building types.

03/13/2018: The **revised design** door and window proportions or character defining features on front do not relate to the neighborhood.

01/11/2018 **Design Review Comments:** Changing the orientation of the building program could mitigate some of these issues.

03/13/2018: NO CHANGE in orientation of the building program.

01/11/2018 - *A-3 Relationship to the Street:*

01/11/2018 **Design Review Comments:** The project deviates from the pattern of building placement on the lot and the spacing of the residential fabric in this neighborhood – this relationship to the street must be respected.

03/13/2018: Revised design NO CHANGE.

01/11/2018 **Design Review Comments:** The ground floor is raised a whole story which is higher than typical residential development patterns but common for contemporary projects – this elevated living space is created by the ground floor garage.

March 13, 2018
EVALUATION OF REVISED R-6 INFILL DEVELOPMENT
DESIGN PRINCIPALS 7 STANDARDS

REVISED SUBMITTAL OF 24 ST. LAWRENCE STREET

03/13/2018: Revised design NO CHANGE.

Principle B Massing – Not Met – There is concern about the bulk and mass of the building compared with the size of the lot and the established patterns on the surrounding streets.

01/11/2018 **Design Review Comments:** The building is larger in scale than what is found in the context in both height and width of the building.

03/13/2018: Revised design NO CHANGE.

01/11/2018 **Design Review Comments:** In addition, the massing is arranged to place all circulation facing the street and creates an overall massing and façade composition inconsistent with patterns found in the neighborhood.

03/13/2018: Revised design revised composition, SAME MASS.

01/11/2018 **Design Review Comments:** - *B-1 Massing:* The proposed mass is wider on the street than the typical building context.

03/13/2018: Revised design SAME MASS. SAME WIDTH

01/11/2018 **Design Review Comments:** - *B-4 Roof Pitch:* The standard requires that mono pitched roofs shall not have a pitch of less than 7:12.

03/13/2018: Revised design flat roofs, NO CHANGE.

01/11/2018 Principle C Orientation to the Street – Partially Met – The project appropriately provides a sense of transition and privacy for the residential uses, however, the ground floor does not reinforce a sense of the public realm – no porch or ground floor living space fails to enhance the pedestrian friendliness and sociability of the streetscape as desired in this principle statement.

03/13/2018: The front of the **revised design** is all circulation: emergency exits, front entry, parking garage entry, two stair wells, one elevator shaft, corridors to living units, and no living space on the St. Lawrence Street side. NO CHANGE

March 13, 2018
EVALUATION OF REVISED R-6 INFILL DEVELOPMENT
DESIGN PRINCIPALS 7 STANDARDS

REVISED SUBMITTAL OF 24 ST. LAWRENCE STREET

Conclusion:

The revised design does not meet the Planning Department R-6 Small Infill Design Review standards for:
- Principle A Scale and Form.
- Principle B Massing.

The revised design partially meets the Planning Department R-6 Small Infill Design Review standards for:
- Principle C Orientation to the Street

The other Design Review issues which deal the composition of the building components on front of the building on St. Lawrence Street are addressed in the 01/11/2018 Design Review and the proposed 03/13/2018 Revisions. They are:

01/11/2018 *Principle D Proportion and Scale* – Partially Met –
01/11/2018 *Principle E Balance* – Met –
01/11/2018 *Principle F Articulation* – Met –
01/11/2018 *Principle G Materials* – Partially Met –

Sincerely,

Rob.

G. Robinson Whitten, Robin F. Whitten
23 St. Lawrence Street
Portland, Maine 04101

G. Robinson Whitten AIA
Whitten Architects
37 Silver Street
Portland, Maine 04101

Google Groups

Fwd: 24 St. Lawrence St.

Shukria Wiar <shukriaw@portlandmaine.gov> May 1, 2018 11:36 AM
Posted in group: **Planning Board**

---------- Forwarded message ----------
From: **Caitlin Cameron** <ccameron@portlandmaine.gov>
Date: Mon, Apr 30, 2018 at 4:46 PM
Subject: Fwd: 24 St. Lawrence St.
To: "Wiar, Shukria" <shukriaw@portlandmaine.gov>

---------- Forwarded message ----------
From: <rstillwell@maine.rr.com>
Date: Mon, Apr 30, 2018 at 3:50 PM
Subject: 24 St. Lawrence St.
To: ccameron@portlandmaine.gov

Dear Caitlin,
I am writing from 20 St. Lawrence Street, we are abutting neighbors of 24 St. Lawrence.
My husband, Richard Stillwell and I have had many concerns with this project.
We recently had to have work done on our building. I enclose 2 photos.
The distance recommended by the Fire Department between our 2 buildings is 10 feet. For safety and access.
The work that we had done could not have been done at the current proposal of less than 8 feet.
the ladders necessary for the staging were from 8 feet to 10 feet.
We would hope that a variance will not be granted to allow the distance to be less than 10 feet.
Thank you. Carol Stillwell

--
Caitlin Cameron, AICP, Associate AIA, LEED AP
Urban Designer
Planning & Urban Development Department
389 Congress Street
Portland, ME 04101
phone: (207) 874-8901
email: ccameron@portlandmaine.gov

--
Shukria Wiar, Planner
Planning Division
City of Portland 389 Congress Street
Portland, ME 04101
Ph: 207.756.8083
Fax: 207.756.8258

20

Google Groups

Trees

Kris Lape <krislape@aol.com> Mar 28, 2018 9:46 AM
Posted in group: **Planning Board**

Hello,
I am concerned about the loss of mature trees on our street, St Lawrence Street. Specifically the removal of gorgeous old canopy trees at 24 St. Lawrence.
Growing up in Portland, I experienced the loss of so many amazing old elm trees as they died from the West Elm disease. Even as a child, it was heartbreaking to me.
One thing I've understood for a long time is that you can take a tree down in ten minutes, but it will take decades to even come close to growing a tree that can replace it.
I beg you to save the trees.
I beg you to save the historic and lovely house there as well. But I understand that as already been approved. At least downsize the proposed development planned for that spot. WE don't want anymore 'lego style' units here.
I'm not against more housing, nor multi-units. But the size and the style are critical to maintaining the cultural and historical essence of Munjoy Hill.
Please consider downsizing these overwhelming 6+ units, and encouraging them to use architectural design that compliments the beauty of our neighborhoods.
Sincerely,
Kris Lape

Kris Lape
Kris Lape Designs
Glass Drops Jewelry
http://krislapedesigns.blogspot.com
krislape@aol.com
207-592-3484

Google Groups

24 St. Lawrence Street, Proposed Condominium Project, Application ID# 2017-242/CBL #016 J006001

Michael D. Traister <mtraister@mpmlaw.com> Apr 4, 2018 10:02 AM
Posted in group: **Planning Board**

Dear Members of the Planning Board.

Please see attached correspondence concerning the referenced Project on behalf of my client, Fitch House, LLC/Martica Sawin.

Thank you.

Michael D. Traister, Esq.
Murray, Plumb & Murray
75 Pearl Street
P.O. Box 9785
Portland, Maine 04104-5085
Tel: (207) 773-5651
Dir: (207) 523-8228
Fax: (207) 773-8023
Email: mtraister@mpmlaw.com

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MURRAY PLUMB & MURRAY
ATTORNEYS AT LAW

Michael D. Traister
mtraister@mpmlaw.com
(207) 523-8228

April 4, 2018

VIA EMAIL AND REGULAR MAIL
City of Portland Planning Board
planningboard@portlandmaine.gov
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: 24 St. Lawrence Street, Proposed Condominium Project, Application ID# 2017-242/CBL #016 J006001 (the "Project")

Dear Members of the Planning Board:

Please be advised that this Firm represents Fitch House, LLC and its sole principal, Martica Sawin, with respect to matters concerning the referenced Project proposed by Walter and Kelly Williams for their property at 24 St. Lawrence Street in Portland.

Through Fitch House, LLC, Ms. Sawin owns the property located at 28 St. Lawrence Street. This property is improved with a two-unit building and is directly next door and uphill from 24 St. Lawrence Street, the site of the four-story, five-unit condominium Project proposed to be constructed at 24 St. Lawrence Street. The two properties are separated by a ten foot (10') wide parking area near the street and then by a reinforced concrete retaining wall running west. Ms. Sawin's predecessors, Frederick and Lorraine Ruminski, purchased 28 St. Lawrence Street in 1967. In 1973, they constructed a reinforced concrete retaining wall where there is a sharp drop-off between the two properties due to ledge and boulders that run along the entire ridge. A chain link fence was embedded in this wall, which starts at the northwest corner of the Williamses' house and runs west twenty-five feet (25'), increasing in height from thirty inches (30") to forty-four inches (44"), not including the buried portion of the wall.

As previously relayed to the Planning Board (both by email from Ms. Sawin and verbally by Ms. Sawin's daughter and representative, Martica Douglas, at the Board's Workshop concerning the Project on March 27, 2018), Ms. Sawin objects to the Project because, among other things, the Plans filed for the Project contemplate removal of the concrete retaining wall.

More specifically, Ms. Sawin objects to the Project because removal of the wall would have serious consequences for the stability of the foundation of the building at 28 St. Lawrence Street and could result in the collapse of the yard at 28 St. Lawrence Street and subsequent downward pressure of soil, water and shifting boulders. At a minimum, Ms. Sawin respectfully requests that the serious consequences arising from removal of the retaining wall be taken into consideration and appropriate measures for remediation and protection of surrounding properties, including 28 St. Lawrence Street, be addressed as part of the Board's review of the Project.

Ms. Sawin also respectfully requests that the Board consider the fact that the building at 24 St. Lawrence Street is located within a few feet of 28 St. Lawrence Street. Given this, Ms. Sawin asks that the Board consider the damage to adjacent properties (including to 28 St. Lawrence Street) which may well occur during demolition of the existing building at 24 St. Lawrence Street and the retaining wall, and that the Board impose appropriate protections for abutting properties as conditions for the Project.

More fundamentally, as the Board has been advised previously (again, both by email from Ms. Sawin and verbally by Martica Douglas at the Board's Workshop concerning the Project on March 27, 2018), Ms. Sawin objects to the Project because Ms. Sawin, in fact, claims ownership of the retaining wall and the land on which it sits.

When Ms. Sawin purchased 28 St. Lawrence Street from the Ruminskis in 2006, she had the property surveyed by Owen Haskell, Inc., who we understand is the very same surveyor now working for the Williamses with respect to their proposed Project. When Owen Haskell surveyed 28 St. Lawrence Street for Ms. Sawin in 2006, it issued her a written Report of Survey. By this Report, Owen Haskell stated as follows:

> "The deed descriptions for this lot are vague. It appears that very little, if any, surveying was done on any of these lots. The Portland Renewal Authority bought and sold some of these lots. It appears that little surveying was done at that time and the deed vagueness was perpetuated."

Moreover, on the Survey prepared by Owen Haskell for Ms. Sawin, several possible deed lines are shown, including a deed line which locates the concrete retaining wall wholly-within the boundaries of Ms. Sawin's property at 28 St. Lawrence Street. Accordingly, Ms. Sawin asserts ownership, by express deed and grant, of both the retaining wall and the land on which it sits.

In addition, during the approximate forty-four (44) year period since the retaining wall was constructed by or for the Ruminskis in 1973, no one has ever questioned that the concrete retaining wall and the land on which it sits are owned and form part of the 28 St. Lawrence Street property. Consequently, by its Report, Owen Haskell opined that:

> "The fences, apparently erected by or for Ruminski in the 1970s, do not match the deed lines very well. The long-standing occupation based on the fence lines and retaining walls on these lots may have changed the lines of ownership.

Accordingly, as recognized by the Williamses' own surveyor, Ms. Sawin has a claim to ownership of the retaining wall and the land on which it sits by virtue of use and occupation since 1973, i.e. by adverse possession. Ms. Sawin, in fact, claims ownership of the retaining wall and the land on which it sits by adverse possession, as well as via other recognized legal doctrines such as boundary by acquiescence and boundary by practical location.

Ms. Sawin respectfully submits that the question of ownership of the retaining wall and land on which it sits must be resolved before the Project should be considered for approval by the Board and/or any demolition allowed to start.

We very much appreciate the Board's time and attention to these matters.

Sincerely,

Michael D. Traister

Michael D. Traister

MDT/mfm
cc: Mary Costigan, Esq.
Ms. Martica Sawin

Google Groups

24 st Lawrence/25 monument objections

Matt Dodge <mdodge18@gmail.com> Mar 27, 2018 5:52 PM
Posted in group: **Planning Board**

Hello there,

I am just writing to share my objection to the two proposed developments at the addresses listed in this emails subject line. These are both completely out of scale to their surroundings and will have the effect of lowering, not raising, building values in the neighborhood. As a decade long resident of the hill, I am a little pretended every time I turn a corner in my once idyllic neighborhood to find one of these towering monstrosities glaring back. They are not only out of scale for their surroundings, but both proposed developments used the same currently en vogue condo architecture that in no way fits with the unique character of this neighborhood.

I'll leave the specific design and scale criticisms to rest and just pose this question instead: how little self-confidence do you, the planning board, have in this city? It seems to me that over the last decade or so, you've willing jumped into business with every developer who bats an eye at this once-struggling port city. The thing is: we're not that city anymore. We're on the way up, with a increasingly national profile on the quality of our food, culture and way of life. We can afford to be choose about who we choose to let reshape the face of this city, do it OUR way, and not just lift our skirts for every developer who rolls in town towns with a MA or NY plate. Why risk those implacable charms by going the same route as every other city in America? Condo-fuming at a breakneck pace in the race for...what exactly... making sure every American city looks exactly alike? Portland has the chance to retain some of the charm, the authenticity, that put it on the map in the first place, yet at every turn you seem to go the easy route, take the money and give very little thought about the lasting impact it has on a community. Please, once again, just approach these sorts of developments with the knowledge that YOU (elected officials who should be reflecting the will of their constituents) have the power here. YOU can decide what this city is going to look like and you don't have to take every offer that comes across the table. For once, just say enough is enough, and take a stand. Your kids won't thank you for your part in the homogenizing of America cities, and neither will we, those who are watching it happen.

Thanks,
Matt Dodge
67 North St

Sent from my iPhone

Latest 24 St. Lawrence Workshop Concerns from 6/21/2018

Karen Snyder <karsny@yahoo.com> Jun 22, 2018 7:20 AM
Posted in group: **Planning Board**

Dear Planning Board Members,

A group of surrounding Munjoy Hill property owners attended the latest 24 St. Lawrence workshop held at 84 Washington Ave on Thursday evening, 6/21/2018.

Below are the list of concerns that I would appreciate being addressed:

1) Even though on the south downward side of the building the schematics showed the building is now 13 feet from 20 St. Lawrence property line, the schematic is misleading because it was explained there are actually balconies not in the schematic will extend to almost 5 feet of the downward property line. This will be a large noise disturbance and severe quality of life impact for the 20 St. Lawrence building property owners and the balcony is just too close the building for the 20 St Lawrence street owners to put up a ladder if they need to for any repairs needed on their building if the balconies are only 5 feet from this building.

2*) There is no fiscal assurance or bond money put up to ensure that the surrounding property foundations if damaged by the construction can be easily paid for by the 24 St. Lawrence property owner.*

3*) There is no fiscal assurance for the surrounding property owners loss of rental income due to renters not wanting to live near a construction zone in which the 24 St. Lawrence property owner will pay for this loss of rental income.*

4*) There is no fiscal assurance for the surrounding property owners if vermin abatement is required that the 24 St. Lawrence property owner will pay for this.*

5*) There is no proof that there is a validated peer review of the GeoTech engineering retaining wall proposal in which the temporary retaining wall will only go down as far as the current retaining wall to enable to put the actual retaining wall is structurally sound and if incorrect in their analysis, what are the liability repercussions to protect the surrounding property owners.*

6*) It was told that this construction duration is 10- 12 months of construction and could be possibly from 7am to 6pm Monday to Friday. This is quite unacceptable to all the surrounding property owners since they are retired and/or work remote from their house. How is the Planning Dept and 24 St. Lawrence owner going to mitigate the quality of life degradation for surrounding property owners who live near the construction site while the 24 St. Lawrence property owner gets to live off premises? The quality of life is severely impacted for at least 6 property owners just for this one property owner to profiteer.*

7*) The architect told the group that the mature street tree will be removed when it doesn't have to because it is not blocking the driveway. A mature tree adsorbs over 100K lbs of carbon dioxide in it's lifetime. This mature tree is not blocking the driveway on the schematic and should not be taken down because it is "convenient" this type of "progress" is impacting the environment.*

8*) Ultimately, the scale and mass and the architecture design still is NOT compatible to the surrounding buildings, especially 20 and 28 St. Lawrence properties. This proposal still looms over the surrounding properties and really does not match the street scape.*

What made Munjoy Hill desirable to move here in the first place is being erased. It is up to the Planning Board to mitigate the quality of life impact and the strip mining that is currently being allowed on Munjoy Hill before it is too late.

Please address the above concerns.

Regards,

K. Snyder
Waterville Street Property Owner

Google Groups

24 Saint Lawrence Str

Peter Murray <pmurray@gwi.net> Jun 22, 2018 9:49 AM
Posted in group: **Planning Board**

Dear Planning Department -

In anticipation of your planned second Workshop on the above project now scheduled for Tuesday, June 26, please find attached my written comments. It will not be possible for me to attend in person. Can you make sure that each member of the Planning Board has a copy of these comments in her or his Workshop package?

Thank you for your consideration,

Sincerely,

plm
Peter L. Murray
104 North Street
Portland, ME 04101
pmurray@gwi.net

104 North Street
Portland, Me 04101

June 21, 2018

Sean Dundon, Chairperson
Brandon Mazer, Vice Chairperson
David Eaton
David Silk
Austin Smith
Maggie Stanley
Lisa Whited, Members
Portland Planning Board

Re: 24 Saint Lawrence Street

Dear Chairperson Dundon and Members of the Portland Planning Board:

Will you please accept this letter in lieu of my in-person comments at the upcoming Workshop scheduled for Tuesday, June 26, on the above project?

It is respectfully submitted that based on the revised application drawings and the applicant's architect's submittal comments, the project fails to comply with the requirements of the Portland City Code for Level 3 Site Plan Review in the following respects:

1. The size, scale and massing of the building, while reduced from the prior proposal, still is out of proportion to the surrounding building fabric and is not compatible with the architectural composition of the neighborhood. A 4-story flat-roofed institutional structure virtually filling the lot is not compatible with a neighborhood of gable roofed 2 and 2½ story homes.
2. The proposed condominium block would be incompatible with and would disrupt and destroy the harmony of the St. Lawrence streetscape and dominate the lower part of the street. This is particularly significant since lower St. Lawrence Street is within the proposed Eastern Promenade Historic District. It would be a shame if the District were to be so seriously compromised on the eve of its designation.
3. The proposed structure is a hazard to its neighbors to the west because of the fragile retaining wall holding up the soil at 24 St. Lawrence Street. The weight of a 4-story building within 10 feet of the wall, plus the disruption of construction activities are almost sure to damage the wall, a stone and masonry will built more than 100 years ago. The configuration of the properties is such that there is no way to access this wall from the Waterville Street side to shore it up or repair it if damaged. The home of the Waterville Street neighbors is located immediately adjacent to the wall, and will be damaged or destroyed in the event of a collapse of the wall. Even the applicant's own engineer has not been able to guarantee

that the building can be built without damaging the retaining wall and threatening the downhill neighbors. This is a site that can bear a 2½ story house located some distance from the retaining wall, but that cannot bear the weight of a 4 story condominium block built hard by the wall and the trauma of construction.

4. The northerly boundary of the proposed site is in dispute with the abutting neighbor. That party has brought suit, now pending in the Maine Superior Court, seeking a declaration that the boundary line between the respective properties is actually the south face of a retaining wall between the properties which is located about three feet south of where the boundary is shown on the filings with the Planning Board. The neighbor's claim is based on more than 30 years of continuous, actual and notorious possession of the subject strip, including construction of the retaining wall, and has apparent legal merit. If the neighbor's claim is successful, the proposed building will have to be reduced and/or relocated to maintain the required setbacks along the northerly side, and may not be feasible as proposed. At the very least, the Planning Board should suspend consideration of this application until the issue of the northerly boundary is determined, since it is currently not clear that the applicant actually owns the property on which it proposes to construct the project.

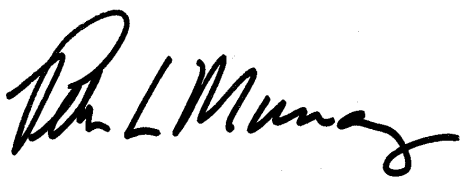
The current Portland Zoning Ordinance and the Site Review Process relies to a great extent on the strength, judgment and independence of our Planning Board to protect the integrity and quality of our existing neighborhoods from inappropriate and damaging development proposals. This proposal, which originally generated the impetus to review the 2015 revisions to the R-6 zoning ordinance, is a prime example of the kind of development that attempts to trade on the desirability of the neighborhood to attract buyers of proposed condominium units on the one hand and undermines and compromises that very amenity as it does so.

At the initial neighborhood meeting in connection with this project, the developer announced that his goal is to end up with a free dwelling unit for himself and a million dollars in his pocket. No wonder that he is willing to sacrifice the quality and integrity of his surrounds for a return like that.

It is respectfully submitted that this is a project that does not qualify under Portland's zoning ordinance and site review process and that is not meant to be.

Thank you for your consideration of these thoughts.

Sincerely,



Peter L. Murray

24 St.Lawrence neighborhood meeting, 6/21

martica sawin <martica.sawin@gmail.com> Jun 22, 2018 11:41 AM
Posted in group: **Planning Board**

Most of those attending the meeting raised many objections despite the modifications in the plans for the condominium building. The questions raised still revolved around two matters not satisfactorily addressed in the revised plans.

1. Fear of causing the west retaining walls to collapse which could demolish the buildings below, and unsatisfactory addressing the relationship between the existing retaining wall on the north boundary and the proposed use of the new foundation asa retaining wall, leaving a deep open gap
with infill that cannot effectively hold the abutting property in place. All along the South and west slopes of St. Lawrence Street retaining walls have been used to prevent erosion of land beneath and adjacent to buildings. They are a necessary act of life on that street and much of Munjoy Hill.
The city needs an ordinance governing retaining walls.

2. All the abutting neighbors present raised the question of trying to live in their homes during the proposed year of drilling, compaction, demolition and construction. My two unit building at 28 St. Lawrence has always been rented since I purchased it in 2006. The lease expiring last October was not renewed because of uncertainty about construction 15 feet distant from the apartments.
Not wanting to leave the space empty I decided to try living there myself, adding handicapped accessible features. At the age of 89 and mostly homebound, I find the prospect of a year exposed to the close at hand noise, vibration, and air pollution ten hours a day threatening to physical and mental health. Other than compensation for loss of rental income I see no alternative--taxes need to be paid, utilities maintained, etc.

Martica Sawin
28 St.Lawrence Street

The ownership has been transferred from Fitch House LLC of which I was sole proprietor to my name.

24 Saint Lawrence still fails

Maggy W <mswnola@gmail.com> Jun 21, 2018 10:17 PM
Posted in group: **Planning Board**

Dear members of the Planning Board,

I attended the informal "neighbors" meeting this evening held by the architect and project manager for 24 Saint Lawrence St. By comparison with the previous proposals, the most recent sketches are improved - the height and width are reduced; the parking is on the side, there is some life on the street - several areas were modified for the better.

However, the design should be taken on its own merit and not on how far they have come from original unacceptable design that unleashed the recent firestorm on Munjoy Hill. And on its own merits, it seems that the current design is still incompatible with the streetscape in scale and massing. As they are still working on the plans, we were not shown any renderings of how the current proposal fits in with the neighboring houses.

In addition to the remaining scale and mass issues, my primary concern is the safety and integrity of the interconnected network of retaining walls on this part of the hill. The project is directly abutted by three 19th century houses which would be at risk if any unexpected circumstance arose during the project. Another major concern is the loss of light and sky. The footprint of the proposed building is massive - the existing 1850's house is wide along the street, and shallower in depth, which allows the two houses on either side a share of sunlight and sky and breeze and breathing room. The proposed building is using the maximum depth which throws my mother's house, 28 Saint Lawrence, where I rent the second floor apartment, and our garden and porches into its shadow.

After design, safety and sunlight, the final area of major concern is the noise from the stacked outdoor decks. They will be very close to the adjacent houses and evening outdoor activities will spill into our own living and sleeping spaces. This is not the way these houses were intended to interact. Between the loss of light and sky, and the increase in noise, the quality of life for all of the neighbors will deteriorate. This is to say nothing of the project's estimated 10-12 months of construction noise, vibration and general disruption. My mother is 89 years old, and the odds are that a significant proportion of her remaining life will be dominated by this construction process.

Please recommend that the project be reduced to a size that fits in better with the streetscape.

Sincerely,
Maggy Wolf
\28 Saint Lawrence, Apt. 2

Re: Application ID#2017-242, 24 St. Lawrence Street

Pamela Day <pday2304@gmail.com> Jun 22, 2018 1:06 PM
Posted in group: **Planning Board**

Dear Portland Planning Board Members:

We understand that there will be a Planning Board workshop on the proposed 24 St. Lawrence project on this coming Tuesday, June 26. We are writing to voice our strong opposition to this project because its construction threatens our safety and that of our tenants and property; the scale, mass, and design of the building are incompatible with the surrounding structures; and the proposed 10-12 month project would be highly disruptive and costly to all four abutters.

Of particular concern are the following:

1. All three geo tech engineering reports that have been conducted cite potential harm and damage to the 80'x15' retaining wall separating 24 St. Lawrence from our property at 25 Waterville Street. The wall stands within one foot of our rental unit.

- **The city should conduct--and provide to all abutters--an independent peer review of the developer's geo tech engineering retaining wall proposal** to validate that the current retaining wall will remain undisturbed by this major construction project

- In the event that the analysis is incorrect or that construction does not conform with recommended procedures, **the developer provides no written agreement that spells out what the applicant would do to remedy any damage to the retaining walls, adjacent properties, and their occupants**

- **The developer provides no fiscal assurance or bond money** to ensure that the surrounding properties, if damaged by the construction, can be easily paid for by the 24 St. Lawrence property owner.

2. All three surrounding abutters include an affordable rental unit. The proximity of these units is *within a few feet* of the proposed construction. **The developer provides no fiscal assurance for the surrounding property owners loss of rental income** due to renters not wanting to live directly adjacent to a construction zone.

This project is dangerous to surrounding properties and its construction will be very costly to abutters. It should be rejected.

Pamela Day & Michael Petit

25 Waterville Street
Portland 04101
207-461-1461

Google Groups

24 Saint Lawrence

Linda Tyler <ltyler8@gmail.com> Jun 26, 2018 9:00 AM
Posted in group: **Planning Board**

Greetings.

I AM concerned about the potential development at 24 Saint Lawrence. While I sympathize with the owner's plans to turn their property a situation of profit for themselves, I just cannot sanction the prolific changes to the neighborhood that are pending. It's too important a neighborhood—for the inhabitants and for the city—to have its longtime character changed anymore drastically than has already happened.

Thank you for your attention.

Linda P Tyler
52 Saint Lawrence Street
Portland, ME 04101

24 St Lawrance

Debby Murray <debbym@gwi.net> Jun 26, 2018 9:48 AM
Posted in group: **Planning Board**

Good morning Planning folks,

I have struggled with the current plans to demolish 24 St Lawrence St because at first blush,I feel a sense of guilt.

My husband and I built a home under the old R6, which impacted our neighbors. However, I would point out:

1. We did not demo a building to build. Out lot had held a four, story apt building until the 70's when it had a fire and was razed by the city.

2. We put our garage in theback, not on the street.

3. We installed massive and strong retaining walls to protect our neighbors.

4. We have a huge yard out back and plenty of green space and a porch on the street.

5. We worked hard with our architect and the city to maintain some architectural conformity with the houses on North St.

6. We went to a lot of trouble to save the tree that was there (ultimately it didn't survive and we worked with Jeff Tarling to replace it)

So, do we have a leg to stand on in our opposition to this project? I think we do because we built our house as a home, not a business opportunity.

Please keep vigilant as you consider this project. There's always room for compromise and the results will be better in the long run.

Debby Murray

Debby Murray
104 North St.
Portland. ME 04101

24 st Lawrence street project

e w <eenebw@hotmail.com> Jun 25, 2018 4:17 PM
Posted in group: **Planning Board**

Dear Planning Board: I am not sure if I will be able to attend the work shop tomorrow due to work reasons, however I wish to express comments/concerns. If I do not make the meeting please accept this as my public comment I would have made.

I am a property owner on Beckett Street on Munjoy Hill. Although I am not within the 500 feet notification area of the 24 St. Lawrence Street project, I am a resident of Munjoy Hill and care about its future and my neighboors who live here. While I agree that the new version of the proposed building on 24 St. Lawrence is not as bad as the original it still is not a design that belongs in a proposed Historic District. The neighborhood was built in the 1800's by workers that took pride in their construction in appearance, durability, attention to detail and ensured the buildings had a similar cohesive look of the neighborhood. This construction was done without power tools and has stood the test of time and does not deserve to be demolished. Zoning provides the ability for 24 st Lawrence to be modernized/renovated while adding modest compatible expansion. With that being said, I hope that the planning board rejects the construction that is proposed for this site. It is bad enough that an 1850 era house is being torn down but as we know there are many more issues such as: 1. Degrading/eliminating the views of several long term neighbors, 2. Instability of the retaining wall to support the new weight of the building, 3. The potential for damage to other adjacent properties, 4. Dwarfing existing buildings so they will no longer have sunlight in their yards, 5. Loss of privacy with new porches and 6. Degrading the neighborhood with yet another massive ugly out of scale building. This is the neighborhood that has proven to care about retaining it's historic appeal vs. razing and rebuilding box condos. And what is the benefit of this new construction? From my point of view it is only so the current owner can live free and make a million dollars at the expense of his neighbors. Sure a small handful of more people will live in the new Condo. But will the condo's be affordable or will the new people living there even be year round residents? Although speculation, I would suspect after a few years of building this the current owner will bail out and sell their condo for a million leaving behind a massive ugly building. Is this what the city wants for Munjoy Hill, i.e.- no historic buildings? We have ample planned and in process construction going on in the India/Fore street area that should suffice for growth. Can we just leave Munjoy Hill alone except for modest expansion and renovation? Residents of Munjoy Hill like the quality of life we have here. We don't want to live amongst a wall of buildings like in NYC.

Also, As a tax payer I would have to think that if the planning board, acting on behalf of the city, approves this project knowing there is a foundation that is not capable of supporting the massive structure and something happens that taxpayers will foot the massive lawsuit costs. I really don't want my taxes raised for that.

As a multi property owner, I understand I should be able to do certain things to my properties. But I don't agree that should include demolishing a historic in name and heritage building just so I can become a millionaire.

I feel really bad for the surrounding neighbors if this is allowed to happen and they have to watch the destruction of the 1850 building and the erection of a massive light and view blocking box. This is not what Maine or Portland is suppose to be about!! Where has respect for others gone? There has to be some balance left for neighborhood respect vs. sheer profit.

Thank you,

Enoch Wenstrom

88 Beckett St #1

Portland Maine

From: **Kris Lape** <krislape@aol.com>
Date: Wed, Jul 18, 2018 at 10:23 AM
Subject: 24 St Lawrence Street
To: jlevine@portlandmaine.gov

Hello,
As a resident on St. Lawrence Street, I am asking you to consider limiting the height and the size of this development. It saddens us all that this beautiful and functional two-unit home is being torn down primarily for profit, and to be replaced with a five-unit generic condo unit. We are so sick of the 'lego-look' on Munjoy Hill in our beautiful residential neighborhoods. Recently a very old home, in bad condition was torn down on Monument Street, just around the corner from us. A large condo building is planned to be built there. We understand the need to tear down buildings that can't be restored. Last week the owners took down some of the largest and distinguished trees on the Hill. It was a sad day for us.
As you consider new developments, please encourage owners to keep the trees. We need the oxygen and we need the beauty and privacy that they provide. It will take hundreds of years to get those back.
At 24 St. Lawrence I am asking that you encourage a unique style that compliments our current buildings, rather then clashing with them. And I am asking that the size be reduced even further so as not to hover over our homes.
And finally, keep the lovely trees that are still standing.
I appreciate your consideration in all of these matters.
Sincerely,
Kris Lape
71 St. Lawrence St.

Kris Lape
Kris Lape Designs
krislape@aol.com
207-592-3484

24 St. Lawrence St.

martica douglas <tica1529@gmail.com> Jul 20, 2018 11:55 AM
Posted in group: **Planning and Urban Development**

Dear Planning Department staff and Planning Board members:

I write to register my opinion that the building proposed to replace the existing building at 24 St. Lawrence St. does not conform to the requirements of the City's Design Manual, Appendix 7

In order to pass muster under the Alternative Design Review, a proposed building design must be "consistent with all of the Principle Statements."

The proposed design for 24 St. Lawrence St. is at at odds with Priciple A, "Overall Context "and Principle B, "Massing."

The Manual's Principle A begins with the 'Explanatory Note:

> *The central idea behind good design in an established neighborhood is to reinforce positive features of the surrounding area, which provide its unique identity.* To a large degree, the scale, mass, orientation, and articulation of an infill building should be compatible with that of the buildings that surround it.

The manual also states: "[t]he guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two block radius in terms of size, scale, materials and siting, as well as the general character of the established neighborhood."

The mandate here could not be plainer: the main ingredient of good building design is not to mimic but to achieve an alliance with the surrounding properties, primarily in terms of proportionality.

The proposed building still sticks out like a sore thumb, which undoubtedly explains why it is obscured by a tree in the renderings of the street view- (a tree that will come down if the project is allowed to proceed.) It is incompatible with the surrounding buildings in many ways, but most significantly and most concerningly with respect to mass, scale, and form. It dwarfs and crowds the neighboring buildings. The proposed balconies- an inevitable locus for airbnb parties- are so close to the neighboring buildings as to be clearly intrusive and disruptive. This is guaranteed to generate complaints of noise and disturbances-and to escalate tensions with the owners of neighboring properties, all of whom are strenuously opposed to the building because it is so out of keeping with the established character and unique identity of lower St. Lawrence St. If the proposed building was appropriately scaled it would not have triggered this opposition.

I challenge the Board to identify how the proposed building "reinforces the positive features of the surrounding area which provide its unique identity." It is so out of sync with the neighboring buildings that it undermines rather than reinforces the unique identity of this established neighborhood.

To turn a deaf ear to these neighbors would be an affront to neighborhood character, which is exactly what the Design Manual's Principles and its editorial remarks clearly seek to avoid.

Tica Douglas
11 Munjoy St.

Application ID#2017-242, 24 St. Lawrence Street

Pamela Day <pday2304@gmail.com> Jul 20, 2018 12:34 PM
Posted in group: **Planning Board**

Dear Portland Planning Board Members:

We are writing to voice our strong continuing opposition to this project for the following reasons:

1. Construction of this project threatens our safety and that of our tenants and our property. All three geo tech engineering reports cite potential harm and damage to the 80'x15' retaining wall separating 24 St. Lawrence and 25 Waterville Street. The wall stands within one foot of our rental unit. Recognizing that a replacement wall would provide "a more stable, long term solution with respect to the wall," the Williams have proposed to replace the retaining wall and that of our neighbors. However, we have had no opportunity as yet to discuss this matter and develop a satisfactory agreement. The stability and appearance of the wall are important concerns for us and, should this project proceed, we should have equal say, along with the other abutters, regarding the design, materials used, and timing of a replacement wall.
2. The proposed 10-12 month project would be highly disruptive and costly for all four abutters. Three abutters include an affordable housing unit, each within a few feet of the proposed building. Renters may be forced to vacate our rental unit due to physical damage to the property and we also would likely lose income due to renters not wanting to live directly adjacent to a construction zone. We rely upon this income to meet our housing costs.

In addition to these critical safety and cost issues, it is important to note that the proposed project would replace a habitable historic home and that the surrounding homes are also historic and well maintained. In view of the historic nature of the neighborhood, we believe that the size and scope of the revised project plan is contrary to several key elements of the City of Portland Comprehensive Plan, including:

- Maintaining and enhancing the integrity of our neighborhoods.
- Stabilizing and enhancing historic areas of the city by ensuring quality investment in existing structures.
- Promoting historic preservation as a key economic, sustainability and community development strategy.
- Expanding the availability of affordable housing. Instead, this project removes one affordable unit and adds 5 very expensive units to an increasingly unaffordable rental market

Should the Planning Board approve this project, which we fundamentally oppose, such approval should be granted subject to the following conditions:

- An independent assessment by a certified geo tech engineer regarding the best way to ensure the stability and safety of the replacement walls. Previous assessments were preliminary in nature and based on earlier plan submissions, not the most recent plan which is substantially different from earlier ones.
- Mutual agreement regarding the strengthening or replacement of the current retaining walls at no cost to abutters and with their concurrence regarding overall design, materials and timetable.
- Fiscal assurance by the developer to cover potential damages and loss of rental income.

Respectfully,

Pamela Day & Michael Petit

Pamela Day & Michael Petit
25 Waterville Street
Portland 04101

e w <eenebw@hotmail.com> 12:30 PM (8 minutes ago)

Reply

to Planning, martica, Enoch, EJ, Mary, Maggy, Jayne, Paula, peter, Barbara, Ned, Carol, Berry, Wayne, Pamela, Rob, carol, Karine, jwuest

Well said.
Planning board: I second the motion to explain. I am a concerned munjoy hill resident and as a group we worked hard to put measures in place to change development in munjoy
We will not go away and our concerns will no longer be swept under the rug. That era of transparency is OVER. We want to protect what is left if our neighborhood and will continue to hold your feet to the fire of what is written as guidelines that do not seem to mean much to the city .

EJ Koch

I echo the concerns articulated so well by Martica, and also reference the City of Portland Comprehensive Plan as a guiding policy for development and the City's purpose. The building they propose is shocking when you go to the site and understand what they want to do. Never mind tearing down a house in good condition.

Erna Koch

24 ST. LAWRENCE STREET REDEVELOPMENT

KELLY & WALTER WILLIAMS
PORTLAND, MAINE

LEGEND

EXISTING

REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION

PROPOSED

UNDERDRAIN	
GREEN SPACE	
UTILITY PAVEMENT CUTS	
STRIPING	
SEDIMENTATION BARRIER	
EDGE OF EX. PAVEMENT	
CURB	
UTILITY POLE	
WATER VALVE	
FIRE HYDRANT	
SEWER MANHOLE	
DRAINAGE STRUCTURE	
UNDERGROUND WATER LINE	1"W 1"W
MINOR CONTOURS (1 FT)	64
MAJOR CONTOURS (5 FT)	65
GAS LINE	GAS GAS
SEWER LINE	S S
EXISTING/PROPOSED BUILDING	
UNDERGROUND ELECTRICAL/TELEPHONE/CABLE	UGE/T/C
OVERHEAD ELECTRICAL/TELEPHONE/CABLE	
PROPERTY LINE	
SETBACKS	

INDEX

C-01 COVER SHEET & LEGEND
C-02 GENERAL NOTES
EX EXISTING CONDITIONS PLAN – BY OWEN HASKELL
C-03 DEMOLITION & CONSTRUCTION MANAGEMENT PLAN
C-10 SITE PLAN
L-1 LANDSCAPE PLAN
C-20 UTILITY PLAN
C-30 GRADING & DRAINAGE PLAN
C-40 SITE DETAILS – 1
C-41 SITE DETAILS – 2
C-42 UTILITY DETAILS – 1
C-43 UTILITY DETAILS – 2
C-44 DRAINAGE DETAILS
C-45 EROSION & SEDIMENTATION CONTROL DETAILS

UTILITIES

SEWER:

DEPARTMENT OF PUBLIC WORKS (DPW)
55 PORTLAND STREET
PORTLAND, MAINE 04101
CONTACT: KEITH GRAY, P.E.
(207) 874-8834

WATER:

PORTLAND WATER DISTRICT (PWD)
225 DOUGLASS STREET
PO BOX 3553
PORTLAND, MAINE 04104
ATTN: MEANS DIVISION
(207) 774-5961

ELECTRIC:

CENTRAL MAINE POWER COMPANY (CMP)
162 CANCO ROAD
PORTLAND, MAINE 04103
CONTACT: PAUL DUPERRE
(207) 828-2882

TELEPHONE:

FAIRPOINT COMMUNICATIONS
45 FOREST AVENUE
PORTLAND, MAINE 04101
CONTACT: MIKE SAMIYA
(207) 712-8414

CABLE:

SPECTRUM/CHARTER COMMUNICATIONS
(FORMERLY TIME WARNER CABLE)
118 JOHNSON ROAD
PORTLAND, MAINE 04102
CONTACT: MARK PELLETIER
(877) 546-0962

NATURAL GAS:

UNITIL SERVICE CORP.
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: BRIDGET HARMON
(207) 541-2536

PROJECT TEAM

DEVELOPER:

KELLY & WALTER WILLIAMS
PORTLAND, MAINE
CONTACT: KELLY OR WILL WILLIAMS
(207) 671-1193

ARCHITECT:

PORT CITY ARCHITECTURE
PORTLAND, MAINE
CONTACT: MARK CHALOUPECKY
(207) 761-9000

SURVEYOR:

OWEN HASKELL, INC
FALMOUTH, MAINE
CONTACT: JOHN C. SCHWANDA, P.L.S.
(207) 774-0424

STRUCTURAL ENGINEER:

STRUCTURAL INTEGRITY CONSULTING ENGINEERS, INC.
PORTLAND, MAINE
CONTACT: AARON JONES, P.E.
(207) 774-4614

GEOTECHNICAL ENGINEER:

R.W. GILLESPIE & ASSOCIATES, INC.
SACO, MAINE
CONTACT: ERIK WIBERG, P.E.
(207) 286-8008

ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION

APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CM	CONSTRUCTION MANAGER
CMP	CENTRAL MAINE POWER
CONC.	CONCRETE
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
GAL.	GALVANIZED
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OHE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TWC	TIME WARNER CABLE/CHARTER COMM.
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC

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ISSUED FOR	BY	DATE
CITY APP.	WHS	10/6/17
RESUBMISSION	WHS	3/23/18

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT
CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
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ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2855

FILE: 1088_CIVIL
JN: 1088
SCALE: NTS
DESIGNED BY: WHS
DRAWN BY: ADG
CHECKED BY: WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11417
5-25-18
REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE, ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.
4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE CITY OF PORTLAND AND SERVICING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.
5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN AUTOCAD FORMAT AND PAPER, STAMPED "AS-BUILT". IF AUTOCAD NOT AVAILABLE EXCLUDE FROM BID IN WRITING.
6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.
7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED EXISTING CONDITIONS SURVEY BY OWEN HASKELL, INC FOR WALTER S. & KELLY A. WILLIAMS, DATED NOVEMBER 30, 2016.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AND ALL ADJACENT PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.
9. THE CONTRACTOR SHALL REVIEW ACORN'S CONSTRUCTION MANAGEMENT PLAN. CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. CONSTRUCTION MANAGEMENT, MEANS AND METHODS, TRAFFIC CONTROL, ETC. SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.
11. THE CONTRACTOR SHALL SURVEY ROCK SURFACE PRIOR TO EXCAVATION AND DEVELOP VOLUME CALCULATIONS TO SHARE WITH ACORN, IF ANY.
12. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF ADJACENT PROPERTIES INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. DOCUMENT WITH PICTURES AT A MINIMUM.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO MODIFY THE CONTRACT DOCUMENTS.
2. ALL SHOP AND ERECTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION FOR ENGINEER'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING.
4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.
5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.
6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.
8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.
9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED.
11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE.
12. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF ADJACENT PROPERTIES INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBILE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL.
13. THE ENGINEER BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.

SPECIAL INSPECTION NOTES:

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS, AS WELL AS SITE DRAINAGE, SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT.
3. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.
4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.
5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
6. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
7. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, AND NET CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE ENGINEER OF RECORD.
8. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.
9. SPECIAL INSPECTION FIRM SHALL BE EMPLOYED BY OWNER AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A REGISTERED LAND SURVEYOR.
2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
3. SIGNAGE, STRIPING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF PORTLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED FOUNDATION CORNERS.
6. CONTRACTOR TO ENSURE THAT DRIVEWAYS AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND IN USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF SITE PLAN - LEVEL III AND SUBDIVISION PERMIT FROM THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY LOAM WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.
2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. SEE BORING LOGS FOR ADDITIONAL INFORMATION.
3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE OWNER. PRIOR TO THE CONTRACTOR PRICING THE WORK THE CONTRACTOR SHALL REQUEST PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.
4. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW FINISH FLOOR ELEVATIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GEOTECHNICAL REPORT PREPARED BY THE PROJECT GEOTECHNICAL ENGINEER.
6. NO ADDITIONAL PAYMENT FOR UNSUITABLE MATERIALS.
7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.
8. SUBSURFACE DATA HAVE BEEN OBTAINED BY R.W. GILLESPIE & ASSOCIATES, INC. AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ALSO REVIEW THE REPORTS PRIOR TO SUBMITTING A BID.
9. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
10. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.

EROSION CONTROL NOTES:

1. ALL ROUTINE MAINTENANCE ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.
2. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.
3. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.
4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.
5. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.
6. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
2. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES.
3. CONTRACTOR TO PROVIDE 5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.
4. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN ON SHEET C-42.
5. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT "WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURES", MOST RECENT REVISION.
6. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH CITY OF PORTLAND, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.
7. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.
8. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
10. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.
11. COORDINATE EXIT POINT FOR SECONDARY SERVICE WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN ENGINEERING WITHIN THE UTILITY PLAN.
12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL PRIOR TO ANY WORK.
13. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.

DEMOLITION NOTES:

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY STILL REMAIN AFTER THE SITE DEMOLITION OCCURRED. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED:

   ROCK AND CONCRETE FOUNDATIONS

   CONCRETE SLABS

   BITUMINOUS ASPHALT PAVEMENT

   CONCRETE PADS AND BLOCKS

   FENCE POST AND FENCING

   UNDERGROUND UTILITY LINES

   ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS

   STORM DRAIN PIPES AND APPURTENANCE STRUCTURES

   OTHER TRASH & MISCELLANEOUS SOLID WASTES

2. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
3. THE CLIENT HAS NOT REQUESTED NOR HAS ACORN COMPLETED A PHASE I - ENVIRONMENTAL SITE ASSESSMENT FOR THE PROPERTY.
4. CONTRACTOR SHALL REFER TO AND FOLLOW ALL GEOTECHNICAL REPORTS DEVELOPED BY R.W. GILLESPIE & ASSOCIATES, INC. DURING DEMOLITION AND CONSTRUCTION.

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CONSTRUCTION

ISSUED FOR	BY / DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: GENERAL NOTES

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

A C O R N ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH ST. PORTLAND MAINE 04102
(207) 775-2655

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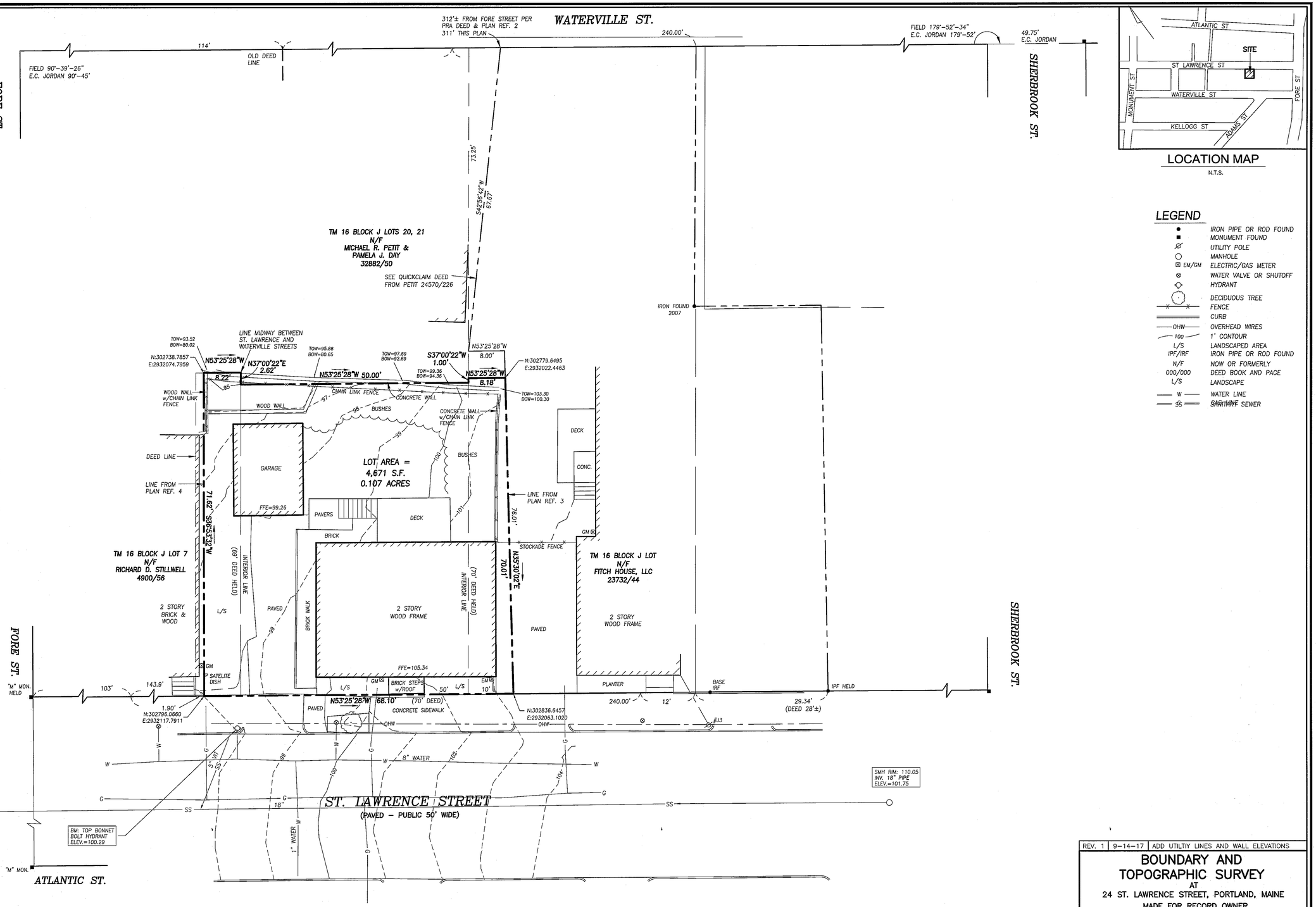
FILE:	1088_CIVIL
JN:	1088
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM SAVAGE
No. 11416
5-25-18
PROFESSIONAL ENGINEER

DRAWING NO.
C-02



LOCATION MAP

N.T.S.

LEGEND

●	IRON PIPE OR ROD FOUND
■	MONUMENT FOUND
⌀	UTILITY POLE
○	MANHOLE
⊠ EM/GM	ELECTRIC/GAS METER
⊗	WATER VALVE OR SHUTOFF
	HYDRANT
	DECIDUOUS TREE
X X	FENCE
	CURB
OHW	OVERHEAD WIRES
100	1' CONTOUR
L/S	LANDSCAPED AREA
IPF/IRF	IRON PIPE OR ROD FOUND
N/F	NOW OR FORMERLY
000/000	DEED BOOK AND PAGE
L/S	LANDSCAPE
W	WATER LINE
SS	SANITARY SEWER

GENERAL NOTES

1. OWNER OF RECORD: WALTER S. AND KELLY A. WILLIAMS
TAX MAP 16 BLOCK J LOT 6
C.C.R.D. BOOK 25609 PAGE 269

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM MAINE WEST NAD83. CITY POINTS T111–38–146 (N:303177.39 E:2932043.79) & T113–78–203 (N:302835.35 E:2932458.96) USED.

3. BENCH MARK: CITY BENCHMARK HIGHEST POINT ON "M" MONUMENT AT NORTHWESTERLY CORNER OF ST. LAWRENCE AND FORE STREET, ELEVATION=69.35 NGVD 1929.

4. THE LINE ALONG FITCH HOUSE, LLC IS THE SAME AS THAT LINE ON PLAN REFERENCE 3, ALTHOUGH THE BEARING SYSTEM IS DIFFERENT. DUE STO VAGUE DEEDS, A BOUNDARY AGREEMENT WAS RECOMMENDED ALONG THIS LINE IN 2006, AT THE TIME OF THAT SURVEY.

5. THE DEED LINE APPEARS TO GO THROUGH THE BUILDING OF STILLWELL. THE LINE SHOWN ON THIS PLAN IS TAKEN FROM PLAN REFERENCE 4. A BOUNDARY AGREEMENT IS RECOMMENDED WITH STILLWELL.

6. THE LINE ALONG PETIT IS TAKEN FROM THE OLD DEEDS THAT MAKE UP THE SUBJECT PROPERTY, NAMELY BOOK 239, PAGE 252, BOOK 264, PAGE 394, BOOK 199, PAGE 423, AND BOOK 214, PAGE 263. THESE DEEDS HAVE THE DIMENSIONS AS SHOWN ON THIS PLAN. THESE DEEDS THAT ABUTT PETIT PREDATE THE DEED INTO THE CHAIN OF PETIT, NAMELY BOOK 218, PAGE 78. THAT DEED CALLS FOR THE REAR LINE TO BE 75 FEET FROM WATERVILLE STREET AND PARALLEL THERETO. THE CURRENT PETIT DEED DEFINES THE LINES AS GOING FROM WATERVILLE STREET "ABOUT SEVENTY–FIVE (75) FEET TO A STONE WALL; THENCE NORTHWESTERLY PARALLEL WITH SAID WATERVILLE STREET AND ON THE LINE OF SAID STONE WALL." A BOUNDARY AGREEMENT IS RECOMMENDED WITH PETIT.

7. AN ATTORNEY SHOULD BE CONSULTED ABOUT THE RECOMMENDED AGREEMENTS. CORNER MARKERS WILL NOT BE SET UNTIL AFTER SUCH AGREEMENTS OR CONSULTATION.

PLAN REFERENCES

1. "STANDARD BOUNDARY SURVEY ON WATERVILLE STREET, PORTLAND, MAINE MADE FOR LARRY DAVIS SEPT. 12, 2000 OWEN HASKELL, INC. JOB NO. 2000–126P."

2) "PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR MUNJOY SOUTH PROJECT ME–R–2 DISPOSITION PARCEL NO. 16–E 11–18–71 H.I. & E.C. JORDAN–SURVEYORS."

3. "BOUNDARY SURVEY AT 28 ST. LAWRENCE STREET, PORTLAND, MAINE MADE FOR FITCH HOUSE, LLC" JULY 6, 2006 OWEN HASKELL, INC. JOB NO. 2006–056P" REVISED 9–03–08.

4. "PLAN OF LAND OWNED BY ANNA D. BIASE, ST. LAWRENCE STREET, PORTLAND, MAINE, CHANDLER H. BARRON, C.E. DEC. 1945"

5. "BOUNDARY & TOPOGRAPHIC SURVEY ON FORE ST. AND WATERVILLE ST., PORTLAND, MAINE MADE FOR OWNER OF RECORD PENINSULA PROPERTY DEVELOPMENT LLC FEBRUARY 16, 2016 OWEN HASKELL, INC. JOB NO. 2015–189P."

GRAPHIC SCALE

0 5' 10' 20' 40'

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

9-15-2017
DATE

JOHN C. SCHWANDA, PLS NO. 1252

STATE OF MAINE JOHN C. SCHWANDA 1252 REGISTERED LAND SURVEYOR

REV.	DATE	DESCRIPTION
1	9–14–17	ADD UTILTIY LINES AND WALL ELEVATIONS

BOUNDARY AND TOPOGRAPHIC SURVEY

AT

24 ST. LAWRENCE STREET, PORTLAND, MAINE

MADE FOR RECORD OWNER

WALTER S. & KELLY A. WILLIAMS

24 ST. LAWRENCE STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207)774–0424

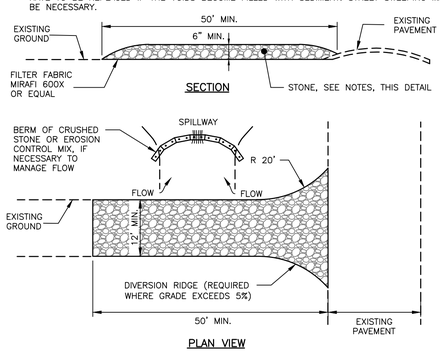
Drawn By RS	Date NOVEMBER 30, 2016	Job No. 2016–321P
Trace By JLW		
Check By JCS	Scale 1" = 10'	Drwg. No. 1
Book No. FILE		

GENERAL NOTES:

1. CONTRACTOR TO COORDINATE WITH PORTLAND WATER DISTRICT TO ABANDON EXISTING WATER SERVICE LINE.
2. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
4. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO COORDINATE SITE DEMOLITION WITH OWNER
7. NOTE THAT ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION.
8. SEDIMENT BARRIERS TO BE PLACED DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; SEDIMENT BARRIER AND CONSTRUCTION FENCE ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY REPRESENT THE SPECIFIC LOCATION OF PHYSICAL LOCATION.
9. CONTRACTOR SHALL INSTALL CONSTRUCTION ENTRANCE AT ALL LOCATIONS OF INGRESS AND EGRESS DURING CONSTRUCTION TO THE SITE. SEE DETAIL.
10. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.

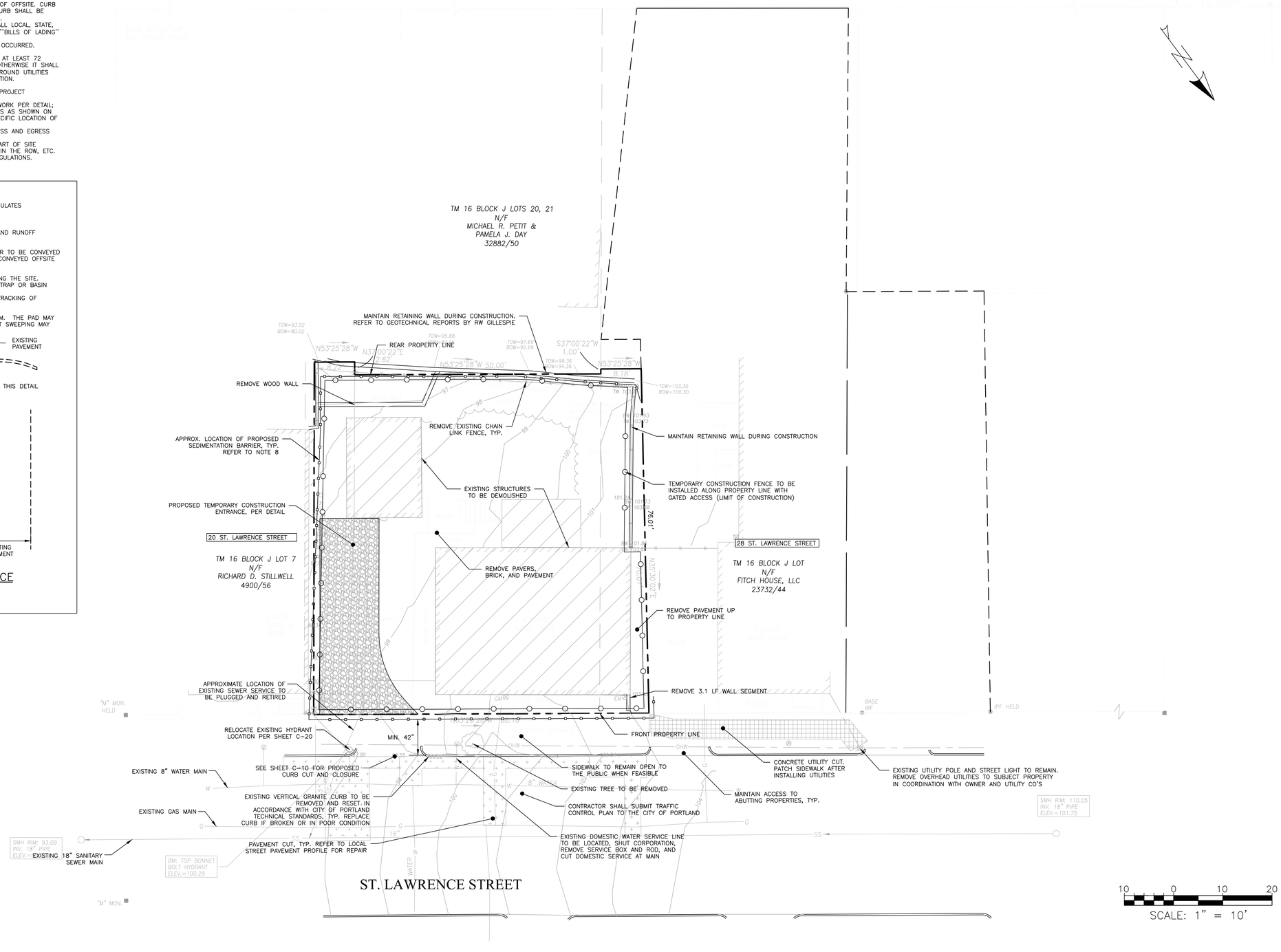
NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"–3" COARSE AGGREGATE
3. BERMS MAY BE NECESSARY TO DIVERT WATER AROUND ANY EXPOSED SOIL, AND RUNOFF SHOULD BE DIRECTED TO A SEDIMENT TRAP.
4. CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.
5. THE WHEELS OF CONSTRUCTION EQUIPMENT MAY BE WASHED PRIOR TO EXITING THE SITE. WASHING SHOULD BE PERFORMED IN AN AREA THAT DRAINS TO A SEDIMENT TRAP OR BASIN
6. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT–OF–WAY
7. THE PAD SHOULD BE INSPECTED WEEKLY, AND BORE AND AFTER EACH STORM. THE PAD MAY HAVE TO BE REPLACED IF THE VOIDS BECOME FILLED WITH SEDIMENT. STREET SWEEPING MAY BE NECESSARY.



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 3/23/18

DRAWING NAME: **DEMOLITION & CONSTRUCTION MANAGEMENT PLAN**

PROJECT NAME: **24 ST. LAWRENCE STREET REDEVELOPMENT**

CLIENT: WALTER & KELLY WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY MODIFICATIONS MADE BY OTHERS, OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1088_CIVIL
JN:	1088
SCALE:	1"=10'
DESIGNED BY:	SJL
DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE — SCOTT J. LAJOIE — SAVAGE — 11415 — 5-25-18 — PROFESSIONAL ENGINEER

DRAWING NO.
C-03

GENERAL NOTES:

1. ALL CONCRETE SIDEWALK ALONG PROPERTY FRONTAGE TO BE REPLACED WITH BRICK PER CITY STANDARD.
2. STRIPING AS INDICATED ON SITE PLAN SHALL BE 4" WIDE. STRIPING SHALL BE YELLOW UNLESS OTHERWISE NOTED.
3. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

SPACE AND BULK STANDARDS

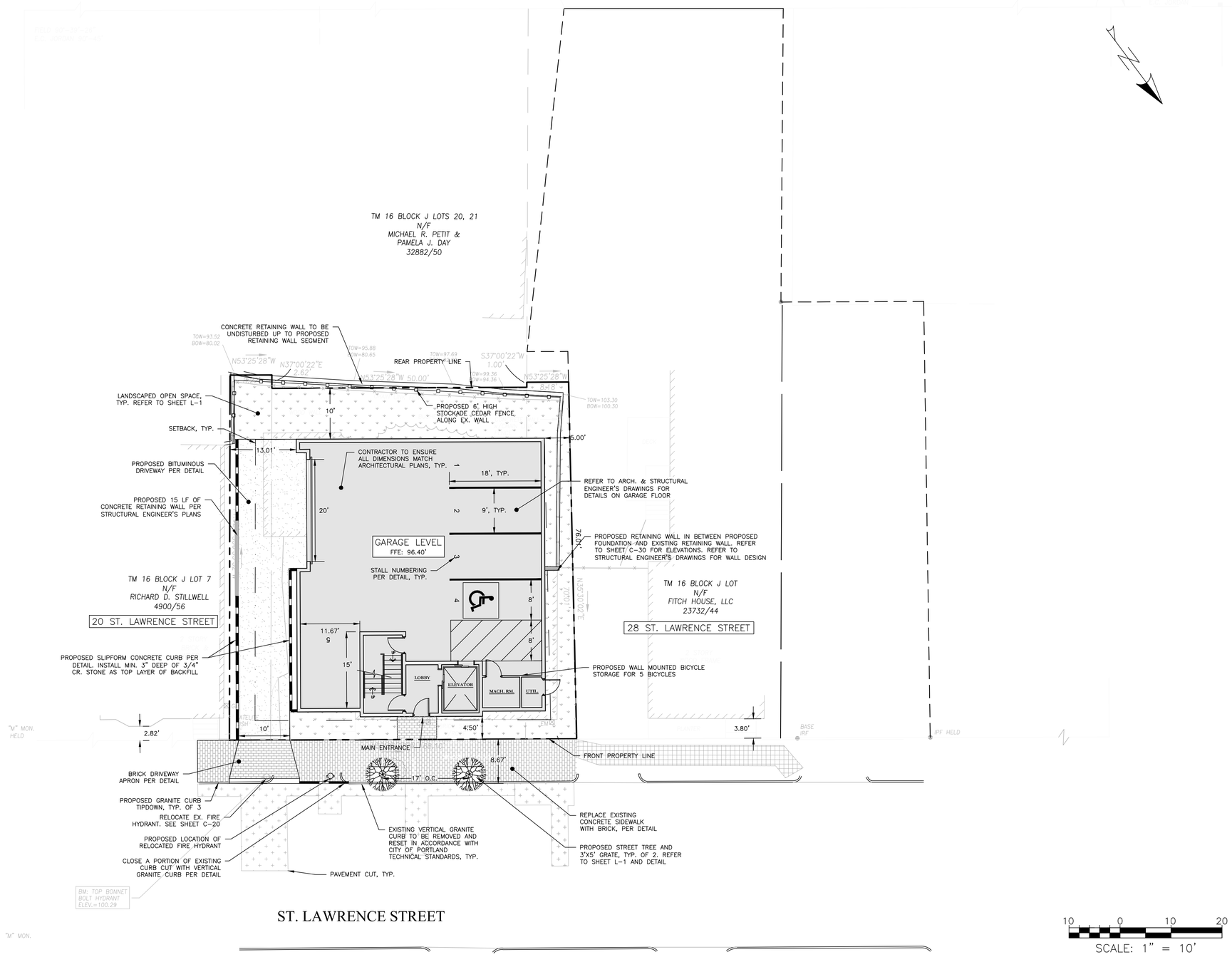
ZONE: R6	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE	2,000 SF	4,671 SF	4,671 SF
MINIMUM STREET FRONTAGE	20'	68'	68'
MINIMUM FRONT YARD SETBACK	5' – ORDINANCE 3.3' – ABUTTER AVG.	3.8'	4.5'
MINIMUM SIDE YARD SETBACK	5'	3'	MIN. 5', VARIES
MINIMUM REAR YARD SETBACK	10'	8.7'	10'
STRUCTURE STEPBACKS (SIDE YARD ABOVE 35')	10'	N/A	10'
STRUCTURE STEPBACKS (REAR YARD ABOVE 35')	15'	N/A	15'
MAXIMUM LOT COVERAGE	60%	35%	60%*
MINIMUM LOT WIDTH	20'	67'	67'
MAXIMUM BUILDING HEIGHT	45'	24'	38.92'
MINIMUM LANDSCAPED OPEN AREA	20%	45%	31%
MAXIMUM NUMBER OF DWELLING UNITS	725 SF/UNIT = 6	2	5
RESIDENTIAL PARKING	1 SPACE PER UNIT AFTER 3 UNITS = 2 SPACES	2	5
MINIMUM INTERNAL RESIDENT BICYCLE STORAGE SPACES	2 SPACES/5 D.U. = 2	0	5
MAXIMUM GARAGE OPENING	20'	N/A	20'
*INCLUDES PORCH AREA			

LEGEND

HATCH STYLE	ASSOCIATED AREAS
	BRICK SIDEWALK
	GREEN SPACE
	PAVEMENT

PARKING SUMMARY

PARKING DIMENSION	# PARKING SPACES
STANDARD (9'X18')	4
ADA (8'X18')	1



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SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
BLDG REV.	WHS 3/1/18
RESUBMISSION	WHS 5/25/18

DRAWING NAME: SITE PLAN

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: WALTER & KELLY WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
158 DANFORTH STREET PORTLAND, MAINE 04102
(207) 775-2655

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FILE:	1088_CIVIL
JN:	1088
SCALE:	1"=10'
DESIGNED BY:	WHS
DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE — SCOTT J. LAJOIE — SAVAGE — No. 11416 — 5-25-18 — PROFESSIONAL ENGINEER

DRAWING NO.
C-10

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE GARAGE LEVEL/SITE PLAN, REFER TO SITE PLAN, C-10, MOST RECENT VERSION.
2. FOR INFORMATION REGARDING PROPOSED UTILITY CHANGES, REFER TO UTILITY PLAN, SHEET C-20, MOST RECENT VERSION.
3. FOR INFORMATION REGARDING PROPOSED GRADING CHANGES, REFER TO GRADING & DRAINAGE PLAN, SHEET C-30, MOST RECENT VERSION.
4. UNIT TABULATION PROVIDED BY PORT CITY ARCHITECTURE; REFER TO ARCHITECTURAL PLANS FOR FLOOR PLANS AND BUILDING HEIGHTS.
5. TOTAL SITE AREA INCLUDES 0.107 ACRES (4,671 S.F.). R.O.W. WIDTH FOR SAINT LAWRENCE STREET IS 50 FEET PER EXISTING CONDITIONS PLAN. REFER TO EXISTING CONDITIONS PLAN COMPLETED BY OWEN HASKELL, INC. DATED 11/30/16.
6. SITE BOUNDARIES PER EXISTING CONDITIONS PLAN AND PROPERTY PINS TO BE SET BY OWEN HASKELL, INC.
7. AS OF 5/31/2018, SITE IS BOUNDED BY THE R-6 ZONE ON ALL ABUTTING SIDES PER CITY OF PORTLAND GIS WEBSITE.
8. LOCUS PARCEL IS SHOWN ON THE CITY OF PORTLAND ASSESSOR'S MAP 16, BLOCK J, LOT 006.
9. LOCUS PARCEL DOES NOT SCALE IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 2300510014B, INDEX DATED 7/17/1986.
10. ALL BUILDING CORNER OFFSETS TO BOUNDARY LINES ARE FROM CORNERBOARDS AND NOT BUILDING FOUNDATION, UNLESS OTHERWISE NOTED.
11. THIS SHEET IS THE SUBDIVISION PLAT FOR THE CREATION OF UP TO FIVE (5) DWELLING UNITS ON THE EXISTING SUBJECT PROPERTY. APPROVAL OF THIS PLAT DOES NOT CREATE ANY SUBDIVISION OF THE LAND ON THE SUBJECT PROPERTY.
12. THE CONDOMINIUM DOCUMENTS ARE TO OUTLINE THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SIDEWALKS, RETAINING WALLS, STORMWATER DEVICES, SITE LIGHTING, TRASH REMOVAL, AND SNOW REMOVAL AS THE RESPONSIBILITY OF THE OWNER.
13. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SIDEWALKS, STORMWATER DEVICES, SITE LIGHTING, TRASH REMOVAL, RETAINING WALLS, AND SNOW REMOVAL.
14. THE CONDOMINIUM ASSOCIATION MUST COMPLY TO THE FOLLOWING AS APPROVED BY THE CITY:

14.1. CONDOMINIUM DOCUMENTS: BOOK _____ PAGE _____

WAIVERS & CONDITIONS OF APPROVAL:

TBD

EASEMENTS:

ALL PROPOSED EASEMENTS TO BE REVIEWED BY OWEN HASKELL, INC. AND RECORDED IN CCRD. ALL EXISTING EASEMENTS WILL BE RELEASED PRIOR TO PROJECT START. THERE ARE NO EXISTING OR PROPOSED EASEMENTS.

SURVEY NOTES:

1. OWNER OF RECORD: WALTER S. AND KELLY A. WILLIAMS
   TAX MAP 16 BLOCK J LOT 6
   CCRD BOOK 25609 PAGE 269
2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM MAINE WEST NAD83. CITY POINTS T111-38-146 (N:303177.39 E:2932043.79) & T113-78-203 (N:302835.35 E:2932458.96) USED.
3. BENCH MARK: CITY BENCHMARK HIGHEST POINT ON "M" MONUMENT AT NORTHWESTERLY CORNER OF ST. LAWRENCE AND FORE STREET, ELEVATION=69.35 NGVD 1929.
4. THE LINE ALONG FITCH HOUSE, LLC IS THE SAME AS THAT LINE ON PLAN REFERENCE 3, ALTHOUGH THE BEARING SYSTEM IS DIFFERENT. DUE TO VAGUE DEEDS, A BOUNDARY AGREEMENT WAS RECOMMENDED ALONG THIS LINE IN 2006, AT THE TIME OF THAT SURVEY.
5. THE DEED LINE APPEARS TO GO THROUGH THE BUILDING OF STILLWELL. THE LINE SHOWN ON THIS PLAN IS TAKEN FROM PLAN REFERENCE 4. A BOUNDARY AGREEMENT IS RECOMMENDED WITH STILLWELL.
6. THE LINE ALONG PETIT IS TAKEN FROM THE OLD DEEDS THAT MAKE UP THE SUBJECT PROPERTY, NAMELY BOOK 239, PAGE 252, BOOK 264, PAGE 394, BOOK 199, PAGE 423, AND BOOK 214, PAGE 263. THESE DEEDS HAVE THE DIMENSIONS AS SHOWN ON THIS PLAN. THESE DEEDS THAT ABUT PETIT PREDATE THE DEED INTO THE CHAIN OF PETIT, NAMELY BOOK 218, PAGE 78. THAT DEED CALLS FOR THE REAR LINE TO BE 75 FEET FROM WATERVILLE STREET AND PARALLEL THERETO. THE CURRENT PETIT DEED DEFINES THE LINES AS GOING FROM WATERVILLE STREET "ABOUT SEVENTY-FIVE (75) FEET TO A STONE WALL; THENCE NORTHWESTERLY PARALLEL WITH SAID WATERVILLE STREET AND ON THE LINE OF SAID STONE WALL." A BOUNDARY AGREEMENT IS RECOMMENDED WITH PETIT.
7. AN ATTORNEY SHOULD BE CONSULTED ABOUT THE RECOMMENDED AGREEMENTS. CORNER MARKERS WILL NOT BE SET UNTIL AFTER SUCH AGREEMENTS OR CONSULTATION.

SPACE AND BULK STANDARDS

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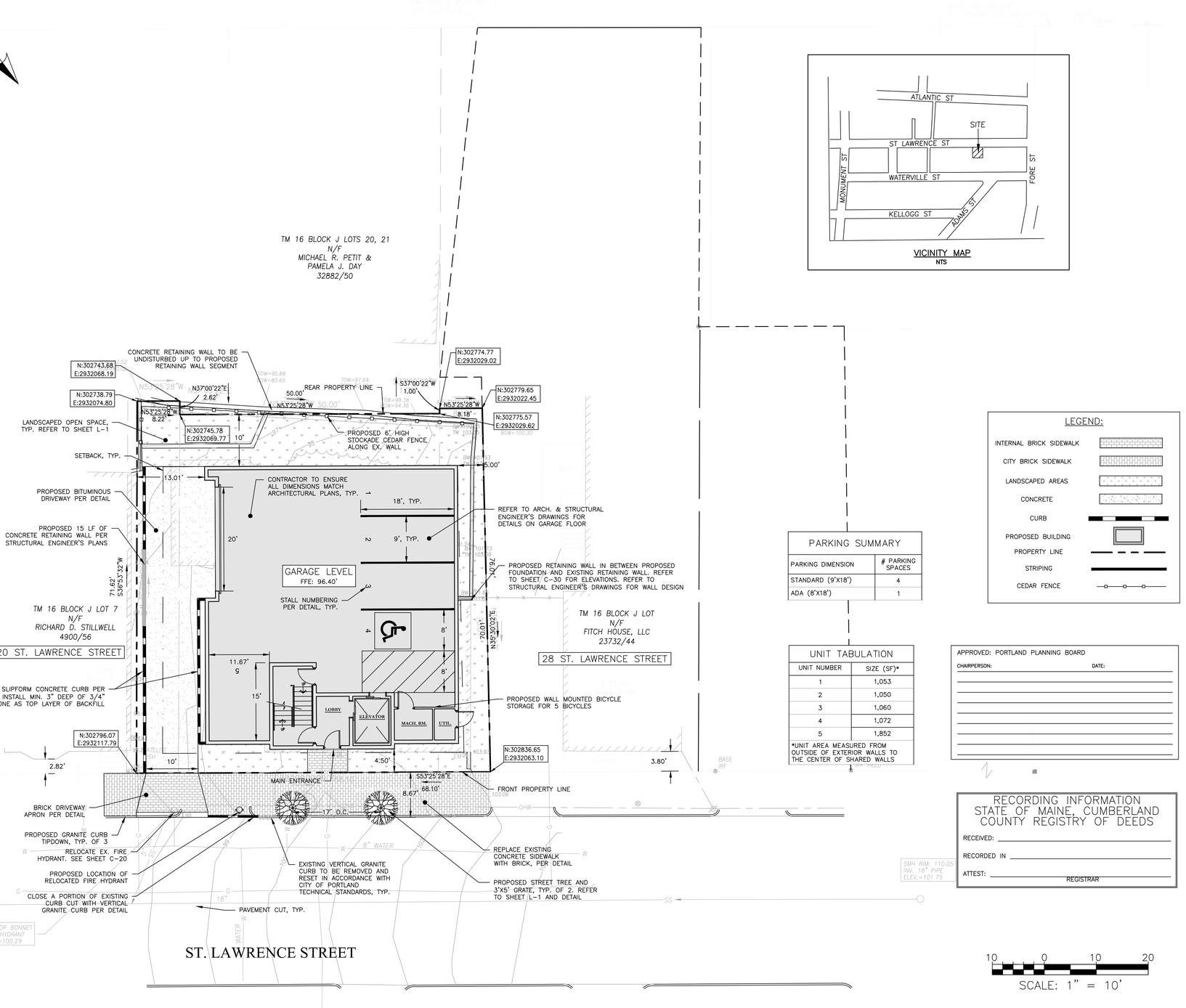
MAXIMUM GARAGE OPENING	20'	N/A	20'
*INCLUDES PORCH AREA			



VICINITY MAP
NTS

PARKING SUMMARY

PARKING DIMENSION	# PARKING SPACES
STANDARD (9'X18')	4
ADA (8'X18')	1

UNIT TABULATION

UNIT NUMBER	SIZE (SF)*
1	1,053
2	1,050
3	1,060
4	1,072
5	1,852

*UNIT AREA MEASURED FROM OUTSIDE OF EXTERIOR WALLS TO THE CENTER OF SHARED WALLS

LEGEND:

- INTERNAL BRICK SIDEWALK
- CITY BRICK SIDEWALK
- LANDSCAPED AREAS
- CONCRETE
- CURB
- PROPOSED BUILDING
- PROPERTY LINE
- STRIPING
- CEDAR FENCE

APPROVED: PORTLAND PLANNING BOARD

CHAIRPERSON: DATE:

RECORDING INFORMATION
STATE OF MAINE, CUMBERLAND COUNTY REGISTRY OF DEEDS

RECEIVED: _____

RECORDED IN _____

ATTEST: _____
REGISTRAR

OWNER/SUBDIVIDER:

KELLY & WALTER WILLIAMS
PORTLAND, MAINE

CIVIL/SITE ENGINEER:

ACORN ENGINEERING, INC.
PORTLAND, MAINE
CONTACT: WILL SAVAGE, P.E.

SURVEYOR:

OWEN HASKELL, INC.
FALMOUTH, MAINE
CONTACT: JOHN SCHWANDA, P.L.S.

JOHN SCHWANDA, MAINE P.L.S. #1252

OWEN HASKELL, INC. "M" MON. DATE:

10 0 10 20
SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
CITY APP.	WHS	10/6/17
RESUBMISSION	WHS	5/25/18

DRAWING NAME: SUBDIVISION PLAT

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: WALTER & KELLY WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
158 DANFORTH STREET PORTLAND MAINE 04102
(207) 775-2655

FILE:	1088_CIVIL
JN:	1088
SCALE:	1"=10'
DESIGNED BY:	SJL
DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM SAVAGE
No. 11415
5-25-18
PROFESSIONAL ENGINEER

DRAWING NO.
PLAT

GENERAL NOTES:

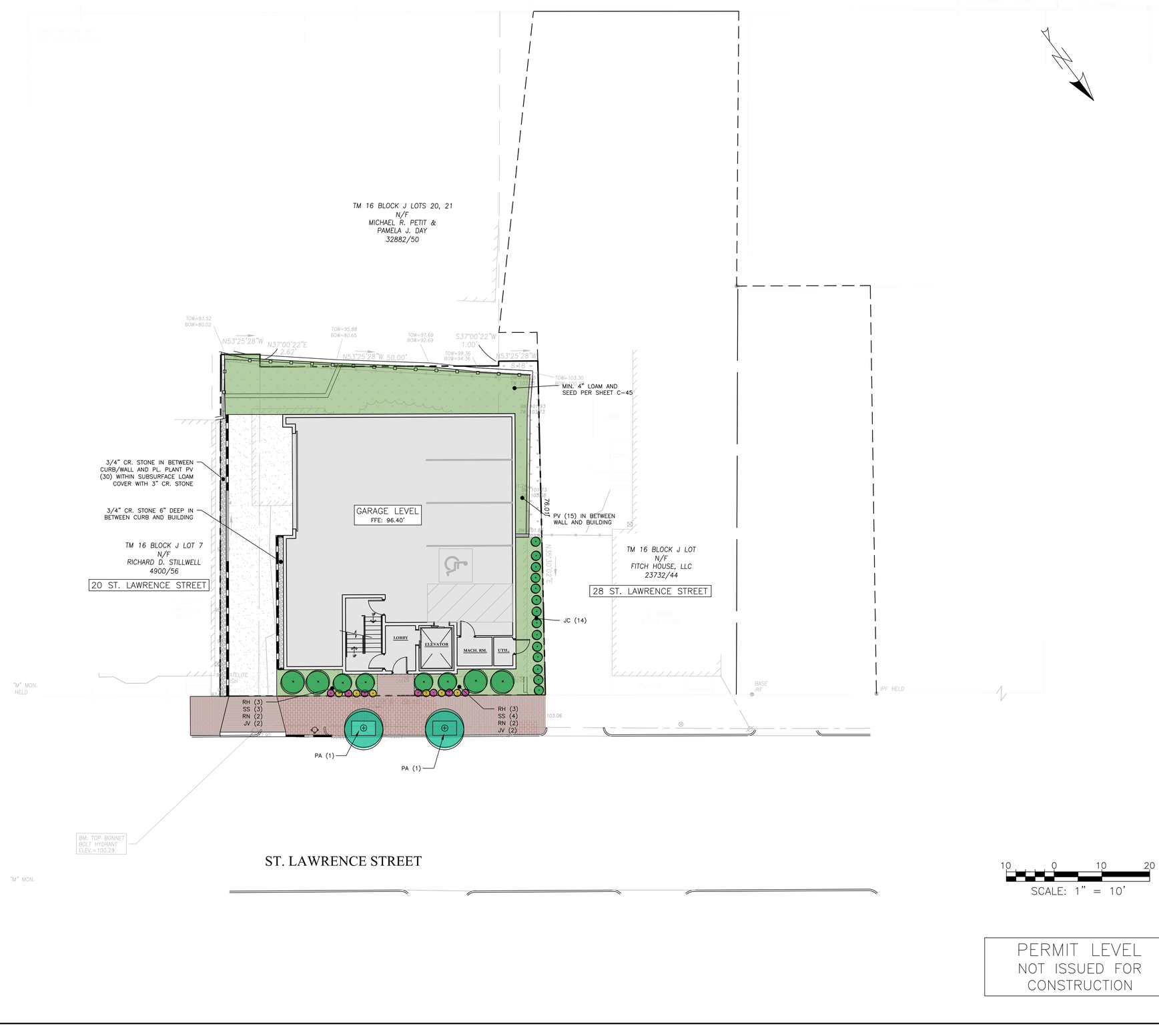
1. ALL PROPOSED GREEN SPACES AND ASSOCIATED PLANT SPECIES ARE TO COMPLY WITH THE CITY OF PORTLAND TECHNICAL STANDARDS. ANY SUBSTITUTIONS SHALL BE REVIEWED FOR APPROVAL BY THE CITY ARBORIST.
2. CONTRACTOR TO BE HELD RESPONSIBLE FOR THE WATERING AND MAINTENANCE OF ALL PLANT MATERIAL AND LANDSCAPING IMPROVEMENTS FOR AT LEAST 30 DAYS FOLLOWING INSTALLATION. FOLLOWING THIS PERIOD, THE CONDO ASSOCIATION OR PROPERTY MANAGEMENT COMPANY SHALL BE RESPONSIBLE FOR CONTINUED WATERING AND MAINTENANCE.
3. CONTRACTOR TO MAINTAIN A ONE YEAR WARRANTY ON ALL PLANTINGS FOLLOWING INSTALLATION.
4. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
5. CONTRACTOR TO VERIFY ALL UTILITIES ON PROPERTY AND TO PROTECT ALL UTILITIES DURING EXCAVATION FOR PLANTS.
6. ALL CONTAINER MATERIAL TO BE GROWN IN CONTAINER MINIMUM OF 6 MONTHS.
7. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN.
8. CONTRACTOR SHALL REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO OWNER.
9. THE ENGINEER MAY TAG ALL PLANTS AT THE NURSERY AND INSPECT THEM AFTER DELIVERY TO THE SITE; ALL PLANT MATERIALS SHALL BE INSPECTED BY THE ENGINEER ON SITE PRIOR TO INSTALLATION.
10. THE MAJORITY OF SPECIES ARE SPECIFIED WITHIN THE MAINE DEP BUFFER ZONE PLANT LIST AND ARE NATIVE AND SALT & DROUGHT RESISTANT.
11. SEE PERMANENT SEEDING TABLE ON SHEET C-45 FOR GRASSY LAWN AREAS.

PLANT SCHEDULE

ID	BOTANICAL NAME	COMMON NAME	QTY	SIZE
GRASSES				
PV	PANICUM VIRGATUM	SWITCH GRASS	55	3 QT.
PERENNIALS				
RH	RUDBECKIA HIRTA	BLACK EYED SUSAN	6	1 GAL.
SS	SALVIA SYLVESTRIS	SAGE 'MAY NIGHT'	7	1 GAL
SHRUBS				
RN	RHODODENDRON	RHODODENDRON 'HENRY'S RED'	4	3 GAL.
TREES				
PA	PRUNUS 'ACCOLADE'	ACCOLADE CHERRY	2	2" CA.
JV	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EASTERN JUNIPER	14	5-6'
JC	JUNIPERUS COMMONIS 'PENCIL POINT'	PENCIL POINT JUNIPER	14	5 GAL.

LEGEND

STYLE	ASSOCIATED AREAS
	LANDSCAPED AREA
	BRICK SIDEWALK
	BUILDING FOOTPRINT
	CR. STONE
	PAVEMENT



10 0 10 20
SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: LANDSCAPE PLAN

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: WALTER & KELLY WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
ENGINEERING
158 DANFORTH STREET PORTLAND, MAINE 04102
(207) 775-2855

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DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM SAVAGE
No. 11415
5-25-18
LICENSED PROFESSIONAL ENGINEER

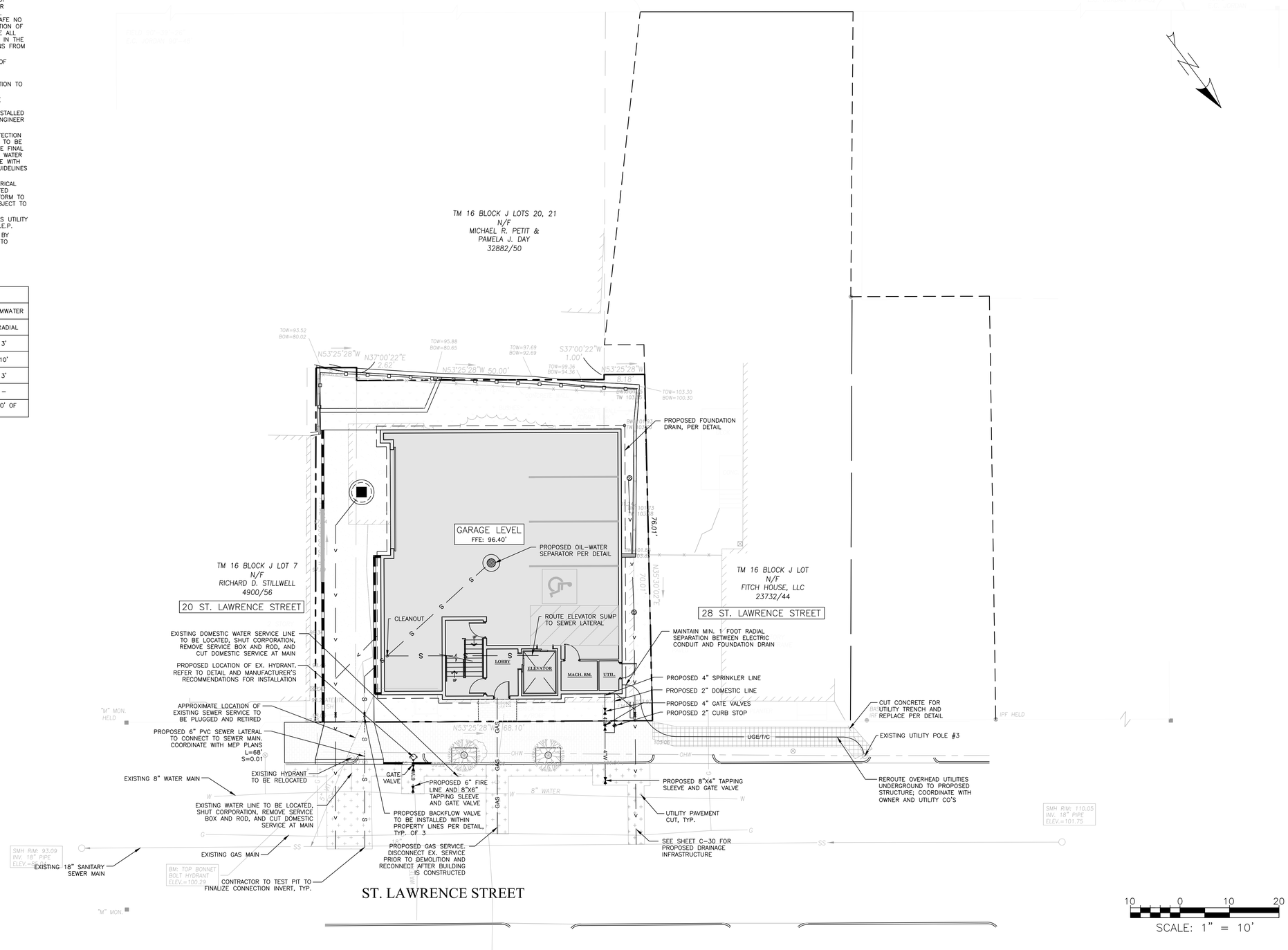
DRAWING NO.
L-1

GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY SURVEY, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS EXTEND TO OUTSIDE WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTION LOCATION TO EACH RESIDENTIAL UNIT.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF FIELD CONDITIONS FROM INVERT VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND POLE-MOUNTED TRANSFORMER SIZES DEFINED BY M.E.P. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
8. GAS UTILITIES: EXISTING STUB LOCATION APPROXIMATE. PROJECT GAS LOAD AND GAS UTILITY DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. GAS METERS TO BE LOCATED BY M.E.P.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND FAIRPOINT PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE.

MINIMUM HORIZONTAL UTILITY SEPARATION					
UTILITY	UGE/T/C	WATER	SEWER	GAS	STORMWATER
UGE/T/C	–	6'	5'	4'	1' RADIAL
WATER	6'	–	5'*	6'	3'
SEWER	5'	5'*	–	5'	10'
GAS	4'	6'	5'	–	3'
STORMWATER	1' RADIAL	3'	10'	3'	–
*PERMISSIBLE ONLY IF SEWER IS LAID MIN. 18" BELOW WATER SERVICE; OTHERWISE, 10' OF HORIZONTAL SEPARATION MUST BE MAINTAINED.					

LEGEND	
HATCH STYLE	ASSOCIATED AREAS
	UTILITY CUT



10 0 10 20

SCALE: 1" = 10'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
ABILITY LETTERS	WHS 9/21/17
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: UTILITY PLAN

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: WALTER & KELLY WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
158 DANFORTH STREET PORTLAND, MAINE 04102
(207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS, ADDITIONS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1088_CIVIL
JN:	1088
SCALE:	1"=10'
DESIGNED BY:	SJL
DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE
STEVEN J. LAJOIE
SAVAGE
No. 11419
5-25-18
LICENSED PROFESSIONAL ENGINEER

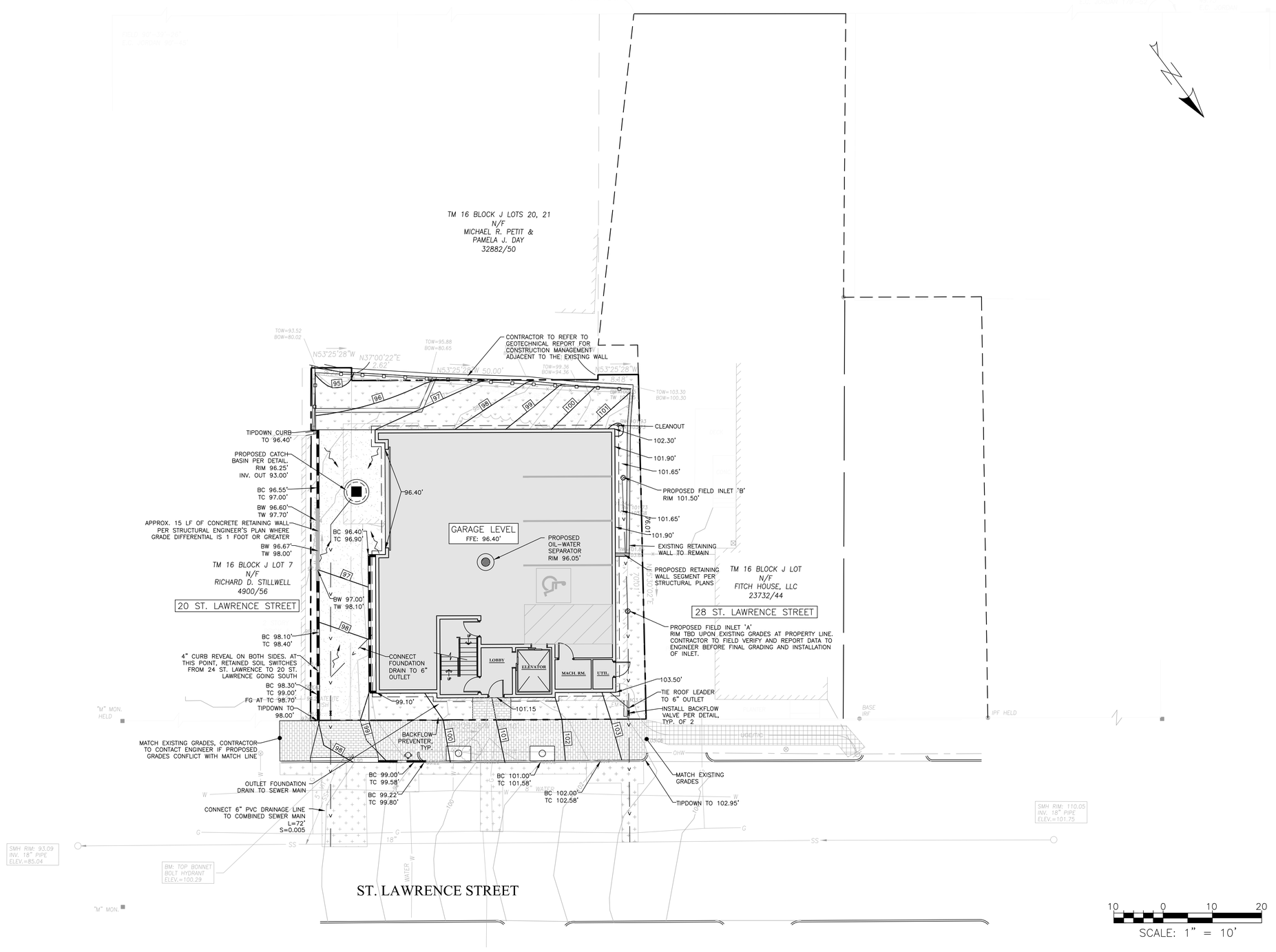
DRAWING NO.
C-20

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. REFER TO STRUCTURAL PLANS FOR FOUNDATION REQUIREMENTS. DESIGN OF ADDITIONAL TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT FOUNDATION DRAINS AND UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.

AVERAGE GRADE CALCULATIONS:

NORTHERLY CORNER:	103.50'
EASTERLY CORNER:	99.10'
SOUTHERLY CORNER:	97.00'
WESTERLY CORNER:	102.30'
AVERAGE GRADE:	100.48'
ROOF GRADE:	139.40'
BUILDING HEIGHT:	38.92'



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
BLDG REV.	WHS 3/1/18
RESUBMISSION	WHS 5/25/18

DRAWING NAME: **GRADING & DRAINAGE PLAN**

PROJECT NAME: **24 ST. LAWRENCE STREET REDEVELOPMENT**

CLIENT: WALTER & KELLY WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

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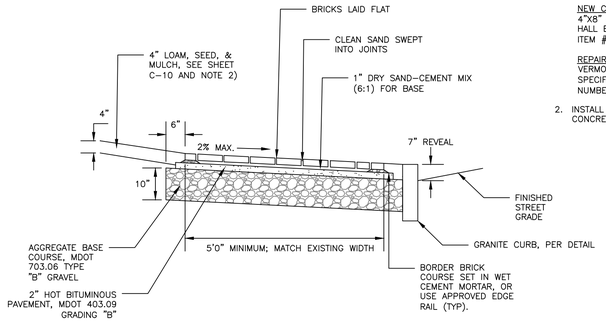
SCALE:	1"=10'
DESIGNED BY:	WHS
DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11617
5-25-18
REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-30



NOTES:

1. BRICKS TO BE USED:

   NEW CONSTRUCTION:
   4"X8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM #193623;. PINE HALL PATHWAY PAVER BRICK.

   REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
   VERMONT BACKER SUPPLIED BY GAGNE AND SONS SPECIFICATION NUMBER: "VERMONT PAVER BRICK", ITEM NUMBER #VBBB

2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.

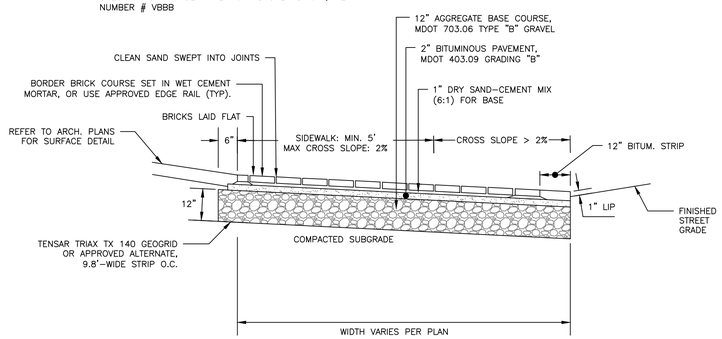
BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL

NOT TO SCALE

BRICKS TO BE USED:

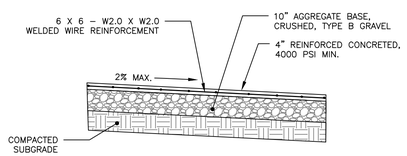
NEW CONSTRUCTION:
4"X8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM #193623;. PINE HALL PATHWAY PAVER BRICK.

REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
VERMONT PAVER; SUPPLIED BY GAGNE AND SONS. SPECIFICATION NUMBER: "VERMONT BACKER BRICK", ITEM NUMBER # VBBB



BRICK DRIVEWAY APRON WITH BITUMINOUS BASE DETAIL

NOT TO SCALE

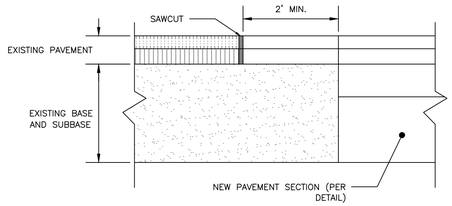


REINFORCED CONCRETE SIDEWALK

NOT TO SCALE

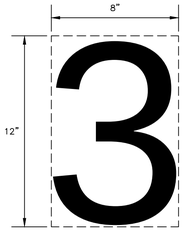
NOTES:

1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. APPLY BITUMINOUS TACK COAT PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
2. THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL

NOT TO SCALE

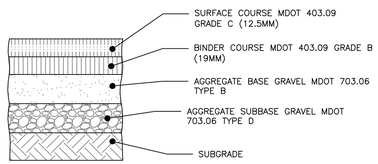


NOTES:

1. NUMBERS TO BE PAINTED AS THE SAME COLOR AS THE CORRESPONDING PARKING SPACE.
2. BOTTOM OF NUMBER TO BE FLUSH WITH THE FRONT OF THE PARKING SPACE.

PARKING STALL NUMBER DETAIL

NOT TO SCALE

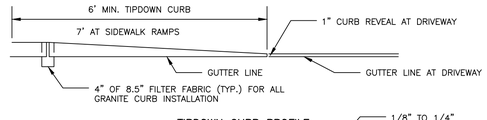


NOTE:
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

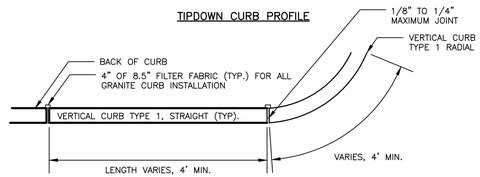
THICKNESS OF LAYERS	
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

BITUMINOUS PAVEMENT PROFILE: ST. LAWRENCE STREET

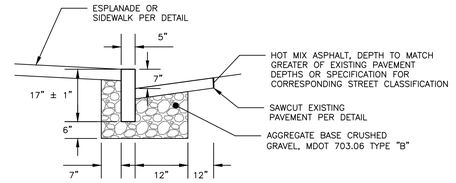
NOT TO SCALE



TIPDOWN CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

NOTES:

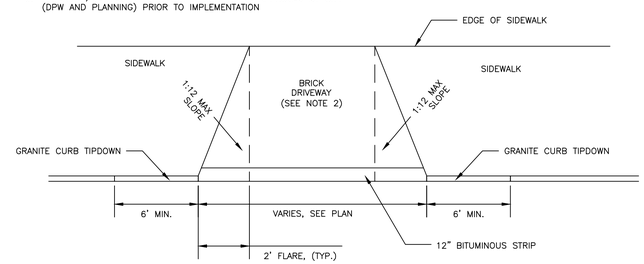
1. CURB SHALL BE RESET IN ACCORDANCE WITH MDOT 609.08 WITH THE EXCEPTION OF CURB SPACING TO BE INSTALLED PER DETAIL.

VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION IN EXISTING STREETS DETAIL

NOT TO SCALE

NOTES:

1. REFER TO GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR SITE GRADING
2. REFER TO BRICK DRIVEWAY APRON WITH BITUMINOUS BASE DETAIL FOR APRON CROSS-SECTIONL
3. MATERIALS/DETAILS OF DRIVEWAY APRON TO BE APPROVED BY CITY (DPW AND PLANNING) PRIOR TO IMPLEMENTATION



BRICK DRIVEWAY APRON LAYOUT DETAIL

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: SITE DETAILS - 1

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE BY ANY PERSON OTHER THAN ACORN ENGINEERING, INC. AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

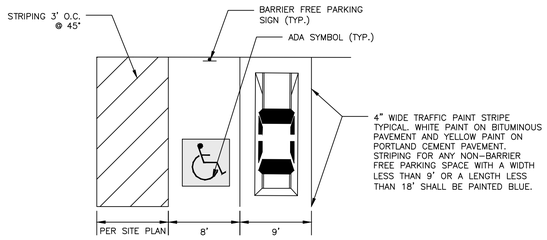
FILE:	1088_CIVIL
JN:	1088
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	SJL
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11415
5-25-18
REGISTERED PROFESSIONAL ENGINEER

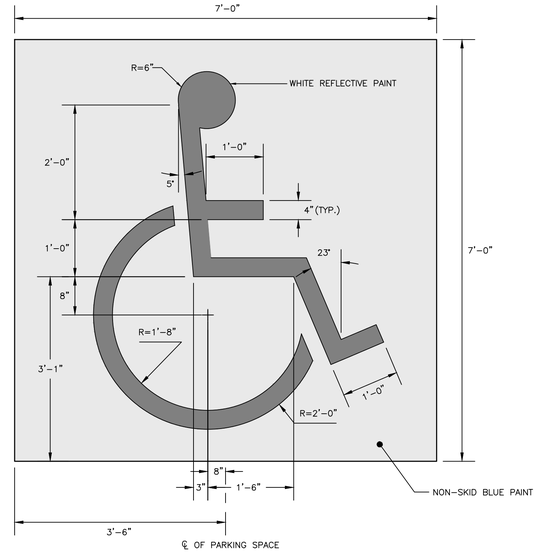
DRAWING NO.
C-40

PLANTING NOTES:

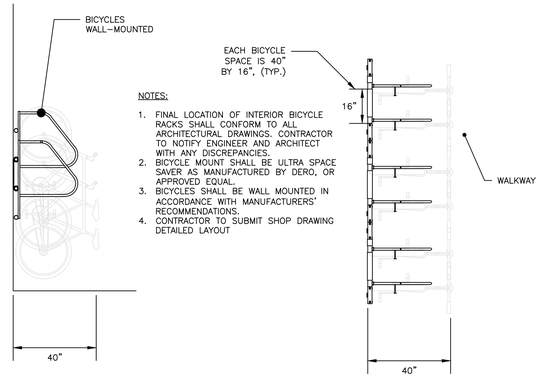
1. ALL PLANT SELECTION AND INSTALLATION WILL BE IN COMPLIANCE WILL THE CITY OF PORTLAND TECHNICAL MANUAL (SECTION 4).
2. CONTRACTOR TO VERIFY ALL UTILITIES ON PROPERTY AND TO PROTECT ALL UTILITIES DURING EXCAVATION FOR PLANTS.
3. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER OF PLANTS SHOWN IN PLANT LIST (IF ANY), THE NUMBER OF PLANTS SHOWN ON PLAN WILL TAKE PRECEDENCE.
4. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR PLANTED SHALL BE LOAMED AND SEEDED AS SHOWN. THE SEED MIX SPECIFICATIONS ARE AS FOLLOWS: LESCO FINE FESCUE LINKS BLEND OF 35% HARD FESCUE, 35% CREEPING RED FESCUE, 20% CHEWINGS FESCUE AND 10% SHEEP FESCUE. ADD 5% LITTLE BLUESTEM AND 5% NORTHEAST WILDFLOWER SEED MIXTURE BY WEIGHT TO THE LINKS BLEND.
6. FOR PRICING PURPOSES, PROVIDE A PER TREE UNIT COST FOR STAKING AND GUYING. IF STAKING AND GUYING IS REQUIRED, REMOVE TREE WRAP, STAKES, AND GUY WIRES AT END OF FIRST GROWING SEASON.
7. FOR TREE PLANTING IN LAWN AREAS, ANY DISTURBED LAWN SHALL BE LOAMED AND SEEDED AS NECESSARY.
8. NEW TREES TO BE INSTALLED WITH A SLOW RELEASE WATERING BAG.
9. CONTRACTOR TO BE HELD RESPONSIBLE FOR THE WATERING AND MAINTENANCE OF ALL PLANT MATERIAL AND LANDSCAPING IMPROVEMENTS FOR AT LEAST 30 DAYS FOLLOWING INSTALLATION. FOLLOWING THIS PERIOD, THE LANDOWNER OR PROPERTY MANAGEMENT SHALL BE RESPONSIBLE FOR CONTINUED WATERING AND MAINTENANCE. CONTRACTOR TO MAINTAIN A ONE YEAR WARRANTY ON ALL PLANTINGS FOLLOWING FINAL INSTALLATION.
10. ALL PROPOSED PLANTS SHALL BE LOCATED AS SHOWN ON THE PLANS. CONTRACTOR TO NOTIFY ENGINEER WHEN PLANTINGS HAVE BEEN MOBILIZED ON SITE. ENGINEER TO INSPECT AND ACCEPT OR REJECT ANY SPECIMENS ON THE BASIS OF APPARENT HEALTH, HARDINESS, AND CONFORMANCE WITH THE PLANTING SCHEDULE. REJECTED SPECIMENS ARE TO BE REPLACED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER. ACCEPTANCE DOES NOT WAIVE THE REQUIRED ONE YEAR PLANTING WARRANTY.



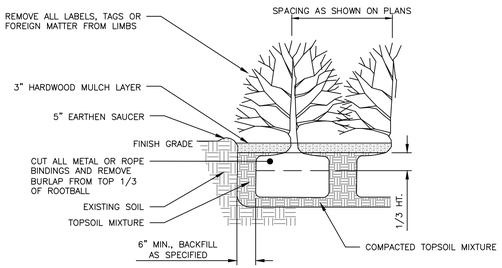
TYPICAL PARKING SPACE DIMENSIONS
NOT TO SCALE



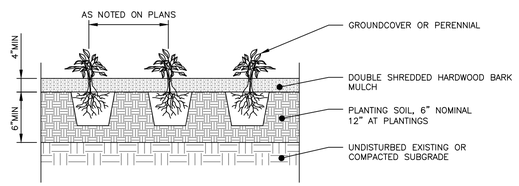
INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



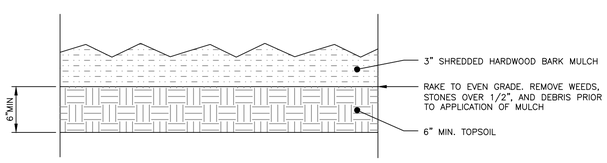
INTERIOR BICYCLE SPACE LAYOUT
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

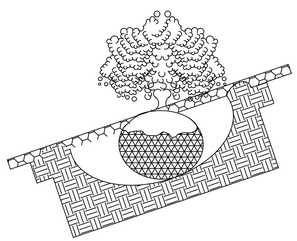


PERENNIAL PLANTING DETAIL
NOT TO SCALE

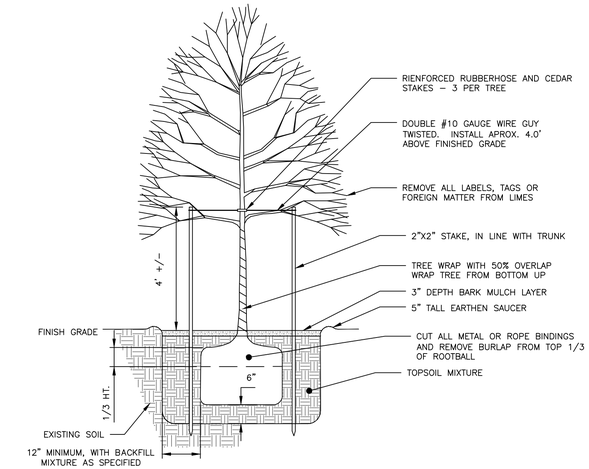


BARK MULCH DETAIL
NOT TO SCALE

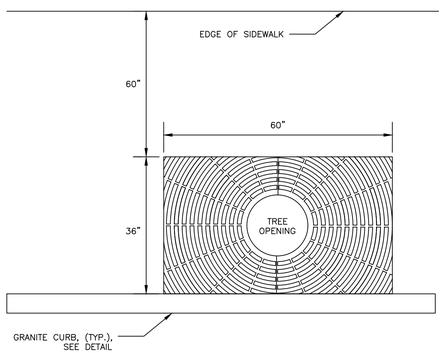
1. DIG HOLE AT LEAST 2 TIMES THE DIAMETER OF THE ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH THE TOP AT DOWNHILL EDGE OF THE HOLE.
2. TOPSOIL BACKFILL SHALL BE NATURAL FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING THE CHARACTERISTICS OF TOPSOIL IN THE VICINITY WHICH PRODUCE A HEAVY GROWTH. TOPSOIL SHALL CONTAIN NOT LESS THAN 6% NOR MORE THAN 20% ORGANIC MATTER. TOP SOIL SHALL HAVE A pH VALUE OF NOT LESS THAN 5.5 NOR MORE THAN 7.0.
3. CONTAINER GROWN STOCK – REMOVE CONTAINER PROTECTING THE ROOT BALL. GENTLY COMB OUT THE ROOTS. PRUNE DAMAGED ROOTS.
4. BACKFILL THE HOLE WITH TOPSOIL TO A DEPTH NOT TO EXCEED 8" THEN WATER SUFFICIENTLY TO SETTLE TOPSOIL. REPEAT SOIL BACKFILL, WATER, DRAIN. TOPSOIL SHALL BE TAMPED UNDER EDGES OF THE BALLED PLANTS. BACKFILL TO FINISH GRADE AND CREATE AN EARTHEN SAUCER. SOAK PLANTS TWICE WITHIN THE FIRST TWENTY-FOUR HOURS OF PLANTING.



TYPICAL PLANTING
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE



NOTES:
1. 16" EXPANDABLE TREE OPENING; .25" SLOT OPENINGS.
2. SIDEWALK MATERIAL PER PLAN.
3. WHEN INSTALLED IN A BRICK SIDEWALK, GRATE REQUIRES A FRAME TO BE INSTALLED TO HOLD GRATE IN PLACE. CONTRACTOR TO INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION PROCEDURE FOR PAVERS. CONTRACTOR TO SUBMIT INSTALLATION PROCEDURES FOR REVIEW FROM ENGINEER PRIOR TO CONSTRUCTION.

PLAN VIEW

EXPANDABLE TREE GRATE
NEENAH MODEL R-8810
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: SITE DETAILS – 2

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

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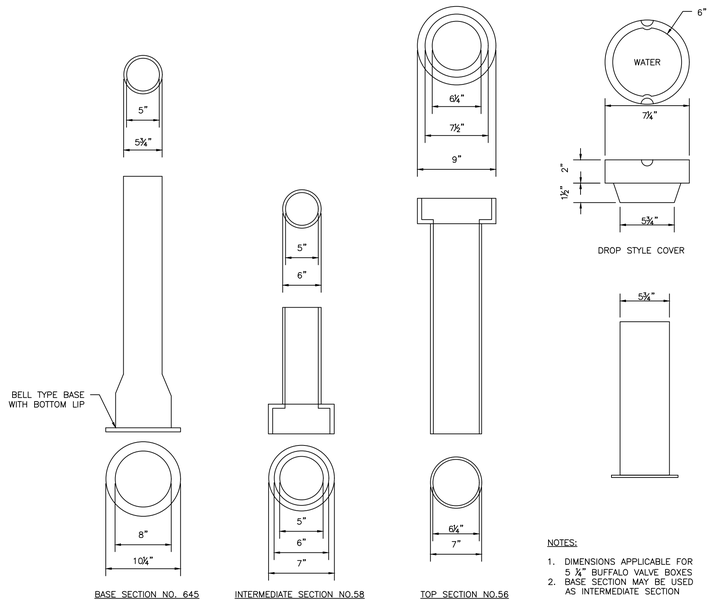
JN:	1088
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11419
5-25-18
REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-41

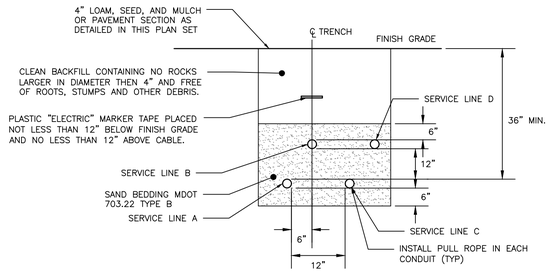


BASE SECTION NO. 645 | INTERMEDIATE SECTION NO.58 | TOP SECTION NO.56

NOTES:

1. DIMENSIONS APPLICABLE FOR 5 ¼" BUFFALO VALVE BOXES
2. BASE SECTION MAY BE USED AS INTERMEDIATE SECTION

VALVE BOX & COVER
NOT TO SCALE

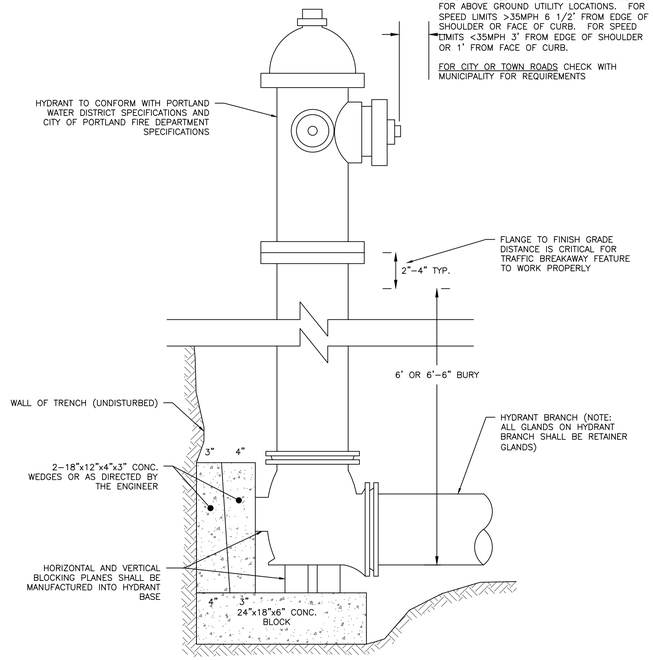


CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2–5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2–4"	SCHEDULE 40 PVC	COMMUNICATION	–
C	2–4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	IF REQUIRED
D	2–4"	SCHEDULE 40 PVC	CABLE	–

NOTES:

1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.

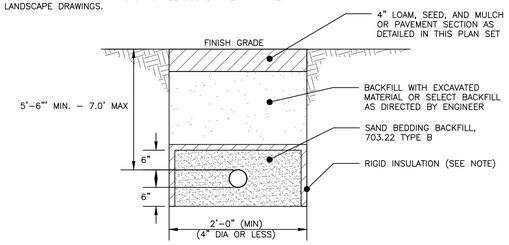
UTILITY TRENCH:
PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE



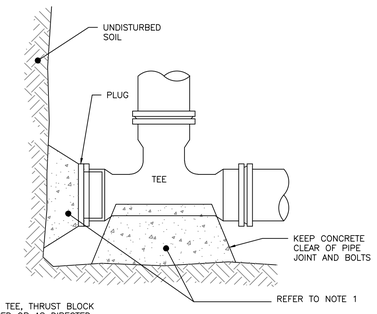
TYPICAL HYDRANT INSTALLATION DETAIL
NOT TO SCALE

NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'–6" OF COVER IS POSSIBLE ADD 1 INCH OF "BLUE DOW" RIGID INSULATION FOR EVERY 12" LESS COVER.
3. ALL PROPOSED TREES PLANTED LESS THAN 10 FEET FROM THE WATER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE WATER PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.



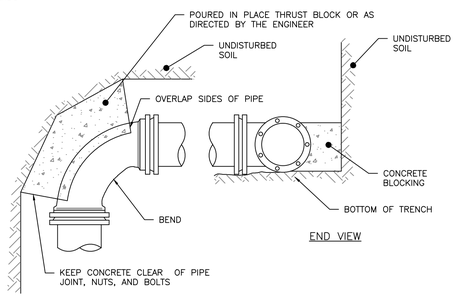
WATER SERVICE TRENCH SECTION DETAIL
NOT TO SCALE



NOTES:

1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED OR AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

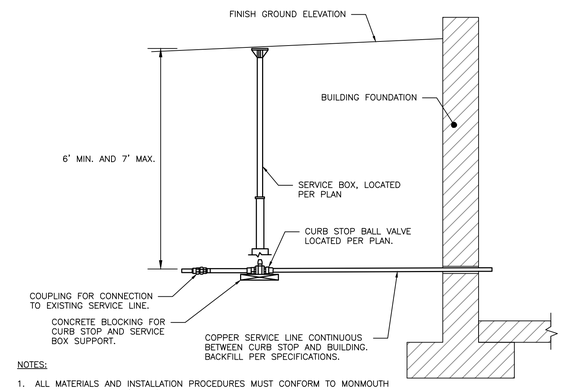
END SECTION



END VIEW

TOP VIEW

THRUST BLOCKING: REGULAR BEND
NOT TO SCALE



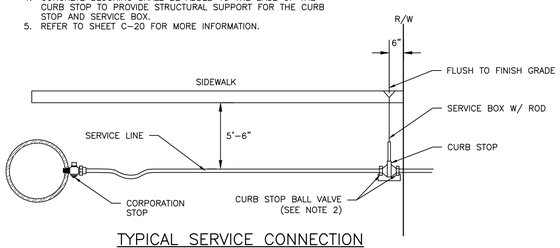
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST CONFORM TO MONMOUTH WATER ASSOCIATION (M.W.A.) SPECIFICATIONS, SEE SPECIFICATIONS BOOK FOR DETAILS.
2. M.W.A. REQUIRES THE USE OF COPPER FOR THE CUSTOMERS SIDE OF SERVICE.
3. CUSTOMERS PORTION OF SERVICE LINE IS THAT PORTION FROM THE PROPERTY LINE INTO THE BUILDING, IN THIS INSTANCE THE CUSTOMER IS ALSO RESPONSIBLE FOR THE INSTALLATION OF THE CURB STOP BALL VALVE.
4. FOR THE INTERIOR BUILDING PLUMBING REFER TO THE PLUMPING PLAN BY MECHANICAL SYSTEMS ENGINEERS.

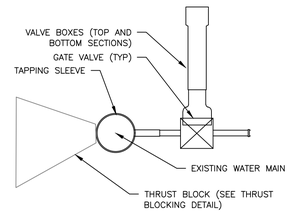
SERVICE INSTALLATION DETAIL
NOT TO SCALE

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE CITY OF PORTLAND WATER DISTRICT (PWD) SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.
5. REFER TO SHEET C–20 FOR MORE INFORMATION.

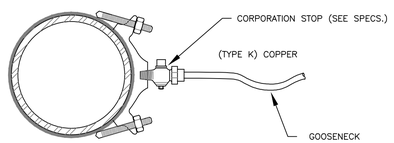


TYPICAL SERVICE CONNECTION
NOT TO SCALE



SIDE VIEW

TAPPING SLEEVE AND VALVE
NOT TO SCALE



SERVICE SADDLE: 1–1/2" AND 2" C.C. THREAD
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR | BY | DATE
CITY APP. | WHS | 10/6/17
RESUBMISSION | WHS | 5/25/18

DRAWING NAME: UTILITY DETAILS – 1
PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT
CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

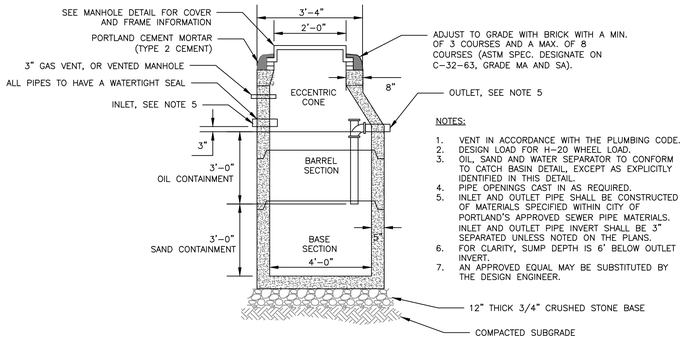
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN WITHOUT SUCH PERMISSION SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
ENGINEERING AND SURVEYING
158 DANFORTH STREET PORTLAND, MAINE 04102
(207) 775–2855

FILE: 1088_CIVIL
JN: 1088
SCALE: NTS
DESIGNED BY: WHS
DRAWN BY: ADG
CHECKED BY: WHS

STATE OF MAINE — WILLIAM H. SAVAGE — No. 14115 — 5-25-18 — REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-42



NOTES:

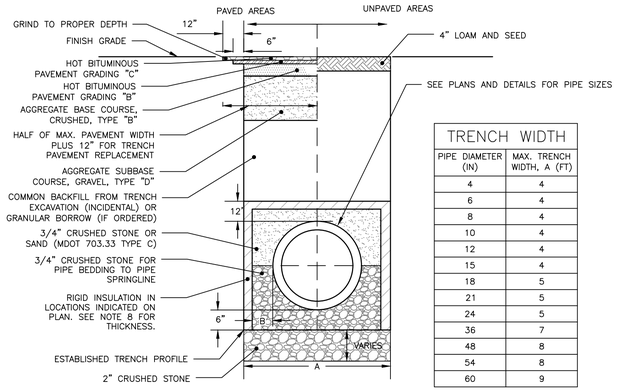
1. VENT IN ACCORDANCE WITH THE PLUMBING CODE.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. OIL, SAND AND WATER SEPARATOR TO CONFORM TO CATCH BASIN DETAIL, EXCEPT AS EXPLICITLY IDENTIFIED IN THIS DETAIL.
4. PIPE OPENINGS CAST IN AS REQUIRED.
5. INLET AND OUTLET PIPE SHALL BE CONSTRUCTED OF MATERIALS SPECIFIED WITHIN CITY OF PORTLAND'S APPROVED SEWER PIPE MATERIALS. INLET AND OUTLET PIPE INVERT SHALL BE 3" SEPARATED UNLESS NOTED ON THE PLANS.
6. FOR CLARITY, SUMP DEPTH IS 6" BELOW OUTLET INVERT.
7. AN APPROVED EQUAL MAY BE SUBSTITUTED BY THE DESIGN ENGINEER.

4'-0" DIAMETER PRECAST OIL AND WATER SEPARATOR

NOT TO SCALE

DESIGN NOTES:

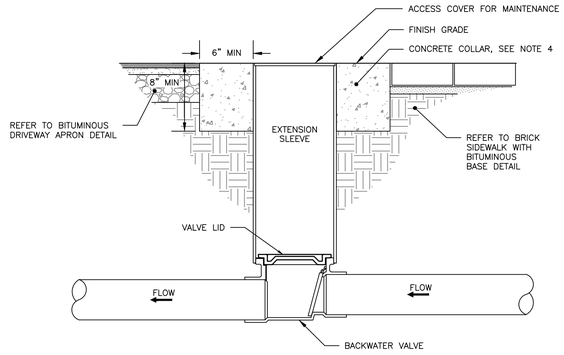
1. ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL STANDARDS FIGURE II-2.
3. BRACING & SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. WHERE APPLICABLE, PERFORATIONS IN STORM DRAIN (PERF. SD) SHALL BE ORIENTED UP.
5. ALL STORM DRAINS SHALL BE PVC SDR 35 MIN PS-46 RATING OR OR IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL , SECTION 2 – SANITARY SEWER AND STORM DRAIN – PART 2.5.2
6. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
7. THIS DETAIL SHALL BE APPLIED ONLY TO PIPE TRENCHES WITHIN OF THE CITY OF PORTLAND R.O.W.
8. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
9. DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.
10. DIMENSION B SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION B SHALL BE AT LEAST 9".
11. DIMENSION A IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION A SHALL BE BASED ON PIPE DIAMETER D, AS SET FORTH IN THE TABLE BELOW.



TRENCH WIDTH	
PIPE DIAMETER (IN)	MAX. TRENCH WIDTH, A (FT)
4	4
6	4
8	4
10	4
12	4
15	4
18	5
21	5
24	5
36	7
48	8
54	8
60	9

CITY OF PORTLAND TYPICAL PIPE TRENCH DETAIL WITHIN RIGHT-OF-WAY

NOT TO SCALE

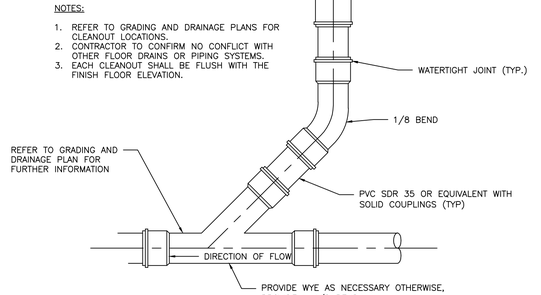


NOTES:

1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF PORTLAND TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE 'SEWER' ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

BACKFLOW VALVE ASSEMBLY

NOT TO SCALE



NOTES:

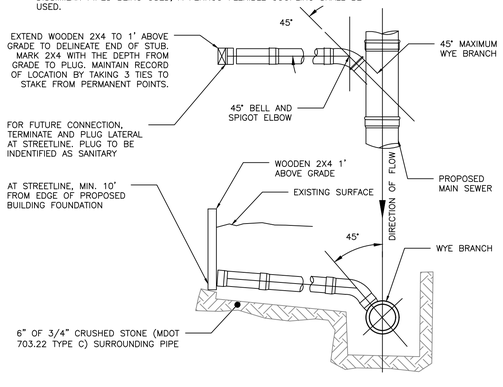
1. REFER TO GRADING AND DRAINAGE PLANS FOR CLEANOUT LOCATIONS.
2. CONTRACTOR TO CONFIRM NO CONFLICT WITH OTHER FLOOR DRAINS OR PIPING SYSTEMS.
3. EACH CLEANOUT SHALL BE FLUSH WITH THE FINISH FLOOR ELEVATION.

CLEANOUT DETAIL

NOT TO SCALE

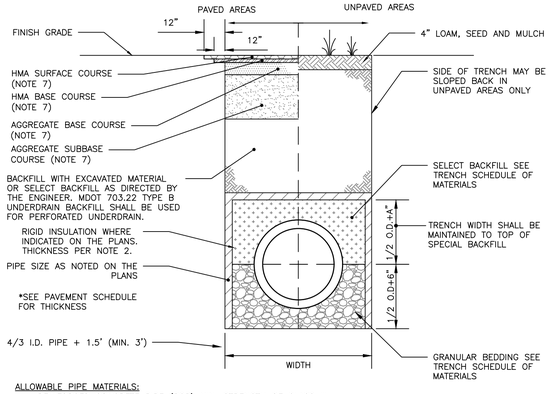
NOTES:

1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR.
3. CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.



SEWER TEE/WYE CONNECTION DETAIL

NOT TO SCALE



ALLOWABLE PIPE MATERIALS:

- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

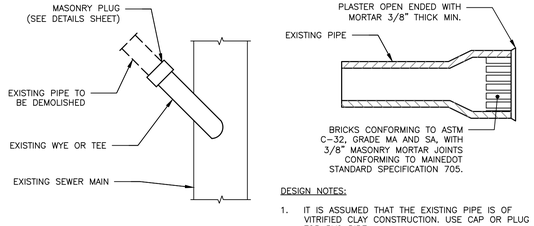
SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER
   4.1. 2'-0" – STORM DRAIN
   4.2. 5'-0" – SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF PORTLAND ROW.
7. THICKNESS AS NOTED BY SURFACE DETAILS
8. ALL PROPOSED TREES PLANTED WITHIN 10' OF A STORM OR SEWER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.

STORM DRAIN AND SEWER TYPICAL TRENCH SECTION WITHIN PROPERTY

NOT TO SCALE



DESIGN NOTES:

1. IT IS ASSUMED THAT THE EXISTING PIPE IS OF VITRIFIED CLAY CONSTRUCTION. USE CAP OR PLUG FOR PVC PIPE

MASONRY PLUG DETAIL

NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
CITY APP.	WHS	10/6/17
RESUBMISSION	WHS	5/25/18

DRAWING NAME: UTILITY DETAILS – 2

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
158 DANFORTH STREET PORTLAND, MAINE 04102
(207) 775-2655

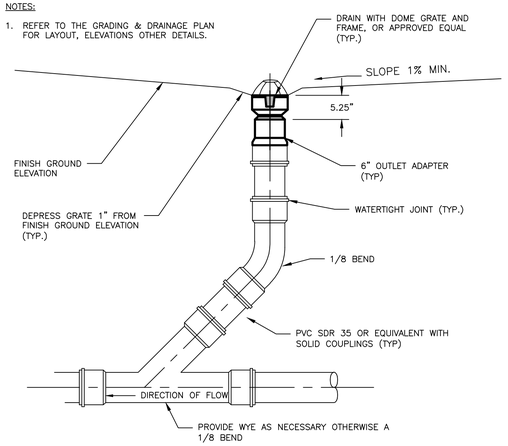
FILE:	1088_CIVIL
JN:	1088
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 14417
5-25-18
REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-43

NOTES:

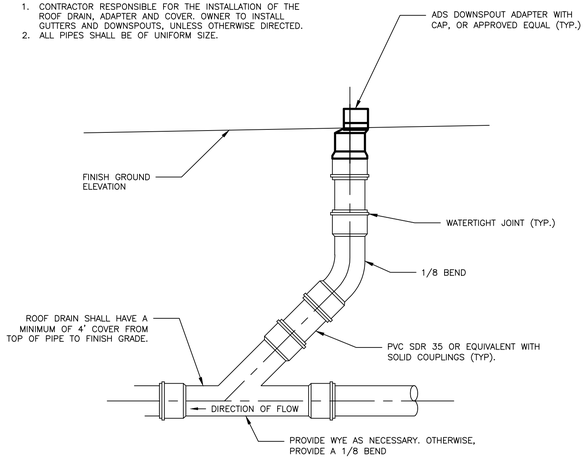
1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.



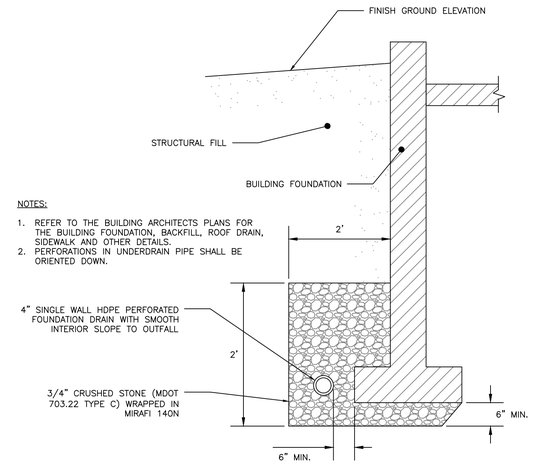
INLINE DRAIN DETAIL WITH DOME
NOT TO SCALE

NOTES:

1. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER. OWNER TO INSTALL GUTTERS AND DOWNSPOUTS, UNLESS OTHERWISE DIRECTED.
2. ALL PIPES SHALL BE OF UNIFORM SIZE.



ROOF DRAIN DETAIL
NOT TO SCALE



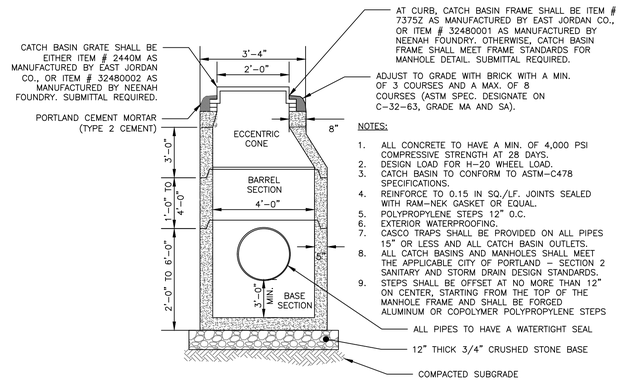
NOTES:

1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

FOUNDATION DRAIN DETAIL
NOT TO SCALE

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE ⅞" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVAL EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROFFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.



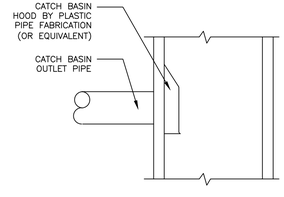
NOTES:

1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM-NEK GASKET OR EQUAL.
5. POLYPROPYLENE STEPS 12" O.C.
6. EXTERIOR WATERPROOFING.
7. CASCO TRAPS SHALL BE PROVIDED ON ALL PIPES 15" OR LESS AND ALL CATCH BASIN OUTLETS.
8. ALL CATCH BASINS AND MANHOLES SHALL MEET THE APPLICABLE CITY OF PORTLAND – SECTION 2 SANITARY AND STORM DRAIN DESIGN STANDARDS.
9. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS

4'-0" DIAMETER PRECAST CATCH BASIN/MANHOLE
NOT TO SCALE

NOTES:

1. INSTALL CATCH BASIN HOODS IN ALL CATCH BASINS WITH A 12" OR 15" OUTLET PIPE.
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS



CATCH BASIN HOOD DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: DRAINAGE DETAILS

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND, MAINE 04102
(207) 775-2655

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DESIGNED BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM SAVAGE
5-25-18
REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-44

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 SILTATION FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE SILT FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR BERM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 YORK STREET AND GUILFORD COURT SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 SILT FENCE STAKE SPACING SHALL NOT EXCEED 6 FEET UNLESS THE FENCE IS SUPPORTED WITH 14 GAUGE WIRE IN WHICH CASE THE MAXIMUM SPACING SHALL NOT EXCEED 10 FEET. THE SILT FENCE SHALL BE "TOED" INTO THE GROUND.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM, LIMED, AND MULCHED. EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.1 OF THIS REPORT.

1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.

1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED OPEN.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.

- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% F THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.

- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST 0.5 INCHES OF RAIN WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: WILL SAVAGE, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

- MAINE PROFESSIONAL ENGINEERING LICENSE #11419
- MAINE DEP – CERTIFIED IN MAINTENANCE & INSPECTION OF STORMWATER BMP'S CERT #14
- CERTIFIED EROSION, SEDIMENT AND STORM WATER INSPECTOR (CESSWI) CERT #0293
- CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #4620

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. PRIORITIZE THE DOWNHILL RETAINING AND FOUNDATION WALLS TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN ST. LAWRENCE STREET.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

SEEDING PLAN

SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P205–K20) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

PERMANENT SEED APPLICATION RATES

SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

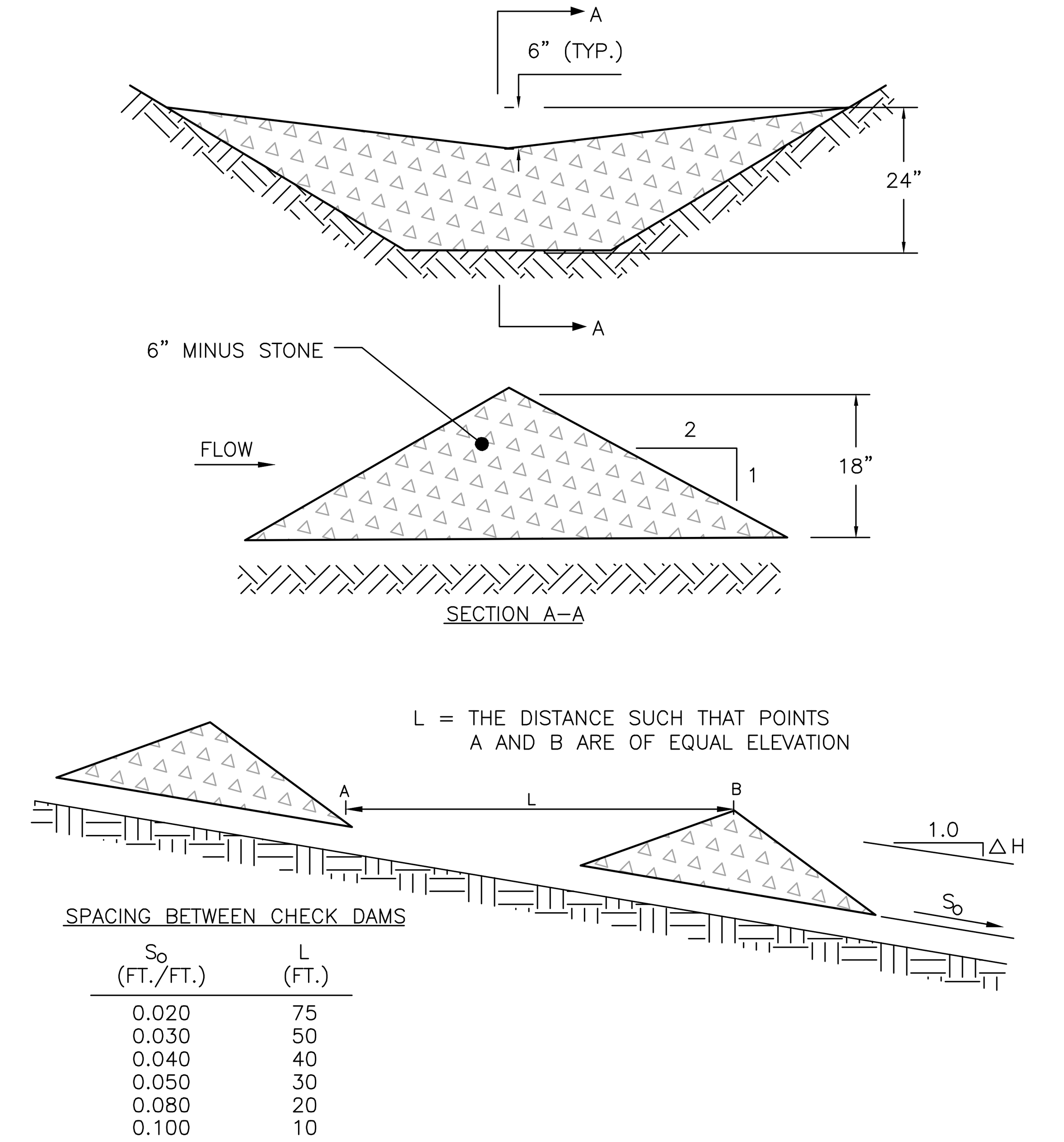
MULCHING

MULCH SHALL BE APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT.

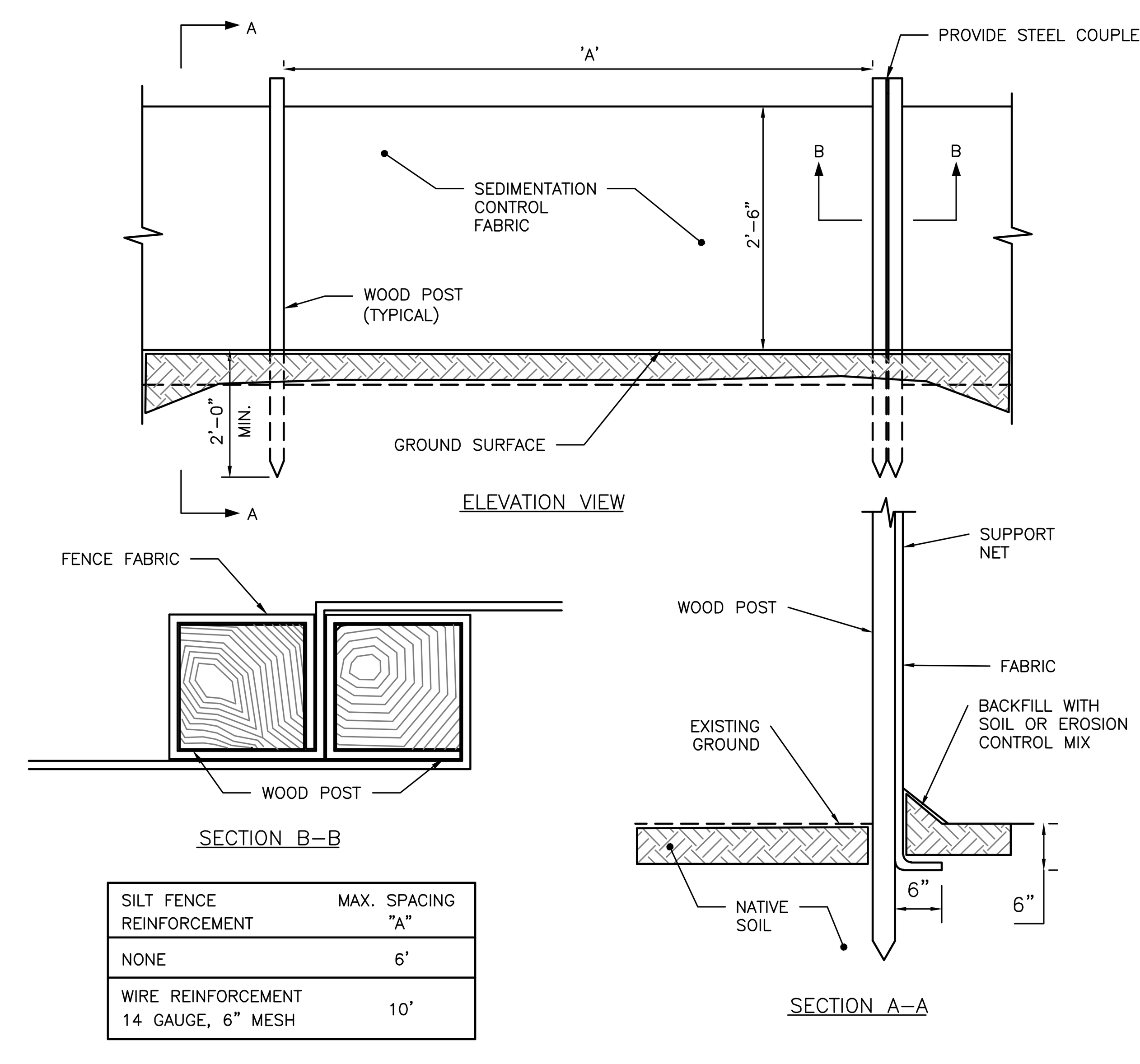
CONCLUSION

PLEASE REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION PERTAINING TO TEMPORARY SEEDING AND MULCHING.

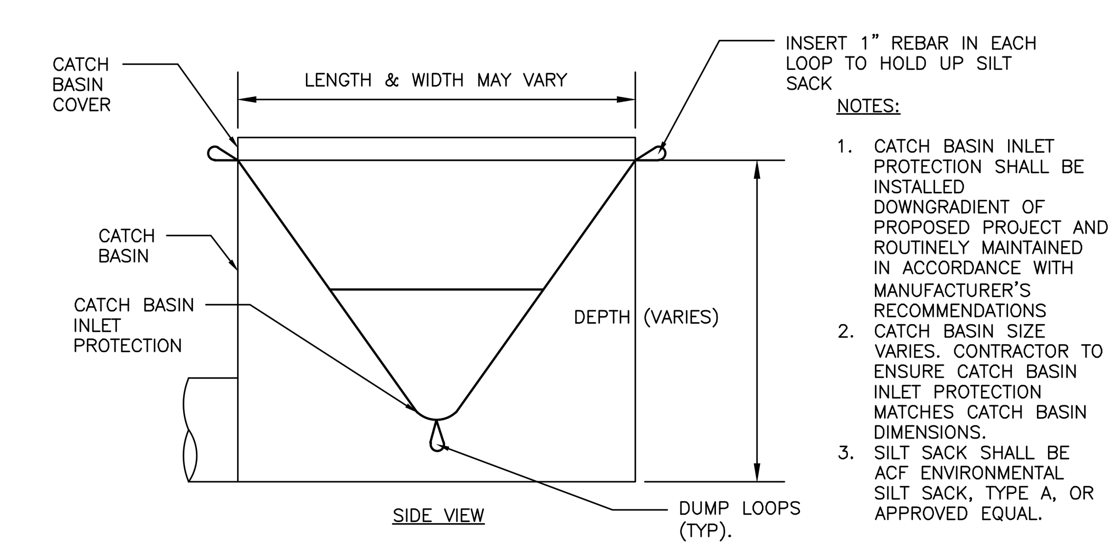
PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION



STONE CHECK DAM
NOT TO SCALE



SILTATION FENCE DETAIL
NOT TO SCALE



CATCH BASIN INLET PROTECTION
NOT TO SCALE

ISSUED FOR	BY / DATE
CITY APP.	WHS 10/6/17
RESUBMISSION	WHS 5/25/18

DRAWING NAME: EROSION & SEDIMENTATION CONTROL DETAILS

PROJECT NAME: 24 ST. LAWRENCE STREET REDEVELOPMENT

CLIENT: KELLY & WALTER WILLIAMS
24 ST. LAWRENCE STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
158 DANFORTH ST, PORTLAND MAINE 04102
(207) 775–2655

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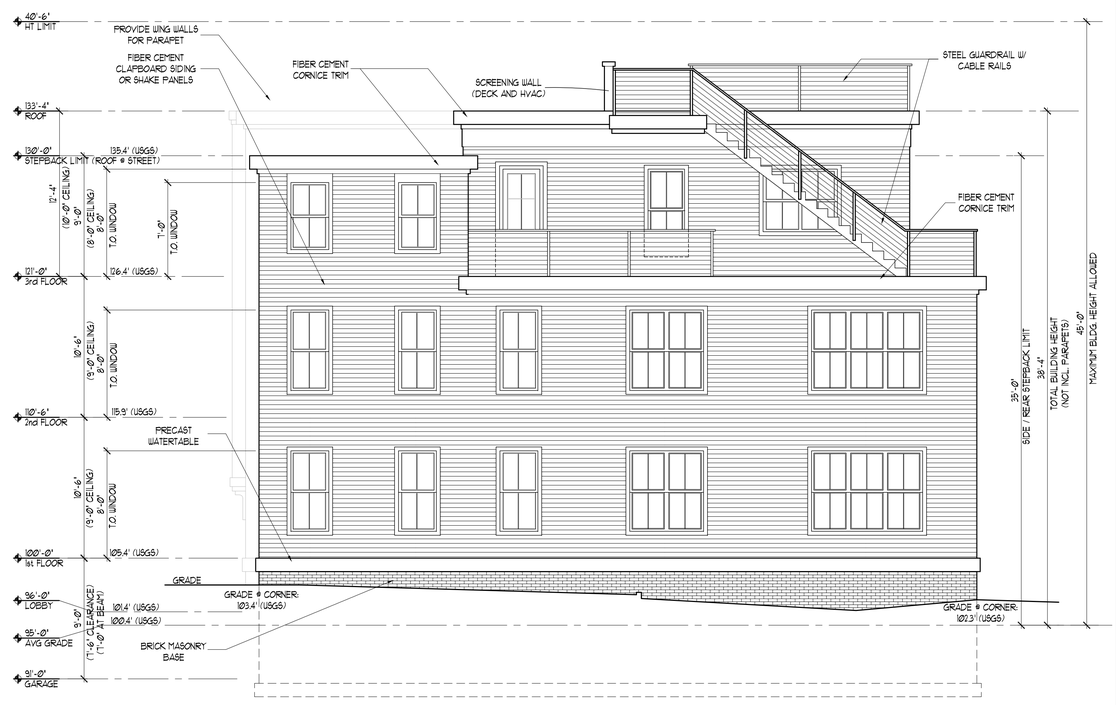
FILE:	1088_CIVIL
JN:	1088
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM SAVAGE
No. 11419
LICENSED
PROFESSIONAL ENGINEER
5-25-18

DRAWING NO.
C-45

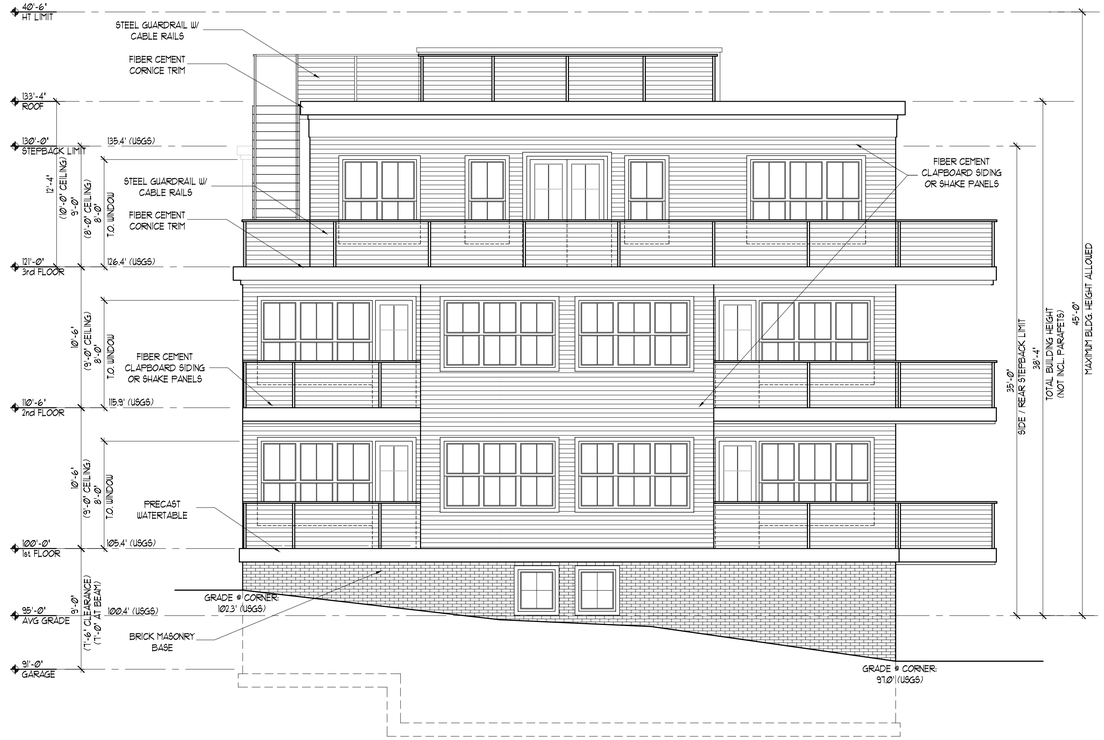
1 ELEVATION - FRONT (Northeast)

Ø 5'-4" SCALE: 3/16" = 1'-0"



2 ELEVATION - SIDE (Northwest)

Ø 5'-4" SCALE: 3/16" = 1'-0"



3 ELEVATION - REAR (Southwest)

Ø 5'-4" SCALE: 3/16" = 1'-0"

4 ELEVATION - SIDE (Southeast)

Ø 5'-4" SCALE: 3/16" = 1'-0"

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65 NEWBURY STREET
PORTLAND, ME 04101
207.761.9000

Consultants:

DESIGN DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

#	DATE	DESCRIPTION

Date Issued July 9, 2018

Project Number 16015

Drawing Scale

ELEVATIONS

Drawn By JAP, CG

Checked By MC

A 2.0

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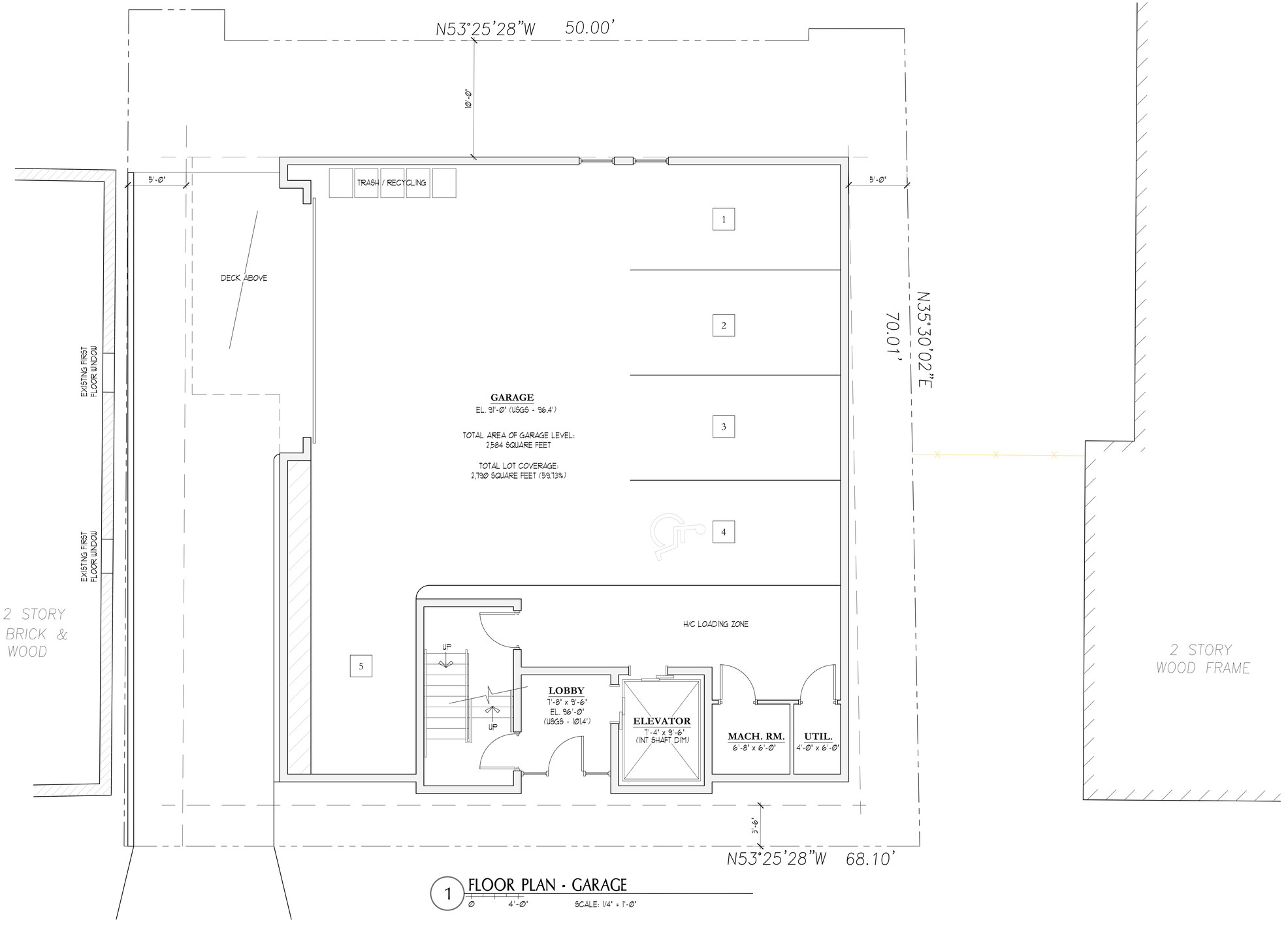

1 FLOOR PLAN - GARAGE

0 4'-0" SCALE: 1/4" = 1'-0"

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207.761.9000

Consultants:

DESIGN DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

#	DATE	DESCRIPTION

Date Issued July 9, 2018

Project Number 16015

Drawing Scale

SITE / FLOOR PLAN

Drawn By JAP, CG

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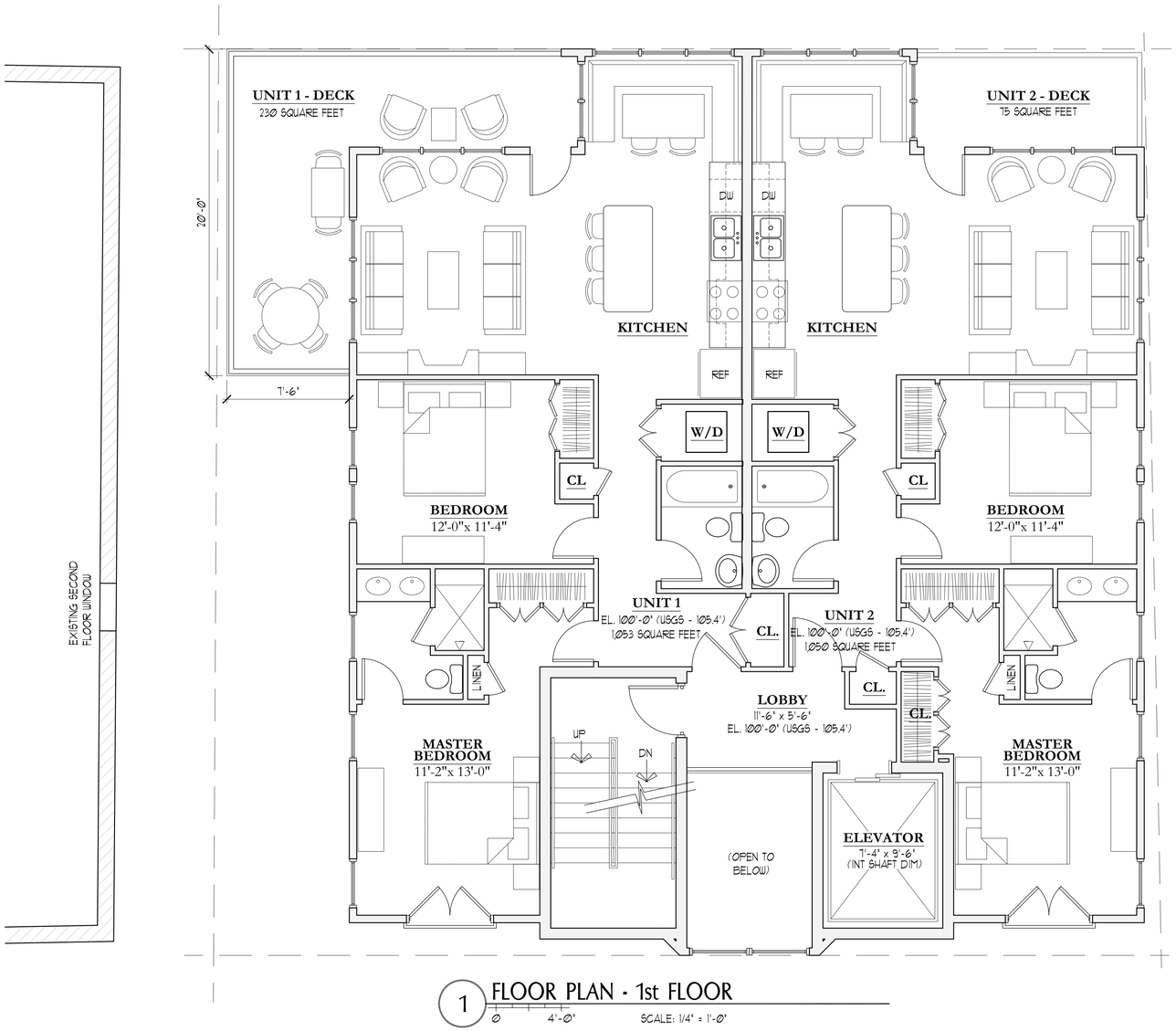

1 FLOOR PLAN - 1st FLOOR

0 4'-0" SCALE: 1/4" = 1'-0"

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ARCHITECTURE

65 NEWBURY STREET
PORTLAND, ME 04101
207.761.9000

Consultants:

DESIGN
DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

#	DATE	DESCRIPTION

Date Issued July 9, 2018

Project Number 16015

Drawing Scale

FLOOR PLANS

Drawn By
JAP, CG

Checked By
MC

A 1.1

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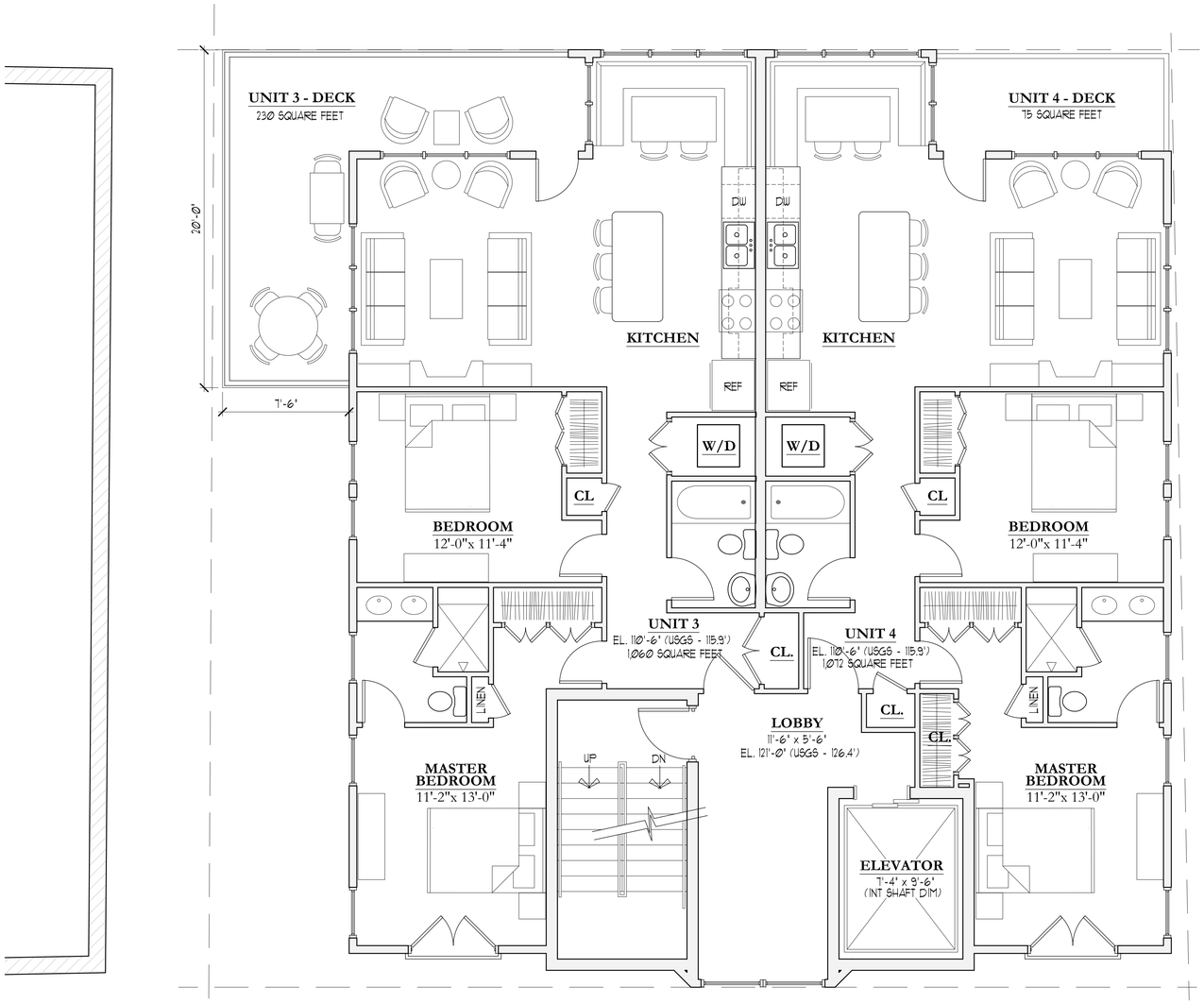

1 FLOOR PLAN - 2nd FLOOR

0 4'-0" SCALE: 1/4" = 1'-0"

SCALE 1"=1' 3/4"=1' 1/2"=1' 1/4"=1' 1/8"=1' 1/16"=1'

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207.761.9000

Consultants:

DESIGN DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

#	DATE	DESCRIPTION

Date Issued July 9, 2018

Project Number 1601S

Drawing Scale

FLOOR PLANS

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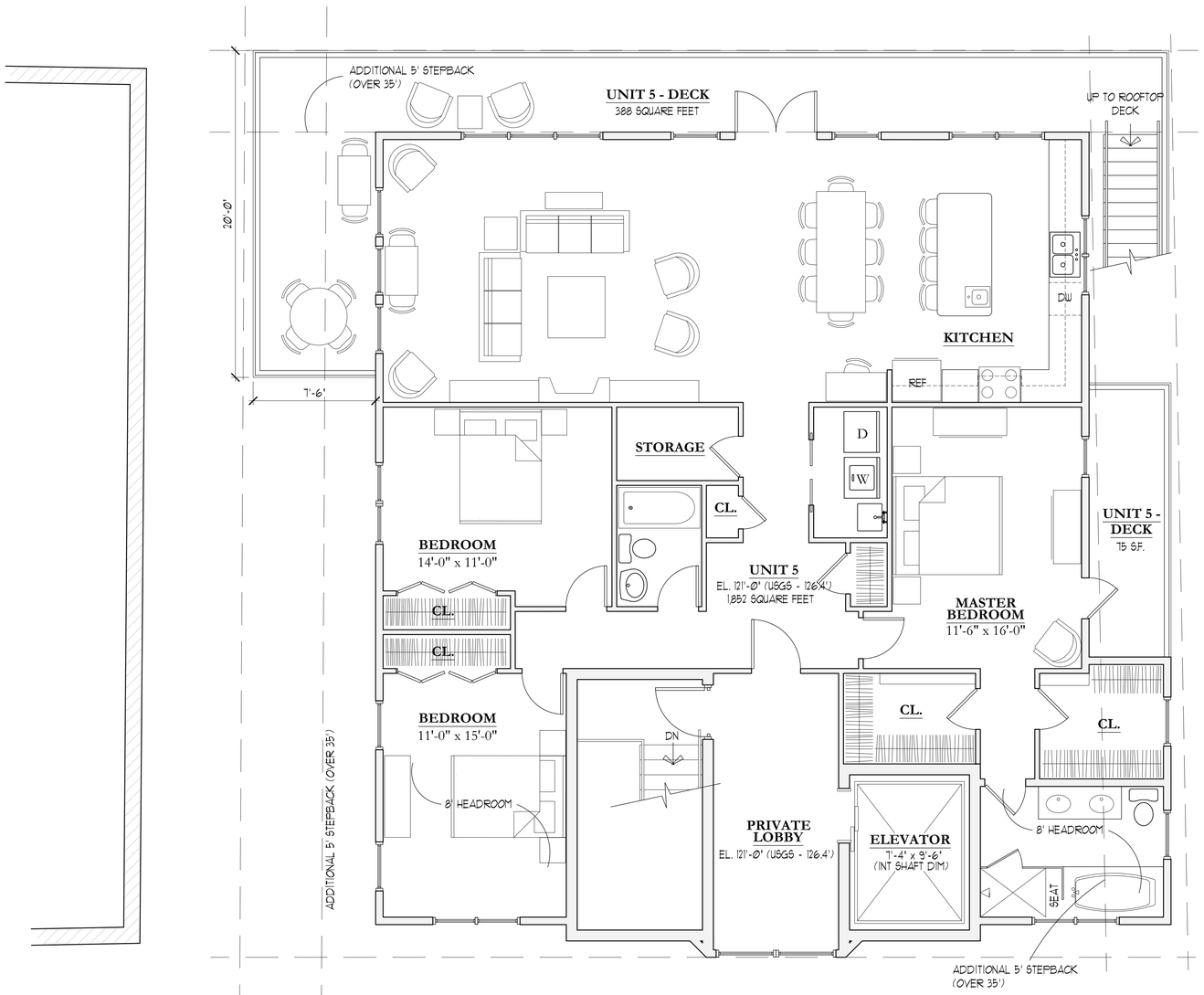

1 FLOOR PLAN - 3rd FLOOR

0 4'-0" SCALE: 1/4" = 1'-0"

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PORTLAND, ME 04101
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Consultants:

DESIGN DEVELOPMENT

WILLIAMS 5 UNIT RESIDENCE

24 St Lawrence Street
Portland, Maine

#	DATE	DESCRIPTION

Date Issued July 9, 2018

Project Number 16015

Drawing Scale

FLOOR PLANS

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24 St. Lawrence Street

Gail Kuhlthau <truenorth9@msn.com> Jul 23, 2018 5:08 PM
Posted in group: **Planning Board**

Gentlemen and Ladies,

This demolition is just so wrong on so many levels. Please put a stop to it. You have heard all the arguments against it. Just stop it and do the right thing.

Re: Newbury project

Can you imagine not only this huge unsightly building added to the new huge unsightly building. And then the 360 extra cars in Portland. It will destroy existing Portland. Do you really want it to be another NYC? Not to mention the affordable housing which will be lost.

Gail Kuhlthau
9 Adams Street

Get Outlook for Android

Google Groups

24 St. Lawrence St.

Will Bartlett <sbartlet@maine.rr.com> Jul 24, 2018 11:20 AM
Posted in group: **Planning Board**

Dear board members, I live at 16 St. Lawrence St., and I want you to know that I support the proposal to tear down the old house at 24 St. Lawrence St. and build five condos. It is the highest and best use for the property in that zone, and the owners have gone to great lengths to satisfy the city's demands.
If these owners choose not to renovate a home that is near the end of its useful life, that makes perfect sense to me. I've renovated some old buildings in Portland, and it is difficult, expensive and time-consuming.
I have the highest regard for my neighbors who have restored the beautiful old buildings on the Hill, but this is not one of those buildings.
The Hill has multi-unit buildings on every street, and from every architectural era. That is surely part of it's attraction.
I support my neighbor's investment of $2.4 million into their property, and I will give a warm welcome to the new neighbors when they arrive.

Will Bartlett
16 St. Lawrence St.
Tel. 207-838-6490

Sent from my iPad

Memorandum
Planning and Urban Development Department
Planning Division

To: Chair Dundon and Members of the Portland Planning Board
From: Jean Fraser, Planner
Date: June 20, 2018
Re: Level III Traffic Movement Permit, Site Plan and Conditional Use
New Dunkin Donut restaurant and drive-through
325 St John Street

Project # PL000047-2018 (and Conditional Use CU-000172-2018)
Dunkin' Brands, Inc, Applicant

Meeting Date: June 24th, 2018

I. INTRODUCTION

Plymouth Engineering Inc, on behalf of Dunkin' Brands, Inc, has submitted a Level III Traffic Movement Permit, Site Plan and Conditional Use applications for a new Dunkin Donuts restaurant comprising a new 2,277 sq ft building with drive-through. The proposal is located on the site immediately south of the current Dunkin Donuts (with drive-through) on St John Street. The new location provides a larger site and allows for more stacking capacity, and the drive-through egress will be changed from Valley Street to St John Street. The proposal includes 24 parking spaces, two drive through lanes, and associated lighting and landscaping.

The 30,239 sq ft site is currently occupied by Langs restaurant and is located in the B2 zone.

This use requires a conditional use permit for the drive-through to be approved by the Planning Board and to meet the requirements of the standards for all Conditional Uses (§14-474), the B2 zone Conditional Use standards (§14-183 (a)6), , as well as the B2 Design Standards.

A total of 95 notices of this Workshop were sent to neighbors and interested parties within 500 feet, and the legal notice appeared in the July 13th and 16th, 2018 editions of the *Portland Press-Herald*. A Neighborhood meeting was held on July 6, 2018, and attended by two neighbors (see notes in Att. P) .

Applicant: Dunkin' Brands, Inc (Robert Mahoney)
Engineer: Plymouth Engineering Inc (Jon Whitten, PE)
Traffic Engineer (TMP): Maine Traffic Resources (Diane Morabito, PE, PTOE)

II. REQUIRED REVIEWS

Applicant's Proposal	*Applicable Standards*
New structure of 2,277 sq ft	Level II Site Plan
Restaurant Drive-through in B2 zone	Level III Conditional Use in the B2 zone (§14-183(a) 6)
Traffic Movement Permit (delegated from State)	State Regulations

III. WAIVER REQUESTS

Applicant's Proposal	*Applicable Standards*
Parking aisle widths: The applicant has requested a waiver to allow a wider drive aisle to accommodate both parking maneuvers and the stacking lane for the drive-through (Att. J)	*Technical Manual Section 1.14* specifies that the parking aisle shall be 24 feet wide for perpendicular parking. Staff have not had an opportunity to review the waiver request which was received 7.19.18
Location and spacing of Driveways: the applicant is requesting a waiver for the propose driveway spacing, noting the actual distances between driveways, and that on St John Street they are an improvement over the existing with only one substantially below 100 feet (Att. X3).	*Technical Manual Section 1.7.2.7* specifies the acceptable spacing between driveways as related to the speed limit of the street, with 100 feet separation a minimum. Staff have not had an opportunity to review the waiver request which was received 7.19.18.
Number of access drives: the applicant is requesting a waiver to allow for 3 entrances, with each of these one-way. Att. X4 notes that the constraints of the long stacking length (MDOT recommend 15 cars), and the need to keep the building near the street, necessitate this access configuration.	*Technical Manual Section 1.7.2.8* states that "no more than 2 driveways shall be permitted for ingress and egress purposes to any commercial, industrial or residential (with 10 or more parking spaces) site." Staff have not had an opportunity to review the waiver request which was received 7.19.18.
Sidewalk Materials: The applicant has submitted waiver requests to maintain the existing concrete sidewalk on St John Street and the existing asphalt sidewalk on Valley Street (Attachments X1 and X2) , due to the limited scale of disturbance proposed.	The *City Sidewalk Materials Policy* requires brick material for both of these sidewalks. Staff note that the sidewalks on this section of St John Street, including along the frontage of the site, are concrete in generally good condition. The sidewalks near this part of Valley Street have recently been upgraded to brick, and the section along the site is mostly narrow asphalt in poor condition. Staff have not had an opportunity to review the waiver request which was received 7.19.18, and the applicant has not shown the location of disturbance to the ROW on the plans; also see section ***Vii Di.***

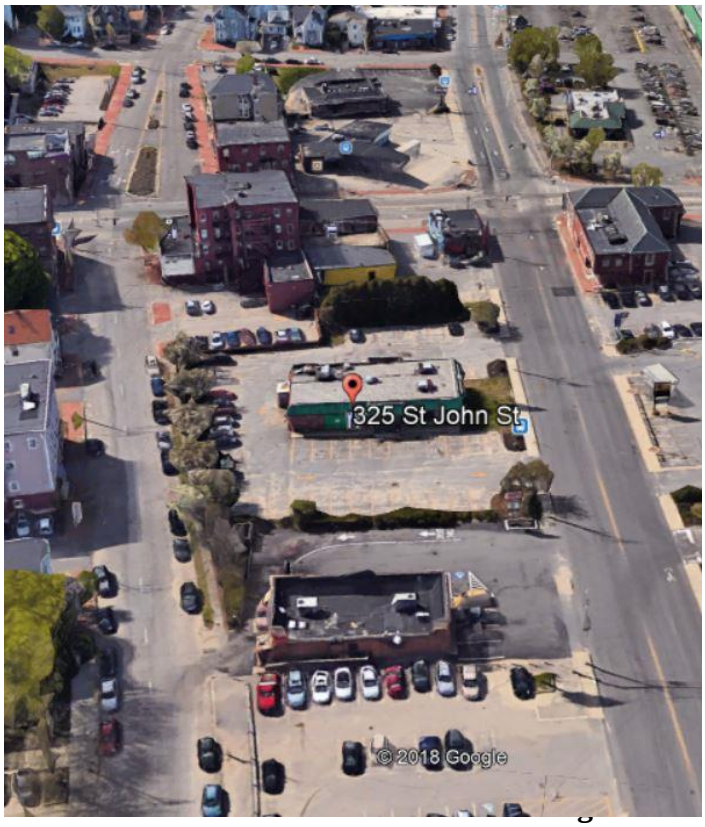
IV. PROJECT DATA

SUBJECT	*DATA*
Existing Zoning	B- 2
Existing Use	Restaurant
Proposed Use	Restaurant and associated drive-through (new building)
Parcel Size	30,239 sq ft
Total Disturbed Area	30,239 sq ft
Impervious Surface Area **--Existing** **--Proposed** **--Net Change**	 25,595 sq ft 19,228 sq ft (6,367 sq ft)
Building Footprint **--Existing** **--Proposed** **--Net Change**	 3,406 sq ft 2,277 sq ft (1,129 sq ft)
Building Floor Area **--Existing** **--Proposed** **--Net Change**	 3,406 sq ft 2,277 sq ft (1,129 sq ft)
Parking Spaces **-Existing** **-Proposed** **# handicapped**	 50 25 (16 required by zoning) 2
Bicycle parking Spaces **-Existing** **-Proposed**	 0 Not known (3 required)
Estimated cost of the project	tbc

V. EXISTING CONDITIONS

The development site is immediately south of the existing Dunkin Donuts located opposite Amattos and MacDonalds on St John Street. On the Valley Street side the site abuts back of the Inn at St John, and housing is located on the other side of Valley Street.

Birdseye view looking south:



Looking north on St John Street (site on right, green roof):

Looking north on Valley Street:

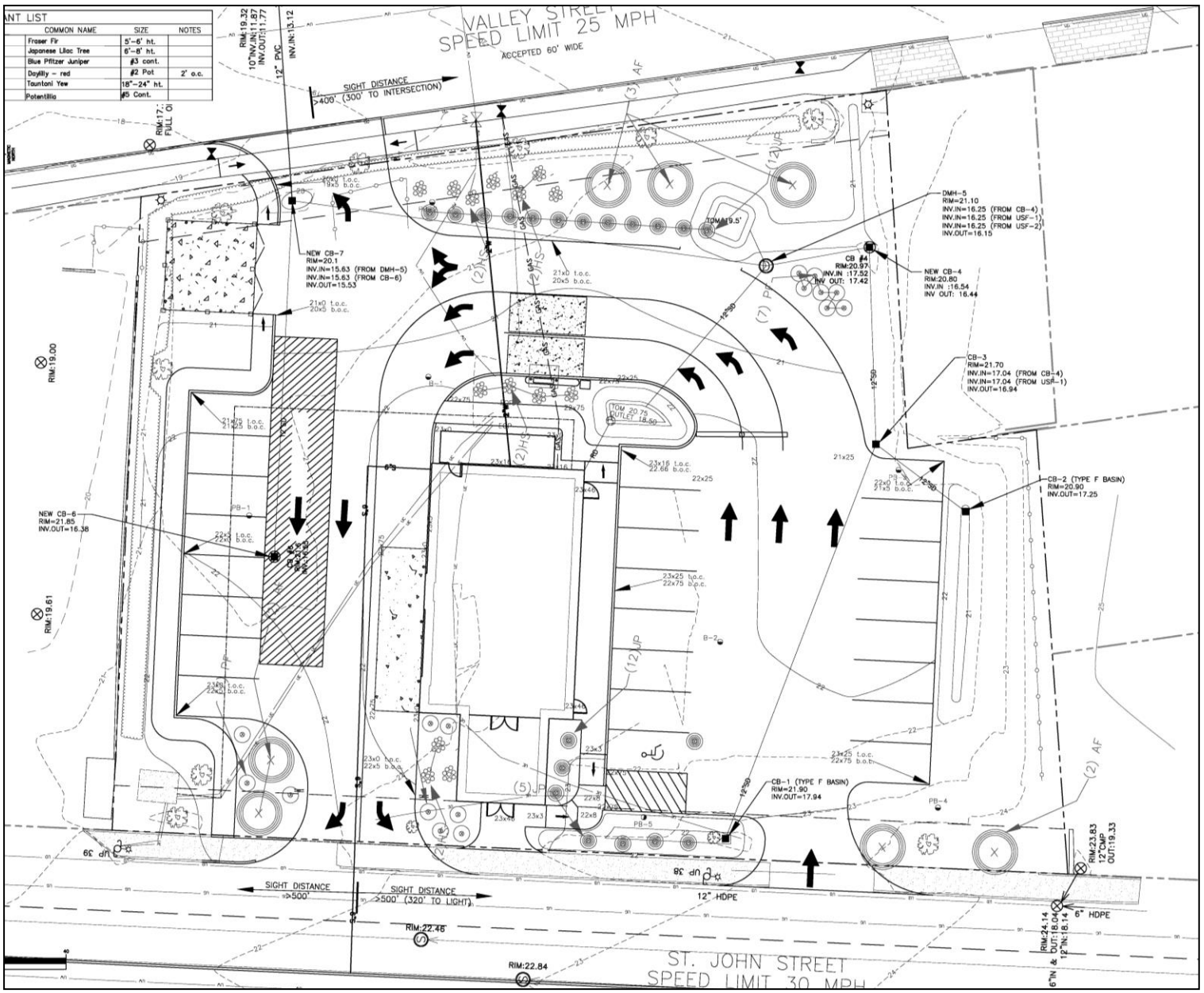
VI. PROPOSED DEVELOPMENT

The proposals comprise the following - see Plan Set and Project Summary (Att B):

- New building of 2,277 sq ft footprint set back 10 feet from ROW
- Design of building is Dunkin' Donut corporate design, with added glass enclosed front eating area
- Main entrance to the restaurant from St John Street, and one other on south side
- Parking for 24 vehicles
- Two lanes drive through, both exiting to St John Street
- Exit lane to Valley Street for some of the parking (rest of parking exits via the "out" lane from the drive-through)
- New planting along both street frontages
- Stormwater management incorporating focal points
- Lighting (some existing/some new)

(See extract of Landscape Plan next page)

Plan 4 Landscape:

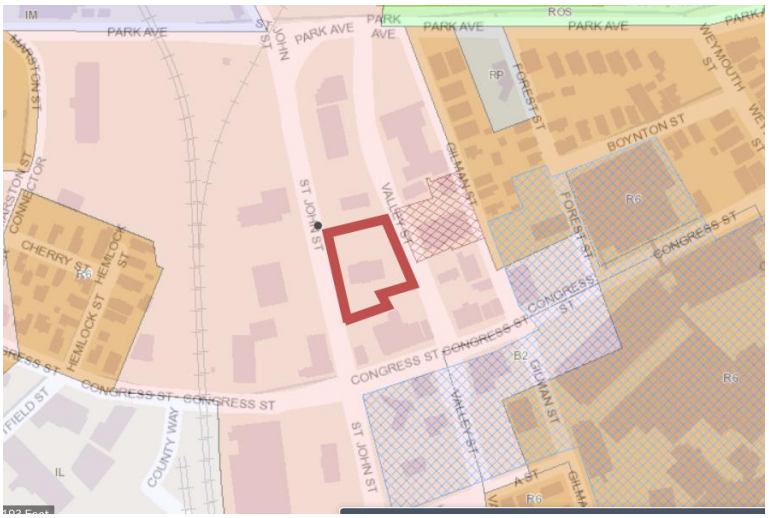


VII. STAFF REVIEW

A. ZONING ASSESSMENT

The proposal is a conditional use in the B2 zone and meets all of the B2 dimensional requirements, including the requirement that the front setback shall be a maximum of 10 feet.

The parking requirement under zoning is one space per 150 sq ft, which would result in a requirement for 16 spaces. The applicant has provided 25 spaces.



The development is located within the B2 zone and near housing in Valley Street, and near the MMC Institutional Overlay Zone and associated new hospital expansion (gray hatch on zone plan to right).

The current zoning standards came into force since the development of most of the sites along this stretch of St John Street, and the B2 zone now includes the following purpose statement, with associated Design Standards and dimensional requirements:

> *The B-2 zone will provide a broad range of goods and services and general businesses with a mixture of large and small buildings such as grocery stores, shops and services located in major shopping centers and along arterial streets. Such establishments should be readily accessible by automobile, by pedestrians and by bicycle. Development in the B-2 zone should relate to the surrounding neighborhoods by design, orientation, and circulation patterns*.

The proposals, as currently presented, do not show details for the pedestrian circulation to/from Valley Street and the final submissions should address this issue.

B. TRAFFIC MOVEMENT PERMIT (TMP)

The applicant has submitted a full TMP permit application (Attachment W) and the Scoping meeting was held on 7.16.18. Tom Errico, the consultant Traffic Engineering Reviewer, has provided the following update (Att. 4):

- *The project requires a Traffic Movement Permit and a Scoping meeting was held on July 16, 2018. The applicant will be preparing a traffic study that will investigate the implementation of a three-lane roadway section (one lane in each direction with a center turn lane) between Congress Street and Park Avenue. This roadway change is intended to mitigate safety patterns on St. John Street in the project vicinity that are directly related to driveway movements into businesses. The study will evaluate feasibility at the St. John Street intersections with Congress Street and Park Avenue during the AM and PM peak hours. The Study will also account for traffic changes associated with the MMC Parking Garage project.*
- *We have requested that the Study update the crash data to include the most recent available three-year period.*

It should be noted that the proposed Dunkin' Donut is being evaluated as a new proposal with new trip generation, as the former Dunkin' Donut site next door could be reused as a restaurant and drive-through by the new owner.

C. CONDITIONAL USE REVIEW

The applicant has submitted an analysis of how the proposal meets the B2 and 14-474 Conditional Use Standards in Attachment M (Conditional use Application).

The following B2 Conditional Use standards are the basis of the review (14-183 (a) 6):

> *6. Drive-throughs: Notwithstanding section 14-474(a)of this article or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the reviewing authority and shall apply the following standards in addition to the provisions of section 14-474:*
> *a. Location of Drive-throughs: Features, such as windows, vacuum cleaners and menu/order boards, stacking lanes, must be placed, where practicable, to the side and rear of the principal building except where such placement will be detrimental to an adjacent residential zone or*

use, and shall be located no nearer than forty (40) feet from any adjoining property located in a residential zone. This distance shall be measured from the outermost edge of the outside drive-through feature to such property line. In addition, drive-through features shall not extend nearer than twenty-five (25) feet to the street line. The site must have adequate stacking capacity for vehicles waiting to use these service features without impeding vehicular circulation or creating hazards to vehicular circulation on adjoining streets.

Staff comment: The standard appears to be met but the applicant should include an analysis of the dimensions on one of the plans or in the Attachment M as part of the final submission.

b. Noise: Any speakers, intercom systems, or other audible means of communication shall not play prerecorded messages. Any speakers, intercom systems, audible signals, computer prompts, or other noises generated by the drive-through services or fixtures shall not exceed 55 dB or shall be undetectable above the ambient noise level as measured by a noise meter at the property line, whichever is greater.

Staff comment: Staff agree with the applicant (Attachment M) that this condition can be addressed by a condition of approval, and that the levels can be adjusted if necessaty.

c. Lighting: Drive-through facilities shall be designed so that site and vehicular light sources shall not unreasonably spill over or be directed onto adjacent residential properties and shall otherwise conform to the lighting standards set forth in 14-526.

Staff comment: Further information regarding the removal or otherwise of existing lights should be submitted in order to complete the review. See below under Site Plan.

d. Screening and Enclosure: Where automobiles may queue, waiting for drive-through services, their impacts must be substantially mitigated to protect adjacent residential properties from headlight glare, exhaust fumes, noise, etc. As deemed necessary by the reviewing authority, mitigation measures shall consist of installation of solid fencing with landscaping along any residential property line which is exposed to the drive-through or the enclosure of the drive-through fixtures and lanes so as to buffer abutting residential properties and to further contain all associated impacts; and

Staff comment: Planting is proposed along the outside edge of the three lanes at the rear, but further information is necessary to understand if this is adequate given that there is housing immediately opposite the site on Valley Street. Fencing may not be appropriate in terms of CPTED.

e. Pedestrian access: Drive-through lanes shall be designed and placed to minimize crossing principal pedestrian access-ways or otherwise impeding pedestrian access.

Staff comment: It is not clear how people get from the parking on the far right and left of the site to the front and side entrances without having to cross at least 2 lanes of moving or stacked vehicles - the site plan does not include any crossings or other protective measures. This standard is not met in the submitted plans and further consideration to the pedestrian circulation within the site is needed (along with the pedestrian links to the adjacent sidewalks, as noted elsewhere in this Memo)

f. Hours of Operation: The Board, as part of its review, may take into consideration the impact hours of operation may have on adjoining uses.

Staff comment: The B2 Zoning Ordinance requires the restaurant operation to close no later than 11pm.

The following standards in 14-474 apply to all conditional uses:

1. *Standards. The Board shall, after review of required materials, authorize issuance of a conditional use permit, upon a showing that the proposed use, at the size and intensity contemplated at the proposed location, will not have substantially greater negative impacts than would normally occur from surrounding uses or other allowable uses in the same zoning district. The Board shall find that this standard is satisfied if it finds that:*

a. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone; and

Staff comment: The applicant is addressing this through the TMP review, and associated mitigation would address any impacts.

b. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter; and

Staff comment: The proposal is not expected to create harmful conditions, based on the assumption that the conditional use standards regarding headlight glare from the queuing vehicles is addressed satisfactorily.

c. The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.

Staff comment: The site plan and landscape plan will need to include greater detail (for example, in respect to creating a positive environment along Valley Street) in order to evaluate this standard.

D. DEVELOPMENT REVIEW (SITE PLAN STANDARDS in Section 14-526)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations, with comments provided as follows:

i. Transportation Standards

Impact on Surrounding Street system- this standard will be addressed by the TMP review.

Access and Circulation/Loading and Servicing

The proposals incorporate three curb cuts:

- One "in" from St John Street
- One "out" to St John Street taking all of the drive through exiting vehicles, and egress for at least 8 parking spaces
- One "out" to Valley Street serving up to 16 parking spaces

The layout of the curb cuts and drives has been designed to meet the Technical Standards as far as possible as described in the applicants 7.19.18 waiver submissions (see Attachment X) and explanation of the aisle widths (Att. J). The waiver requests are included in the packet, but have not yet been reviewed by staff and consultants. In particular, the need/benefit of the exit out to Valley Street needs further consideration in the light of the TMP review and data. The Traffic Engineering preliminary comments (written prior to the receipt of the waiver requests) are included below (Att. 4):

- *The project site requires a waiver for the number of driveways (two are permitted and three are proposed). We have requested documentation in support of the waiver. Given overall site design considerations and delivery truck movements, three driveways appear to be necessary.*
- *The project requires a waiver for parking aisle width. We have requested documentation in support of the waiver. It appears that the wider parking aisle is intended to provide vehicle storage for the drive-thru.*
- *The project requires a waiver for driveway spacing to abutting driveways. We have requested documentation in support of the waiver.*
- *We have requested vehicle turning templates for vehicles entering and exiting site driveways to assess width requirements.*

Sidewalks: The applicant has requested waivers from the provision of sidewalks meeting the City's brick sidewalk and apron material policy for both Valley Street and St John Street. These were received on 7.19.18 and thus staff have not had time to evaluate them.

Staff note that the sidewalks on this section of St John Street, including along the frontage of the site, are concrete in generally good condition. However, the sidewalks near this part of Valley Street have recently been upgraded to brick (see photo above under *Existing Conditions*), and the section along the site is mostly narrow asphalt in poor condition (see photo right, corner of site and rear of Inn at St Johns on Valley Street).

This area is near the new MMC hospital expansion, and it would be desirable to have good pedestrian access to the site from Valley Street (where there is already a pedestrian access but does not appear to be linked into the site). It is suggested that in this area the aim would be to ensure all of the public realm is upgraded to support the additional pedestrian traffic that is anticipated.

Public Transit Access: There is no public transit along this section of St John Street. There are nearby bus stops on Congress Street accessible via both Congress and Valley Streets.

Parking: The site layout includes parking for 24 vehicles, which is 8 above the zoning requirement of 16. The applicant should justify the need for the excessive parking provision, particularly as the reduction in spaces would offer the opportunity to improve pedestrian safety and access.

Bicycle parking spaces are shown on the site plan and 3 spaces would be required.

TDM: The scale of the proposal does not trigger the requirement for a TDM Plan.

Construction Management Plan: This has not been reviewed.

ii. Environmental Quality Standards

Landscape Preservation
The proposals retain 3 of the 5 existing trees along the Valley Street frontage; one is lost to the new exit curb cut, and one is lost to provide space for the dumpster. Some of the existing buffer shrubs and small tree planting have also been retained.

Buffers and Parking Lot Landscaping
The Landscape Plan is extracted above (under "Proposals") and indicates new planting. The City Arborist has indicated (Attachment 3) that it needs further development; for example there is no screening of the dumpster nor the southern line of parking, and the effectiveness of the planting to screen headlights of the drive-through lanes needs further evaluation.

There is a triangle of land at the southeast corner of the site, that includes an existing pedestrian access, and is proposed for some new planting. Staff suggest that this area could provide an attractive pedestrian area (walkway from Valley Street, picnic tables or similar) which could also be extended to an entrance of the restaurant - incorporating a clear crossing of the drive through lanes and additional planting.

Street Trees
The City Arborist has noted that the proposed Fraser Firs may not be suitable for this location, and revisions to address these comments should also be included in the final submission.

Water quality; Stormwater Management; Erosion Control:
The project has been reviewed by Lauren Swett, consultant Peer Engineering Reviewer, who has provided detailed comments Attachment 1. These comments request further information to confirm the areas that need to be treated and whether the focal points are adequate. The comments also request that the Hydrocad model be updated and submitted so that the City can evaluate whether the increased stormwater flows can be accommodated in the City's combined system.

iii. Public Infrastructure and Community Safety Standards

Public Safety (CPTED) and Fire Prevention
Staff have concerns about the Valley Street frontage and request a more detailed plan that creates a positive environment along the frontage and includes a welcoming pedestrian entrance, adequate lighting, and screening of the drive-through that does not create areas that attract crime. The Fire Department have not identified any concerns.

Public Utilities - The final submissions should include capacity letters from the Portland Water District, City DPW re Wastewater, and CMP regarding electrical service, and the plans should clarify electrical and sewer/stormwater connections and ROW changes, and address the Peer Engineer review comments (Attachment 1).

iv. Site Design Standards (as applicable)

Exterior Lighting: The applicant has submitted a photometric plan (Plan 11) and associated lighting specification (Attachments N & O). The lighting specifications met the City's Technical Standards, but the plan needs to be revised to address:

- The provision of lighting in the rear of the site and connections to the sidewalk, to address CPTED objectives;
- The provision of lighting by the main entrance on St John Street;
- Removal and replacement of the existing light at the back southeast corner that does not meet the City's Technical Standards.

Noise & Vibration (Mechanical Equipment) - the final architectural elevations and a roof plan should be submitted to show where any mechanical equipment and exhausts will be located and screened.

B2 Design Standards: The elevations are included in Plan 9 and have been reviewed in the context of the B2 Design Standards (Attachment 2). The key issue is the transparency of the glass surrounding the front seating area that is nearest to St John Street, and this is suggested to be a condition of approval.

VIII NEXT STEPS

The final submissions should address the following:

1. Provide TMP information and complete the TMP process - including evaluation of the need for the exit curb cut onto Valley Street
2. Provide additional information to support the sidewalk waiver requests, such as areas of disturbance in the ROW during construction
3. Revise the Landscape Plan to address the City Arborist comments; CPTED objectives; concerns about screening of headlights and parking; and the need for linkage of site pedestrian circulation with adjacent sidewalks
4. Landscape and site plan revisions should incorporate additional internal safety measures to reduce pedestrian conflicts with drive-through lanes
5. Reconsider the scale of parking and justify the additional parking over the zoning requirement
6. Revise the Lighting proposals to address the concerns outlined in the Memo
7. Address the Peer Engineer comments
8. Provide capacity letters from utilities and clarify utility connections and ROW alterations on the plans
9. Provide plans and elevations to show the location and screening of rooftop mechanicals
10. Address Planning Board comments.

[Attachments- next page]

ATTACHMENTS:

Memo Attachments

1. Peer Engineer Review comments
2. Design Review comments
3. City Arborist comments
4. Traffic Engineer Traffic Update comments

Public Comments (none)

Applicants Submittal

A. Level III Application
B. PROJECT SUMMARY
C. Deeds
D. Stormwater Report (Revised July)
E. Certificate of Good Standing
F. Soils Map
G. CMP Narrative
H. Level-III-Site-Plan Checklist
I. Zoning-Analysis-Table
J. Aisle Width Explanation
K. Pre-Devel HydroCAD
L. Post-Devel HydroCAD
M. Conditional Use Application
N. LED Pole Light Spec
O. Wall Light Spec
P. Neighborhood Meet Certification
Q. Chapter 500 Redevelopment
R. Focal Point 1 Wrksht
S. Focal Point 2 Wrksht
T. Housekeeping Plan
U. Maintenance Plan
V. stormwater maintenance agreement
W. Traffic Movement Permit Application
X1. Waiver - St. John St. Brick Sidewalk Waiver
X2. Waiver - Valley St. Brick Sidewalk Waiver
X3. Waiver - Driveway Spacing Waiver
X4. Waiver - Entrance Number Waiver

Plans

PLAN 1 SITE PLAN
PLAN 2 GRADING DRAINAGE PLAN
PLAN 3 UTILITY PLAN
PLAN 4 LANDSCAPE PLAN
PLAN 5 EROSION CONTROL
PLAN 6 DETAILS
PLAN 7 DETAILS
PLAN 8 SURVEY PLAN
PLAN 9 ELEVATION
PLAN 10 FLOOR PLAN
PLAN 11 Lighting Plan
PLAN 12 CONSTRUCTION MANAGE PLAN

PLAN CORRECTIONS REPORT PL-000047-2018
FOR CITY OF PORTLAND

PLAN ADDRESS: 325 Saint John St
Portland, Maine 04102

PARCEL: 065 C004001

APPLICATION DATE: 04/06/2018

SQUARE FEET: 0.00

DESCRIPTION: Dunkin Donuts at 325 St. John Street

EXPIRATION DATE:

VALUATION: $0.00

CONTACTS	Name	Company	Address
Agent/Representative	Jon Whitten	Plymouth Engineering	30 Lower Detroit Road Plymouth, ME 04969

Corrections Required

City Arborist — Jeff Tarling

Civil Engineering - Third Party Reviewer — Lauren Swett

v.1.00 - Not Resolved

Correction: General
The applicant is proposing a connection to the existing combined sewer infrastructure within Valley Street, please show the proposed connection on the design drawings. As the connection is greater than 8 inches, a manhole will be required.
Corrective Action: Update the utility plan to show the stormdrain connection.

Correction: General
The Applicant should show pavement repair limits within the City of Portland Right-of-Way and provide a detail. Additionally, note that St. John Street which will remain under moratorium until May 2019. Any impact within that street will be required to meet the current moratorium standards for repair until that time.
Corrective Action: Provide additional information for work within City streets.

Correction: General
The Stormwater Management Plan should include a stormwater inspection and maintenance plan developed in accordance with and in reference to MaineDEP Chapter 500 guidelines and Chapter 32 of the City of Portland Code of Ordinances. A stormwater agreement will be required for the project.
Corrective Action: Provide a stormwater inspection and maintenance plan and a stormwater agreement.

Correction: General
Sizing calculations have not been provided for the proposed Focal Point systems.
Corrective Action: Provide sizing calculations.

Correction: General
Locations of erosion and sediment control features should be shown in plan view.
Corrective Action: Provide erosion and sediment control on the site plan or grading and drainage plan.

Correction: General
The plans should note a location for snow storage. The snow storage location should be sited outside of existing and proposed drainage courses.
Corrective Action: Provide for snow storage or identify a snow management plan.

Correction: General
The Construction Management Plan narrative references a drawing showing the location of construction staging areas that was not provided.
Corrective Action: Provide Construction Management Plan figure.

Correction: General
The Applicant will be required to provide verification of utilities' ability to serve the proposed project.
Corrective Action: Provide verification of utility ability to serve.

Correction: General
The project will result in a decrease in impervious surface on the entire site. The Applicant should provide an evaluation of the amount of redeveloped, non-roof, impervious surface. Per the City's stormwater standards, if greater than 5,000 SF of redeveloped, non-roof impervious surface is created as part of the project, at least 50% of that area is required to be treated. The Applicant is proposing to provide treatment using focal point treatment systems, and likely will meet the standard using this treatment.
Corrective Action: Provide clarification of redeveloped, non-roof, impervious surface.

Correction: General

The project is not required to meet the flooding standard, as it is not increasing impervious surface. The stormwater report indicated that post-development flows will be increased in the 10-year and 25-year storms. No HydroCAD model has been provided (a model is in eplan, but it appears to be for another project). The report also references storm frequencies used for modeling that are not in accordance with the current MaineDEP Chapter 500 Guidance. The HydroCAD model should be updated and provided for review so that the City can verify that the increase in flow will not be an issue with the existing system.

Corrective Action: Provide HydroCAD model and verify that the City's system has the capacity to accept additional flow.

Correction: General

The project is located within a brick sidewalk district. Note that driveway aprons are required to match the sidewalk material.

Corrective Action: Provide required sidewalk and driveway apron materials.

Fire	Pool Fire
Parking	John Peverada
Planning	Jean Fraser
Public Works Engineering	Keith Gray
Traffic - Third Party Reviewer	Tom Errico
Transportation/Planning	Bruce Hyman
Zoning	Pool Zoning

Conditions Required

Planning and Urban Development Department
Planning Division

Subject: B-2 Design Review – 325 St. John Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Monday, July 16 2018

The project at 325 St. John Street was reviewed according to the *City of Portland Design Manual* standards by Caitlin Cameron, Urban Designer against *the B2 Commercial Business Zones Standards* (Section (d) of the Design Manual).

Design Review Comments*:*

(d) B-2 Commercial Business Zones

Standard (1) a. Urban Street Wall – Not applicable; Building does create a dining area and entrance close to the street, improving the existing condition.

Standard (1) b. Mixed Uses – Not applicable – restaurant use

Standard (1) c. Building Entrances – One of several building entrances is placed close to the street and is street-facing with direct access. The entrances are emphasized with canopy, color change, signage, and a high level of fenestration.

Standard (1) d. Windows – Storefront windows provided on the street-facing façade/dining area. .7 VT required.

Standard (1) e. Façade Character – Public areas - entrance and dining area – are oriented towards street with high level of fenestration.

Standard (1) f. Building Design – The building design is consistent with the type of commercial building in the same streetscape. Though only one-story, building has a parapet making it slightly more appropriate height for the wide commercial street.

Standard (1) g. Building Materials – Brick and clapboard are more common than panel but fiber cement panel is acceptable. Brick (though thin brick) on rear of building. Variation and articulation is part of the design and gives visual interest. Material color palette is neutral tones appropriate to context.

Standard (1) h. Building Scale – Not applicable

Standard (1) i. Landscaping and Buffers – Surface parking areas somewhat screened from street by plantings. Fence provided between properties. Planner will provide more guidance on this site plan criteria.

Portland Maine Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

325 St John Street - Dunkin' Donuts Landscape

1 message

Jeff Tarling <jst@portlandmaine.gov> Wed, Jul 18, 2018 at 3:34 PM
To: Jean Fraser <jf@portlandmaine.gov>

Jean -

At first glance, the proposed Dunkin Donuts landscape plan needs some work in regards to tree and plant types and placement. The amount of green space seems adequate and could use some tweaking.

I am willing to meet with the project team to discuss and revise. Although I like Fraser Fir in the right environment this site seems too dry to support good growth. Serbian Spruce would be similar in form perhaps better.

Thanks

Jeff

Jeff Tarling
City Arborist - City of Portland Maine
Parks, Recreation & Facilities Department
Forestry & Horticulture
212 Canco Road
Portland, ME. 04103
(207) 808-5446
jst@portlandmaine.gov

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

Dunkin Donuts St. John Street - Traffic Status Update

1 message

Tom Errico <thomas.errico@tylin.com> Thu, Jul 19, 2018 at 10:08 AM
To: "JF@portlandmaine.gov" <JF@portlandmaine.gov>
Cc: Bruce Hyman <bhyman@portlandmaine.gov>, Keith Gray <kgray@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Jeff Tarling (JST@portlandmaine.gov)" <JST@portlandmaine.gov>

Hi Jean – the following is a status update on the project as it relates to traffic issues.

- The project requires a Traffic Movement Permit and a Scoping meeting was held on July 16, 2018. The applicant will be preparing a traffic study that will investigate the implementation of a three-lane roadway section (one lane in each direction with a center turn lane) between Congress Street and Park Avenue. This roadway change is intended to mitigate safety patterns on St. John Street in the project vicinity that are directly related to driveway movements into businesses. The study will evaluate feasibility at the St. John Street intersections with Congress Street and Park Avenue during the AM and PM peak hours. The Study will also account for traffic changes associated with the MMC Parking Garage project.

- The project site requires a waiver for the number of driveways (two are permitted and three are proposed). We have requested documentation in support of the waiver. Given overall site design considerations and delivery truck movements, three driveways appear to be necessary.

- The project requires a waiver for parking aisle width. We have requested documentation in support of the waiver. It appears that the wider parking aisle is intended to provide vehicle storage for the drive-thru.

- The project requires a waiver for driveway spacing to abutting driveways. We have requested documentation in support of the waiver.

- We have requested that the Study update the crash data to include the most recent available three-year period.

- We have requested vehicle turning templates for vehicles entering and exiting site driveways to assess width requirements.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TY LIN INTERNATIONAL
12 Northbrook Drive
Falmouth, ME 04105
+1.207.781.4721 main
+1.207.347.4354 direct
+1.207.400.0719 mobile
+1.207.781.4753 fax
thomas.errico@tylin.com
Visit us online at www.tylin.com
Twitter | Facebook | LinkedIn | Google+

"One Vision, One Company"

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), Design Manual and Technical Manual.

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719
planning@portlandmaine.gov

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

I. Project Information (Please enter n/a on those fields that are not applicable)

Project Name:	Dunkin' Donuts
Proposed Development Address:	325 St. John Street
Project Description:	New 2,277 s.f. drive thru restaurant w. parking
Chart/Block/Lot:	065 C004001
Preliminary Plan	✔
Final Plan	☐

II. Contact Information (Please enter n/a on those fields that are not applicable)

APPLICANT

Name:	
Business Name:	Dunkin' Brands, Inc.
Address:	130 Royall Street
City/State:	Canton, MA
Zip Code:	02021
Work #:	
Home #:	
Cell #:	617-510-4543
Fax #:	
E-mail:	robert.mahoney@dunkinbrands.com

OWNER

Name:	same as applicant
Address:	
City/State:	
Zip Code:	
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	

AGENT/REPRESENTATIVE

Name:	Plymouth Engineering, Inc. c/o Jon H. Whitten, Jr.. P.E.
Address:	PO Box 46
City/State:	Plymouth, Maine
Zip Code:	04969
Work #:	207-257-2071
Home #:	
Cell #:	207-329-5190
Fax #:	207-257-2130
E-mail:	jon.whitten@plymouthengineering.com

BILLING (to whom invoices will be forwarded to)

Name:	Dunkin' Brands, Inc.
Address:	130 Royall Street
City/State:	Canton, MA
Zip Code:	02021
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	

ENGINEER

Name:	Plymouth Engineering, Inc. c/o Jon H. Whitten, Jr.. P.E.
Address:	PO Box 46
City/State:	Plymouth, Maine
Zip Code:	04969
Work #:	207-257-2071
Home #:	
Cell #:	207-329-5190
Fax #:	207-257-2130
E-mail:	jon.whitten@plymouthengineering.com

SURVEYOR

Name:	Owen Haskell, Inc.
Address:	390 U.S. Route One
City/State:	Falmouth, ME
Zip Code:	04105
Work #:	207-774-0424
Home #:	
Cell #:	
Fax #:	
E-mail:	

ARCHITECT

Name:	Aharonian & Associates, Inc. - Architects
Address:	310 George Washington Highway - Suite 100
City/State:	Smithfield, RI
Zip Code:	02917
Work #:	401-232-5010
Home #:	
Cell #:	
Fax #:	401-232-5080
E-mail:	jbrousseau@arch-eng.com

ATTORNEY

Name:	
Address:	
City/State:	
Zip Code:	
Work #:	
Home #:	
Cell #:	
Fax #:	
E-mail:	

DESIGNATED PERSON(S) FOR UPLOADING INTO e-PLAN

Name:	Jon H. Whitten, Jr., P.E.
E-mail:	jon.whitten@plymouthengineering.com
Name:	
E-mail:	
Name:	
E-mail:	

III. APPLICATION FEES

LEVEL III DEVELOPMENT (check applicable review)

☑	Less than 50,000 sq. ft.	$750.00
☐	50,000 – 100,000 sq. ft.	$1,000.00
☐	100,000 – 200,000 sq. ft.	$2,000.00
☐	200,000 – 300,000 sq. ft.	$3,000.00
☐	Over 300,000 sq. ft.	$5,000.00
☐	Parking lots over 100 spaces	$1,000.00
☐	After-the-fact Review	$1,000.00 + applicable application fee above

PLAN AMENDMENTS (check applicable review)

☐	Planning Staff Review	$250.00
☐	Planning Board Review	$500.00

OTHER REVIEWS (check applicable review)

☑	Traffic Movement	$1,500.00
☐	Stormwater Quality	$250.00
☐	Subdivision	$500.00 + applicable fee for lots/units below
	# of Subdivision Lots/Units [ ] x $25.00 each	$
☐	Site Location	$3,500.00 + applicable fee for lots/units below
	# of Site Location Lots/Units [ ] x $200.00 each	$
☐	Change of Use	
☐	Flood Plain	
☐	Shoreland	
☐	Design Review	
☐	Housing Replacement	
☐	Historic Preservation	
	TOTAL APPLICATION FEE DUE:	$

IV. FEES ASSESSED AND INVOICED SEPARATELY

- Notices to abutters (receipt of application, workshop and public hearing meetings) ($.75 each)
- Legal Ad in the Newspaper (% of total ad)
- Planning Review ($52.00 hour)
- Legal Review ($75.00 hour)
- Third Party Review (all outside reviews or analysis, eg. Traffic/Peer Engineer, are the responsibility of the applicant and will be assessed and billed separately)

V. PROJECT DATA (Please enter n/a on those fields that are not applicable)

TOTAL AREA OF SITE	30,239	sq. ft.
PROPOSED DISTURBED AREA OF THE SITE	30,239	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
IMPERVIOUS SURFACE AREA		
Impervious Area (Total Existing)	25,595	sq. ft.
Impervious Area (Total Proposed)	19,228	sq. ft.
Building Ground Floor Area and Total Floor		
Building Footprint (Total Existing)	3,406	sq. ft.
Building Footprint (Total Proposed)	2,277	sq. ft.
Building Floor Area (Total Existing)	3,406	sq. ft.
Building Floor Area (Total Proposed)	2,277	sq. ft.
ZONING		
Existing	B2	
Proposed, if applicable	No Change Proposed	
LAND USE		
Existing	Sit Down Restaurant	
Proposed	Drive Thru Restaurant	
RESIDENTIAL, IF APPLICABLE		
# of Residential Units (Total Existing)		
# of Residential Units (Total Proposed)		
# of Lots (Total Proposed)		
# of Affordable Housing Units (Total Proposed)		
PROPOSED BEDROOM MIX		
# of Efficiency Units (Total Proposed)		
# of One-Bedroom Units (Total Proposed)		
# of Two-Bedroom Units (Total Proposed)		
# of Three-Bedroom Units (Total Proposed)		
PARKING SPACES		
# of Parking Spaces (Total Existing)	50	
# of Parking Spaces (Total Proposed)	25	
# of Handicapped Spaces (Total Proposed)	2	
BICYCLE PARKING SPACES		
# of Bicycle Spaces (Total Existing)		
# of Bicycle Spaces (Total Proposed)		
ESTIMATED COST OF THE PROJECT	$	

VI. APPLICANT SIGNATURE

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	
Date:	

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST**
X		1	Completed Application form
X		1	Application fees
X		1	Written description of project
X		1	Evidence of right, title and interest
		1	Evidence of state and/or federal approvals, if applicable
X		1	Written assessment of proposed project's compliance with applicable zoning requirements
		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
		1	Written requests for waivers from site plan or technical standards, if applicable.
X		1	Evidence of financial and technical capacity
X		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST**
X		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	**Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)**
X		Proposed grading and contours;	
X		Existing structures with distances from property line;	
X		Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;	
		Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);	
X		Preliminary infrastructure improvements;	
X		Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;	
		Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);	
		Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);	
X		Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;	
X		Exterior building elevations.	

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Completed Application form
		1	* Application fees
		1	* Written description of project
		1	* Evidence of right, title and interest
		1	* Evidence of state and/or federal permits
		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
		1	* Evidence of financial and technical capacity
		1	Construction Management Plan
		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
		1	Stormwater management plan and stormwater calculations
		1	Written summary of project's consistency with related city master plans
		1	Evidence of utility capacity to serve
		1	Written summary of solid waste generation and proposed management of solid waste
		1	A code summary referencing NFPA 1 and all Fire Department technical standards
		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
		1	**Final Site Plans including the following:**
x		Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);	
x		Existing and proposed structures on parcels abutting site;	
x		All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;	
x		Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;	
x		Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;	
x		Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;	
x		Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;	
x		Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;	
x		Location of all snow storage areas and/or a snow removal plan;	
x		A traffic control plan as detailed in Section 1 of the Technical Manual;	
x		Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);	
		Location and proposed alteration to any watercourse;	
		A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;	
		Proposed buffers and preservation measures for wetlands;	
		Existing soil conditions and location of test pits and test borings;	
x		Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;	
x		A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;	
x		Grading plan;	
		Ground water protection measures;	
		Existing and proposed sewer mains and connections;	

- Continued on next page -

		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant
2.
3. Name address, telephone number of architect

4. Proposed uses of any structures [NFPA and IBC classification]
5.
6. Square footage of all structures [total and per story]

7. Elevation of all structures

8. Proposed fire protection of all structures
   - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***

9. Hydrant locations

10. Water main[s] size and location

11. Access to all structures [min. 2 sides]

12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division

Date: March 1, 2018

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 325 St. John Street

Chart Block Lot Number: 065 C004001

Proposed Use: Drive Thru Restaurant
Previous Use: Sit Down Restaurant
Existing Sanitary Flows: 240 GPD
Existing Process Flows: _____ GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
Current Lang's Express is connected to sewer in Valley Street.

Site Category:
- Commercial *(see part 4 below)* ✔
- Industrial *(complete part 5 below)*
- Governmental
- Residential
- Other *(specify)*

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Barbara Barhydt Phone: 207-874-8699
Owner/Developer Name: Dunkin' Brands, Inc.
Owner/Developer Address: 130 Royall Street Canton, MA 02021
Phone: 617-510-4543 Fax: E-mail: robert.mahoney@dunkinbrands.com
Engineering Consultant Name: Plymouth Engineering, Inc. c/o Jon H. Whitten, Jr.. P.E.
Engineering Consultant Address: PO Box 46 Plymouth, Maine 04969
Phone: 207-257-2071 Fax: 207-257-2130 E-mail: jon.whitten@plymouthengineering.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 240 GPD
Peaking Factor/ Peak Times: 5/6:00 AM
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," __ "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, Other (specify)* _____

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: TBD

Size of External Grease Interceptor: TBD

Retention Time: TBD

Peaking Factor/ Peak Times: TBD

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: _____ GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

A Guide to Holding Neighborhood Meetings
Portland, Maine

Planning and Urban Development Department
Planning Division and Planning Board

In order to improve communication between applicants and neighbors, the City of Portland requires applicants who are proposing certain types of development review projects, to hold a neighborhood meeting.

Developments requiring a neighborhood meeting

- Proposed map amendments, contract zones and zoning text amendments that would result in major development;
- Subdivisions of five or more units or lots;
- Master Development Plans; and
- Level III site plan proposals as defined in Section 14-523.

(The Land Use Code, including Article II (Planning Board) and Article V (Site Plan – which contains the neighborhood meeting requirements), are available on the City's web site at www.portlandmaine.gov/citycode/chapter014.pdf)

Timing of meeting

- **Subdivisions of 5 or more units or lots, zone changes, contract zones, zoning text amendments and Level III site plans:**
  - Preliminary Site Plan - The meeting should be held within 30 calendar days of filing the application.
  - Final Site Plan – If only a final plan is submitted, the meeting should be held within 21 calendar days of filing the application and no less than 7 calendar days before the public hearing.
- **Master Plan Development:**
  - The meeting should be held within 30 calendar days of filing the application.
  - The meeting should be held on a date no less than 7 calendar days before a public workshop or public hearing.
  - The meeting shall not be combined with any required neighborhood meeting for the Level III applications.

Location of meeting

- The meeting should be held in the evening, during the week, at a convenient location within the Portland neighborhood surrounding the proposed site. Community meeting spaces at libraries, schools or other places of assembly are recommended. Neighborhood schools are usually available for evening meetings.
- Meetings should not be held on the same day as scheduled Planning Board or City Council meetings. The City Council generally meets on the 1st and 3rd Monday of each month and the Planning Board generally meets on the 2nd and 4th Tuesday of each month; however additional meetings may be scheduled. An updated schedule may be found on the City's website: www.portlandmaine.gov

Invitation List

- Property owners within 500 feet of the proposed development (1000 feet for proposed industrial subdivisions and industrial zone changes)
- Interested citizens and neighborhood groups.

The Planning Division provides the mailing labels. We require at least 48 hours notice to generate the mailing labels and a charge of $1.00 per sheet will be payable upon receipt of the labels. An electronic version (excel or word format) of the labels can also be e-mailed upon request.

A digital copy of the notice must be provided to the Planning Office (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner, which will then be forwarded to those on the interested citizen list who receive e-mail notices.

When to Send Invitations

- Invitations must be sent **no less than 10 days (to include weekends)** prior to the neighborhood meeting.
- Notices may be sent by regular mail and do not need to be sent by certified mail.

Notice Description

A recommended invitation format is included in this packet of material.

Attendance Sheet and Meeting Minutes

- Sign-in sheet must be circulated for those in attendance.
- Applicant shall take accurate minutes of the meeting.
- The sign-in sheet and minutes shall be submitted to the Planning Division.

A public hearing will not be scheduled until the meeting minutes and sign-up sheet are submitted to the Planning Division.

A Certification form is included with this packet to be completed and signed by the applicant.

Please call the Planning Division at 874-8721 or 874-8719 if you have any questions.

Attachments

1. Neighborhood Meeting Invitation Format
2. Neighborhood Meeting Certification

EXAMPLE: Neighborhood Meeting Invitation Format

Applicant/Consultant
Letterhead

(Date)

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a (development proposal) located at (location/number and street address).

Meeting Location: _____
Meeting Date: _____
Meeting Time: _____

(The City code requires that property owners within 500 feet (1000 feet for proposed industrial subdivisions and industrial zone changes) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.)

If you have any questions, please call (telephone number of applicant or consultant).

Sincerely,

(Applicant)

Note:
Under Section 14-32(C) and 14-524(a)d of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within 30 days of submitting a preliminary application or 21 days of submitting a final site plan application, if a preliminary plans was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street Portland, ME 04101 or by email: to bab@portlandmaine.gov

EXAMPLE: Neighborhood Meeting Certification

I, (applicant/consultant) hereby certify that a neighborhood meeting was held on (date) at (location) at (time).

I also certify that on (date at least ten (10) days prior to the neighborhood meeting), invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1000 feet of a proposed industrial subdivision or industrial zone change.

2. Residents on the "interested parties" list.

3. A digital copy of the notice was also provided to the Planning Division (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive e-mail notices.

Signed,

_____ _____ (date)

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

May 15, 2018

Planning Division
389 Congress Street
Portland, ME 04101

Project Summary - Preliminary Level III Site Plan Application: Dunkin' Donuts Restaurant, 325 St. John Street, Portland, Maine

On behalf of the owner/applicant, Dunkin' Brands, Inc., we are pleased to submit this Project Summary for a Preliminary Level III Site Plan Application for the proposed construction of a 2,270 square foot Dunkin' Donuts Drive-Thru Restaurant at 325 St. John Street in Portland, Maine. The applicant currently operates a Dunkin' Donuts Drive-Thru restaurant on the lot directly abutting this property and will be moving that use into this proposed, new restaurant building.

The property is 30,239 square feet in size and currently supports an Asian restaurant use. This Asian restaurant is located within a 3,406 s.f. building and is supported by 52 parking spaces and utility connections to public water, sewer, natural gas and storm drain systems within Valley Street.

The applicant is proposing to demolish the existing building and develop an approximately 2,270 s.f. building. The parking area will be re-developed to be smaller in size, while supporting a queue of at least 15 cars for the drive-thru window and 24 parking spaces. Access to the site will be through the two, existing curb cuts on St. John Street, with an additional "exit only" curb cut on Valley Street.

A Traffic Movement Permit will be required for this proposed use and the application for that permit has already been submitted to the City on behalf of the applicant.

We look forward to discussing this proposed project with you and Staff/Board members as this process continues. Please feel free to contact us with any questions in the meantime.

Respectfully,
PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., P.E.
Senior Project Manager

Instr 16840 Bk 9982 Pg 346

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS

WAYNE R. HURST, of South Harpswell, County of Cumberland and State of Maine

FOR CONSIDERATION PAID - GRANTS TO

NANCY E. HURST, of South Harpswell, County of Cumberland and State of Maine

16840

WITH WARRANTY COVENANTS the land in Portland, County of Cumberland and State of Maine

A certain lot or parcel of land, together with the buildings thereon, situated on the easterly side of St. John Street in said Portland, more particularly bounded and described as follows:

BEGINNING at the northeasterly corner of land formerly of Lindley M. Webb, which corner is about one hundred (100) feet northerly from Congress Street;
THENCE running westerly by said Webb land and land formerly of C. M. Carleton ninety-nine and twenty-eight hundredths (99.28) feet, more or less, to St. John Street;
THENCE northerly by St. John Street one hundred fifty-two and thirty-one hundredths (152.31) feet, more or less, to a point distant two hundred fifty-three and seventy-three hundredths (253.73) feet northerly from the intersection of said side of St. John Street with the northerly side of Congress street;
THENCE easterly at right angles with St. John Street seventy and five tenths (70.5) feet to land formerly of Hans Hansen;
THENCE southerly by said Hansen land one hundred forty-three and five tenths (143.5) feet, more or less, to the point of beginning.

Excepting therefrom the portion of the premises conveyed to Philip P. Resnick by Resnick Oil Co., Inc. by Warranty Deed, dated September 6, 1966 and recorded in Cumberland County Registry of Deeds in Book 2972, Page 535.

Meaning and intending to convey the same premises conveyed to the Grantor herein by Warranty Deed of Eugene S. Martin dated December 30, 1983 and recorded in the Cumberland County Registry of Deeds in Book 6361, Page 156.

WITNESS my hand and seals this 27 day of March, 1992.

Wayne R. Hurst
WAYNE R. HURST

STATE OF MAINE

Sagadahoc, ss. March 27, 1992

Then personally appeared the above named WAYNE R. HURST and acknowledged the foregoing instrument to be his free act and deed,

BEFORE ME,

David R. Weiss

~~Notary Public Atty at Law~~
~~My Commission Expires~~

David R. Weiss
Printed or Typed Name of Notary

Recorded
Cumberland County
Registry of Deeds
03/31/92 09:31:26AM
~~Robert P.~~ Titcomb
Register

95

25089

TRUSTEES' DEED

KNOW ALL MEN BY THESE PRESENTS,

That, We, Casco Bank & Trust Company, a banking institution duly organized and existing by law and having a principal place of business at Portland, Maine, and Diana Resnick, both Trustees under an Indenture of Trust dated September 21, 1976, said trust being known as the Philip P. Resnick Revocable Trust, by virtue of the authority given to us in said Trust, in our capacities as Trustees, as aforesaid, and in consideration of One Dollar ($1.00) and other valuable considerations paid to us by Nancy E. Hurst of South Harpswell, County of Cumberland and State of Maine, the receipt whereof is hereby acknowledged, do hereby sell, and convey unto the said Nancy E. Hurst, her heirs and assigns, the following described real estate, with the buildings thereon, situated in Portland, bounded and described as follows:

> A certain lot or parcel of land situated in Portland, County of Cumberland and State of Maine, bounded and described as follows: Beginning at an iron on the easterly side of St. John Street, distant 252.04 feet northerly from Congress Street; thence North 2 degrees 14' East along the easterly side line of St. John Street, a distance of 62.50 feet, to an iron; thence South 87 degrees 46' East, a distance of 141.15 feet to an iron at the westerly side line of Valley Street; thence South 8 degrees 30' East along the westerly side line of Valley Street, a distance of 107.88 feet to an iron; thence South 81 degrees 27' West, a distance of 79.69 feet to an iron; thence North 8 degrees 45' West, a distance of 10 feet to an iron; thence North 56 degrees 55' West, a distance of 94.60 feet to an iron at the easterly side line of St. John Street and the point of beginning.
>
> The premises described being the same as conveyed by Resnick Oil Co. to Philip P. Resnick and recorded in Book 2972, Page 535, Cumberland County Registry of Deeds.

A certain lot or parcel of land situated on the westerly side of Valley Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the westerly side line of Valley Street at a point one hundred thirty-one and seventy-one hundredths (131.71) feet northerly thereon from the northerly side line of Congress Street, being the northeasterly corner of land conveyed by John W. Deering to Emma C. Henderson by deed dated September 1, 1943, and recorded in Cumberland County Registry of Deeds in Book 1724, Page 287; thence northerly by the westerly side line of Valley Street sixty (60) feet to the southeasterly corner of land conveyed by Franklin S. Olsen to Margaret Howard, et al, by deed dated April 2, 1942, and recorded in said Registry of Deeds in Book 1671, Page 150; thence westerly at right angles with Valley Street and by said Howard land seventy-nine and sixty-nine hundredths (79.69) feet to an iron hub in the easterly side line of land conveyed by Gifford Realty Co. to Mary E. Hansen by deed dated November 3, 1969, and recorded in said Registry of Deeds in Book 3107, Page 809; thence southerly by said Hansen land fifty-three and forty-four hundredths (53.44) feet to an iron hub at the northwesterly corner of said Henderson land; thence easterly by said Henderson land seventy-nine and ninety-four hundredths (79.94) feet to the point of beginning.

The premises described being the same conveyed to Philip P. Resnick from Hildegarde M. Ledue, and recorded in Book 2983, Page 372, in the Cumberland County Registry of Deeds.

To Have and to Hold the above granted premises unto the said Nancy E. Hurst and her heirs and assigns forever, and we the said Casco Bank & Trust Company and Diana Resnick, in our said capacities as Trustees do hereby COVENANT to and with the said Nancy E. Hurst that we are the lawful Trustees under the said Philip P. Resnick Revocable Trust; that we have power under said Trust to sell, as aforesaid and that in making this conveyance we have in all respect acted in pursuance of the authority granted in said Trust.

In Witness Whereof, we the said Casco Bank & Trust Company by Ashton Johnson, its Trust Officer, and Diana Resnick, both in their capacity as Trustees aforesaid, have hereunto put their hand and seals this 5th day of October, 1976.

Signed, Sealed and Delivered
in the presence of

CASCO BANK & TRUST COMPANY

Rose M. Bouchard
Witness

By its Trust Officer - Trustee

Rose M. Bouchard
Witness

Diana Resnick
Trustee

45

State of Maine
Cumberland, ss.

October 5, 1976

Then personally appeared the above-named Ashton Johnson, Trust Officer of said Casco Bank & Trust Company, duly authorized, and acknowledged the above instrument to be the free act and deed of said Casco Bank & Trust Company, and his free act and deed in his capacity.

Before me,

Rose M. Bouchard

MY COMMISSION EXPIRES
APRIL 8, 1977

State of Maine
Cumberland, ss

October 5, 1976

Then personally appeared Diana Resnick and acknowledged the above instrument to be her free act and deed.

Before me,

Rose M. Bouchard

MY COMMISSION EXPIRES
APRIL 8, 1977

OCT 15 1976
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 1 H 52M P M, and recorded in
BOOK 3923 PAGE 45. Margaret L Weber Acting Register

STORMWATER MANAGEMENT PLAN

325 St. John Street Dunkin' Donuts
Portland, Maine
Revised July 11, 2018

The following Stormwater Management Plan has been prepared for Dunkin' Donuts to evaluate stormwater runoff and erosion control for the proposed new store and parking area to be located at 325 St. John Street, in Portland, Maine.

Site Calculations

Total Property Area	30,239 square feet (0.69 acres)
Existing Impervious Area	23,749 square feet (0.54 acres)
Total New Impervious Area	20,131 square feet (0.46 acres)
Total New Landscaped Area	10,108 square feet (0.23 acres)
Total Developed Area	30,239 square feet (0.69 acres)

Assumptions

- The entire site will be disturbed during construction, as such the entire site will be considered developed (impervious or landscaped).

Existing Conditions

325 St. John Street in Portland, is currently a restaurant with associated parking. The development parcel is located on the easterly side of St. John Street, between it and Valley Street. The property is approximately 0.69 acres (30,239 square feet) and is currently accessed by St. John Street. The site is surrounded by commercial development on all sides, in the Business Community (B2) district. The property is entirely developed.

The majority of the site's storm water runoff enters the combined storm water – sewer system in Valley Street through on site catch basins. A single catch basin directs flow to the pipe system in St. John Street.

The project area features topography that is relatively flat. There is currently 23,749 square feet (0.54 acres) of impervious area allocated on the site, and 6,490 square feet of landscaping, the existing site is entirely developed.

Proposed Development

Dunkin' Brands, Inc. is proposing a new 2,277 square foot restaurant, which includes a freezer and 3 season room within its footprint, two lane drive thru, and associated parking. There are two, existing curb cuts on St. John Street that will be utilized in the proposed condition, as well as a new, exit only curb cut to Valley Street. The parking and maneuvering areas will be curbed and stormwater will be directed to a catch basin and pipe system. The project stormwater management system will feature two new Focalpoint

Biofiltration Systems provided by ACF Environmental to treat at least 50% of the new impervious area, prior to it flowing to Valley Street.

Drainage Pattern

Roof runoff will be collected and treated by a Focal Point System prior to entering into the stormdrain pipe system. The southern half of the proposed pavement area will flow to a second Focal Point System via overland sheet flow. The northern half of the proposed pavement area will flow to catch basins that will direct the runoff to Valley Street. This is a slight change, as some of the existing pavement in this area was directed to St. John Street through a small drainage pipe. Offsite runoff from the south will be directed to the catch basin system via shallow grass swales and allowed to flow directly to Valley Street as it does today.

Flooding

The property is currently not shown as being in a floodplain, according to current FEMA mapping. There is no known historical flooding on the site.

Modeling Assumptions

The onsite stormwater facilities were sized utilizing the USDA Soil Conservation Service (SCS) TR-20 Runoff Simulation Model, as contained in the HydroCAD computer software program (Version 9.0). Runoff curve numbers were determined for each direct watershed by measuring the area of each hydrologic soil group within each type of land cover. Weighted curve numbers were then calculated using curve numbers for various cover types and hydrologic soil groups, assuming "good" conditions as defined in U.S Soil Conservation Service (SCS) publications. Times of concentration and travel times were entered as a default of 5 minutes, as a minimum, due to paved surface sheet flow.

All of the watersheds' peak runoff rates were analyzed for the 2, 10, and 25-year frequency, 24-hour duration storm events. A Type III rainfall distribution was applied to these storms. The rainfall amounts for Cumberland County are as follows:

Storm Frequency Precipitation (in./24 hr)	
2-year	3.10
10-year	4.60
25-year	5.80

Soils

The soils within the project area were gathered from the Web Soils Survey compiled by the USGS and attached in the application.

Water Quantity (Flooding Standard)

The following table summarizes the results of stormwater calculations for the design storm events for the project area. Calculations and computer modeling sheets are provided with this report.

Table 1 - Stormwater Runoff Summary Table Pre-Development vs. Post-Development						
Study Point #	**2Yr/24Hr (cfs)**		**10Yr/24Hr (cfs)**		**25Yr/24Hr (cfs)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
POND 5&7	2.23	2.23	3.43	3.87	4.39	4.75

As the above result table shows, the post-development flow rate for the 2, 10, and 25-year/24-hour design storm events are nearly equal to the pre-development condition. This can be attributed to the overall reduction in impervious area on the site and the re-routing of one of the catch basins to Valley Street.

Water Quality (BMP Standard)

The water quality requirements will be met by Focal Point Biofiltration Systems. The structures will provide full treatment for at least 50% of the site's impervious area.

New Impervious Area: The project will result in 20,131 square feet of impervious area, a decrease of 3,618 square feet from existing conditions.

Impervious Area Treatment Summary		
Type	Amount Created	Treatment
Building	2,277 sf	100% (Focal Point)
Southern Parking Area	9,155	100%
Northern Parking Area	8,699	0%
REQUIRED TREATMENT	50%	10,273 SF
PROVIDED TREATMENT		**11,432 SF**

Project Developed Area: The entire parcel is currently developed (impervious & landscaped), the proposed project will be entirely developed area.

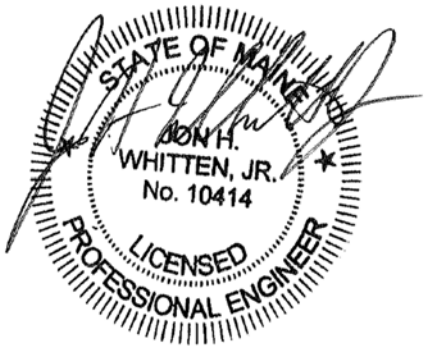
27% (0.06 AC) of the landscaped area will be treated by the stormwater management system.

See attached worksheets for Focalpoint Biofiltration Systems.

Summary

The proposed condition of the site will result in an overall decrease in impervious area and will increase treatment to at least 50 percent. The peak rate of runoff for the site is slightly increased to Valley Street and decreased to St. John Street. The increase is within 12 percent of the pre-development rates and can be categorized as insignificant. Based on the results of this evaluation, the proposed stormwater design is not expected to cause flooding, erosion or other significant adverse effects downstream of the site.

Prepared by:
PLYMOUTH ENGINEERING, INC.



Jon H. Whitten, Jr., P.E.
Senior Project Manager

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Fri Nov 03 2017 08:49:47. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
DUNKIN' BRANDS, INC.	20051118 F	BUSINESS CORPORATION (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
06/09/2005	N/A	DELAWARE

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

C T CORPORATION SYSTEM
128 STATE ST #3
AUGUSTA, ME 04330

Back to previous screen | New Search

Click on a link to obtain additional information.

List of Filings	View list of filings
Obtain additional information:	
Certificate of Existence (more info)	Short Form without amendments ($30.00)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.

Get Acrobat Reader

If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Bureau's Reporting and Information Section at 207-624-7752 or e-mail or visit

our Feedback page.

© Department of the Secretary of State

Map Scale: 1:557 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 13, Sep 11, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**

Construction Management Plan
325 St. John Street

Project Narrative

The applicant/developer is proposing a 2,277 square foot drive thru restaurant with associated parking at 325 St. John Street in the City of Portland. The project sits on a 30,239 SF lot and work will include:

- Installation of erosion control measures
- Removal of existing building
- Removal of existing pavement
- Partial removal of existing utilities
- Installation of new on-site utilities
- Subgrading of parking area
- Construction of new building
- Paving of site
- Installation of site landscaping and stormwater treatment units
- Removal of erosion control measures

Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

As a Level III Site Plan review, the developer of the project will be required to submit a performance guarantee for the proposed work. This performance guarantee and site development inspection fees will be based upon a cost estimate submitted and approved by the City. The form and of the guarantee will be a letter of credit from an approved bank or credit union, a deposit in a bank-held escrow account or a deposit in a City- held escrow account. These fees/guarantees will need to be paid/in place prior to scheduling the pre-construction meeting.

The contractor will be responsible for obtaining street opening and street occupancy permits from the Department of Public Works. All construction in the right-of-way shall conform to Chapter 25 and all sewer and stormwater construction/connections shall conform to Chapters 24 & 32 of the Land Use Code.

Construction Administration and Communication

This project will be managed by a representation of the developer, Dunkin' Brands, Inc. along with a project manager from Plymouth Engineering, Inc.

1. Contact Person and contact information
   Developer - Chris Jesson, Construction Manager, Dunkin' Brands, Inc.
   Cell Phone: 339-222-6471
   Fax: 781-737-4541
   Email: Christopher.Jesson@dunkinbrands.com
   Contractor – TBD
2. Construction Signage will be posted on the site with Contact Information for Contractor
3. Construction Manager will work closely and inform adjacent abutters, businesses and all other parties, as far in advance as possible, of scheduled work.
4. All construction site signage is temporary and shall be removed at project completion.

Construction Schedule

Estimated Site Plan Approval: September, 2018
Estimated Preconstruction Meeting: August, 2018
Estimated Construction Time----------15 Weeks +/-
Erosion Control Measures Placed----------Week 1
Site Work---------- Week 2-6
Street Utility Connections----------Week 6

Foundation----------Week 5-6
Framing----------Week 6-8
Building Envelope Close In----------Week 8
Interior Work ----------Week 8-14
Final Site Work----------Week 14-15
Site Landscaping----------Week 15

1. From September 1st to May 31st, no person shall engage in construction activities generating noise exceeding fifty (50) decibels, between the hours of 7:00 p.m. and 7:00 a.m., of the following day within five hundred (500) feet of any buildings. From June 1st to August 31st construction activity may continue until 8:00 p.m.
2. Extended Hours or Night Work: Pursuant to Section 17-18, this section does not apply to emergency utility work or "Situations where the public works authority or the office of building inspections determines that the construction activity is of a unique character which cannot reasonably be completed or performed during the permitted hours and which is not of a recurring nature, provided that prior to engaging in such activity the contractor or his representatives gives notice of the time and scope of such proposed activity, the notice to be given in a manner approved by the public works authority."
3. Pursuant to Section 25-129: "Each permittee shall conduct and carry out excavation work in such manner as to avoid unnecessary inconvenience and annoyance to the general public and occupants of neighboring property. To the fullest extent practicable, the permittee shall take appropriate measures to reduce noise, dust and unsightly debris in the performance of the excavation work. Excavation work, including the use of any tool, appliance, or equipment, shall be performed between the hours of 7:00 a.m. and 10:00 p.m. only, exclusive of emergency work. Time waiver requests may be submitted to the public works authority for work outside of this time period and will be subject to neighborhood concerns. Excavation work shall not occur on Sundays, holidays or on major holiday weekends, unless expressly authorized by the public works authority or as a result of emergency need.
4. If allowed, no construction activity shall begin before 8:00 a.m. on a Saturday, Sunday or legal holiday.
5. All deliveries for materials will comply with the noise requirements listed above or be restricted to the hours allowed for construction work.

Security & Public Safety

1. Prior to commencing construction, site contractor shall install "Construction Ahead" sign to warn bicyclists and motorists of construction with the area.
2. Contractor shall be responsible for the setup of construction staging area before construction begins. Contractor may provide fencing for staging area at their discretion. Fenced in areas shall be provided with gates passable by emergency vehicles and equipped with a Knox locking device.
3. Contractor shall be responsible for the safe storage of materials or equipment on-site.
4. Contractor shall have weekly meetings which shall include discussions relative to security and public security.
5. Contractor shall develop a fire safety and emergency protocol and contact the nearest fire station to advise them of the ongoing construction project.
6. All excavations within the right-of-way shall be filled or plated at night. Excavations within the site shall be provided with adequate barricades or warnings (i.e. construction area tape around excavation) at night.
7. Any proposed temporary security lighting shall be shown on CMP and all fixtures shall be full cutoffs.

Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets: Construction activity in the public right-of-way is controlled by Chapter 25 Article VII of the City Code of Ordinances. Required licenses and permits, restrictions on activity, and fees & area are outlined in that Chapter. Rules and Regulations for Excavation Activity are available through the Street Opening Clerk at the Department of Public Works. At no time can construction activity including delivery vehicles close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.

2. Sewer and Stormwater: Sewer and stormwater water system connections are controlled by Chapters 24 and 32 of the City Code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual.

3. Traffic Control Plans: Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public.

4. Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

Site Management and Controls

1. Building contractors will be responsible for the site management on individual lots.
2. Contractor will be responsible for providing and maintaining waste removal during construction.
3. Contractor will maintain the construction entrance as shown on the plans and will maintain St. John Street and Valley Street by including sweeping as necessary for removal of tracked materials.
4. Contractor shall be responsible for maintaining construction BMP's and executing good housekeeping measures as depicted on the approved plans and as included in the Inspection, Maintenance and Housekeeping Plan.
5. Dust controls: The construction shall comply with Portland's requirements under Section 25-129 on Noise, dust and debris.
6. Noise: The construction shall comply with Portland's requirements under Section 17-18 of the City Code and Section 25-129 on Noise, dust and debris. The Contractor and City will be responsible for adjusting work should noise become an issue.
7. Rodent Control is not expected for this project but should it become necessary, it will be provided, if applicable, by a professional exterminator and consistent with Chapter 22 of the City Code or City of Portland Public Works.
8. Snow Removal: Pursuant to Section 25-173 Contractors to ensure a safe means of travel within the work zone.
    1) Snow/ice removal or commence automatically from (1" of snow and up) or Ice
    2) Remove snow as needed within the work zone, including parking spaces & not to block any driveways or site lines with the piles of snow.
    3) Clear all walks & ramps with the work zone
    4) Sand or Salt as needed
    5) Clear all basin or drainage to help snow melt
    6) This would include Monday-Friday Sat/Sunday/Holidays.

9. Site management and controls shall be discussed at each tailgate meeting including maintenance of BMP's and good housekeeping measures.

Erosion Control and Preservation of Trees

1. The site contractor shall install all erosion and sedimentation controls as depicted on the approved erosion and sedimentation control plan prior to the pre-construction meeting for inspection by the City. The contractor shall regularly inspect the control measures, no less than weekly and after significant storm events, and maintain any installed temporary or permanent stormwater management systems in working order. The contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection or the U.S. Environmental Protection Agency upon request.
2. The site contractor shall maintain storage and of materials and equipment away from or under trees.
3. The existing street trees shall be preserved, if feasible by construction.

Construction Staging Area

1. The Construction Management Plan depicts the location of the material (open storage) and equipment storage area. The exact location of these areas shall be up to the contractor but will be in the general area depicted on the CMP.
2. Delivery Truck Holding Areas On-Site: The delivery holding area shall be adjacent to the site storage area shown on the plan and shall not be blocked during construction. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of the trucks until they can be unloaded. Once at the site all vehicles well be brought within the property and will make every attempt to avoid queueing on public streets.
3. Delivery Truck Holding Areas Off-Site: In the event that adequate on-site area for holding of trucks is not available, the contractor shall provide an area along the adjacent shoulder of St. John Street for offloading. This area shall be provided within the buffer area of a maintenance of traffic area with the appropriate cones, advanced warning signs and flaggers as necessary. All off-loading shall occur from the project side of the truck and not within the roadway.

Parking During Construction

1. Construction Parking: Parking for construction workers shall be on the site as indicted on the Construction Management Plan.
2. Truck Routes and Volumes: All deliveries to and from site shall occur on the arterial roads to St. John Street and proceed along St. John Street to the site.

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

LEVEL II and LEVEL III APPLICATION SUBMISSION CHECKLIST

Submit each Tab as one PDF file and bookmark the items as noted below

Please confirm by electronically checking the boxes to the left

Tab 1 – General Application Documents

Checklist	Items to be Provided
Yes NA Plan ☐ ☐ ☐	PROJECT DESCRIPTION • Cover Letter with detailed project description
Yes NA Plan ☐ ☐ ☐	COMPLETED CHECKLIST – LEVEL III APPLICATION
Yes NA Plan ☐ ☐ ☐	RIGHT, TITLE AND INTEREST • Deeds, leases, or purchase and sales agreements
Yes NA Plan ☐ ☐ ☐	EVIDENCE OF STATE OR FEDERAL APPROVALS, if applicable • Permits or letters of non-jurisdiction, if applicable
Yes NA Plan ☐ ☐ ☐	ZONING ASSESSMENT • Table listing required and proposed uses and dimensional standards Zoning Assessment Table
Yes NA Plan ☐ ☐ ☐	EXISTING &/OR PROPOSED EASEMENTS OR COVENANTS, if applicable • Evidence of existing easements and any proposed easements
Yes NA Plan ☐ ☐ ☐	WAIVER REQUESTS • Written request for waiver describing request and reason. Waiver Table
Yes NA Plan ☐ ☐ ☐	FINANCIAL CAPABILITY • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes NA Plan ☐ ☐ ☐	TECHNICAL CAPABILITY • Evidence of technical capability of applicant and consultants – resumes and/or examples of past projects

LEVEL II AND LEVEL III SITE PLAN STANDARDS AND SUBMISSION CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.

Submit each Tab as one PDF file and bookmark the items as noted below

Tab 2 - TRANSPORTATION

Check list	Assess/Provide/Document:
Yes NA Plan ☐ ☐ ☐	**Transportation Analysis- Traffic Impact (14-526 (a) 1)** • Provisions for pedestrian, bicycle, vehicle, and loading circulation and incremental volume of traffic impacts • Traffic Impact Study (Technical Manual, Section 1) if applicable
Yes NA Plan ☐ ☐ ☐	**Access and Circulation (14-526 (a) 2 a)** • Access and internal circulation, addressing ADA access • Access and egress impacts on traffic flows • Description and use of drive-up features, if applicable
Yes NA Plan ☐ ☐ ☐	**Loading and Servicing (14-526 (a) 2 b)** • Loading and servicing needs, route and travel way geometrics for deliveries • Turning templates for delivery vehicles, if applicable
Yes NA Plan ☐ ☐ ☐	**Sidewalks (14-526 (a) 2 c)** • Sidewalks and condition along street frontages and internal walkways • Engineered details for ADA ramps and public sidewalk details meeting sidewalk materials policy and ADA ramp construction details as applicable (Technical Manual, Section 1)
Yes NA Plan ☐ ☐ ☐	**Public Transit (14-526 (a) 3), if applicable** • Existing available transit services • Proposed site plan design details, such as easement, pad base, and shelter
Yes NA Plan ☐ ☐ ☐	**Off-Street Parking: Vehicle & Motorcycle/Scooter) (14-526 (a) 4 a and c)** • Expected parking demand, proposed parking supply, ADA parking, and applicable Zoning Requirements • Address Technical Manual standards (Section 1) for curb cut separation and parking lot layout and locate on site plan
Yes NA Plan ☐ ☐ ☐	**Bicycle Parking (14-526 (a) 4 b)** • Address bicycle parking requirements and identify locations on-site • Construction details for bike racks (Technical Manual, Section 1)
Yes NA Plan ☐ ☐ ✔	**Snow Storage (14-526 (a) 4 d)** • Management plan for snow removal and locate snow storage areas on plan
Yes NA Plan ✔ ☐ ☐	**Traffic Demand Management (TDM) (14-526 (a) 5), if applicable** • Develop TDM with Trip Reduction Targets and Strategies

Tab 3 - ENVIRONMENTAL AND LANDSCAPE FEATURES	
Check list	Assess/Provide/Document:
Yes NA Plan ☐ ☐ ✔	**Preservation of Significant Natural Features (14-526 (b) 1), if applicable** • Trees, plants, habitats listed on State or Federal list of endangered or threatened • High and moderate value waterfowl and wading habitat • Aquifers on Casco Bay Islands • Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) • Proposed preservation areas and protection measures • Documentation from environmental consultants, determinations from applicable state agencies
Yes NA Plan ☐ ☐ ✔	**Landscaping and Landscape Preservation (14-526 (b) 2 a)** • Preservation of trees and preservation within required zoning setbacks (Technical Manual, Section 4) • Protection measures of existing vegetation during construction • Protection measures within Shoreland Zone, if applicable
Yes NA Plan ☐ ☐ ✔	**Site Landscaping (14-526 (b) 2 b)** • Screening and buffering of service areas and between non-residential and residential uses • Planting plans with plant schedule and sizes (Technical Manual, Section 4)
Yes NA Plan ☐ ☐ ✔	**Parking Lot Landscaping (14-526 (b) 2 b ii), if applicable** • Landscaped islands within parking areas (Technical Manual, Section 4)
Yes NA Plan ☐ ☐ ✔	**Street Trees (14-526 (b) 2 b iii)** • Existing Heritage or Feature Trees on site and measures to preserve • Identify street trees on the plan meeting the site plan and Technical Manual standards (Section 4) or identify alternative measures, if applicable

Tab 4 - ENVIRONMENTAL AND STORMWATER	
Check list	Assess/Provide/Document:
Yes NA Plan ✔ ☐ ☐	**Water Quality, Stormwater Management and Erosion Control (14-526 (b) 3 a)** • Stormwater report in compliance with Section 5 of Technical Manual and DEP Chapter 500 stormwater for basic, general and flooding standards, as applicable • Erosion control plan and measures • Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater, as applicable • Subsurface sanitary sewage disposal and groundwater protection

Tab 5 - PUBLIC INFRASTRUCTURE AND SAFETY

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Consistency with City Master Plans (14-526 (c) 1)** • Identify consistency with master plans • Proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes NA Plan ✔	**Public Safety and Fire Prevention (14-526 (c))** • Address Crime Prevention through Environmental Design (CPTED) (Technical Manual, Section 3) • Emergency vehicle access • Address consistency with public safety standards (Technical Manual, Section 3) • Submit a code summary referring NFPA 1 and all Fire Department standards (Technical Manual, Section 3) – Fire Checklist
Yes NA Plan ✔	**Availability and Adequacy of Public Utilities (14-526 (c) 3) (Technical Manual, Sections 2 & 9)** • Electrical services, including providing underground services • Identify existing and proposed connections for public utilities and required public utility upgrades • Sewer line connections are required, if there is a main within 200 feet • Proposed solid waste management facilities on-site and management for the site • Written evidence of the ability to serve from utility companies, as applicable

Tab 6 - SITE DESIGN

Check list	Assess/Provide/Document:
Yes NA Plan ✔	**Massing, Ventilations and Wind Impact (14-526 (d) 1)** • Wind and ventilation impacts on adjoining structures and/or adjacent public spaces. Wind study, if applicable • Bulk, location or height impacts on adjoining structures • Identify and locate HVAC equipment and venting away from public spaces and residential properties • Identify screening and manufacturing specifications for noise, if applicable
Yes NA Plan ✔	**Shadows (14-526 (d) 2), if applicable** • Shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes NA Plan ✔	**Snow and Ice Loading (14-526 (d) 3)** • Building design to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes NA Plan ✔	**View Corridors (14-526 (d) 4), if applicable** • Protection of designated view corridors (Portland Design Manual, Appendix 1)

Yes NA Plan ☐ ✔ ☐	**Historic Resources (14-526 (d) 5), if applicable** • Identify developments within Historic Districts or affecting Designated Landmarks • Certificate of Appropriateness or other evidence • Identify Developments within 100 feet of Historic Districts or affecting Designated Landmarks. Advisory HP review may be required • Address preservation and documentation of Archaeological Resources
Yes NA Plan ✔ ☐ ☐	**Exterior Lighting (14-526 (d) 6)** • Cut sheets of on-site light fixtures and any architectural or specialty lights (Technical Manual, Section 12) • Engineered details for any lights proposed in street right-of-way (Technical Manual, Section 10)
Yes NA Plan ☐ ✔ ☐	**Noise and Vibration (14-526 (d) 7)** • Evidence of noise levels for equipment, such as equipment specifications, to demonstrate consistency with zoning requirements
Yes NA Plan ☐ ☐ ✔	**Signage and Wayfinding (14-526 (d) 8), if applicable** • Signage plan showing the location, dimensions, height and setback of all existing and proposed signs. Signs in Historic Districts are reviewed by Historic Preservation staff • Proposed commercial and directional signage on site
Yes NA Plan ✔ ☐ ☐	**Zone Related Design Standards (14-526 (d) 5)** • Address Historic Preservation Design Review, if applicable • Address any applicable design review standards by zone • Address submission requirements from Design Manual, page 1, addressing neighborhood context • Description of exterior materials, color, finish, and samples
Tab 7 - Construction Management Plan	
Check list	
Yes NA Plan ✔ ☐ ☐	**Construction Management Plan** • Construction Management Document and Plan

Level II and Level III Site Plan Checklist

Please upload the following drawings with the listed details into e-Plan

☐ **RECENT BOUNDARY SURVEY** (stamped by Maine Licensed Surveyor)

Must be in compliance with Technical Manual, Section 13

SITE PLAN(s) (stamped by Maine Licensed Engineer) including:

☐ **Existing Conditions**

- Approximate location of structures on abutting property
- Topography
- Locate water courses
- Delineate wetlands
- Zone lines

☐ **Proposed Site Plan**

- Ground floor area, and grade elevations for all buildings

☐ **Access, Circulation, and Parking**

- Streets and intersections adjacent to site , any proposed geometric modifications
- Location, dimensions and materials of all existing and proposed driveways, vehicle, bicycle, & pedestrian access ways with corresponding curb lines
- Engineered specifications/ cross-sections for proposed driveways, sidewalks & paved areas
- Location and dimensions of proposed loading areas
- Existing and proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications

☐ **Site Considerations**

- Identify snow storage areas
- Location of fire hydrants
- Location of solid waste management facilities

☐ **UTILITY PLAN** including:

- Existing utilities on site and within public streets
- Location, sizing, and directional flows of all existing and proposed utilities
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

☐	**GRADING and DRAINAGE PLAN** including:
	• Existing grades and drainage • Proposed grades • Proposed stormwater management meeting Technical Manual (Section 5) standards • Location and proposed alteration of a water course • Preservation or alteration of wetlands
☐	**EROSION CONTROL**
	• Must be in compliance with Technical Manual, Section 5
☐	**LANDSCAPE PLAN** including:
	• Existing vegetation to be preserved and preservation measures • Proposed landscaping and buffers • Planting schedule
☐	**RECORDING PLAT**, if applicable
	• IF SUBDIVISION: Must be in compliance with requirements of Section 14-496 (b)
☐	**ARCHITECTURAL PLANS & RENDERINGS** including:
	• Exterior building elevations, color renderings, illustrations of all sides • Location and dimensions of all existing & proposed HVAC & mechanical equipment, all proposed screening • Provide context drawings, if applicable (Design Manual, page 1) • Floor plans

ZONING ANALYSIS Relevant Zone(s) B-2

All Projects:

	Required	Proposed
Lot Size	NONE	30,239 S.F.+/-
Area Per Dwelling Unit	N/A	N/A
Minimum Street Frontage	20'	213.12'
Front Yard Minimum	NONE	NONE
Front Yard Maximum	10'	10'
Rear Yard	10'	61'
Yard Right	NONE	102'
Yard Left	NONE	67'
Side Street Setback	N/A	N/A
Step Back	N/A	N/A
Maximum Lot Coverage	80%	
Minimum Lot Coverage	N/A	N/A
Maximum Height	45'	
Open Space	N/A	N/A
Maximum Impervious Area	80%	
Pavement Setback	10'	10'
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces		
Loading Bays	N/A	N/A
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density			
Height			
Setback Reduction			
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

July 19, 2018 Project No. 17140

Ms. Jean Fraser, Planner
City of Portland Planning & Urban Development Department
389 Congress Street, 4th Floor
Portland, ME 04101

Explanation of Parking Aisle Width – Proposed Dunkin Donuts Restaurant, 325 St. John Street, Portland, Maine. (PL-000047-2018)

Ms. Fraser:

The applicant, Dunkin' Brands, Inc. is proposing to replace an existing restaurant with a new Dunkin' Donuts Restaurant at 325 St. John Street, Portland, Maine. The proposed site layout includes a parking aisle on either side of the building with a width of 36 feet, maximum. The aisle width is proposed to be 36 feet in order to support a single lane of queued cars while providing a full 24-foot aisle for the maneuvering of vehicles utilizing the standard 90-degree parking spaces. This site has been designed to offer three alternatives for vehicles utilizing the site:

1. Queue up to get serviced at the drive-thru window,
2. Park and enter the building for service, and/or
3. Proceed through the site without entering the queue.

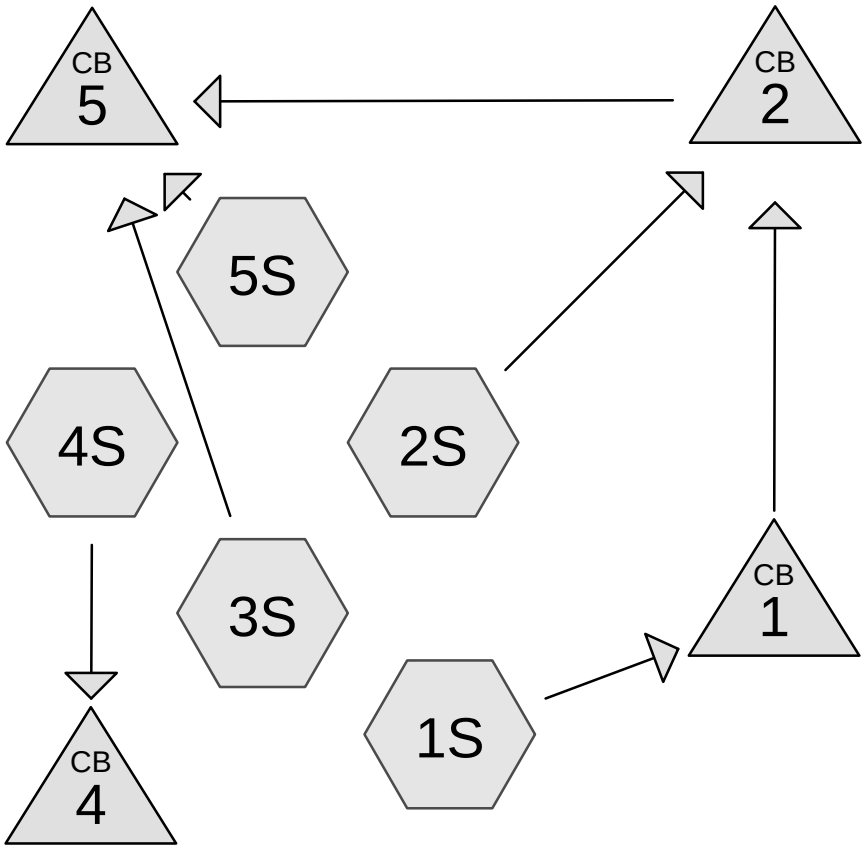
In most cases this requires a full 36 feet of pavement width to ensure that vehicles can proceed through the site without entering the queue.

We believe this aisle width is permitted as Section 1.14 of the City of Portland Technical Manual states that "vehicular access shall be provided by one or more aisle. Minimum widths of aisles are illustrated in Figures I-28 thru 31." When looking at Figure I-29, the minimum aisle width for a standard parking space at 90-degrees is 24-feet.

We look forward to continuing to discuss this project with City Staff and the Planning Board. Please let us know if you have any questions in the meantime.

Sincerely,
PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., PE
Senior Project Manager



Subcat Reach Pond Link

Drainage Diagram for 17140 pre

Prepared by Plymouth Engineering, Inc., Printed 7/11/2018

HydroCAD® 9.00 s/n 03654 © 2009 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
5,329	74	>75% Grass cover, Good, HSG C (1S, 2S, 4S, 5S)
38,037	98	Impervious Area (1S, 2S, 3S, 4S, 5S)

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=13,665 sf 74.01% Impervious Runoff Depth>2.26"
Tc=5.0 min CN=92 Runoff=0.76 cfs 2,569 cf

Subcatchment 2S: Runoff Area=14,286 sf 96.50% Impervious Runoff Depth>2.76"
Tc=5.0 min CN=97 Runoff=0.92 cfs 3,283 cf

Subcatchment 3S: Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>2.87"
Tc=5.0 min CN=98 Runoff=0.22 cfs 789 cf

Subcatchment 4S: Runoff Area=6,884 sf 85.97% Impervious Runoff Depth>2.55"
Tc=5.0 min CN=95 Runoff=0.42 cfs 1,461 cf

Subcatchment 5S: Runoff Area=5,231 sf 94.04% Impervious Runoff Depth>2.76"
Tc=5.0 min CN=97 Runoff=0.34 cfs 1,202 cf

Pond 1: Peak Elev=18.92' Inflow=0.76 cfs 2,569 cf
12.0" Round Culvert n=0.013 L=86.0' S=0.0053 '/' Outflow=0.76 cfs 2,569 cf

Pond 2: Peak Elev=18.73' Inflow=1.68 cfs 5,851 cf
12.0" Round Culvert n=0.013 L=126.0' S=0.0191 '/' Outflow=1.68 cfs 5,851 cf

Pond 4: Peak Elev=16.91' Inflow=0.42 cfs 1,461 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0154 '/' Outflow=0.42 cfs 1,461 cf

Pond 5: Peak Elev=16.52' Inflow=2.23 cfs 7,842 cf
12.0" Round Culvert n=0.013 L=44.0' S=0.0548 '/' Outflow=2.23 cfs 7,842 cf

Summary for Subcatchment 1S:

Runoff = 0.76 cfs @ 12.02 hrs, Volume= 2,569 cf, Depth> 2.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	3,551	74	>75% Grass cover, Good, HSG C
*	10,114	98	Impervious Area
	13,665	92	Weighted Average
	3,551		25.99% Pervious Area
	10,114		74.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S:

Runoff = 0.92 cfs @ 12.02 hrs, Volume= 3,283 cf, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	13,786	98	Impervious Area
	500	74	>75% Grass cover, Good, HSG C
	14,286	97	Weighted Average
	500		3.50% Pervious Area
	13,786		96.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 3S:

Runoff = 0.22 cfs @ 12.02 hrs, Volume= 789 cf, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	3,300	98	Impervious Area
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S:

Runoff = 0.42 cfs @ 12.02 hrs, Volume= 1,461 cf, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	966	74	>75% Grass cover, Good, HSG C
*	5,918	98	Impervious Area
	6,884	95	Weighted Average
	966		14.03% Pervious Area
	5,918		85.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 5S:

Runoff = 0.34 cfs @ 12.02 hrs, Volume= 1,202 cf, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	312	74	>75% Grass cover, Good, HSG C
*	4,919	98	Impervious Area
	5,231	97	Weighted Average
	312		5.96% Pervious Area
	4,919		94.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1:

Inflow Area = 13,665 sf, 74.01% Impervious, Inflow Depth > 2.26" for 2-Year event
Inflow = 0.76 cfs @ 12.02 hrs, Volume= 2,569 cf
Outflow = 0.76 cfs @ 12.02 hrs, Volume= 2,569 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.76 cfs @ 12.02 hrs, Volume= 2,569 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.92' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.40'	**12.0" Round Culvert** L= 86.0' Ke= 0.800 Outlet Invert= 17.94' S= 0.0053 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.72 cfs @ 12.02 hrs HW=18.90' (Free Discharge)
1=Culvert (Barrel Controls 0.72 cfs @ 2.66 fps)

Summary for Pond 2:

Inflow Area = 27,951 sf, 85.51% Impervious, Inflow Depth > 2.51" for 2-Year event
Inflow = 1.68 cfs @ 12.02 hrs, Volume= 5,851 cf
Outflow = 1.68 cfs @ 12.02 hrs, Volume= 5,851 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.68 cfs @ 12.02 hrs, Volume= 5,851 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.73' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.94'	**12.0" Round Culvert** L= 126.0' Ke= 0.800 Outlet Invert= 15.53' S= 0.0191 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=1.60 cfs @ 12.02 hrs HW=18.70' (Free Discharge)
1=Culvert (Inlet Controls 1.60 cfs @ 2.48 fps)

Summary for Pond 4:

Inflow Area = 6,884 sf, 85.97% Impervious, Inflow Depth > 2.55" for 2-Year event
Inflow = 0.42 cfs @ 12.02 hrs, Volume= 1,461 cf
Outflow = 0.42 cfs @ 12.02 hrs, Volume= 1,461 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.02 hrs, Volume= 1,461 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.91' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.55'	**12.0" Round Culvert** L= 68.0' Ke= 0.800 Outlet Invert= 15.50' S= 0.0154 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.40 cfs @ 12.02 hrs HW=16.89' (Free Discharge)
1=Culvert (Inlet Controls 0.40 cfs @ 1.67 fps)

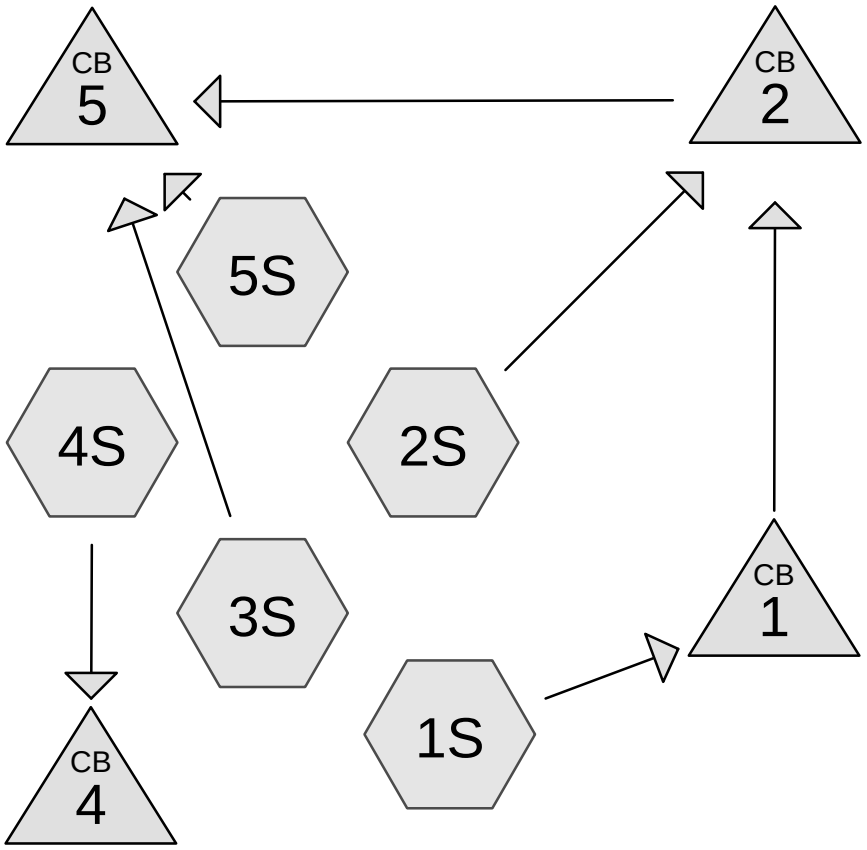
Summary for Pond 5:

Inflow Area = 36,482 sf, 88.04% Impervious, Inflow Depth > 2.58" for 2-Year event
Inflow = 2.23 cfs @ 12.02 hrs, Volume= 7,842 cf
Outflow = 2.23 cfs @ 12.02 hrs, Volume= 7,842 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.23 cfs @ 12.02 hrs, Volume= 7,842 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.52' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	**12.0" Round Culvert** L= 44.0' Ke= 0.800 Outlet Invert= 13.12' S= 0.0548 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=2.14 cfs @ 12.02 hrs HW=16.49' (Free Discharge)
1=Culvert (Inlet Controls 2.14 cfs @ 2.77 fps)



Subcat Reach Pond Link

Drainage Diagram for 17140 pre

Prepared by Plymouth Engineering, Inc., Printed 7/11/2018

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
5,329	74	>75% Grass cover, Good, HSG C (1S, 2S, 4S, 5S)
38,037	98	Impervious Area (1S, 2S, 3S, 4S, 5S)

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=13,665 sf 74.01% Impervious Runoff Depth>3.70"
Tc=5.0 min CN=92 Runoff=1.22 cfs 4,212 cf

Subcatchment 2S: Runoff Area=14,286 sf 96.50% Impervious Runoff Depth>4.25"
Tc=5.0 min CN=97 Runoff=1.38 cfs 5,058 cf

Subcatchment 3S: Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>4.36"
Tc=5.0 min CN=98 Runoff=0.32 cfs 1,200 cf

Subcatchment 4S: Runoff Area=6,884 sf 85.97% Impervious Runoff Depth>4.02"
Tc=5.0 min CN=95 Runoff=0.65 cfs 2,308 cf

Subcatchment 5S: Runoff Area=5,231 sf 94.04% Impervious Runoff Depth>4.25"
Tc=5.0 min CN=97 Runoff=0.51 cfs 1,852 cf

Pond 1: Peak Elev=19.08' Inflow=1.22 cfs 4,212 cf
12.0" Round Culvert n=0.013 L=86.0' S=0.0053 '/' Outflow=1.22 cfs 4,212 cf

Pond 2: Peak Elev=19.12' Inflow=2.61 cfs 9,270 cf
12.0" Round Culvert n=0.013 L=126.0' S=0.0191 '/' Outflow=2.61 cfs 9,270 cf

Pond 4: Peak Elev=17.00' Inflow=0.65 cfs 2,308 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0154 '/' Outflow=0.65 cfs 2,308 cf

Pond 5: Peak Elev=17.21' Inflow=3.43 cfs 12,322 cf
12.0" Round Culvert n=0.013 L=44.0' S=0.0548 '/' Outflow=3.43 cfs 12,322 cf

Summary for Subcatchment 1S:

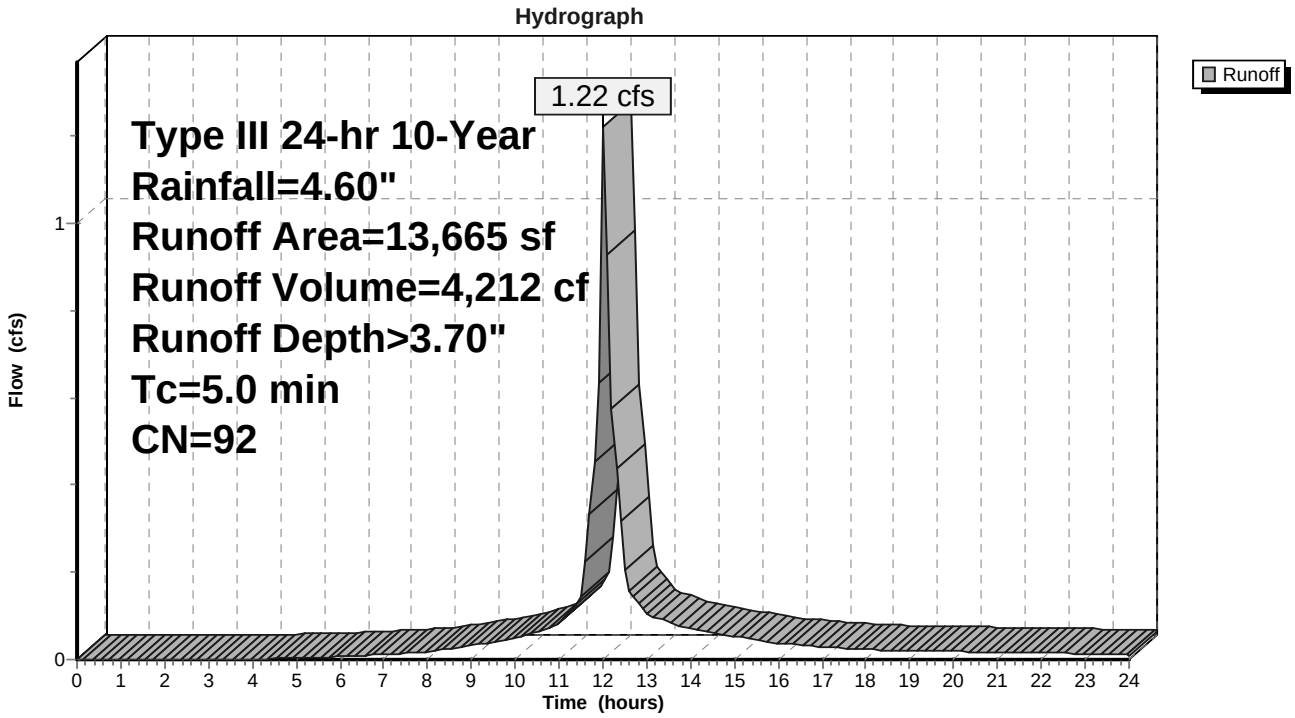
Runoff = 1.22 cfs @ 12.02 hrs, Volume= 4,212 cf, Depth> 3.70"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	3,551	74	>75% Grass cover, Good, HSG C
*	10,114	98	Impervious Area
	13,665	92	Weighted Average
	3,551		25.99% Pervious Area
	10,114		74.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S:



Summary for Subcatchment 2S:

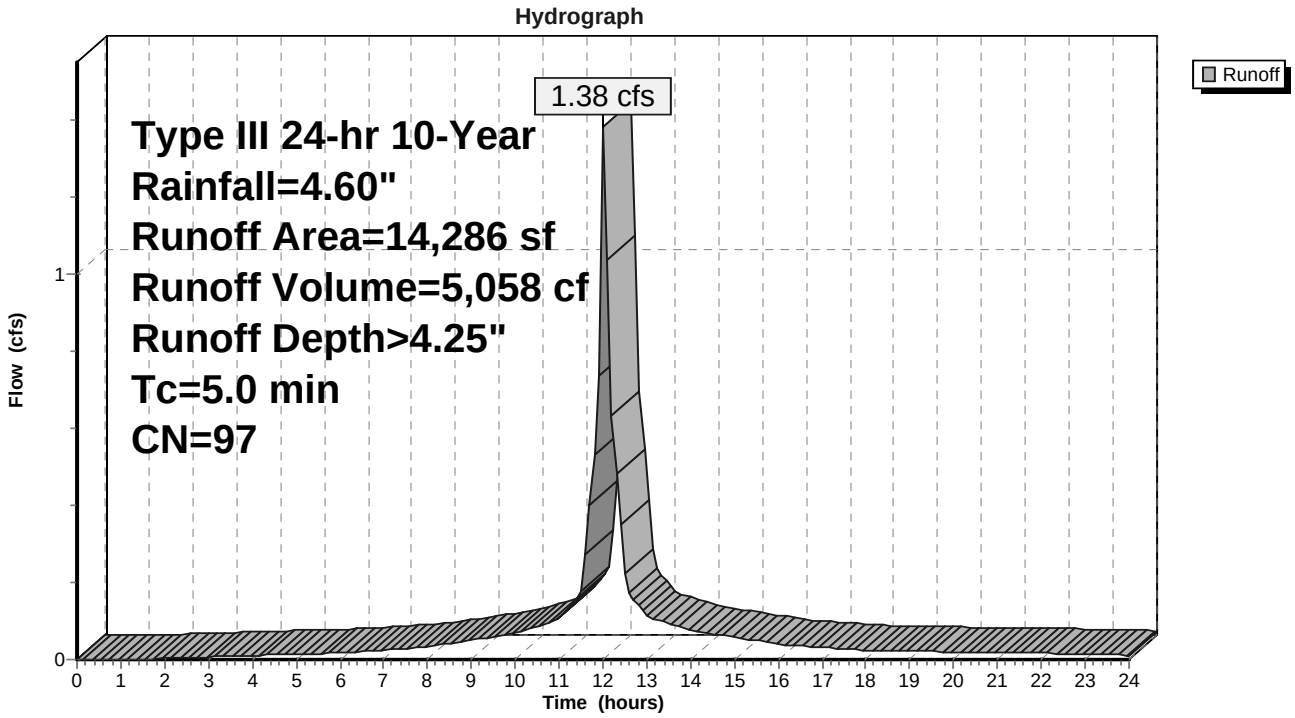
Runoff = 1.38 cfs @ 12.02 hrs, Volume= 5,058 cf, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	13,786	98	Impervious Area
	500	74	>75% Grass cover, Good, HSG C
	14,286	97	Weighted Average
	500		3.50% Pervious Area
	13,786		96.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S:



Summary for Subcatchment 3S:

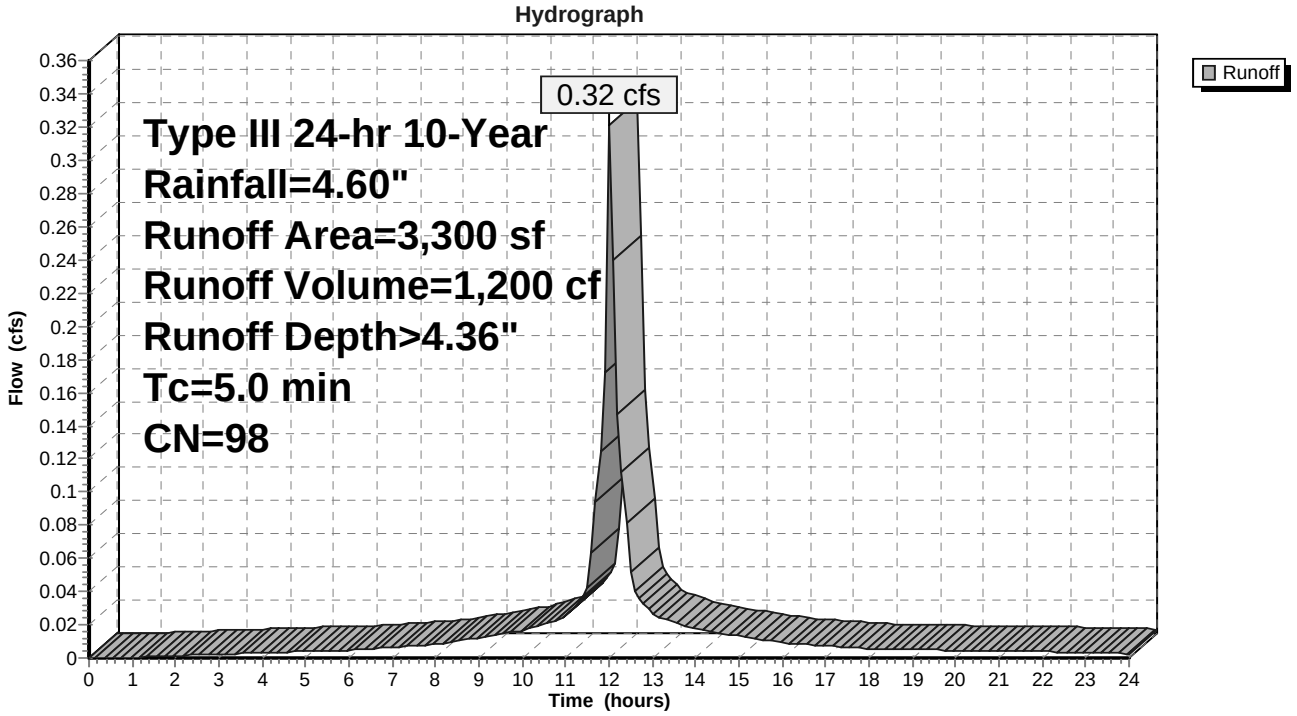
Runoff = 0.32 cfs @ 12.02 hrs, Volume= 1,200 cf, Depth> 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	3,300	98	Impervious Area
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S:



Summary for Subcatchment 4S:

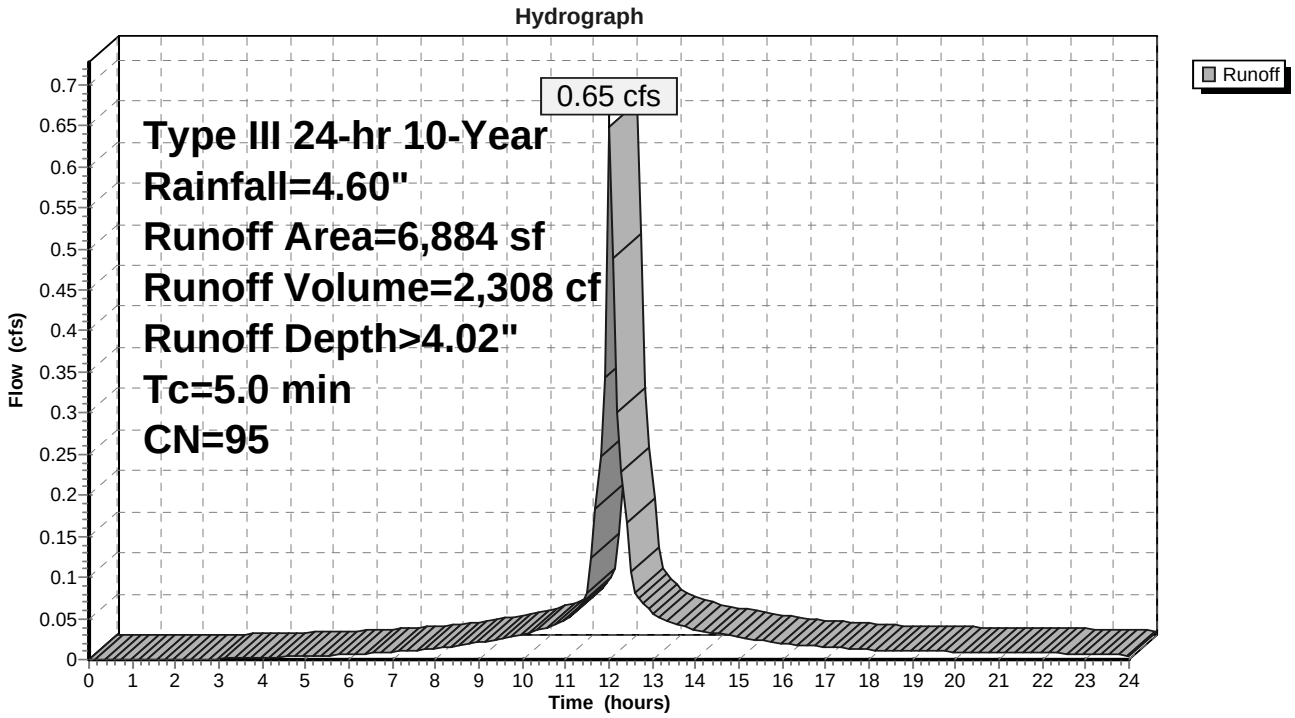
Runoff = 0.65 cfs @ 12.02 hrs, Volume= 2,308 cf, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	966	74	>75% Grass cover, Good, HSG C
*	5,918	98	Impervious Area
	6,884	95	Weighted Average
	966		14.03% Pervious Area
	5,918		85.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S:



Summary for Subcatchment 5S:

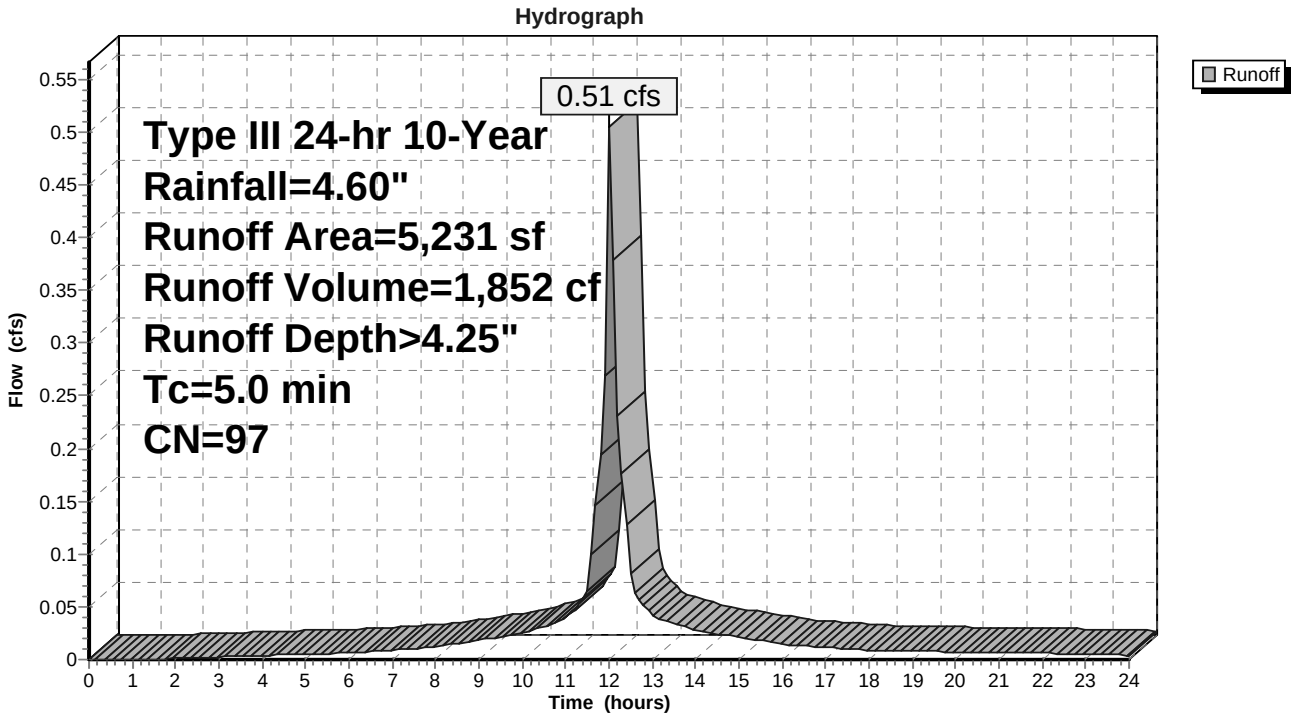
Runoff = 0.51 cfs @ 12.02 hrs, Volume= 1,852 cf, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	312	74	>75% Grass cover, Good, HSG C
*	4,919	98	Impervious Area
	5,231	97	Weighted Average
	312		5.96% Pervious Area
	4,919		94.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S:



Summary for Pond 1:

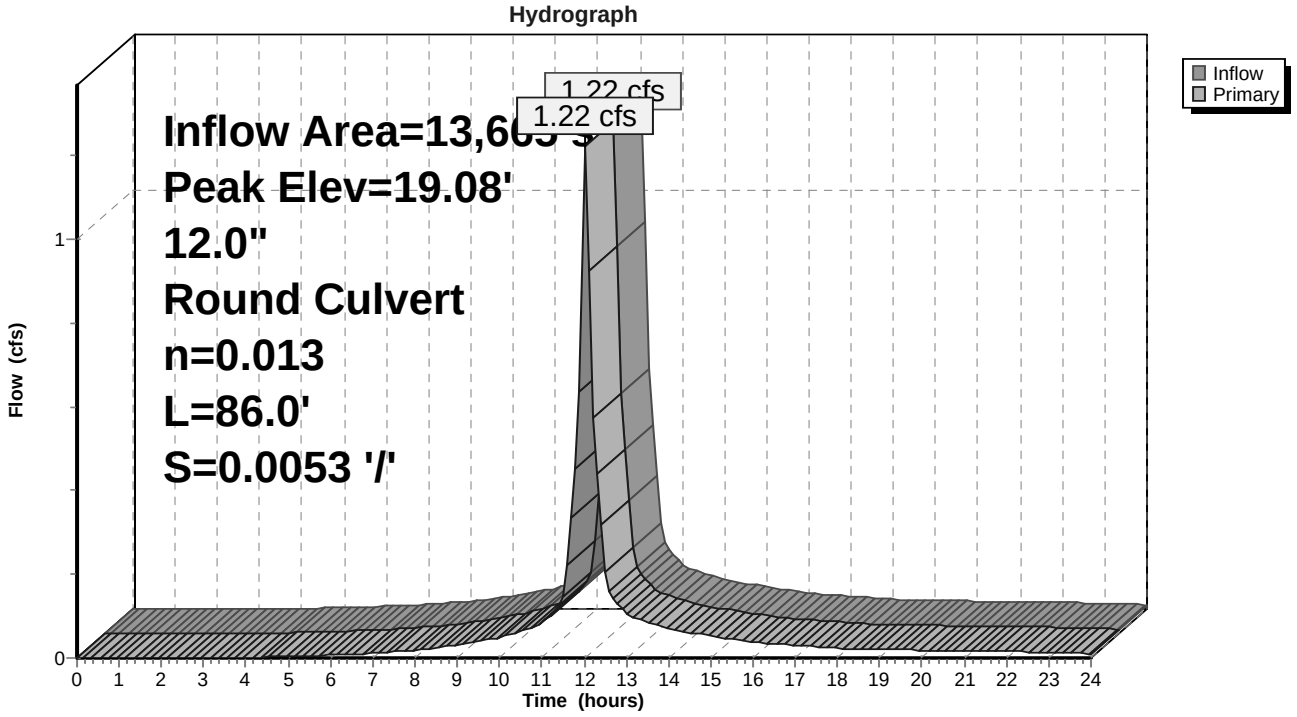
Inflow Area = 13,665 sf, 74.01% Impervious, Inflow Depth > 3.70" for 10-Year event
Inflow = 1.22 cfs @ 12.02 hrs, Volume= 4,212 cf
Outflow = 1.22 cfs @ 12.02 hrs, Volume= 4,212 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.22 cfs @ 12.02 hrs, Volume= 4,212 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 19.08' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.40'	**12.0" Round Culvert** L= 86.0' Ke= 0.800 Outlet Invert= 17.94' S= 0.0053 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=1.16 cfs @ 12.02 hrs HW=19.06' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.16 cfs @ 2.99 fps)

Pond 1:



Summary for Pond 2:

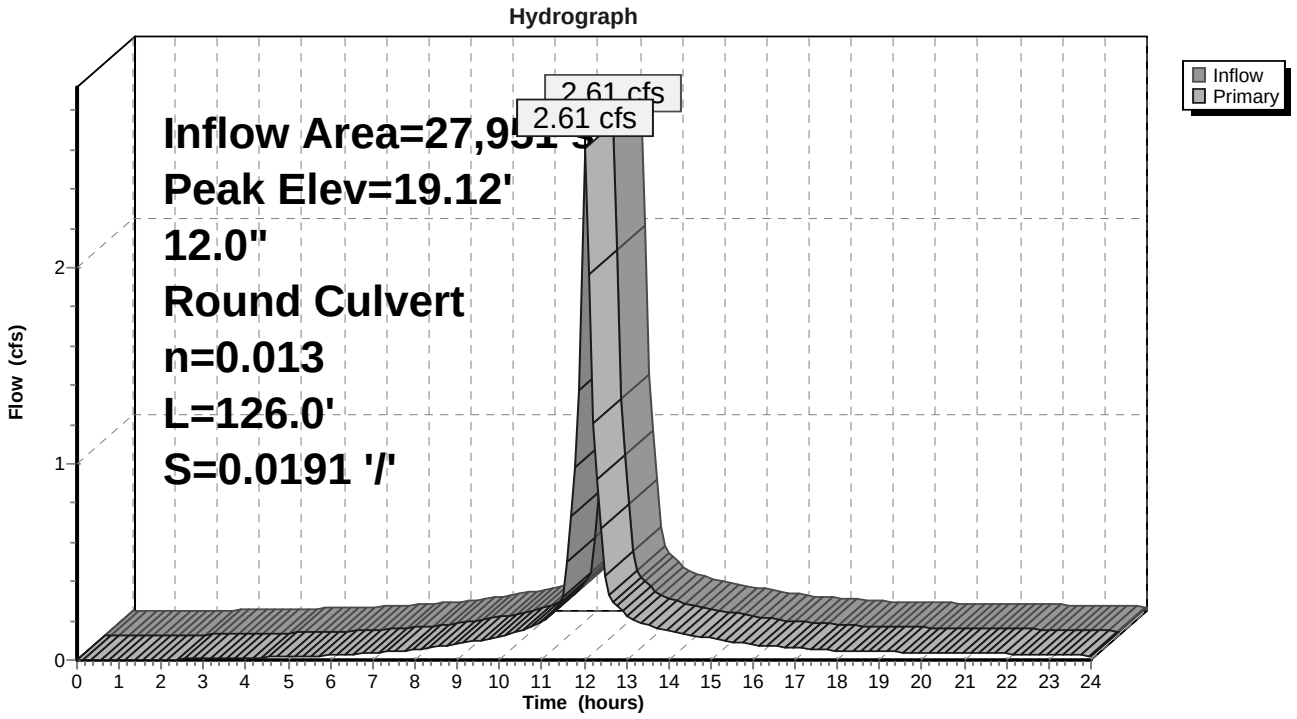
Inflow Area = 27,951 sf, 85.51% Impervious, Inflow Depth > 3.98" for 10-Year event
Inflow = 2.61 cfs @ 12.02 hrs, Volume= 9,270 cf
Outflow = 2.61 cfs @ 12.02 hrs, Volume= 9,270 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.61 cfs @ 12.02 hrs, Volume= 9,270 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 19.12' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.94'	**12.0" Round Culvert** L= 126.0' Ke= 0.800 Outlet Invert= 15.53' S= 0.0191 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=2.49 cfs @ 12.02 hrs HW=19.06' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.49 cfs @ 3.17 fps)

Pond 2:



Summary for Pond 4:

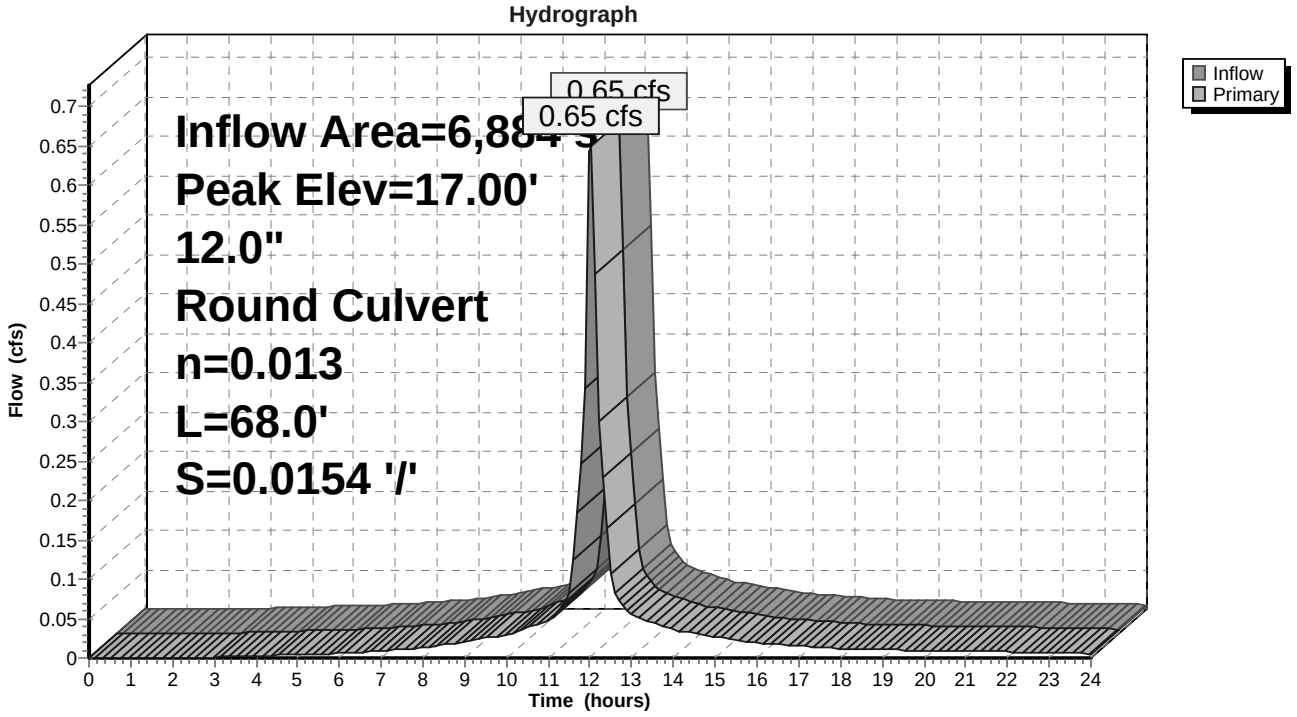
Inflow Area = 6,884 sf, 85.97% Impervious, Inflow Depth > 4.02" for 10-Year event
Inflow = 0.65 cfs @ 12.02 hrs, Volume= 2,308 cf
Outflow = 0.65 cfs @ 12.02 hrs, Volume= 2,308 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.65 cfs @ 12.02 hrs, Volume= 2,308 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.00' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.55'	**12.0" Round Culvert** L= 68.0' Ke= 0.800 Outlet Invert= 15.50' S= 0.0154 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.62 cfs @ 12.02 hrs HW=16.99' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.62 cfs @ 1.87 fps)

Pond 4:



Summary for Pond 5:

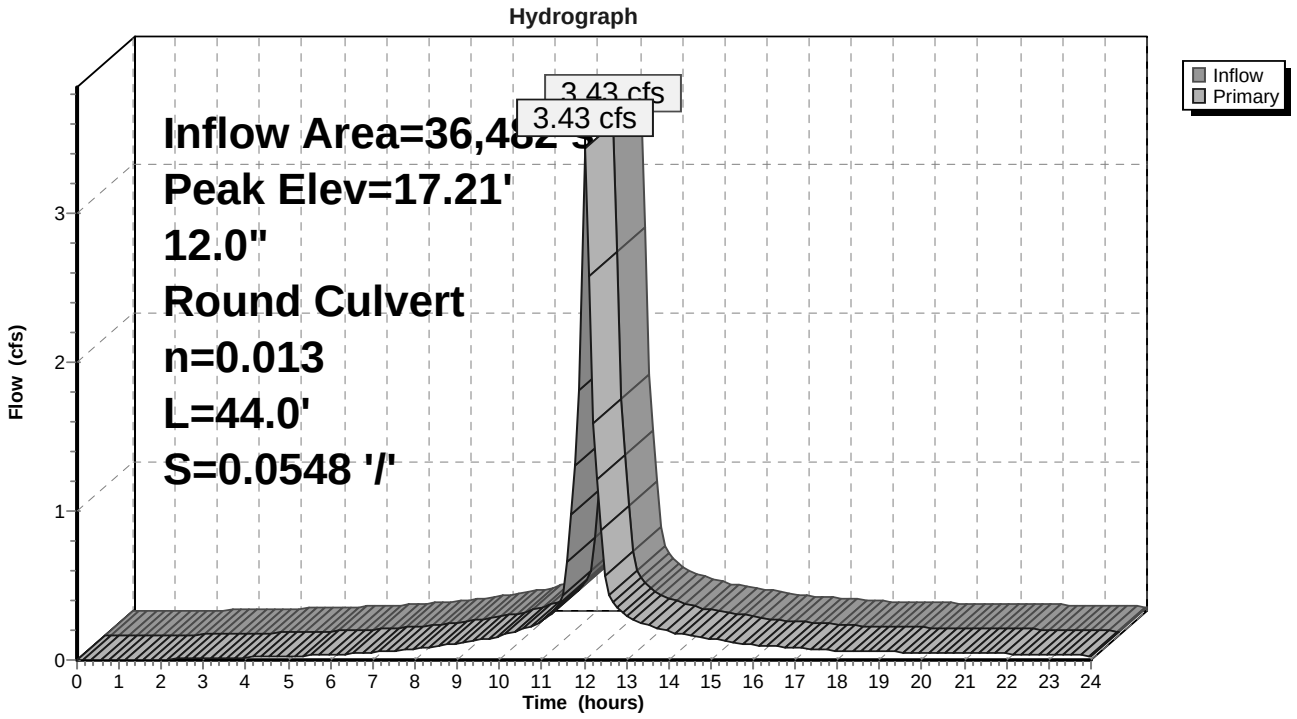
Inflow Area = 36,482 sf, 88.04% Impervious, Inflow Depth > 4.05" for 10-Year event
Inflow = 3.43 cfs @ 12.02 hrs, Volume= 12,322 cf
Outflow = 3.43 cfs @ 12.02 hrs, Volume= 12,322 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.43 cfs @ 12.02 hrs, Volume= 12,322 cf

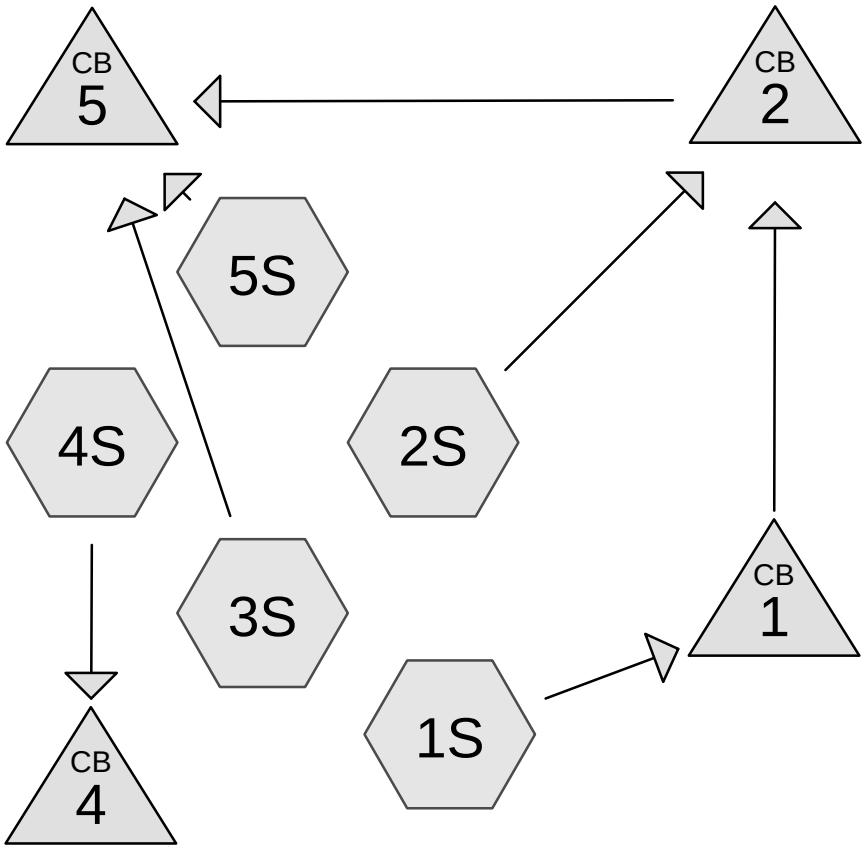
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.21' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	**12.0" Round Culvert** L= 44.0' Ke= 0.800 Outlet Invert= 13.12' S= 0.0548 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=3.29 cfs @ 12.02 hrs HW=17.12' (Free Discharge)
1=Culvert (Inlet Controls 3.29 cfs @ 4.18 fps)

Pond 5:





Subcat Reach Pond Link

Drainage Diagram for 17140 pre

Prepared by Plymouth Engineering, Inc., Printed 7/11/2018

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
5,329	74	>75% Grass cover, Good, HSG C (1S, 2S, 4S, 5S)
38,037	98	Impervious Area (1S, 2S, 3S, 4S, 5S)

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=13,665 sf 74.01% Impervious Runoff Depth>4.87"
Tc=5.0 min CN=92 Runoff=1.59 cfs 5,549 cf

Subcatchment 2S: Runoff Area=14,286 sf 96.50% Impervious Runoff Depth>5.44"
Tc=5.0 min CN=97 Runoff=1.75 cfs 6,481 cf

Subcatchment 3S: Runoff Area=3,300 sf 100.00% Impervious Runoff Depth>5.56"
Tc=5.0 min CN=98 Runoff=0.41 cfs 1,529 cf

Subcatchment 4S: Runoff Area=6,884 sf 85.97% Impervious Runoff Depth>5.21"
Tc=5.0 min CN=95 Runoff=0.83 cfs 2,990 cf

Subcatchment 5S: Runoff Area=5,231 sf 94.04% Impervious Runoff Depth>5.44"
Tc=5.0 min CN=97 Runoff=0.64 cfs 2,373 cf

Pond 1: Peak Elev=19.20' Inflow=1.59 cfs 5,549 cf
12.0" Round Culvert n=0.013 L=86.0' S=0.0053 '/' Outflow=1.59 cfs 5,549 cf

Pond 2: Peak Elev=19.55' Inflow=3.34 cfs 12,030 cf
12.0" Round Culvert n=0.013 L=126.0' S=0.0191 '/' Outflow=3.34 cfs 12,030 cf

Pond 4: Peak Elev=17.07' Inflow=0.83 cfs 2,990 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0154 '/' Outflow=0.83 cfs 2,990 cf

Pond 5: Peak Elev=17.95' Inflow=4.39 cfs 15,933 cf
12.0" Round Culvert n=0.013 L=44.0' S=0.0548 '/' Outflow=4.39 cfs 15,933 cf

Summary for Subcatchment 1S:

Runoff = 1.59 cfs @ 12.02 hrs, Volume= 5,549 cf, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	3,551	74	>75% Grass cover, Good, HSG C
*	10,114	98	Impervious Area
	13,665	92	Weighted Average
	3,551		25.99% Pervious Area
	10,114		74.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S:

Runoff = 1.75 cfs @ 12.02 hrs, Volume= 6,481 cf, Depth> 5.44"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	13,786	98	Impervious Area
	500	74	>75% Grass cover, Good, HSG C
	14,286	97	Weighted Average
	500		3.50% Pervious Area
	13,786		96.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 3S:

Runoff = 0.41 cfs @ 12.02 hrs, Volume= 1,529 cf, Depth> 5.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	3,300	98	Impervious Area
	3,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S:

Runoff = 0.83 cfs @ 12.02 hrs, Volume= 2,990 cf, Depth> 5.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	966	74	>75% Grass cover, Good, HSG C
*	5,918	98	Impervious Area
	6,884	95	Weighted Average
	966		14.03% Pervious Area
	5,918		85.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 5S:

Runoff = 0.64 cfs @ 12.02 hrs, Volume= 2,373 cf, Depth> 5.44"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	312	74	>75% Grass cover, Good, HSG C
*	4,919	98	Impervious Area
	5,231	97	Weighted Average
	312		5.96% Pervious Area
	4,919		94.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1:

Inflow Area = 13,665 sf, 74.01% Impervious, Inflow Depth > 4.87" for 25-Year event
Inflow = 1.59 cfs @ 12.02 hrs, Volume= 5,549 cf
Outflow = 1.59 cfs @ 12.02 hrs, Volume= 5,549 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.59 cfs @ 12.02 hrs, Volume= 5,549 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 19.20' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.40'	**12.0" Round Culvert** L= 86.0' Ke= 0.800 Outlet Invert= 17.94' S= 0.0053 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=1.51 cfs @ 12.02 hrs HW=19.18' (Free Discharge)
1=Culvert (Barrel Controls 1.51 cfs @ 3.17 fps)

Summary for Pond 2:

Inflow Area = 27,951 sf, 85.51% Impervious, Inflow Depth > 5.16" for 25-Year event
Inflow = 3.34 cfs @ 12.02 hrs, Volume= 12,030 cf
Outflow = 3.34 cfs @ 12.02 hrs, Volume= 12,030 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.34 cfs @ 12.02 hrs, Volume= 12,030 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 19.55' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.94'	**12.0" Round Culvert** L= 126.0' Ke= 0.800 Outlet Invert= 15.53' S= 0.0191 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=3.20 cfs @ 12.02 hrs HW=19.47' (Free Discharge)
1=Culvert (Inlet Controls 3.20 cfs @ 4.07 fps)

Summary for Pond 4:

Inflow Area = 6,884 sf, 85.97% Impervious, Inflow Depth > 5.21" for 25-Year event
Inflow = 0.83 cfs @ 12.02 hrs, Volume= 2,990 cf
Outflow = 0.83 cfs @ 12.02 hrs, Volume= 2,990 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.02 hrs, Volume= 2,990 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.07' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.55'	**12.0" Round Culvert** L= 68.0' Ke= 0.800 Outlet Invert= 15.50' S= 0.0154 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.79 cfs @ 12.02 hrs HW=17.05' (Free Discharge)
1=Culvert (Inlet Controls 0.79 cfs @ 2.01 fps)

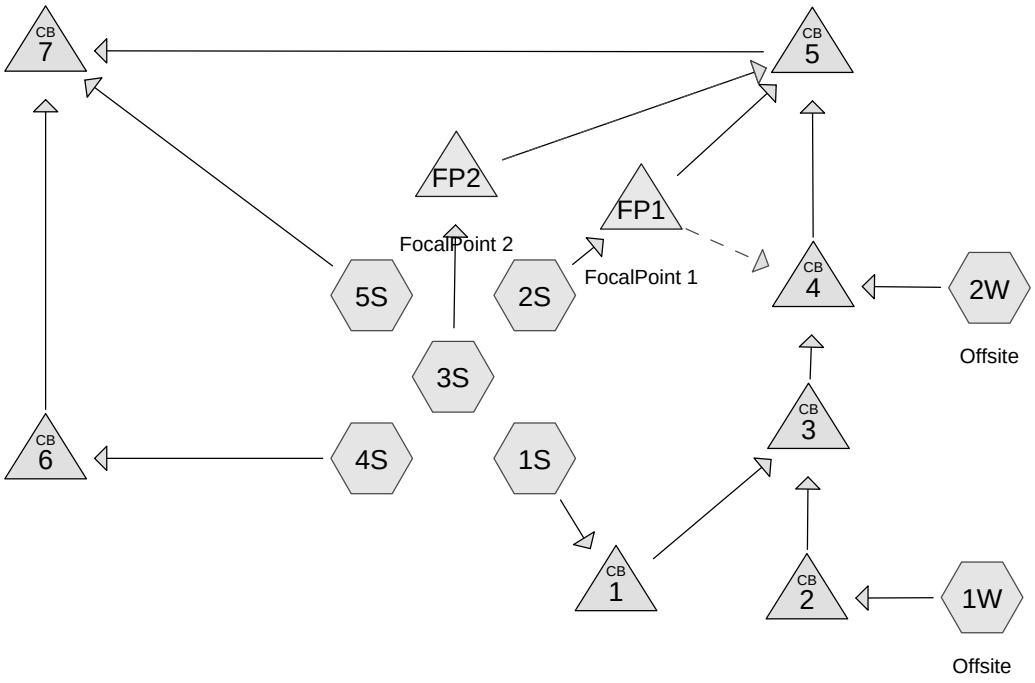
Summary for Pond 5:

Inflow Area = 36,482 sf, 88.04% Impervious, Inflow Depth > 5.24" for 25-Year event
Inflow = 4.39 cfs @ 12.02 hrs, Volume= 15,933 cf
Outflow = 4.39 cfs @ 12.02 hrs, Volume= 15,933 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.39 cfs @ 12.02 hrs, Volume= 15,933 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.95' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	**12.0" Round Culvert** L= 44.0' Ke= 0.800 Outlet Invert= 13.12' S= 0.0548 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=4.20 cfs @ 12.02 hrs HW=17.81' (Free Discharge)
1=Culvert (Inlet Controls 4.20 cfs @ 5.35 fps)



Subcat Reach Pond Link

Drainage Diagram for 17140 post

Prepared by Plymouth Engineering, Inc., Printed 7/11/2018

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
8,687	74	>75% Grass cover, Good, HSG C (1S, 1W, 2S, 2W, 3S, 4S, 5S)
20,546	98	Impervious Area (1S, 2S, 3S, 4S, 5S)
14,619	98	Impervious Surface (1W, 2W)

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=684 sf 37.28% Impervious Runoff Depth>1.53"
Tc=5.0 min CN=83 Runoff=0.03 cfs 87 cf

Subcatchment 1W: Offsite Runoff Area=8,028 sf 64.39% Impervious Runoff Depth>1.99"
Tc=5.0 min CN=89 Runoff=0.40 cfs 1,332 cf

Subcatchment 2S: Runoff Area=11,411 sf 80.23% Impervious Runoff Depth>2.35"
Tc=5.0 min CN=93 Runoff=0.66 cfs 2,234 cf

Subcatchment 2W: Offsite Runoff Area=10,149 sf 93.11% Impervious Runoff Depth>2.65"
Tc=5.0 min CN=96 Runoff=0.64 cfs 2,242 cf

Subcatchment 3S: Runoff Area=2,647 sf 86.02% Impervious Runoff Depth>2.55"
Tc=5.0 min CN=95 Runoff=0.16 cfs 562 cf

Subcatchment 4S: Runoff Area=4,303 sf 71.86% Impervious Runoff Depth>2.16"
Tc=5.0 min CN=91 Runoff=0.23 cfs 776 cf

Subcatchment 5S: Runoff Area=6,630 sf 86.98% Impervious Runoff Depth>2.55"
Tc=5.0 min CN=95 Runoff=0.41 cfs 1,407 cf

Pond 1: Peak Elev=18.39' Inflow=0.03 cfs 87 cf
12.0" Round Culvert n=0.013 L=91.0' S=0.0051 '/' Outflow=0.03 cfs 87 cf

Pond 2: Peak Elev=18.36' Inflow=0.40 cfs 1,332 cf
12.0" Round Culvert n=0.013 L=23.0' S=0.0074 '/' Outflow=0.40 cfs 1,332 cf

Pond 3: Peak Elev=18.12' Inflow=0.43 cfs 1,419 cf
12.0" Round Culvert n=0.013 L=41.0' S=0.0051 '/' Outflow=0.43 cfs 1,419 cf

Pond 4: Peak Elev=18.16' Inflow=1.50 cfs 4,063 cf
12.0" Round Culvert n=0.013 L=43.0' S=0.0295 '/' Outflow=1.50 cfs 4,063 cf

Pond 5: Peak Elev=16.90' Inflow=1.70 cfs 6,531 cf
12.0" Round Culvert n=0.013 L=83.0' S=0.0051 '/' Outflow=1.70 cfs 6,531 cf

Pond 6: Peak Elev=16.81' Inflow=0.23 cfs 776 cf
12.0" Round Culvert n=0.013 L=77.0' S=0.0119 '/' Outflow=0.23 cfs 776 cf

Pond 7: Peak Elev=16.51' Inflow=2.23 cfs 8,714 cf
12.0" Round Culvert n=0.013 L=44.0' S=0.0548 '/' Outflow=2.23 cfs 8,714 cf

Pond FP1: FocalPoint 1 Peak Elev=20.88' Storage=265 cf Inflow=0.66 cfs 2,234 cf
Primary=0.11 cfs 1,875 cf Secondary=0.66 cfs 403 cf Outflow=0.77 cfs 2,278 cf

Pond FP2: FocalPoint 2 Peak Elev=21.39' Storage=42 cf Inflow=0.16 cfs 562 cf
Primary=0.08 cfs 592 cf Secondary=0.00 cfs 0 cf Outflow=0.08 cfs 592 cf

Summary for Subcatchment 1S:

Runoff = 0.03 cfs @ 12.02 hrs, Volume= 87 cf, Depth> 1.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	429	74	>75% Grass cover, Good, HSG C
*	255	98	Impervious Area
	684	83	Weighted Average
	429		62.72% Pervious Area
	255		37.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 1W: Offsite

Runoff = 0.40 cfs @ 12.02 hrs, Volume= 1,332 cf, Depth> 1.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	5,169	98	Impervious Surface
	2,859	74	>75% Grass cover, Good, HSG C
	8,028	89	Weighted Average
	2,859		35.61% Pervious Area
	5,169		64.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S:

Runoff = 0.66 cfs @ 12.02 hrs, Volume= 2,234 cf, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	9,155	98	Impervious Area
	2,256	74	>75% Grass cover, Good, HSG C
	11,411	93	Weighted Average
	2,256		19.77% Pervious Area
	9,155		80.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2W: Offsite

Runoff = 0.64 cfs @ 12.02 hrs, Volume= 2,242 cf, Depth> 2.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	9,450	98	Impervious Surface
	699	74	>75% Grass cover, Good, HSG C
	10,149	96	Weighted Average
	699		6.89% Pervious Area
	9,450		93.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 3S:

Runoff = 0.16 cfs @ 12.02 hrs, Volume= 562 cf, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
*	2,277	98	Impervious Area
	370	74	>75% Grass cover, Good, HSG C
	2,647	95	Weighted Average
	370		13.98% Pervious Area
	2,277		86.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S:

Runoff = 0.23 cfs @ 12.02 hrs, Volume= 776 cf, Depth> 2.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	1,211	74	>75% Grass cover, Good, HSG C
*	3,092	98	Impervious Area
	4,303	91	Weighted Average
	1,211		28.14% Pervious Area
	3,092		71.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 5S:

Runoff = 0.41 cfs @ 12.02 hrs, Volume= 1,407 cf, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 2-Year Rainfall=3.10"

	Area (sf)	CN	Description
	863	74	>75% Grass cover, Good, HSG C
*	5,767	98	Impervious Area
	6,630	95	Weighted Average
	863		13.02% Pervious Area
	5,767		86.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1:

Inflow Area = 684 sf, 37.28% Impervious, Inflow Depth > 1.53" for 2-Year event
Inflow = 0.03 cfs @ 12.02 hrs, Volume= 87 cf
Outflow = 0.03 cfs @ 12.02 hrs, Volume= 87 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.03 cfs @ 12.02 hrs, Volume= 87 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.39' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.29'	**12.0" Round Culvert** L= 91.0' Ke= 0.800 Outlet Invert= 17.83' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.02 cfs @ 12.02 hrs HW=18.38' (Free Discharge)
1=Culvert (Barrel Controls 0.02 cfs @ 1.02 fps)

Summary for Pond 2:

Inflow Area = 8,028 sf, 64.39% Impervious, Inflow Depth > 1.99" for 2-Year event
Inflow = 0.40 cfs @ 12.02 hrs, Volume= 1,332 cf
Outflow = 0.40 cfs @ 12.02 hrs, Volume= 1,332 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.02 hrs, Volume= 1,332 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.36' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**12.0" Round Culvert** L= 23.0' Ke= 0.800 Outlet Invert= 17.83' S= 0.0074 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.38 cfs @ 12.02 hrs HW=18.35' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.38 cfs @ 2.28 fps)

Summary for Pond 3:

Inflow Area = 8,712 sf, 62.26% Impervious, Inflow Depth > 1.95" for 2-Year event
Inflow = 0.43 cfs @ 12.02 hrs, Volume= 1,419 cf
Outflow = 0.43 cfs @ 12.02 hrs, Volume= 1,419 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.02 hrs, Volume= 1,419 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.12' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.73'	**12.0" Round Culvert** L= 41.0' Ke= 0.800 Outlet Invert= 17.52' S= 0.0051 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.40 cfs @ 12.02 hrs HW=18.11' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.40 cfs @ 2.19 fps)

Summary for Pond 4:

Inflow Area = 18,861 sf, 78.86% Impervious, Inflow Depth > 2.59" for 2-Year event
Inflow = 1.50 cfs @ 12.08 hrs, Volume= 4,063 cf
Outflow = 1.50 cfs @ 12.08 hrs, Volume= 4,063 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.50 cfs @ 12.08 hrs, Volume= 4,063 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.16' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.42'	**12.0" Round Culvert** L= 43.0' Ke= 0.800 Outlet Invert= 16.15' S= 0.0295 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=1.40 cfs @ 12.08 hrs HW=18.12' (Free Discharge)
1=Culvert (Inlet Controls 1.40 cfs @ 2.38 fps)

Summary for Pond 5:

Inflow Area = 32,919 sf, 79.91% Impervious, Inflow Depth > 2.38" for 2-Year event
Inflow = 1.70 cfs @ 12.08 hrs, Volume= 6,531 cf
Outflow = 1.70 cfs @ 12.08 hrs, Volume= 6,531 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.70 cfs @ 12.08 hrs, Volume= 6,531 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.90' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.05'	**12.0" Round Culvert** L= 83.0' Ke= 0.800 Outlet Invert= 15.63' S= 0.0051 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=1.60 cfs @ 12.08 hrs HW=16.87' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.60 cfs @ 3.16 fps)

Summary for Pond 6:

Inflow Area = 4,303 sf, 71.86% Impervious, Inflow Depth > 2.16" for 2-Year event
Inflow = 0.23 cfs @ 12.02 hrs, Volume= 776 cf
Outflow = 0.23 cfs @ 12.02 hrs, Volume= 776 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.23 cfs @ 12.02 hrs, Volume= 776 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.81' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.55'	**12.0" Round Culvert** L= 77.0' Ke= 0.800 Outlet Invert= 15.63' S= 0.0119 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.22 cfs @ 12.02 hrs HW=16.80' (Free Discharge)
1=Culvert (Inlet Controls 0.22 cfs @ 1.42 fps)

Summary for Pond 7:

Inflow Area = 43,852 sf, 80.19% Impervious, Inflow Depth > 2.38" for 2-Year event
Inflow = 2.23 cfs @ 12.07 hrs, Volume= 8,714 cf
Outflow = 2.23 cfs @ 12.07 hrs, Volume= 8,714 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.23 cfs @ 12.07 hrs, Volume= 8,714 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.51' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	**12.0" Round Culvert** L= 44.0' Ke= 0.800 Outlet Invert= 13.12' S= 0.0548 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=2.10 cfs @ 12.07 hrs HW=16.47' (Free Discharge)
1=Culvert (Inlet Controls 2.10 cfs @ 2.74 fps)

Summary for Pond FP1: FocalPoint 1

Inflow Area = 11,411 sf, 80.23% Impervious, Inflow Depth > 2.35" for 2-Year event
Inflow = 0.66 cfs @ 12.02 hrs, Volume= 2,234 cf
Outflow = 0.77 cfs @ 12.10 hrs, Volume= 2,278 cf, Atten= 0%, Lag= 5.0 min
Primary = 0.11 cfs @ 0.00 hrs, Volume= 1,875 cf
Secondary = 0.66 cfs @ 12.10 hrs, Volume= 403 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 19.50' Surf.Area= 49 sf Storage= 22 cf
Peak Elev= 20.88' @ 12.10 hrs Surf.Area= 49 sf Storage= 265 cf (243 cf above start)

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	17.25'	22 cf	**7.00'W x 7.00'L x 2.25'H FocalPoint** 110 cf Overall x 20.0% Voids
#2	20.00'	287 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		309 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.00	204	0	0
21.00	369	287	287

Device	Routing	Invert	Outlet Devices
#1	Primary	17.25'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	20.75'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.11 cfs @ 0.00 hrs HW=19.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=0.65 cfs @ 12.10 hrs HW=20.88' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 0.65 cfs @ 0.85 fps)

Summary for Pond FP2: FocalPoint 2

Inflow Area = 2,647 sf, 86.02% Impervious, Inflow Depth > 2.55" for 2-Year event
Inflow = 0.16 cfs @ 12.02 hrs, Volume= 562 cf
Outflow = 0.08 cfs @ 0.00 hrs, Volume= 592 cf, Atten= 49%, Lag= 0.0 min
Primary = 0.08 cfs @ 0.00 hrs, Volume= 592 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 20.75' Surf.Area= 36 sf Storage= 2 cf
Peak Elev= 21.39' @ 12.20 hrs Surf.Area= 36 sf Storage= 42 cf (40 cf above start)

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

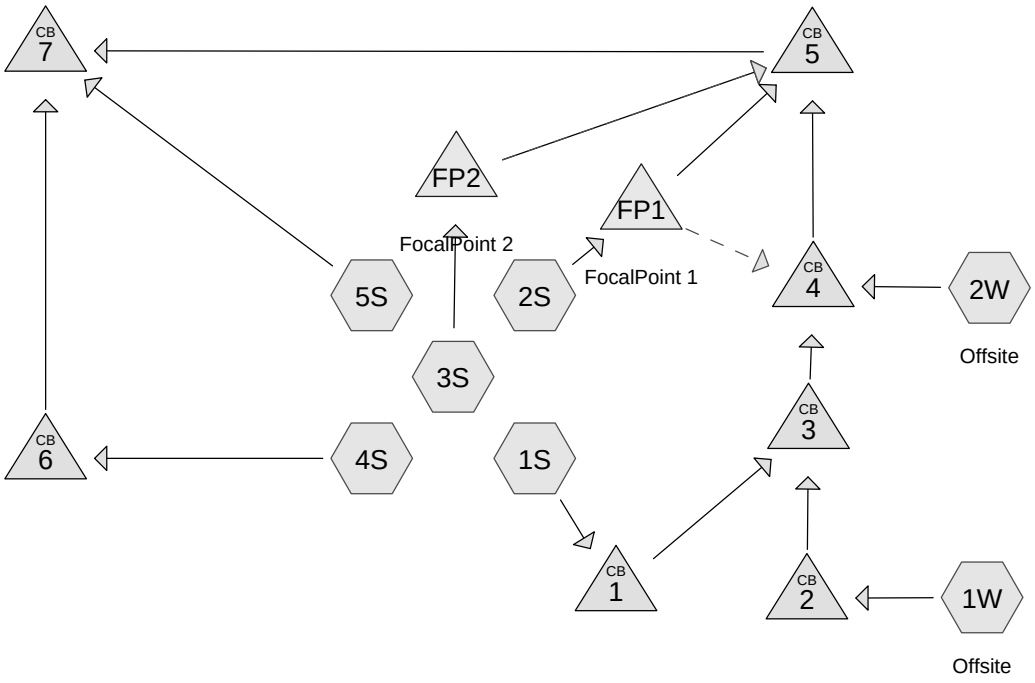
Volume	Invert	Avail.Storage	Storage Description
#1	20.50'	16 cf	**6.00'W x 6.00'L x 2.25'H FocalPoint** 81 cf Overall x 20.0% Voids
#2	21.00'	254 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		270 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
21.00	62	0	0
22.00	200	131	131
22.50	290	123	254

Device	Routing	Invert	Outlet Devices
#1	Primary	20.50'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	22.75'	**4.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 0.00 hrs HW=20.75' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.08 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=20.75' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)



Subcat Reach Pond Link

Drainage Diagram for 17140 post

Prepared by Plymouth Engineering, Inc., Printed 7/11/2018

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
8,687	74	>75% Grass cover, Good, HSG C (1S, 1W, 2S, 2W, 3S, 4S, 5S)
20,546	98	Impervious Area (1S, 2S, 3S, 4S, 5S)
14,619	98	Impervious Surface (1W, 2W)

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=684 sf 37.28% Impervious Runoff Depth>2.81"
Tc=5.0 min CN=83 Runoff=0.05 cfs 160 cf

Subcatchment 1W: Offsite Runoff Area=8,028 sf 64.39% Impervious Runoff Depth>3.39"
Tc=5.0 min CN=89 Runoff=0.67 cfs 2,268 cf

Subcatchment 2S: Runoff Area=11,411 sf 80.23% Impervious Runoff Depth>3.81"
Tc=5.0 min CN=93 Runoff=1.04 cfs 3,619 cf

Subcatchment 2W: Offsite Runoff Area=10,149 sf 93.11% Impervious Runoff Depth>4.13"
Tc=5.0 min CN=96 Runoff=0.97 cfs 3,497 cf

Subcatchment 3S: Runoff Area=2,647 sf 86.02% Impervious Runoff Depth>4.02"
Tc=5.0 min CN=95 Runoff=0.25 cfs 887 cf

Subcatchment 4S: Runoff Area=4,303 sf 71.86% Impervious Runoff Depth>3.59"
Tc=5.0 min CN=91 Runoff=0.38 cfs 1,289 cf

Subcatchment 5S: Runoff Area=6,630 sf 86.98% Impervious Runoff Depth>4.02"
Tc=5.0 min CN=95 Runoff=0.63 cfs 2,223 cf

Pond 1: Peak Elev=18.42' Inflow=0.05 cfs 160 cf
12.0" Round Culvert n=0.013 L=91.0' S=0.0051 '/' Outflow=0.05 cfs 160 cf

Pond 2: Peak Elev=18.49' Inflow=0.67 cfs 2,268 cf
12.0" Round Culvert n=0.013 L=23.0' S=0.0074 '/' Outflow=0.67 cfs 2,268 cf

Pond 3: Peak Elev=18.25' Inflow=0.72 cfs 2,428 cf
12.0" Round Culvert n=0.013 L=41.0' S=0.0051 '/' Outflow=0.72 cfs 2,428 cf

Pond 4: Peak Elev=18.63' Inflow=2.67 cfs 6,943 cf
12.0" Round Culvert n=0.013 L=43.0' S=0.0295 '/' Outflow=2.67 cfs 6,943 cf

Pond 5: Peak Elev=17.52' Inflow=2.87 cfs 10,508 cf
12.0" Round Culvert n=0.013 L=83.0' S=0.0051 '/' Outflow=2.87 cfs 10,508 cf

Pond 6: Peak Elev=16.88' Inflow=0.38 cfs 1,289 cf
12.0" Round Culvert n=0.013 L=77.0' S=0.0119 '/' Outflow=0.38 cfs 1,289 cf

Pond 7: Peak Elev=17.52' Inflow=3.87 cfs 14,020 cf
12.0" Round Culvert n=0.013 L=44.0' S=0.0548 '/' Outflow=3.87 cfs 14,020 cf

Pond FP1: FocalPoint 1 Peak Elev=20.92' Storage=279 cf Inflow=1.04 cfs 3,619 cf
Primary=0.11 cfs 2,645 cf Secondary=0.98 cfs 1,018 cf Outflow=1.10 cfs 3,663 cf

Pond FP2: FocalPoint 2 Peak Elev=21.95' Storage=132 cf Inflow=0.25 cfs 887 cf
Primary=0.08 cfs 920 cf Secondary=0.00 cfs 0 cf Outflow=0.08 cfs 920 cf

Summary for Subcatchment 1S:

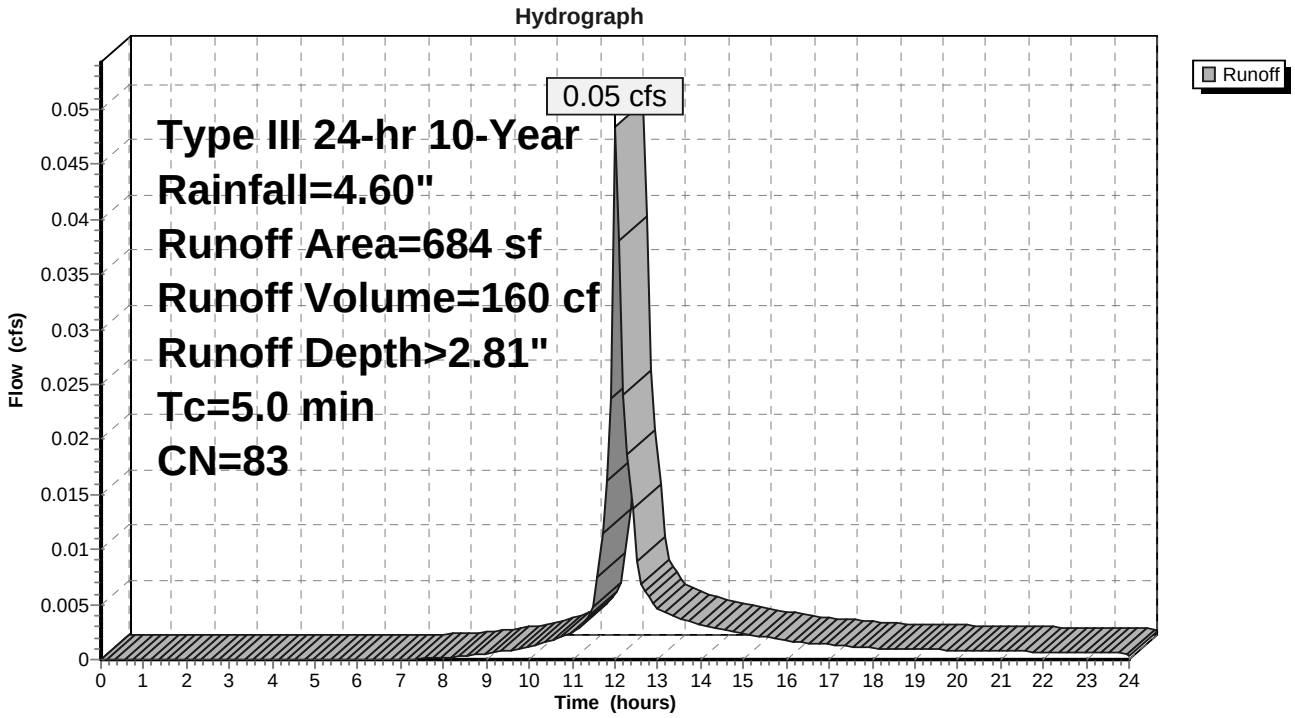
Runoff = 0.05 cfs @ 12.02 hrs, Volume= 160 cf, Depth> 2.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	429	74	>75% Grass cover, Good, HSG C
*	255	98	Impervious Area
	684	83	Weighted Average
	429		62.72% Pervious Area
	255		37.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S:



Summary for Subcatchment 1W: Offsite

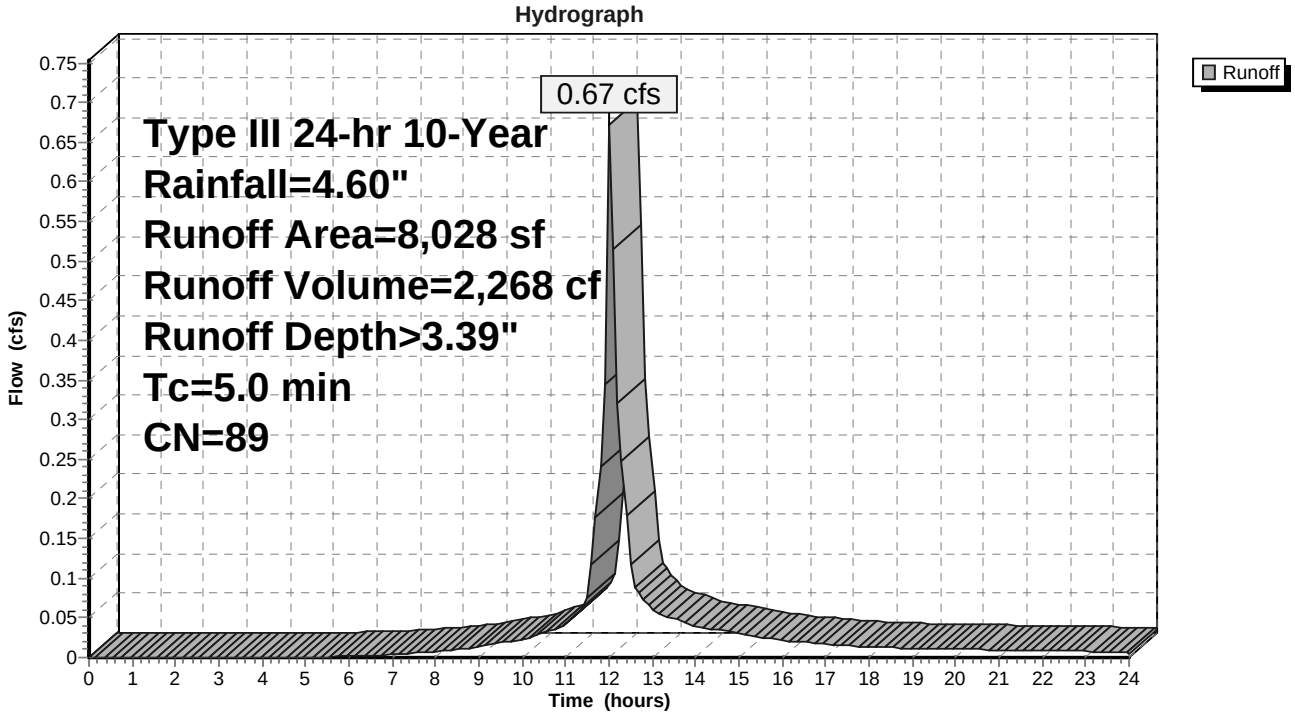
Runoff = 0.67 cfs @ 12.02 hrs, Volume= 2,268 cf, Depth> 3.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	5,169	98	Impervious Surface
	2,859	74	>75% Grass cover, Good, HSG C
	8,028	89	Weighted Average
	2,859		35.61% Pervious Area
	5,169		64.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1W: Offsite



Summary for Subcatchment 2S:

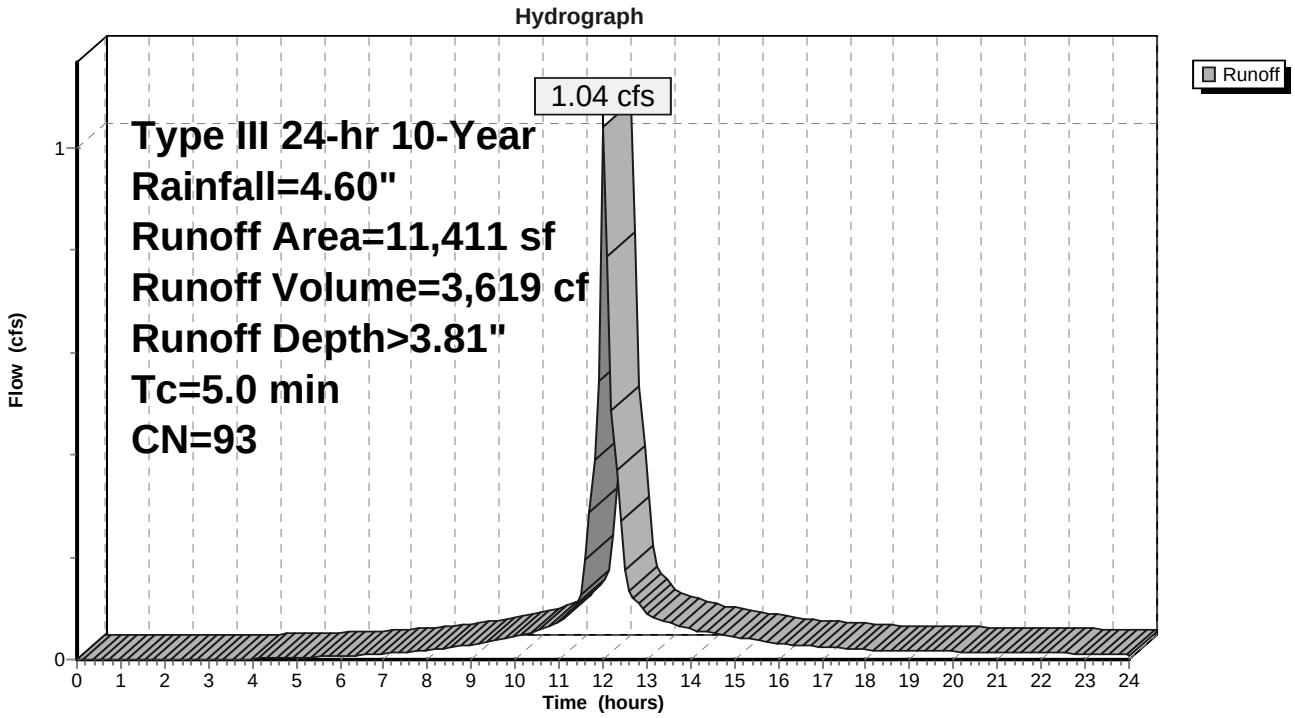
Runoff = 1.04 cfs @ 12.02 hrs, Volume= 3,619 cf, Depth> 3.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	9,155	98	Impervious Area
	2,256	74	>75% Grass cover, Good, HSG C
	11,411	93	Weighted Average
	2,256		19.77% Pervious Area
	9,155		80.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S:



Summary for Subcatchment 2W: Offsite

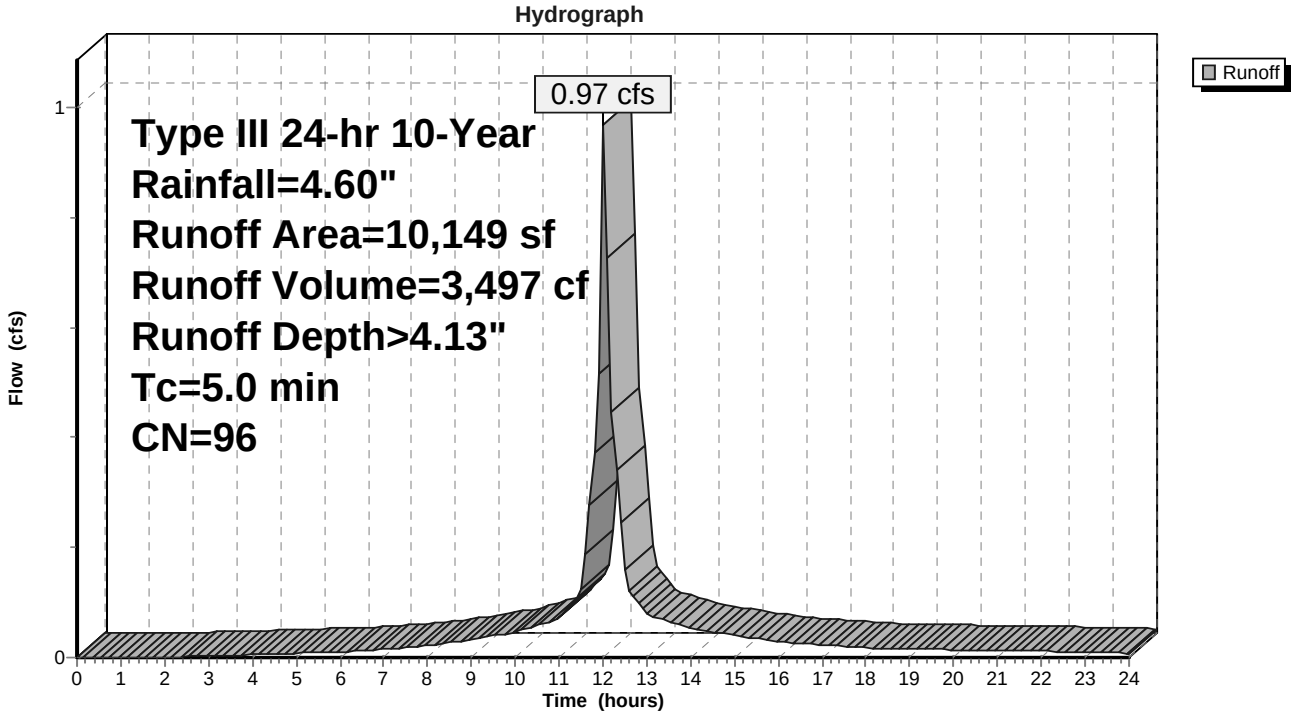
Runoff = 0.97 cfs @ 12.02 hrs, Volume= 3,497 cf, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	9,450	98	Impervious Surface
	699	74	>75% Grass cover, Good, HSG C
	10,149	96	Weighted Average
	699		6.89% Pervious Area
	9,450		93.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2W: Offsite



Summary for Subcatchment 3S:

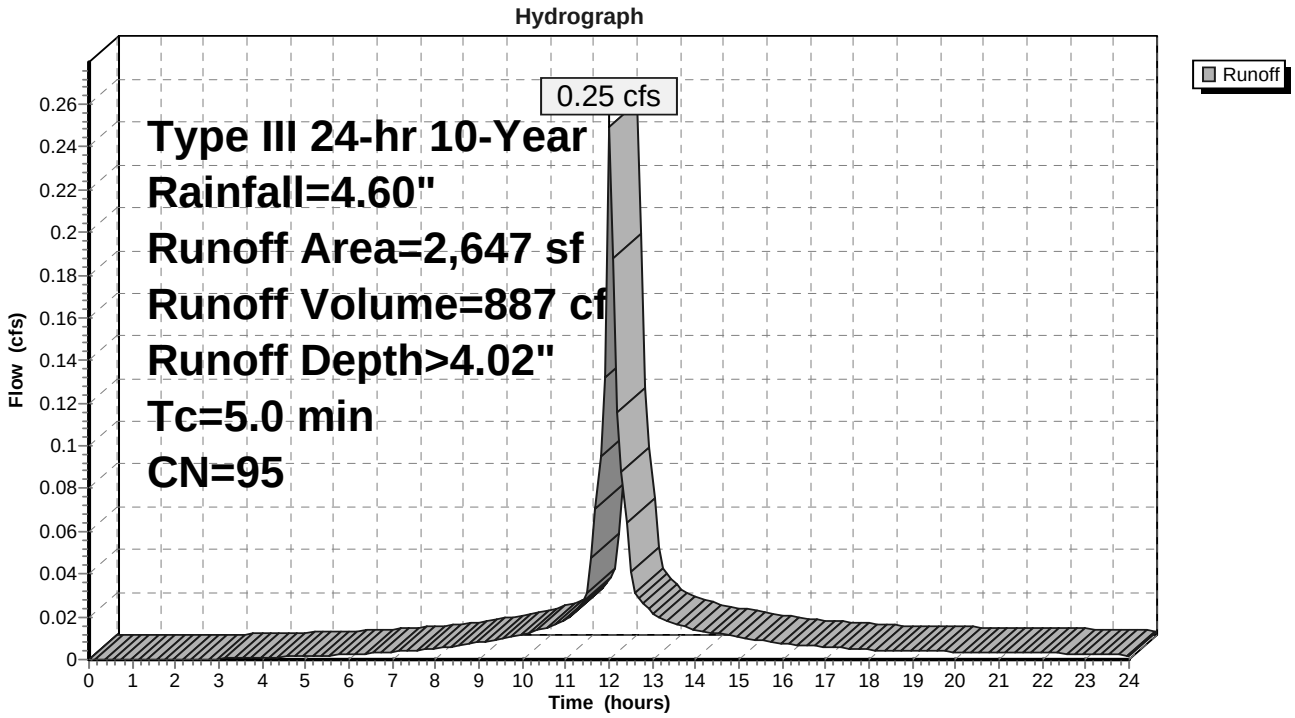
Runoff = 0.25 cfs @ 12.02 hrs, Volume= 887 cf, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	2,277	98	Impervious Area
	370	74	>75% Grass cover, Good, HSG C
	2,647	95	Weighted Average
	370		13.98% Pervious Area
	2,277		86.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S:



Summary for Subcatchment 4S:

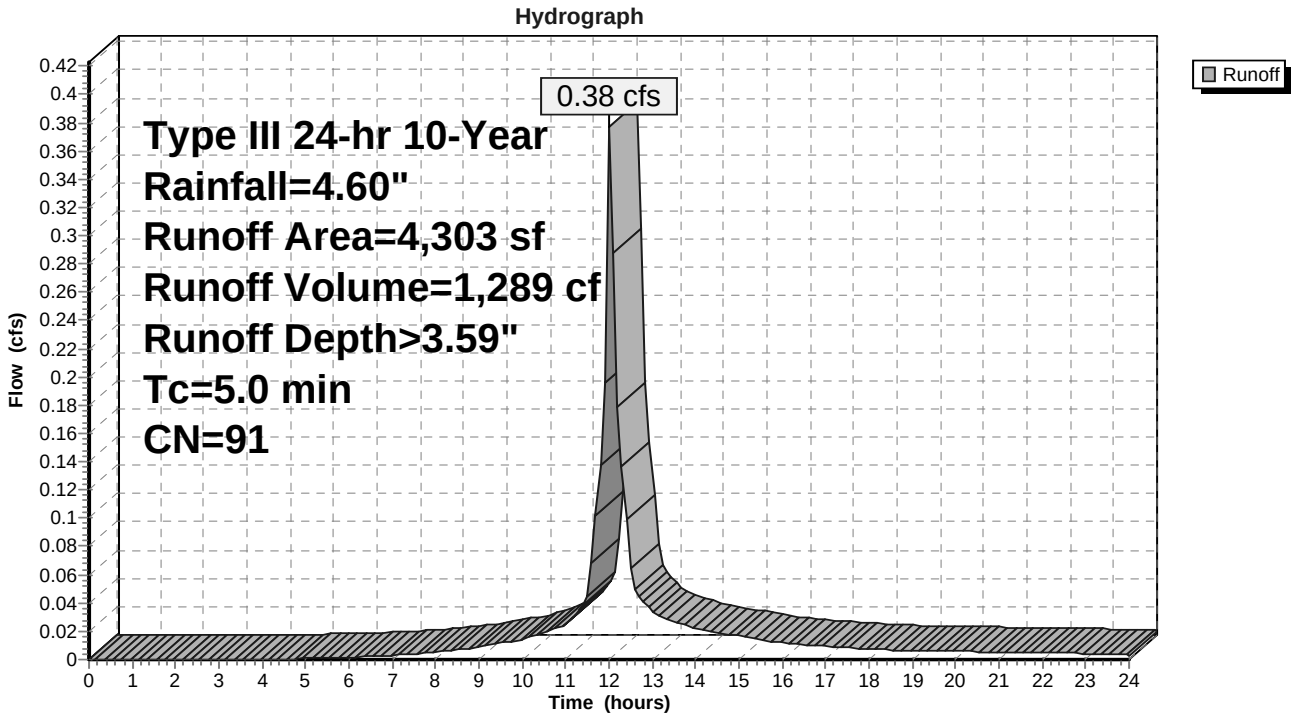
Runoff = 0.38 cfs @ 12.02 hrs, Volume= 1,289 cf, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	1,211	74	>75% Grass cover, Good, HSG C
*	3,092	98	Impervious Area
	4,303	91	Weighted Average
	1,211		28.14% Pervious Area
	3,092		71.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S:



Summary for Subcatchment 5S:

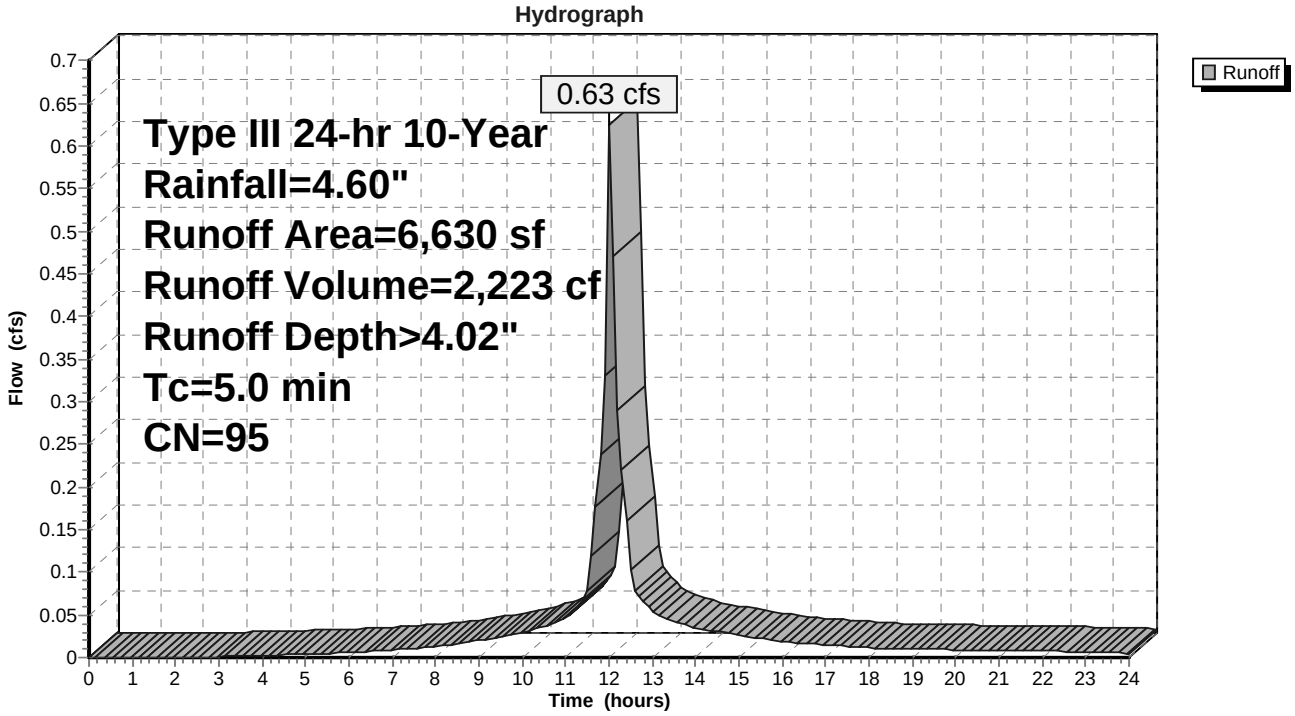
Runoff = 0.63 cfs @ 12.02 hrs, Volume= 2,223 cf, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
	863	74	>75% Grass cover, Good, HSG C
*	5,767	98	Impervious Area
	6,630	95	Weighted Average
	863		13.02% Pervious Area
	5,767		86.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S:



Summary for Pond 1:

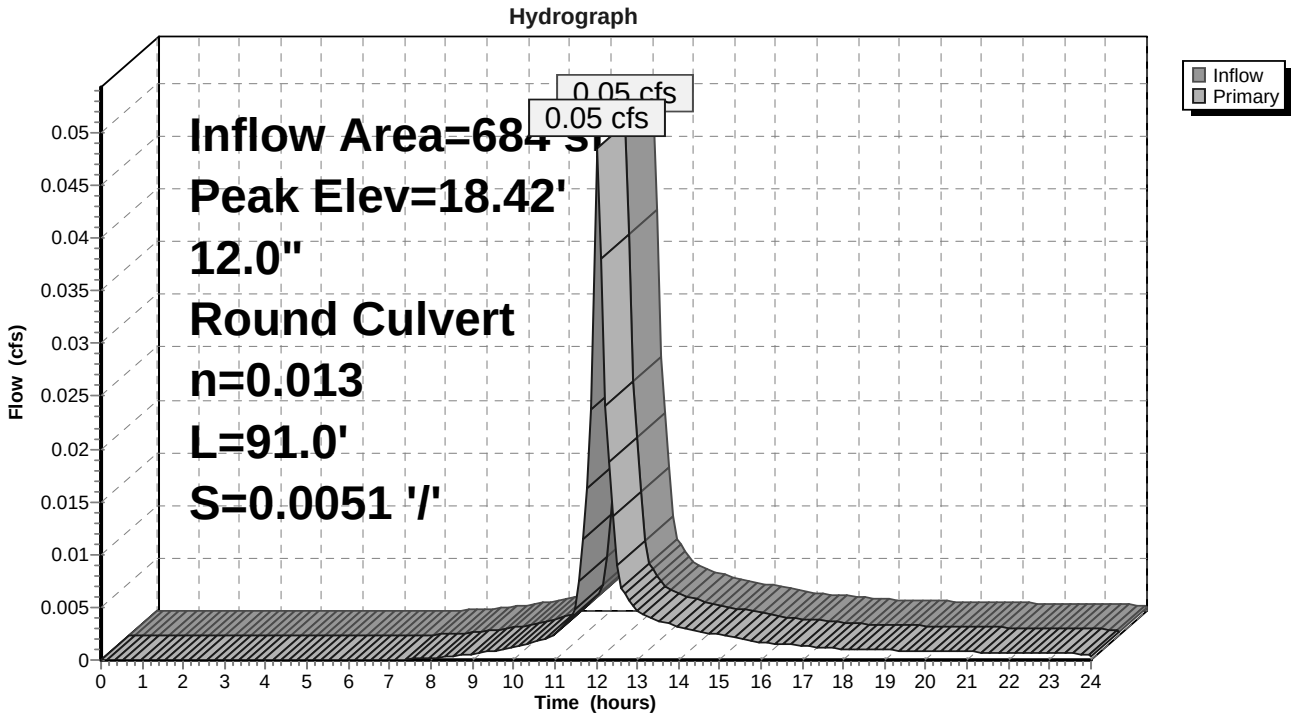
Inflow Area = 684 sf, 37.28% Impervious, Inflow Depth > 2.81" for 10-Year event
Inflow = 0.05 cfs @ 12.02 hrs, Volume= 160 cf
Outflow = 0.05 cfs @ 12.02 hrs, Volume= 160 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.05 cfs @ 12.02 hrs, Volume= 160 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.42' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.29'	**12.0" Round Culvert** L= 91.0' Ke= 0.800 Outlet Invert= 17.83' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.05 cfs @ 12.02 hrs HW=18.41' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.05 cfs @ 1.23 fps)

Pond 1:



Summary for Pond 2:

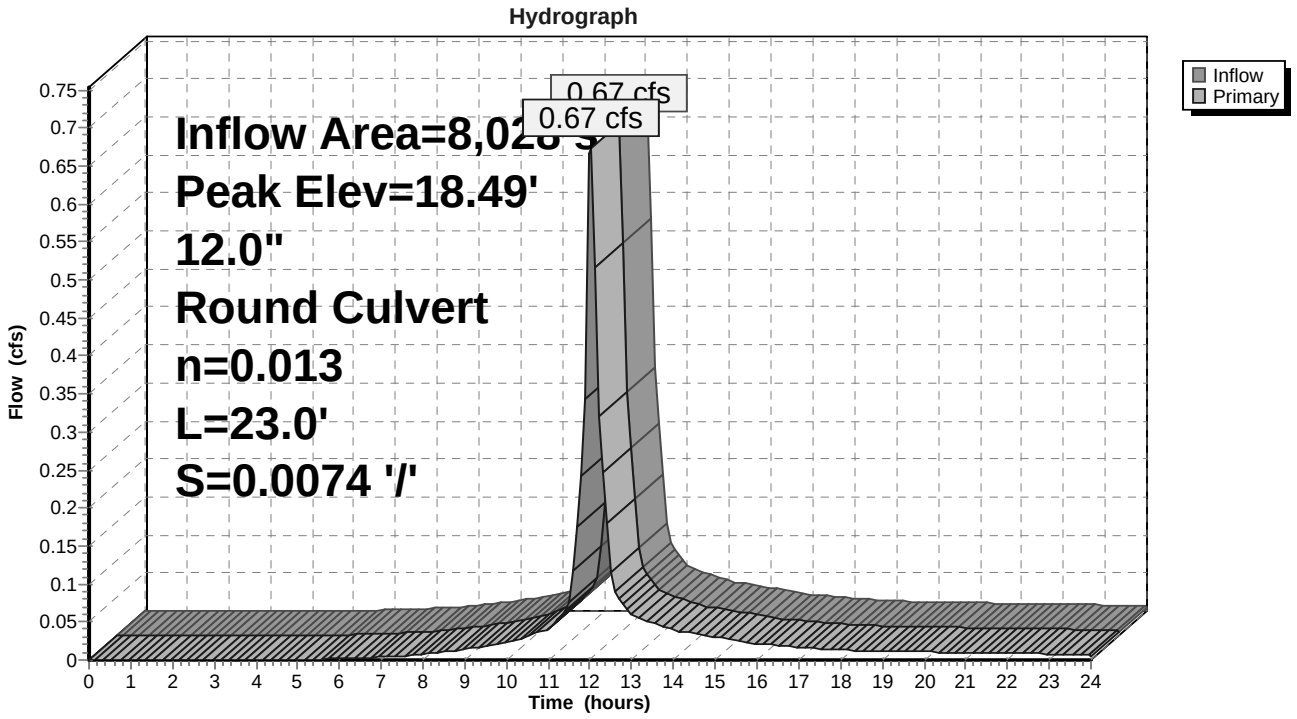
Inflow Area = 8,028 sf, 64.39% Impervious, Inflow Depth > 3.39" for 10-Year event
Inflow = 0.67 cfs @ 12.02 hrs, Volume= 2,268 cf
Outflow = 0.67 cfs @ 12.02 hrs, Volume= 2,268 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.02 hrs, Volume= 2,268 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.49' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**12.0" Round Culvert** L= 23.0' Ke= 0.800 Outlet Invert= 17.83' S= 0.0074 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.64 cfs @ 12.02 hrs HW=18.47' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.64 cfs @ 2.57 fps)

Pond 2:



Summary for Pond 3:

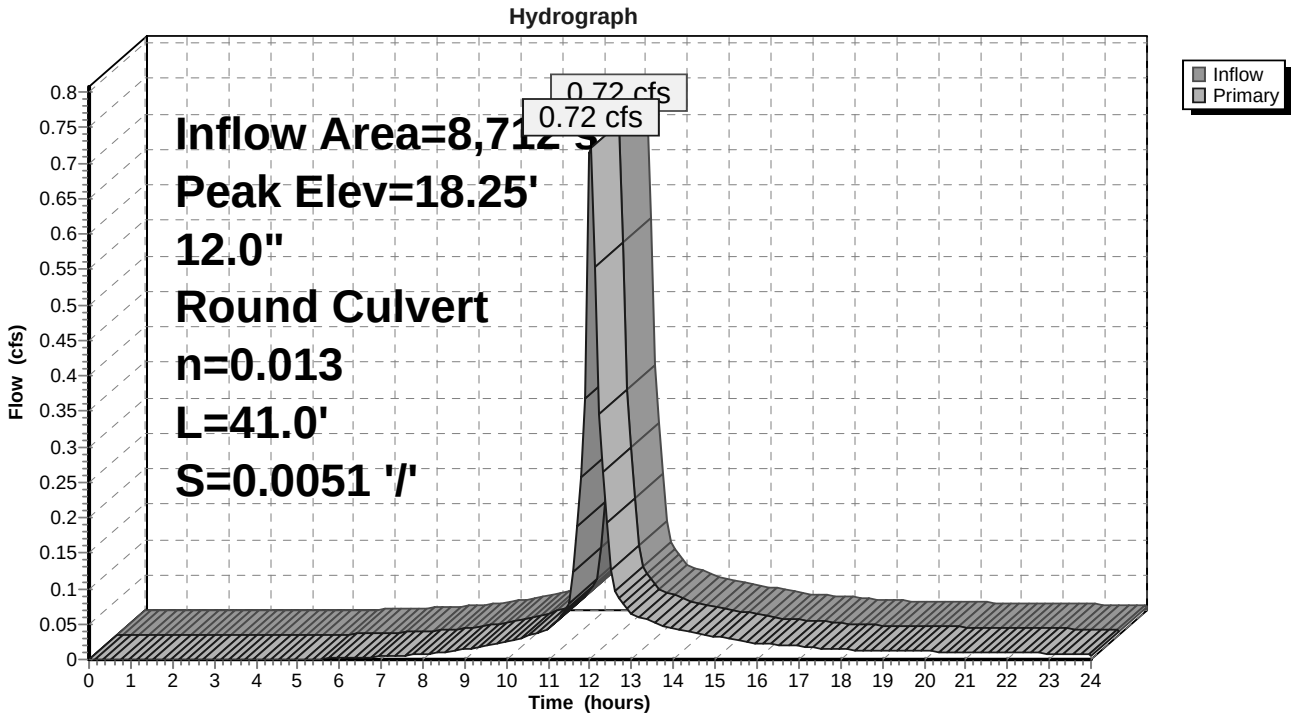
Inflow Area = 8,712 sf, 62.26% Impervious, Inflow Depth > 3.34" for 10-Year event
Inflow = 0.72 cfs @ 12.02 hrs, Volume= 2,428 cf
Outflow = 0.72 cfs @ 12.02 hrs, Volume= 2,428 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.72 cfs @ 12.02 hrs, Volume= 2,428 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.25' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.73'	**12.0" Round Culvert** L= 41.0' Ke= 0.800 Outlet Invert= 17.52' S= 0.0051 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.68 cfs @ 12.02 hrs HW=18.24' (Free Discharge)
1=Culvert (Barrel Controls 0.68 cfs @ 2.50 fps)

Pond 3:



Summary for Pond 4:

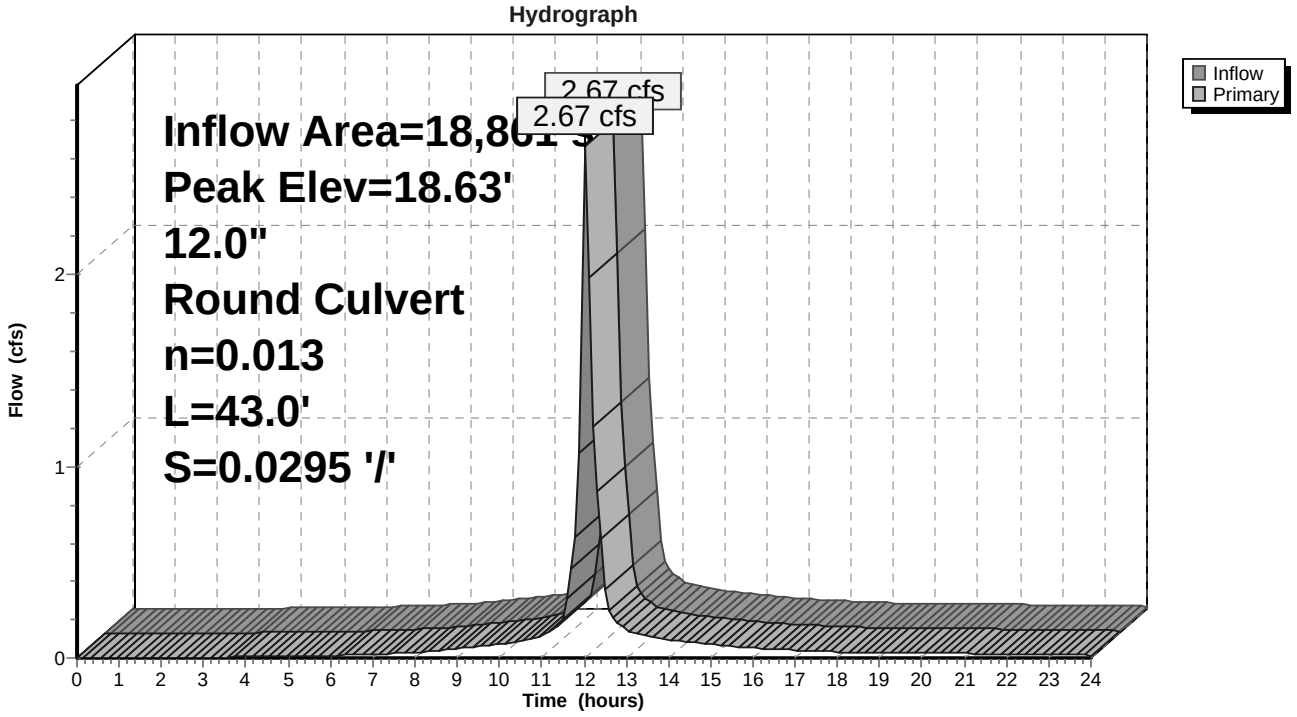
Inflow Area = 18,861 sf, 78.86% Impervious, Inflow Depth > 4.42" for 10-Year event
Inflow = 2.67 cfs @ 12.02 hrs, Volume= 6,943 cf
Outflow = 2.67 cfs @ 12.02 hrs, Volume= 6,943 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.67 cfs @ 12.02 hrs, Volume= 6,943 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.63' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.42'	**12.0" Round Culvert** L= 43.0' Ke= 0.800 Outlet Invert= 16.15' S= 0.0295 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=2.50 cfs @ 12.02 hrs HW=18.55' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.50 cfs @ 3.19 fps)

Pond 4:



Summary for Pond 5:

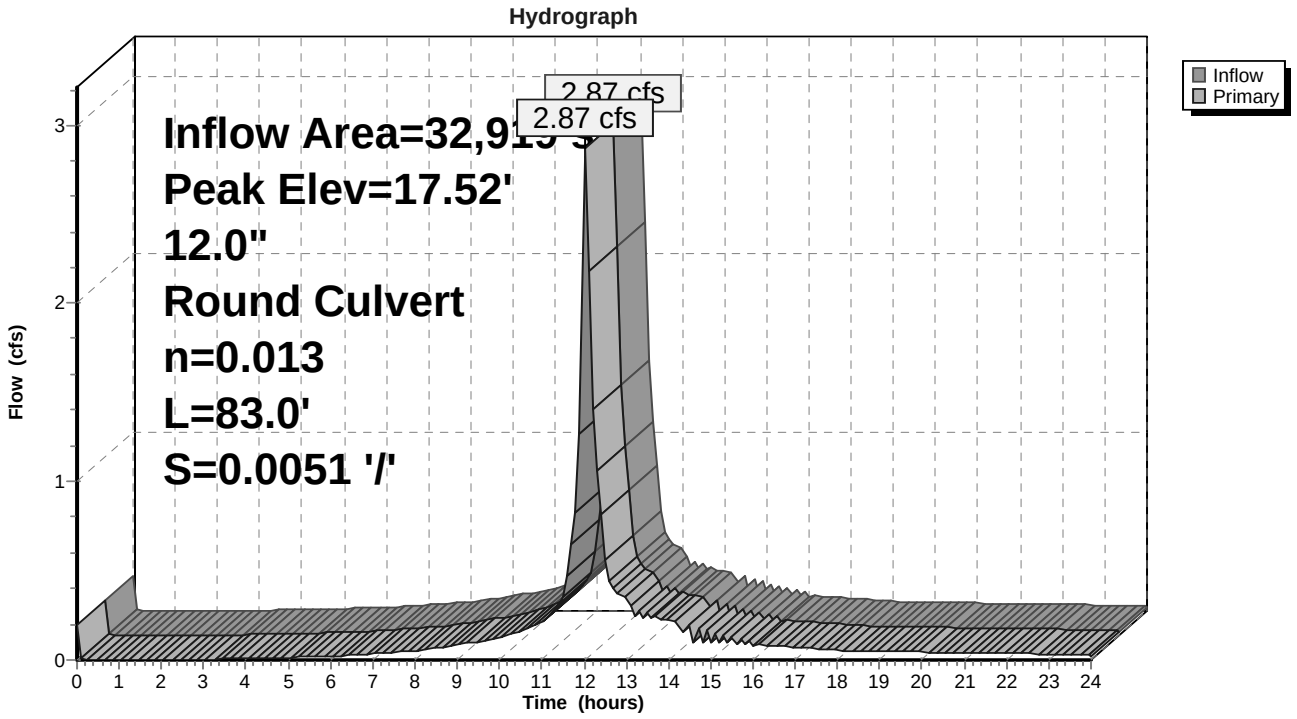
Inflow Area = 32,919 sf, 79.91% Impervious, Inflow Depth > 3.83" for 10-Year event
Inflow = 2.87 cfs @ 12.02 hrs, Volume= 10,508 cf
Outflow = 2.87 cfs @ 12.02 hrs, Volume= 10,508 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.87 cfs @ 12.02 hrs, Volume= 10,508 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.52' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.05'	**12.0" Round Culvert** L= 83.0' Ke= 0.800 Outlet Invert= 15.63' S= 0.0051 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=2.67 cfs @ 12.02 hrs HW=17.42' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.67 cfs @ 3.40 fps)

Pond 5:



Summary for Pond 6:

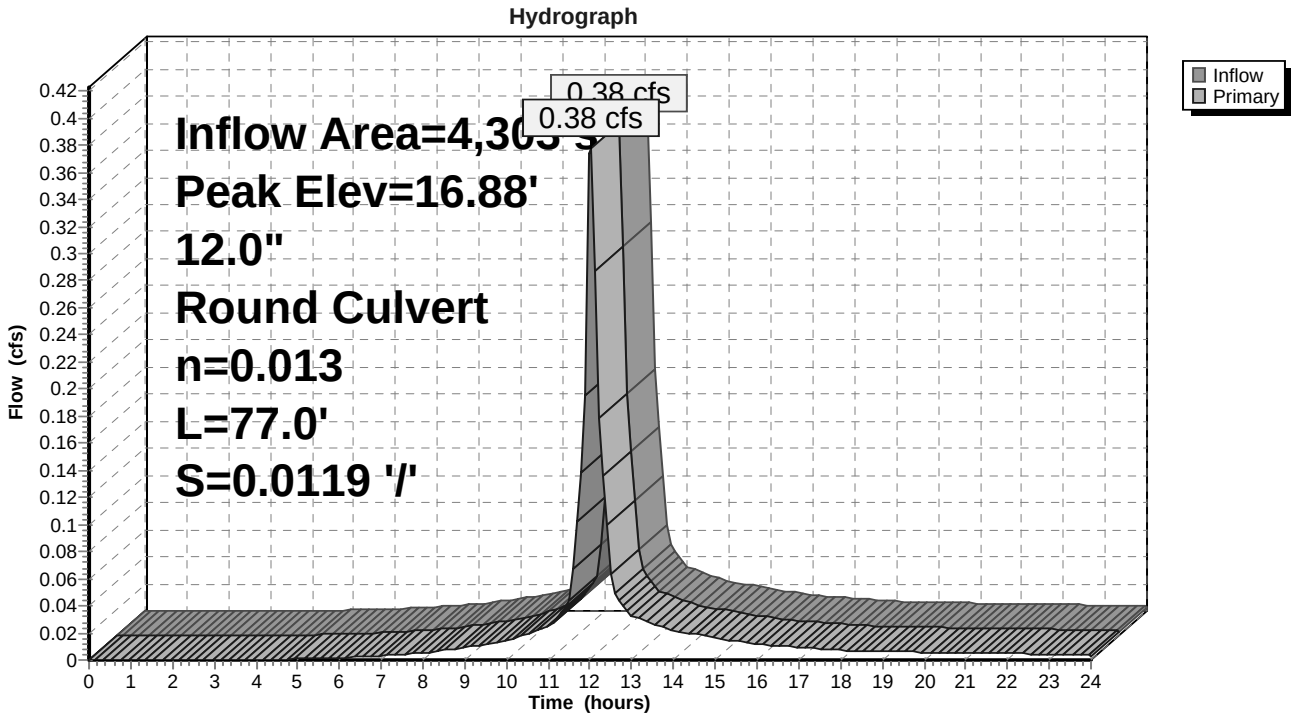
Inflow Area = 4,303 sf, 71.86% Impervious, Inflow Depth > 3.59" for 10-Year event
Inflow = 0.38 cfs @ 12.02 hrs, Volume= 1,289 cf
Outflow = 0.38 cfs @ 12.02 hrs, Volume= 1,289 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 12.02 hrs, Volume= 1,289 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.88' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.55'	**12.0" Round Culvert** L= 77.0' Ke= 0.800 Outlet Invert= 15.63' S= 0.0119 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.36 cfs @ 12.02 hrs HW=16.87' (Free Discharge)
1=Culvert (Inlet Controls 0.36 cfs @ 1.62 fps)

Pond 6:



Summary for Pond 7:

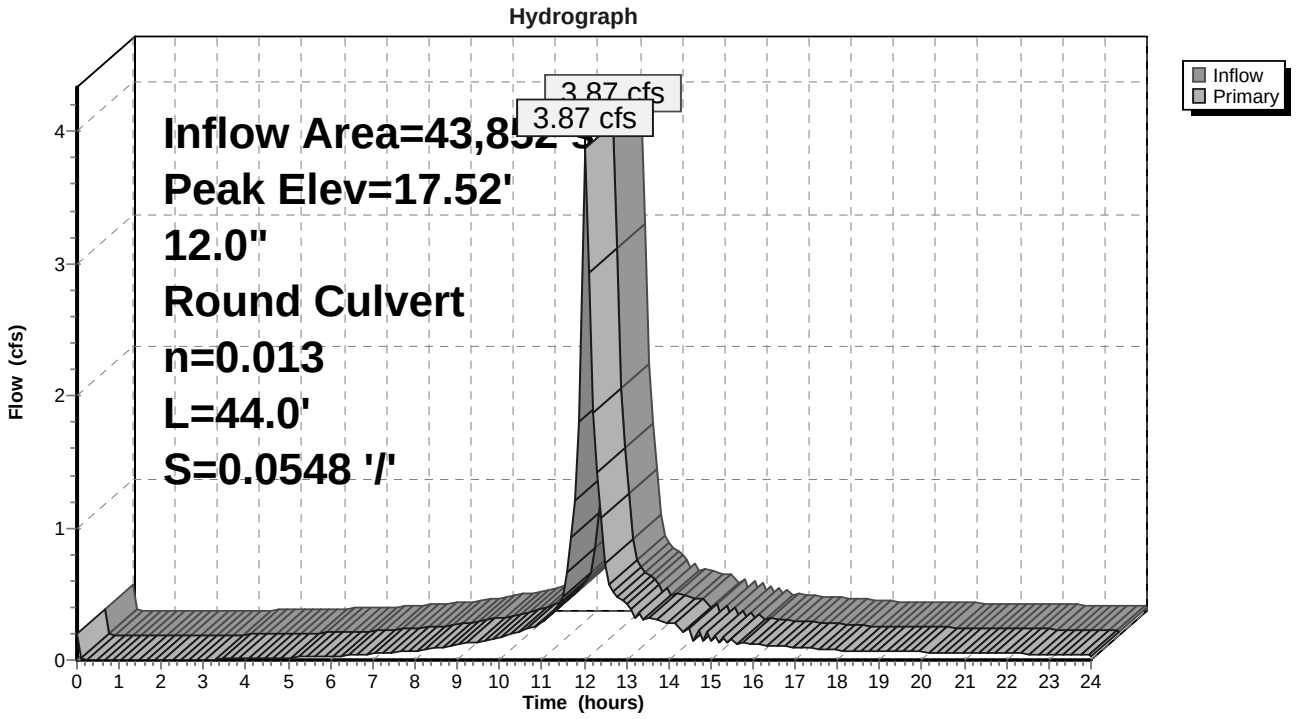
Inflow Area = 43,852 sf, 80.19% Impervious, Inflow Depth > 3.84" for 10-Year event
Inflow = 3.87 cfs @ 12.02 hrs, Volume= 14,020 cf
Outflow = 3.87 cfs @ 12.02 hrs, Volume= 14,020 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.87 cfs @ 12.02 hrs, Volume= 14,020 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.52' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	**12.0" Round Culvert** L= 44.0' Ke= 0.800 Outlet Invert= 13.12' S= 0.0548 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=3.66 cfs @ 12.02 hrs HW=17.38' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.66 cfs @ 4.66 fps)

Pond 7:



Summary for Pond FP1: FocalPoint 1

Inflow Area = 11,411 sf, 80.23% Impervious, Inflow Depth > 3.81" for 10-Year event
Inflow = 1.04 cfs @ 12.02 hrs, Volume= 3,619 cf
Outflow = 1.10 cfs @ 12.03 hrs, Volume= 3,663 cf, Atten= 0%, Lag= 0.5 min
Primary = 0.11 cfs @ 0.00 hrs, Volume= 2,645 cf
Secondary = 0.98 cfs @ 12.03 hrs, Volume= 1,018 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 19.50' Surf.Area= 49 sf Storage= 22 cf
Peak Elev= 20.92' @ 12.03 hrs Surf.Area= 49 sf Storage= 279 cf (257 cf above start)

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	17.25'	22 cf	**7.00'W x 7.00'L x 2.25'H FocalPoint** 110 cf Overall x 20.0% Voids
#2	20.00'	287 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		309 cf	Total Available Storage

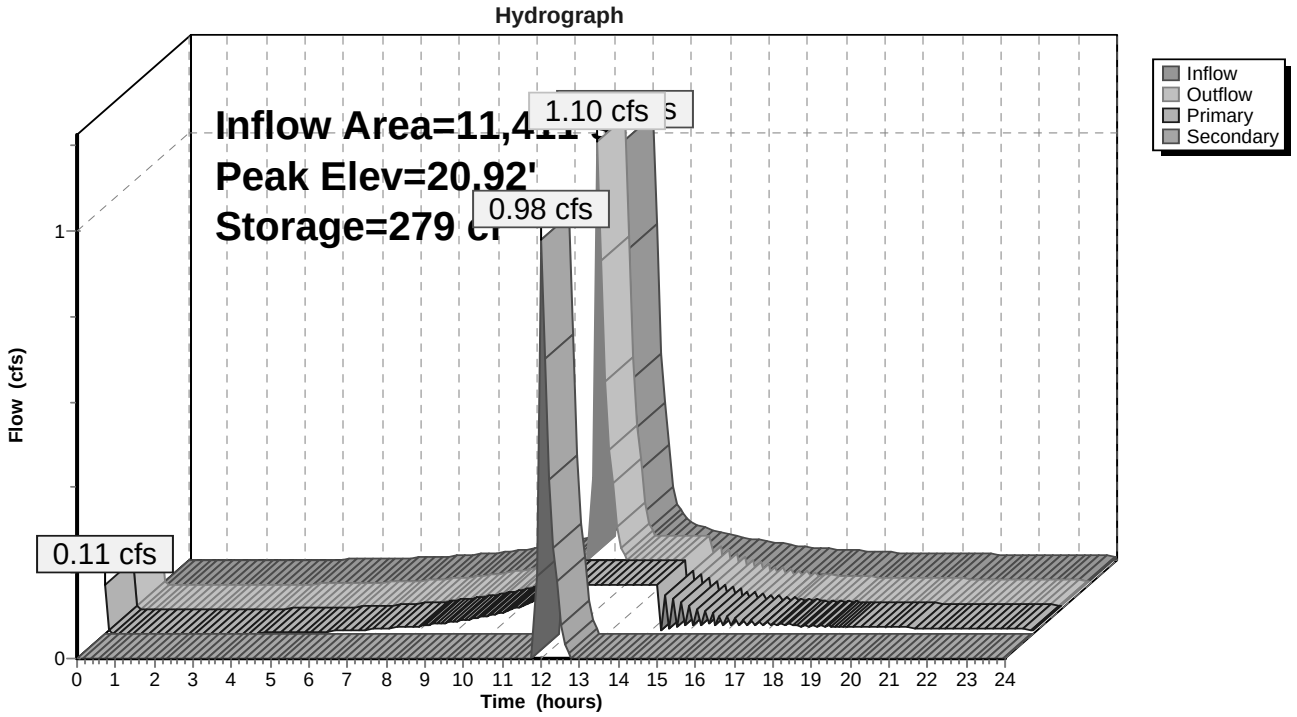
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.00	204	0	0
21.00	369	287	287

Device	Routing	Invert	Outlet Devices
#1	Primary	17.25'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	20.75'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.11 cfs @ 0.00 hrs HW=19.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=0.88 cfs @ 12.03 hrs HW=20.91' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 0.88 cfs @ 0.94 fps)

Pond FP1: FocalPoint 1



Summary for Pond FP2: FocalPoint 2

Inflow Area = 2,647 sf, 86.02% Impervious, Inflow Depth > 4.02" for 10-Year event
Inflow = 0.25 cfs @ 12.02 hrs, Volume= 887 cf
Outflow = 0.08 cfs @ 0.00 hrs, Volume= 920 cf, Atten= 67%, Lag= 0.0 min
Primary = 0.08 cfs @ 0.00 hrs, Volume= 920 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 20.75' Surf.Area= 36 sf Storage= 2 cf
Peak Elev= 21.95' @ 12.32 hrs Surf.Area= 36 sf Storage= 132 cf (130 cf above start)

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	20.50'	16 cf	**6.00'W x 6.00'L x 2.25'H FocalPoint** 81 cf Overall x 20.0% Voids
#2	21.00'	254 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		270 cf	Total Available Storage

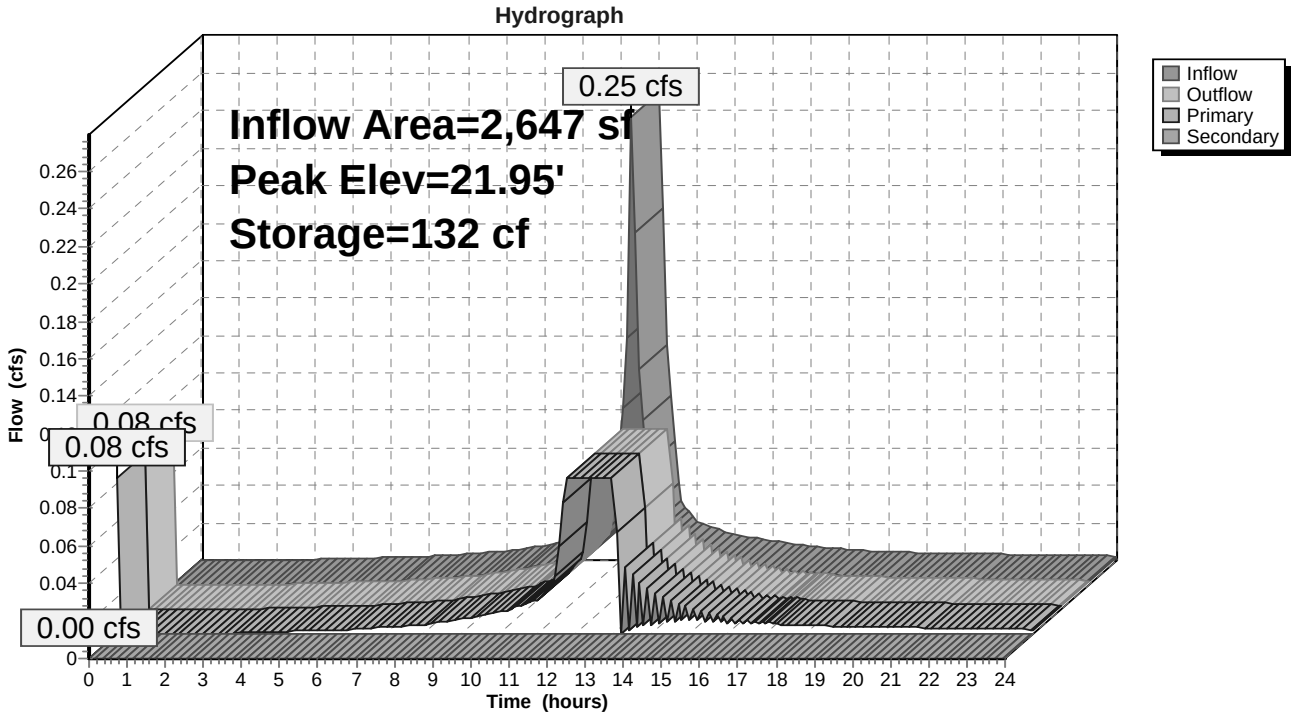
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
21.00	62	0	0
22.00	200	131	131
22.50	290	123	254

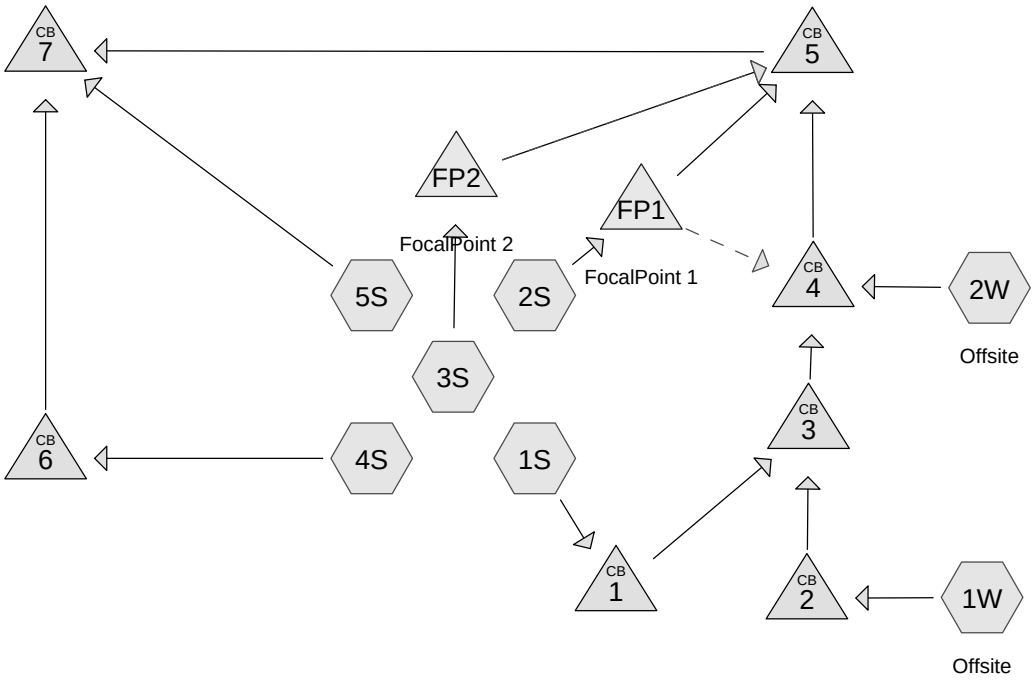
Device	Routing	Invert	Outlet Devices
#1	Primary	20.50'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	22.75'	**4.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 0.00 hrs HW=20.75' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.08 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=20.75' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond FP2: FocalPoint 2





Subcat Reach Pond Link

Drainage Diagram for 17140 post

Prepared by Plymouth Engineering, Inc., Printed 7/11/2018

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
8,687	74	>75% Grass cover, Good, HSG C (1S, 1W, 2S, 2W, 3S, 4S, 5S)
20,546	98	Impervious Area (1S, 2S, 3S, 4S, 5S)
14,619	98	Impervious Surface (1W, 2W)

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=684 sf 37.28% Impervious Runoff Depth>3.91"
Tc=5.0 min CN=83 Runoff=0.07 cfs 223 cf

Subcatchment 1W: Offsite Runoff Area=8,028 sf 64.39% Impervious Runoff Depth>4.54"
Tc=5.0 min CN=89 Runoff=0.89 cfs 3,038 cf

Subcatchment 2S: Runoff Area=11,411 sf 80.23% Impervious Runoff Depth>4.98"
Tc=5.0 min CN=93 Runoff=1.34 cfs 4,740 cf

Subcatchment 2W: Offsite Runoff Area=10,149 sf 93.11% Impervious Runoff Depth>5.33"
Tc=5.0 min CN=96 Runoff=1.23 cfs 4,506 cf

Subcatchment 3S: Runoff Area=2,647 sf 86.02% Impervious Runoff Depth>5.21"
Tc=5.0 min CN=95 Runoff=0.32 cfs 1,150 cf

Subcatchment 4S: Runoff Area=4,303 sf 71.86% Impervious Runoff Depth>4.76"
Tc=5.0 min CN=91 Runoff=0.49 cfs 1,707 cf

Subcatchment 5S: Runoff Area=6,630 sf 86.98% Impervious Runoff Depth>5.21"
Tc=5.0 min CN=95 Runoff=0.80 cfs 2,880 cf

Pond 1: Peak Elev=18.44' Inflow=0.07 cfs 223 cf
12.0" Round Culvert n=0.013 L=91.0' S=0.0051 '/' Outflow=0.07 cfs 223 cf

Pond 2: Peak Elev=18.57' Inflow=0.89 cfs 3,038 cf
12.0" Round Culvert n=0.013 L=23.0' S=0.0074 '/' Outflow=0.89 cfs 3,038 cf

Pond 3: Peak Elev=18.34' Inflow=0.96 cfs 3,261 cf
12.0" Round Culvert n=0.013 L=41.0' S=0.0051 '/' Outflow=0.96 cfs 3,261 cf

Pond 4: Peak Elev=18.98' Inflow=3.27 cfs 9,337 cf
12.0" Round Culvert n=0.013 L=43.0' S=0.0295 '/' Outflow=3.27 cfs 9,337 cf

Pond 5: Peak Elev=17.95' Inflow=3.46 cfs 13,737 cf
12.0" Round Culvert n=0.013 L=83.0' S=0.0051 '/' Outflow=3.46 cfs 13,737 cf

Pond 6: Peak Elev=16.94' Inflow=0.49 cfs 1,707 cf
12.0" Round Culvert n=0.013 L=77.0' S=0.0119 '/' Outflow=0.49 cfs 1,707 cf

Pond 7: Peak Elev=18.28' Inflow=4.75 cfs 18,324 cf
12.0" Round Culvert n=0.013 L=44.0' S=0.0548 '/' Outflow=4.75 cfs 18,324 cf

Pond FP1: FocalPoint 1 Peak Elev=20.94' Storage=285 cf Inflow=1.34 cfs 4,740 cf
Primary=0.11 cfs 3,214 cf Secondary=1.13 cfs 1,570 cf Outflow=1.25 cfs 4,784 cf

Pond FP2: FocalPoint 2 Peak Elev=22.33' Storage=221 cf Inflow=0.32 cfs 1,150 cf
Primary=0.08 cfs 1,186 cf Secondary=0.00 cfs 0 cf Outflow=0.08 cfs 1,186 cf

Summary for Subcatchment 1S:

Runoff = 0.07 cfs @ 12.02 hrs, Volume= 223 cf, Depth> 3.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	429	74	>75% Grass cover, Good, HSG C
*	255	98	Impervious Area
	684	83	Weighted Average
	429		62.72% Pervious Area
	255		37.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 1W: Offsite

Runoff = 0.89 cfs @ 12.02 hrs, Volume= 3,038 cf, Depth> 4.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	5,169	98	Impervious Surface
	2,859	74	>75% Grass cover, Good, HSG C
	8,028	89	Weighted Average
	2,859		35.61% Pervious Area
	5,169		64.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S:

Runoff = 1.34 cfs @ 12.02 hrs, Volume= 4,740 cf, Depth> 4.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	9,155	98	Impervious Area
	2,256	74	>75% Grass cover, Good, HSG C
	11,411	93	Weighted Average
	2,256		19.77% Pervious Area
	9,155		80.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2W: Offsite

Runoff = 1.23 cfs @ 12.02 hrs, Volume= 4,506 cf, Depth> 5.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	9,450	98	Impervious Surface
	699	74	>75% Grass cover, Good, HSG C
	10,149	96	Weighted Average
	699		6.89% Pervious Area
	9,450		93.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 3S:

Runoff = 0.32 cfs @ 12.02 hrs, Volume= 1,150 cf, Depth> 5.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,277	98	Impervious Area
	370	74	>75% Grass cover, Good, HSG C
	2,647	95	Weighted Average
	370		13.98% Pervious Area
	2,277		86.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 4S:

Runoff = 0.49 cfs @ 12.02 hrs, Volume= 1,707 cf, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	1,211	74	>75% Grass cover, Good, HSG C
*	3,092	98	Impervious Area
	4,303	91	Weighted Average
	1,211		28.14% Pervious Area
	3,092		71.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 5S:

Runoff = 0.80 cfs @ 12.02 hrs, Volume= 2,880 cf, Depth> 5.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
	863	74	>75% Grass cover, Good, HSG C
*	5,767	98	Impervious Area
	6,630	95	Weighted Average
	863		13.02% Pervious Area
	5,767		86.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1:

Inflow Area = 684 sf, 37.28% Impervious, Inflow Depth > 3.91" for 25-Year event
Inflow = 0.07 cfs @ 12.02 hrs, Volume= 223 cf
Outflow = 0.07 cfs @ 12.02 hrs, Volume= 223 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.07 cfs @ 12.02 hrs, Volume= 223 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.44' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.29'	**12.0" Round Culvert** L= 91.0' Ke= 0.800 Outlet Invert= 17.83' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.06 cfs @ 12.02 hrs HW=18.44' (Free Discharge)
1=Culvert (Barrel Controls 0.06 cfs @ 1.35 fps)

Summary for Pond 2:

Inflow Area = 8,028 sf, 64.39% Impervious, Inflow Depth > 4.54" for 25-Year event
Inflow = 0.89 cfs @ 12.02 hrs, Volume= 3,038 cf
Outflow = 0.89 cfs @ 12.02 hrs, Volume= 3,038 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.02 hrs, Volume= 3,038 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.57' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**12.0" Round Culvert** L= 23.0' Ke= 0.800 Outlet Invert= 17.83' S= 0.0074 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.84 cfs @ 12.02 hrs HW=18.55' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.84 cfs @ 2.74 fps)

Summary for Pond 3:

Inflow Area = 8,712 sf, 62.26% Impervious, Inflow Depth > 4.49" for 25-Year event
Inflow = 0.96 cfs @ 12.02 hrs, Volume= 3,261 cf
Outflow = 0.96 cfs @ 12.02 hrs, Volume= 3,261 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.96 cfs @ 12.02 hrs, Volume= 3,261 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.34' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.73'	**12.0" Round Culvert** L= 41.0' Ke= 0.800 Outlet Invert= 17.52' S= 0.0051 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.91 cfs @ 12.02 hrs HW=18.32' (Free Discharge)
1=Culvert (Barrel Controls 0.91 cfs @ 2.68 fps)

Summary for Pond 4:

Inflow Area = 18,861 sf, 78.86% Impervious, Inflow Depth > 5.94" for 25-Year event
Inflow = 3.27 cfs @ 12.02 hrs, Volume= 9,337 cf
Outflow = 3.27 cfs @ 12.02 hrs, Volume= 9,337 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.27 cfs @ 12.02 hrs, Volume= 9,337 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.98' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	17.42'	**12.0" Round Culvert** L= 43.0' Ke= 0.800 Outlet Invert= 16.15' S= 0.0295 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=3.10 cfs @ 12.02 hrs HW=18.89' (Free Discharge)
1=Culvert (Inlet Controls 3.10 cfs @ 3.95 fps)

Summary for Pond 5:

Inflow Area = 32,919 sf, 79.91% Impervious, Inflow Depth > 5.01" for 25-Year event
Inflow = 3.46 cfs @ 12.02 hrs, Volume= 13,737 cf
Outflow = 3.46 cfs @ 12.02 hrs, Volume= 13,737 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.46 cfs @ 12.02 hrs, Volume= 13,737 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 17.95' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.05'	**12.0" Round Culvert** L= 83.0' Ke= 0.800 Outlet Invert= 15.63' S= 0.0051 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=3.30 cfs @ 12.02 hrs HW=17.84' (Free Discharge)
1=Culvert (Barrel Controls 3.30 cfs @ 4.20 fps)

Summary for Pond 6:

Inflow Area = 4,303 sf, 71.86% Impervious, Inflow Depth > 4.76" for 25-Year event
Inflow = 0.49 cfs @ 12.02 hrs, Volume= 1,707 cf
Outflow = 0.49 cfs @ 12.02 hrs, Volume= 1,707 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.02 hrs, Volume= 1,707 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 16.94' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	16.55'	**12.0" Round Culvert** L= 77.0' Ke= 0.800 Outlet Invert= 15.63' S= 0.0119 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=0.47 cfs @ 12.02 hrs HW=16.93' (Free Discharge)
1=Culvert (Inlet Controls 0.47 cfs @ 1.74 fps)

Summary for Pond 7:

Inflow Area = 43,852 sf, 80.19% Impervious, Inflow Depth > 5.01" for 25-Year event
Inflow = 4.75 cfs @ 12.02 hrs, Volume= 18,324 cf
Outflow = 4.75 cfs @ 12.02 hrs, Volume= 18,324 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.75 cfs @ 12.02 hrs, Volume= 18,324 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 18.28' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	**12.0" Round Culvert** L= 44.0' Ke= 0.800 Outlet Invert= 13.12' S= 0.0548 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets

Primary OutFlow Max=4.53 cfs @ 12.02 hrs HW=18.10' (Free Discharge)
1=Culvert (Inlet Controls 4.53 cfs @ 5.77 fps)

Summary for Pond FP1: FocalPoint 1

Inflow Area = 11,411 sf, 80.23% Impervious, Inflow Depth > 4.98" for 25-Year event
Inflow = 1.34 cfs @ 12.02 hrs, Volume= 4,740 cf
Outflow = 1.25 cfs @ 12.05 hrs, Volume= 4,784 cf, Atten= 7%, Lag= 2.3 min
Primary = 0.11 cfs @ 0.00 hrs, Volume= 3,214 cf
Secondary = 1.13 cfs @ 12.05 hrs, Volume= 1,570 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 19.50' Surf.Area= 49 sf Storage= 22 cf
Peak Elev= 20.94' @ 12.05 hrs Surf.Area= 49 sf Storage= 285 cf (263 cf above start)

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.4 min (770.4 - 770.0)

Volume	Invert	Avail.Storage	Storage Description
#1	17.25'	22 cf	**7.00'W x 7.00'L x 2.25'H FocalPoint** 110 cf Overall x 20.0% Voids
#2	20.00'	287 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		309 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
20.00	204	0	0
21.00	369	287	287

Device	Routing	Invert	Outlet Devices
#1	Primary	17.25'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	20.75'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.11 cfs @ 0.00 hrs HW=19.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=1.06 cfs @ 12.05 hrs HW=20.93' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 1.06 cfs @ 1.00 fps)

Summary for Pond FP2: FocalPoint 2

Inflow Area = 2,647 sf, 86.02% Impervious, Inflow Depth > 5.21" for 25-Year event
Inflow = 0.32 cfs @ 12.02 hrs, Volume= 1,150 cf
Outflow = 0.08 cfs @ 0.00 hrs, Volume= 1,186 cf, Atten= 74%, Lag= 0.0 min
Primary = 0.08 cfs @ 0.00 hrs, Volume= 1,186 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Starting Elev= 20.75' Surf.Area= 36 sf Storage= 2 cf
Peak Elev= 22.33' @ 12.39 hrs Surf.Area= 36 sf Storage= 221 cf (219 cf above start)

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	20.50'	16 cf	**6.00'W x 6.00'L x 2.25'H FocalPoint** 81 cf Overall x 20.0% Voids
#2	21.00'	254 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) -Impervious
		270 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
21.00	62	0	0
22.00	200	131	131
22.50	290	123	254

Device	Routing	Invert	Outlet Devices
#1	Primary	20.50'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#2	Secondary	22.75'	**4.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 0.00 hrs HW=20.75' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.08 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=20.75' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Conditional Use for Planning Board Review
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Conditional Use where the Planning Board is listed as the reviewing authority rather than the Zoning Board of Appeals. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

A. Conditional Use: Standards and Criteria – Section 14-474 and Zone Related Criteria

Conditional uses are listed in the Zoning Ordinance for each zone and these proposed uses must address the criteria contained in Section 14-474 in the written application. In addition to the criteria in Section 14-474, each application must address any applicable conditional use standards contained in the applicable zone and the proposed specific use. The Zoning Ordinance specifies when the Planning Board is designated as the reviewing authority rather than the Zoning Board of Appeals. This application is for Planning Board reviews only.

Upon showing that a proposed use is a conditional use under this article, a conditional use permit shall be granted unless the Board determines that:

a. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone; and

b. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter; and

c. The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.

B. Site Plan Application: <u>Please submit the Conditional Use Application in addition to the applicable Site Plan Application.</u>

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719
planning@portlandmaine.gov

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

PROJECT NAME:

Dunkin' Donuts

PROPOSED DEVELOPMENT ADDRESS:

325 St. John Street

CHART/BLOCK/LOT (s): 065 C004001 **Applicable Zone**: B2

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Dunkin' Brands, Inc. Business Name, if applicable: Address: 130 Royall Street City/State : Canton, MA Zip Code: 02021	**Applicant Contact Information** Work # 617-510-4543 Home# Cell # Fax# e-mail: robert.mahoney@dunkinbrands.com
Owner – (if different from Applicant) Name: Nancy E. Hurst Address: 1876 Harpswell Neck Road City/State : Harpswell, ME Zip Code: 04079	**Owner Contact Information** Work # Home# Cell # Fax# e-mail:
Billing Information Name: Dunkin' Brands, Inc. Address: 130 Royall Street City/State : Canton, MA Zip Code: 02021	**Billing Information** Work # 617-510-4543 Cell # Fax# e-mail: robert.mahoney@dunkinbrands.com
Designated person/person(s) for uploading to e-Plan: Name: Plymouth Engineering, Inc. c/o Jon Whitten, Jr., P.E. e-mail: jon.whitten@plymouthengineering.com Name: e-mail: Name: e-mail:	

RIGHT, TITLE OR INTEREST:

lease

(Please identify the status provide documentary evidence, attached to this application, of the applicant's right, title, or interest in the subject property (ex: deed, option or contract to purchase or lease the property.)

VICINITY MAP: (Please attach a map showing the subject parcel and abutting parcels, labeled as to ownership and/or current use.)

EXISTING USE: Describe the existing use of the subject property.

sit down restaurant

PROPOSED USE: Describe the proposed use of the subject property

drive through restaurant

TYPE OF CONDITIONAL USE PROPOSED (Refer To Specific Provisions Of Land Use Code Authorizing The Proposed Conditional Use).

drive through restaurant

SITE PLAN: Submit a separate site plan application for the proposal that provides a site plan for the property, showing existing and proposed improvements, which meets the submission requirements of the applicable level of site plan review.

CONDITIONAL USE STANDARDS AND CONDITIONS – 14-474

Address the following criteria in your written application and any applicable conditional use standards contained in the zoning code for the specific use. Upon showing that a proposed use is a conditional use under this article, a conditional use permit shall be granted unless the Board determines that:

a. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone; and

b. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter; and

c. The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.

CONDITIONAL USE AUTHORIZED BY: SECTION 14- 183

Address any specific conditional use standards for the specific use contained in the zoning code in the written submission.

APPLICATION FEES:

x ___ Conditional Use Review ($100.00) (Please submit a separate application for the applicable site plan review. Fees and charges are listed within the application)	The City invoices separately for the following: • Notices ($.75 each) • Legal Ad (% of total Ad) • Planning Review ($50.00 hour) • Legal Review ($75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.

INSTRUCTIONS FOR ELECTRONIC SUBMISSION:

Please refer to the application checklist (attached) for a detailed list of submission requirements.

1. Fill out the application completely and e-mail the **application only** to planning@portlandmaine.gov (Please be sure to designate a person who will be responsible for uploading documents and drawings.) This step will generate the project ID number for your project.

2. An invoice for the application fee will be e-mail to you. Payments can be made on-line at Pay Your Invoice , by mail or in person at City Hall, 4th Floor. Please reference the Application Number when submitting your payment which is located in the upper left hand corner of the invoice.

3. The designated person responsible for uploading documents and drawings will receive an email from eplan@portlandmaine.gov with an invitation into the project. At this time, you will upload all corresponding documents and plans into the project. For first time users you will receive a temporary password which you must change on entry. Make note of your username and password for any future projects.

Reminder: Before the project can move forward, the application fee shall be paid in full and all required documents and drawings shall be uploaded into e-plan correctly.

4. Follow the link below (Applying Online Instructions) for step by step instructions on how to do the following:
   Tab 1 - Setting up the appropriate compatibility settings for your PC and getting started in e-plan.
   Tab 2 - Preparing your drawings, documents and photos for uploading using the correct naming conventions
   Tab 3 - Preparing and uploading revised drawings and documents

   Applying Online Instructions

5. When ready, upload your files and documents into the following folders:
   "Application Submittal – Drawings"
   "Application Submittal – Documents"

6. Once a preliminary check has been made of the submittal documents and drawings, staff will move them to permanent folders labeled Drawings and Documents. As the process evolves you will be able to log in and see markups, comments and upload revisions as requested into these folders.

Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST
x		1	Completed Application Form
x		1	Cover letter stating the nature of the project.
x		1	Evidence of right, title and interest.
x		1	Written Submittals that address the conditional use standards of Sec. 14-474.
x		1	Written submittals that address any applicable standards of review contained in the zoning code for the specific use.
x		1	A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet and containing the information required for the applicable level of site plan review.
x		1	An accompanying site plan application, as applicable.

APPLICANT SIGNATURE:

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Conditional Use. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	Date:
	6/7/18

CONDITIONAL USE STANDARDS AND CONDITIONS – 14-474

Address the following criteria in your written application and any applicable conditional use standards contained in the zoning code for the specific use. Upon showing that a proposed use is a conditional use under this article, a conditional use permit shall be granted unless the Board determines that:

a. The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone; and
   The addition of drive through to a permitted restaurant in the B2 zone will not create a substantial change in the use of the property. Currently, the applicant is operating the use on an adjacent parcel in the same zone. The current use of the parcel is a sit-down restaurant. This parcel will provide for a longer queueing distance on the parcel, and for traffic to be directed onto St. John Street instead of Valley Street, which is where the traffic is currently be directed by the proposed use which is currently located on an adjacent parcel. The scale of the building and parking area on the site will decrease from the existing conditions on the site. A traffic movement is currently under review by City under a TMP application.
b. The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter; and
   The proposed use will not create unsanitary or harmful conditions on the site. There will be no discernable change in the noise generated by the use on the site from the existing. Sewage disposal will be through the use of the existing City of Portland system located on St. John Street. Glare, dust, emissions, odor, lighting and litter will not diminish from the existing use of the site as a sit-down restaurant to the proposed use of a drive through restaurant. The applicant will maintain the site to corporate standards.
c. The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.
   Overall the use is similar to the permitted use of a restaurant in the B2 zone, and is surrounded by similar uses on adjacent parcels, as well as across St. John Street. The reconfiguration of traffic movement will redirect existing traffic that is currently on Valley Street, to St. John Street. The residences on the opposite side of Valley Street will encounter less traffic generated by the use on the street.

CONDITIONAL USE STANDARDS AND CONDITIONS – 14-183

Drive-throughs: Notwithstanding section 14- 474(a)of this article or any other provision of this code, the Planning Board shall be substituted for the Board of Appeals as the reviewing authority and shall apply the following standards in addition to the provisions of section 14-474:

a. Location of Drive-throughs: Features, such as windows, vacuum cleaners and menu/order boards, stacking lanes, must be placed, where practicable, to the side and rear of the principal building except where such placement will be detrimental to an adjacent residential zone or use, and shall be located no nearer than forty (40) feet from any adjoining property located in a residential zone. This distance shall be measured from the outermost edge of the outside drive-through feature to such property line. In addition, drive-through features shall not extend nearer than twenty-five (25) feet

to the street line. The site must have adequate stacking capacity for vehicles waiting to use these service features without impeding vehicular circulation or creating hazards to vehicular circulation on adjoining streets.

See previously submitted site plans. All of the dimensional standards set forth have been met.

b. Noise: Any speakers, intercom systems, or other audible means of communication shall not play prerecorded messages. Any speakers, intercom systems, audible signals, computer prompts, or other noises generated by the drive-through services or fixtures shall not exceed 55 dB or shall be undetectable above the ambient noise level as measured by a noise meter at the property line, whichever is greater.

The intercom system can be set to a specific level and will be set to the allowable limit in the zone.

c. Lighting: Drive-through facilities shall be City of Portland Land Use Code of Ordinances Chapter 14 Sec. 14-183 Rev. 3-20-2017 14-258 designed so that site and vehicular light sources shall not unreasonably spill over or be directed onto adjacent residential properties and shall otherwise conform to the lighting standards set forth in 14-526.

As shown on the site plans, a row of planting will be located on the Valley Street frontage of the parcel, to prevent spill over of vehicular light sources to the residential properties located across the street.

d. Screening and Enclosure: Where automobiles may queue, waiting for drive-through services, their impacts must be substantially mitigated to protect adjacent residential properties from headlight glare, exhaust fumes, noise, etc. As deemed necessary by the reviewing authority, mitigation measures shall consist of installation of solid fencing with landscaping along any residential property line which is exposed to the drive-through or the enclosure of the drive-through fixtures and lanes so as to buffer abutting residential properties and to further contain all associated impacts; and

As shown on the site plans, a row of planting will be located on the Valley Street frontage of the parcel, to prevent spillover of vehicular light sources to the residential properties located across the street.

e. Pedestrian access: Drive-through lanes shall be designed and placed to minimize crossing principal pedestrian access-ways or otherwise impeding pedestrian access.

The drive through lanes are primarily located to the rear of the site, with no parking located on the outside of the lanes from the building. There is parking located on the same side of the building as the drive through window but does not necessitate a pedestrian passing through the drive through queue.

f. Hours of Operation: The Board, as part of its review, may take into consideration the impact hours of operation may have on adjoining uses.

The proposed hours of operation will be similar to adjacent uses that exist along both sides of St. John Street.

D-Series Size 0
LED Area Luminaire

Catalog Number

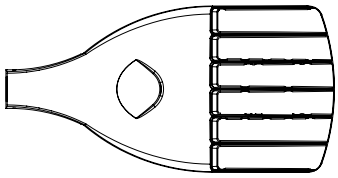
Notes

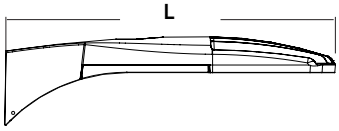
Type

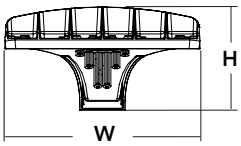
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	0.95 ft² (.09 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)







A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBXD

DSX0 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P4 P7 P2 P5 P3 P6 **Rotated optics** P10[1] P12[1] P11[1] P13[1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted[2]	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control[2,3] LCCO Left corner cutoff[2,3] RCCO Right corner cutoff[2,3]	MVOLT[4,5] 120[6] 208[5,6] 240[5,6] 277[6] 347[5,6,7] 480[5,6,7]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor[8] RPUMBA Round pole universal mounting adaptor[8] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[9]

Control options

Shipped installed

NLTAIR2	nLight AIR generation 2 enabled[10]
PER	NEMA twist-lock receptacle only (control ordered separate)[11]
PER5	Five-wire receptacle only (control ordered separate)[11,12]
PER7	Seven-wire receptacle only (control ordered separate)[11,12]
DMG	0-10V dimming extend out back of housing for external control (control ordered separate)
PIR	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[5,13,14]
PIRH	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[5,13,14]
PIRHN	Network, Bi-Level motion/ambient sensor[15]
PIR1FC3V	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[5,13,14]
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[5,13,14]
BL30	Bi-level switched dimming, 30%[5,16,17]
BL50	Bi-level switched dimming, 50%[5,16,17]
PNMTDD3	Part night, dim till dawn[5,18]
PNMT5D3	Part night, dim 5 hrs[5,18]
PNMT6D3	Part night, dim 6 hrs[5,18]
PNMT7D3	Part night, dim 7 hrs[5,18]
FAO	Field adjustable output[19]

Other options

Shipped installed

HS	House-side shield[20]
SF	Single fuse (120, 277, 347V)[6]
DF	Double fuse (208, 240, 480V)[6]
L90	Left rotated optics[1]
R90	Right rotated optics[1]
DDL	Diffused drop lens[20]

Shipped separately

BS	Bird spikes[21]
EGS	External glare shield[21]

Finish *(required)*

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white

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Ordering Information

Accessories

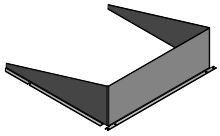
Ordered and shipped separately.

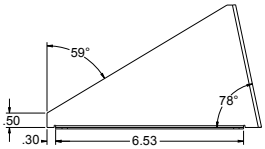
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [22]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [22]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [22]
DSHORT SBK U	Shorting cap [22]
DSX0HS 20C U	House-side shield for 20 LED unit [20]
DSX0HS 30C U	House-side shield for 30 LED unit [20]
DSX0HS 40C U	House-side shield for 40 LED unit [20]
DSX0DDL U	Diffused drop lens (polycarbonate) [20]
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) [23]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [8]

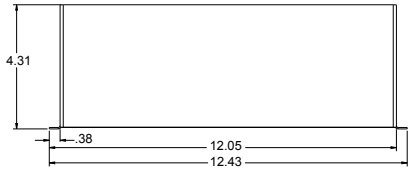
For more control options, visit DTL and ROAM online.

NOTES
1 P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
2 AMBPC is not available with BLC, LCCO, RCCO, P4, P7 or P13.
3 Not available with HS or DDL.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
7 Not available in P4, P7 or P13. Not available with BL30, BL50 or PNMT options.
8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
9 Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
10 Must be ordered with PIRHN.
11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
12 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
13 Reference Motion Sensor table on page 3.
14 Reference PER Table on page 3 to see functionality.
15 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
16 Requires (2) separately switched circuits.
17 Not available with 347V, 480V or PNMT. For PER5 or PER7 see PER Table on page 3. Requires isolated neutral.
18 Not available with 347V, 480V, BL30 and BL50. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
19 Not available with other dimming controls options.
20 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
21 Must be ordered with fixture for factory pre-drilling.
22 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
23 For retrofit use only.

External Glare Shield

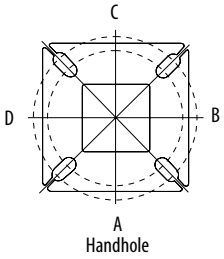




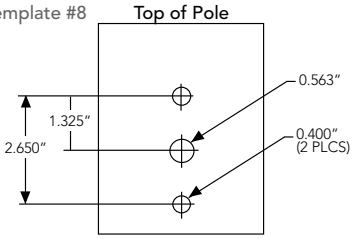


Drilling

HANDHOLE ORIENTATION



Template #8



Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

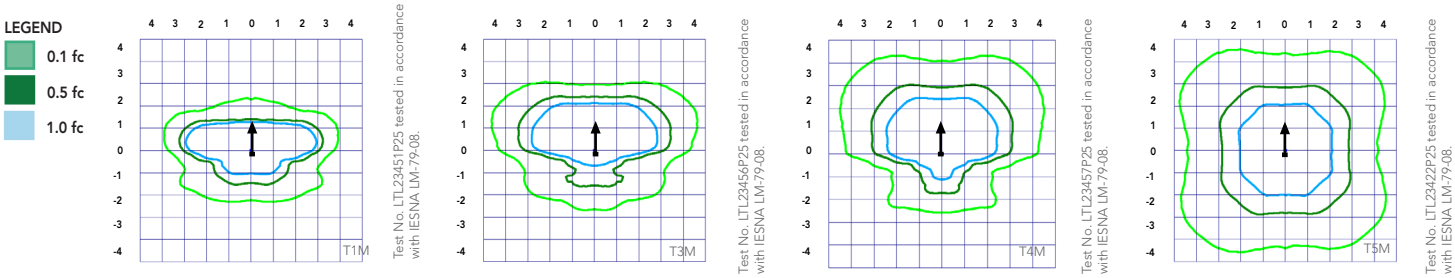
Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D
Note: Review luminaire spec sheet for specific nomenclature					

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N
					*3 fixtures @120 require round pole top/tenon.			

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 0 homepage.

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



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Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	25000	50000	100000
Lumen Maintenance Factor	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A)					
					120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use with Inline Dusk to Dawn or timer.						

PER Table						
Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
			Wire 4/Wire5		Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✔	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	⊘	✔	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	⚠	Wires Capped inside fixture	⚠	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	⊘	⚠	Wired to dimming leads on driver	✔	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	⊘	⚠	Wires Capped inside fixture	✔	Wires Capped inside fixture	Wires Capped inside fixture

✔ Recommended
⊘ Will not work
⚠ Alternate

*Future-proof means: Ability to change controls in the future.

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
20	530	**P1**	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125	2,541	1	0	1	73
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125	2,589	1	0	1	74
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126	2,539	1	0	1	73
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122	2,558	1	0	1	73
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126	2,583	1	0	1	74
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123	2,570	1	0	1	73
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126	2,540	1	0	1	73
				T5VS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131	2,650	1	0	0	76
				T5S	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131	2,690	1	0	0	77
				T5M	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130	2,658	2	0	0	76
				T5W	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131	2,663	2	0	1	73
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103					
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77					
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77					
20	700	**P2**	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124	3,144	1	0	1	70
				T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124	3,203	1	0	1	71
				T2M	5,593	1	0	1	114	6,025	1	0	1	123	6,102	1	0	1	125	3,141	1	0	1	70
				T3S	5,417	1	0	2	111	5,835	1	0	2	119	5,909	2	0	2	121	3,165	1	0	1	70
				T3M	5,580	1	0	2	114	6,011	1	0	2	123	6,087	1	0	2	124	3,196	1	0	1	71
				T4M	5,458	1	0	2	111	5,880	1	0	2	120	5,955	1	0	2	122	3,179	1	0	1	71
				TFTM	5,576	1	0	2	114	6,007	1	0	2	123	6,083	1	0	2	124	3,143	1	0	1	70
				T5VS	5,799	2	0	0	118	6,247	2	0	0	127	6,327	2	0	0	129	3,278	2	0	0	73
				T5S	5,804	2	0	0	118	6,252	2	0	0	128	6,332	2	0	1	129	3,328	2	0	0	74
				T5M	5,789	3	0	1	118	6,237	3	0	1	127	6,316	3	0	1	129	3,288	2	0	1	73
				T5W	5,834	3	0	2	119	6,285	3	0	2	128	6,364	3	0	2	130	3,295	2	0	1	73
				BLC	4,572	1	0	1	93	4,925	1	0	1	101	4,987	1	0	1	102					
				LCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76					
				RCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76					
20	1050	**P3**	71W	T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120					
				T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120					
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121					
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117					
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121					
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118					
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120					
				T5VS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125					
				T5S	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125					
				T5M	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125					
				T5W	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126					
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99					
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73					
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73					
20	1400	**P4**	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116					
				T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116					
				T2M	9,831	2	0	2	107	10,590	2	0	2	115	10,724	2	0	2	117					
				T3S	9,521	2	0	2	103	10,256	2	0	2	111	10,386	2	0	2	113					
				T3M	9,807	2	0	2	107	10,565	2	0	2	115	10,698	2	0	2	116					
				T4M	9,594	2	0	2	104	10,335	2	0	3	112	10,466	2	0	3	114					
				TFTM	9,801	2	0	2	107	10,558	2	0	2	115	10,692	2	0	2	116					
				T5VS	10,193	3	0	1	111	10,981	3	0	1	119	11,120	3	0	1	121					
				T5S	10,201	3	0	1	111	10,990	3	0	1	119	11,129	3	0	1	121					
				T5M	10,176	4	0	2	111	10,962	4	0	2	119	11,101	4	0	2	121					
				T5W	10,254	4	0	3	111	11,047	4	0	3	120	11,186	4	0	3	122					
				BLC	8,036	1	0	2	87	8,656	1	0	2	94	8,766	1	0	2	95					
				LCCO	5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71					
					5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71					

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	700	**P5**	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133					
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133					
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133					
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129					
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133					
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130					
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133					
				T5VS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138					
				T5S	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138					
				T5M	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138					
				T5W	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139					
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109					
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
40	1050	**P6**	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121	6,206	2	0	2	68
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120	6,322	2	0	2	69
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121	6,201	2	0	2	68
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117	6,247	1	0	2	69
				T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121	6,308	2	0	2	69
				T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118	6,275	1	0	2	69
				TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121	6,203	1	0	2	68
				T5VS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125	6,671	2	0	0	73
				T5S	15,426	3	0	1	115	16,618	4	0	1	124	16,828	4	0	1	126	6,569	2	0	0	72
				T5M	15,387	4	0	2	115	16,576	4	0	2	124	16,786	4	0	2	125	6,491	3	0	1	71
				T5W	15,506	4	0	3	116	16,704	4	0	3	125	16,915	4	0	3	126	6,504	3	0	2	71
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99					
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
40	1300	**P7**	166W	T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112					
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112					
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112					
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109					
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112					
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110					
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112					
				T5VS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116					
				T5S	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117					
				T5M	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116					
				T5W	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117					
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92					
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					
					10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	**P10**	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138					
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138					
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140					
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136					
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140					
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137					
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141					
				T5VS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142					
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141					
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141					
				T5W	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139					
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116					
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83					
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83					
30	700	**P11**	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130					
				T2S	8,545	3	0	3	119	9,205	3	0	3	128	9,322	3	0	3	129					
				T2M	8,699	3	0	3	121	9,371	3	0	3	130	9,490	3	0	3	132					
				T3S	8,412	3	0	3	117	9,062	3	0	3	126	9,177	3	0	3	127					
				T3M	8,694	3	0	3	121	9,366	3	0	3	130	9,484	3	0	3	132					
				T4M	8,530	3	0	3	118	9,189	3	0	3	128	9,305	3	0	3	129					
				TFTM	8,750	3	0	3	122	9,427	3	0	3	131	9,546	3	0	3	133					
				T5VS	8,812	3	0	0	122	9,493	3	0	0	132	9,613	3	0	0	134					
				T5S	8,738	3	0	1	121	9,413	3	0	1	131	9,532	3	0	1	132					
				T5M	8,736	3	0	2	121	9,411	3	0	2	131	9,530	3	0	2	132					
				T5W	8,657	4	0	2	120	9,326	4	0	2	130	9,444	4	0	2	131					
				BLC	7,187	3	0	3	100	7,742	3	0	3	108	7,840	3	0	3	109					
				LCCO	5,133	1	0	2	71	5,529	1	0	2	77	5,599	1	0	2	78					
				RCCO	5,126	3	0	3	71	5,522	3	0	3	77	5,592	3	0	3	78					
30	1050	**P12**	104W	T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127					
				T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127					
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129					
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125					
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129					
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126					
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130					
				T5VS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131					
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130					
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130					
				T5W	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128					
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107					
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76					
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76					
30	1300	**P13**	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123					
				T2S	14,355	4	0	4	112	15,465	4	0	4	121	15,660	4	0	4	122					
				T2M	14,614	3	0	3	114	15,744	4	0	4	123	15,943	4	0	4	125					
				T3S	14,132	4	0	4	110	15,224	4	0	4	119	15,417	4	0	4	120					
				T3M	14,606	4	0	4	114	15,735	4	0	4	123	15,934	4	0	4	124					
				T4M	14,330	4	0	4	112	15,438	4	0	4	121	15,633	4	0	4	122					
				TFTM	14,701	4	0	4	115	15,836	4	0	4	124	16,037	4	0	4	125					
				T5VS	14,804	4	0	1	116	15,948	4	0	1	125	16,150	4	0	1	126					
				T5S	14,679	3	0	1	115	15,814	3	0	1	124	16,014	3	0	1	125					
				T5M	14,676	4	0	2	115	15,810	4	0	2	124	16,010	4	0	2	125					
				T5W	14,544	4	0	3	114	15,668	4	0	3	122	15,866	4	0	3	124					
				BLC	7919	3	0	3	62	8531	3	0	3	67	8639	3	0	3	67					
				LCCO	5145	1	0	2	40	5543	1	0	2	43	5613	1	0	2	44					
					5139	3	0	3	40	5536	3	0	3	43	5606	3	0	3	44					

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FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS
UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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D-Series Size 1
LED Wall Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

d-series

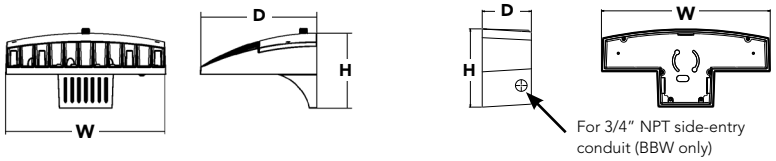
Specifications

Luminaire

Width:	13-3/4" (34.9 cm)	**Weight:**	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)		
Height:	6-3/8" (16.2 cm)		

Back Box (BBW, ELCW)

Width:	13-3/4" (34.9 cm)	**BBW Weight:**	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	**ELCW Weight:**	10 lbs (4.5 kg)
Height:	6-3/8" (16.2 cm)		



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED

Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines) [1]	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A) [1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium ASYDF Asymmetric diffuse	MVOLT [2] 120 [3] 208 [3] 240 [3] 277 [3] 347 [3,4] 480 [3,4]	**Shipped included** (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) [5]	**Shipped installed** PE Photoelectric cell, button type [6] DMG 0-10V dimming driver (no controls; wires pulled outside fixture)) PIR 180° motion/ambient light sensor, <15' mtg ht [1,7] PIRH 180° motion/ambient light sensor, 15-30' mtg ht [1,7] PIR1FC3V Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc [1,7] PIRH1FC3V Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc [1,7] ELCW Emergency battery backup (includes external component enclosure), non CEC compliant [8]

Other Options

Shipped installed

SF	Single fuse (120, 277 or 347V) [3,9]
DF	Double fuse (208, 240 or 480V) [3,9]
HS	House-side shield [10]
SPD	Separate surge protection

Shipped separately [10]

BSW	Bird-deterrent spikes
WG	Wire guard
VG	Vandal guard
DDL	Diffused drop lens

Finish *(required)*

DDBXD	Dark bronze	DSSXD	Sandstone	DWHGXD	Textured white
DBLXD	Black	DDBTXD	Textured dark bronze	DSSTXD	Textured sandstone
DNAXD	Natural aluminum	DBLBXD	Textured black		
DWHXD	White	DNATXD	Textured natural aluminum		

Accessories

Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXW1WG U	Wire guard accessory
DSXW1VG U	Vandal guard accessory

NOTES

1 20C 1000 is not available with PIR, PIRH, PIR1FC3V or PIRH1FC3V.
2 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
4 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
5 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
6 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
7 Reference Motion Sensor table on page 3.
8 Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
9 Not available with ELCW.
10 Also available as a separate accessory; see Accessories information.

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70CRI)					40K (4000 K, 70CRI)					50K (5000 K, 70CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	350mA	13W	T2S	1,415	0	0	1	109	1,520	0	0	1	117	1,530	0	0	1	118	894	0	0	1	69
			T2M	1,349	0	0	1	104	1,448	0	0	1	111	1,458	0	0	1	112	852	0	0	1	66
			T3S	1,399	0	0	1	108	1,503	0	0	1	116	1,512	0	0	1	116	884	0	0	1	68
			T3M	1,385	0	0	1	107	1,488	0	0	1	114	1,497	0	0	1	115	876	0	0	1	67
			T4M	1,357	0	0	1	104	1,458	0	0	1	112	1,467	0	0	1	113	858	0	0	1	66
			TFTM	1,411	0	0	1	109	1,515	0	0	1	117	1,525	0	0	1	117	892	0	0	1	69
			ASYDF	1,262	1	0	1	97	1,354	1	0	1	104	1,363	1	0	1	105	797	0	0	1	61
	530 mA	19W	T2S	2,053	1	0	1	108	2,205	1	0	1	116	2,220	1	0	1	117	1,264	0	0	1	67
			T2M	1,957	1	0	1	103	2,102	1	0	1	111	2,115	1	0	1	111	1,205	0	0	1	63
			T3S	2,031	1	0	1	107	2,181	1	0	1	115	2,194	1	0	1	115	1,250	0	0	1	66
			T3M	2,010	1	0	1	106	2,159	1	0	1	114	2,172	1	0	1	114	1,237	0	0	1	65
			T4M	1,970	1	0	1	104	2,115	1	0	1	111	2,129	1	0	1	112	1,212	0	0	1	64
			TFTM	2,047	0	0	1	108	2,198	1	0	1	116	2,212	1	0	1	116	1,260	0	0	1	66
			ASYDF	1,831	1	0	1	96	1,966	1	0	1	103	1,978	1	0	1	104	1,127	0	0	1	59
	700 mA	26W	T2S	2,623	1	0	1	101	2,816	1	0	1	108	2,834	1	0	1	109	1,544	0	0	1	59
			T2M	2,499	1	0	1	96	2,684	1	0	1	103	2,701	1	0	1	104	1,472	0	0	1	57
			T3S	2,593	1	0	1	100	2,785	1	0	1	107	2,802	1	0	1	108	1,527	0	0	1	59
			T3M	2,567	1	0	1	99	2,757	1	0	1	106	2,774	1	0	1	107	1,512	0	0	1	58
			T4M	2,515	1	0	1	97	2,701	1	0	1	104	2,718	1	0	1	105	1,481	0	0	1	57
			TFTM	2,614	1	0	1	101	2,808	1	0	1	108	2,825	1	0	1	109	1,539	0	0	1	59
			ASYDF	2,337	1	0	1	90	2,510	1	0	1	97	2,525	1	0	1	97	1,376	1	0	1	53
	1000 mA	39W	T2S	3,685	1	0	1	94	3,957	1	0	1	101	3,982	1	0	1	102	2,235	1	0	1	57
			T2M	3,512	1	0	1	90	3,771	1	0	1	97	3,794	1	0	1	97	2,130	1	0	1	55
			T3S	3,644	1	0	1	93	3,913	1	0	1	100	3,938	1	0	1	101	2,210	1	0	1	57
			T3M	3,607	1	0	1	92	3,873	1	0	1	99	3,898	1	0	1	100	2,187	1	0	1	56
			T4M	3,534	1	0	2	91	3,796	1	0	2	97	3,819	1	0	2	98	2,143	1	0	1	55
			TFTM	3,673	1	0	1	94	3,945	1	0	1	101	3,969	1	0	1	102	2,228	1	0	1	57
			ASYDF	3,284	1	0	2	84	3,527	1	0	2	90	3,549	1	0	2	91	1,992	1	0	1	51
20C (20 LEDs)	350mA	23W	T2S	2,820	1	0	1	123	3,028	1	0	1	132	3,047	1	0	1	132	1,777	1	0	1	77
			T2M	2,688	1	0	1	117	2,886	1	0	1	125	2,904	1	0	1	126	1,693	1	0	1	74
			T3S	2,789	1	0	1	121	2,994	1	0	1	130	3,014	1	0	1	131	1,757	0	0	1	76
			T3M	2,760	1	0	1	120	2,965	1	0	1	129	2,983	1	0	1	130	1,739	1	0	1	76
			T4M	2,704	1	0	1	118	2,905	1	0	1	126	2,922	1	0	1	127	1,704	1	0	1	74
			TFTM	2,811	1	0	1	122	3,019	1	0	1	131	3,038	1	0	1	132	1,771	0	0	1	77
			ASYDF	2,514	1	0	1	109	2,699	1	0	1	117	2,716	1	0	1	118	1,584	1	0	1	69
	530 mA	35W	T2S	4,079	1	0	1	117	4,380	1	0	1	125	4,407	1	0	1	126	2,504	1	0	1	72
			T2M	3,887	1	0	1	111	4,174	1	0	1	119	4,201	1	0	1	120	2,387	1	0	1	68
			T3S	4,033	1	0	1	115	4,331	1	0	1	124	4,359	1	0	1	125	2,477	1	0	1	71
			T3M	3,993	1	0	2	114	4,288	1	0	2	123	4,315	1	0	2	123	2,451	1	0	1	70
			T4M	3,912	1	0	2	112	4,201	1	0	2	120	4,227	1	0	2	121	2,402	1	0	1	69
			TFTM	4,066	1	0	2	116	4,366	1	0	2	125	4,394	1	0	2	126	2,496	1	0	1	71
			ASYDF	3,636	1	0	2	104	3,904	1	0	2	112	3,928	1	0	2	112	2,232	1	0	1	64
	700 mA	46W	T2S	5,188	1	0	1	113	5,572	1	0	1	121	5,607	1	0	1	122	3,065	1	0	1	67
			T2M	4,945	1	0	2	108	5,309	1	0	2	115	5,343	1	0	2	116	2,921	1	0	1	64
			T3S	5,131	1	0	2	112	5,510	1	0	2	120	5,544	1	0	2	121	3,031	1	0	1	66
			T3M	5,078	1	0	2	110	5,454	1	0	2	119	5,487	1	0	2	119	3,000	1	0	1	65
			T4M	4,975	1	0	2	108	5,343	1	0	2	116	5,376	1	0	2	117	2,939	1	0	1	64
			TFTM	5,172	1	0	2	112	5,554	1	0	2	121	5,589	1	0	2	122	3,055	1	0	1	66
			ASYDF	4,624	1	0	2	101	4,965	1	0	2	108	4,996	1	0	2	109	2,732	1	0	1	59
	1000 mA	73W	T2S	7,204	1	0	2	99	7,736	2	0	2	106	7,784	2	0	2	107	4,429	1	0	1	61
			T2M	6,865	1	0	2	94	7,373	2	0	2	101	7,419	2	0	2	102	4,221	1	0	1	58
			T3S	7,125	1	0	2	98	7,651	1	0	2	105	7,698	1	0	2	105	4,380	1	0	1	60
			T3M	7,052	1	0	2	97	7,573	2	0	2	104	7,620	2	0	2	104	4,335	1	0	2	59
			T4M	6,909	1	0	2	95	7,420	1	0	2	102	7,466	1	0	2	102	4,248	1	0	2	58
			TFTM	7,182	1	0	2	98	7,712	1	0	2	106	7,761	1	0	2	106	4,415	1	0	2	60
			ASYDF	6,421	2	0	2	88	6,896	2	0	3	94	6,938	2	0	3	95	3,947	1	0	2	54

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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	24 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	0.15	0.11
	1000	74 W	0.69	0.40	0.35	0.30	0.23	0.17

Motion Sensor Default Settings

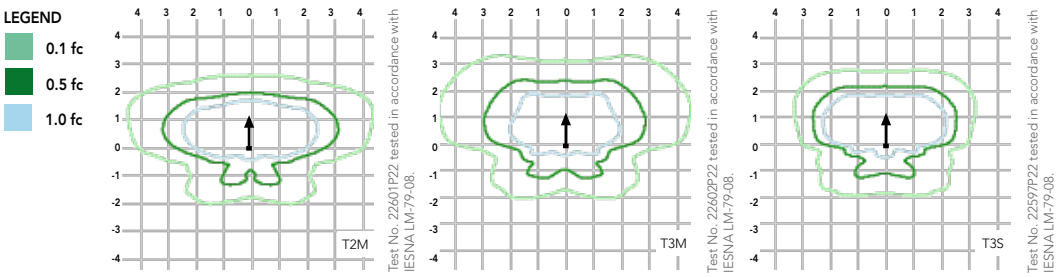
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
*PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer

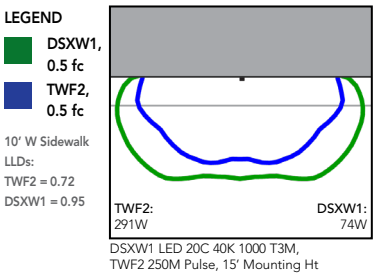
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 1 homepage.

Isofootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').



Distribution overlay comparison to 250W metal halide.



DSXW1 LED 20C 40K 1000 T3M, TWF2 250M Pulse, 15' Mounting Ht

Options and Accessories

T3M (left), ASYDF (right) lenses

HS - House-side shields

BSW - Bird-deterrent spikes

WG - Wire guard

VG - Vandal guard

DDL - Diffused drop lens

FEATURES & SPECIFICATIONS

INTENDED USE

The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION

Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000 K (70 min. CRI), 4000 K (70 min. CRI) or 5000 K (70 min. CRI) configurations.

ELECTRICAL

Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION

Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS

CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY

Five-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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Plymouth Engineering, Inc.

P.O. Box 46 - 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
tel: (207) 257-2071 fax: (207) 257-2130

July 9, 2018 Job #: 17140

I, Jon H. Whitten, Jr., project manager at Plymouth Engineering, hereby certify that a neighborhood meeting was held on July 6, 2018, at King Middle School at 5:00 PM.

I also certify that on June 22, 2018, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1,000 feet of a proposed industrial subdivision or industrial zone change.

2. Residents on the "interested parties" list.

3. A digital copy of the notice was also provided to the Planning Division (jym@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive e-mail notices.

Signed,

7/9/2018 (date)

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

Plymouth Engineering, Inc.

P.O. Box 46 - 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
tel: (207) 257-2071 fax: (207) 257-2130

June 22, 2018 Job #: 17140

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a Dunkin' Donuts drive-thru restaurant located at 325 St. John Street, Portland, Maine.

Meeting Location: King Middle School, 92 Deering Avenue, Portland, ME

Meeting Date: Friday, July 6, 2018

Meeting Time: 5:00 PM

The City code requires that property owners within 500 feet (1,000 feet for proposed industrial subdivisions and industrial zone changes) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.

If you have any questions, please call (207) 257-2071.

Sincerely,

PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., PE
Sr. Project Manager

Note:
Under Section 14-32(C) and 14-524(a)d of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within 30 days of submitting a preliminary application or 21 days of submitting a final site plan application, if a preliminary plan was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101 or by email to: bab@portlandmaine.gov.

SIGN IN SHEET
NEIGHBORHOOD MEETING
325 ST JOHN ST DUNKIN DONUTS DRIVE THRU
July 6, 2018

NAME	ADDRESS	TEL
Terry Morrison	939 Congress	207-773-6481
TFMorrison16@MSN.com		

Plymouth Engineering, Inc.

P.O. Box 46 - 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

July 9, 2018

Meeting Minutes
Neighborhood Meeting
For
Proposed Dunkin' Donuts at
325 St. John Street, Portland

Meeting Date:	July 6, 2018
Meeting Time:	5:00 PM
Meeting Location:	King Middle School Library
Meeting Conducted by:	Jon Whitten, Jr., P.E. of Plymouth Engineering, Inc.
Minutes Prepared by:	Jon Whitten, Jr., P.E. of Plymouth Engineering, Inc.

Number of people in attendance: 1

Meeting Started at 5:00 PM. One person, Terry Morrison of the Inn at St. John Street (939 Congress Street, Portland) arrived at approximately 5:10 PM and was the only person from the public in attendance. Mr. Morrison asked if the proposed development could retain/add some parking spaces along the Valley Street frontage so he could lease 8 to 10 parking spaces for his hotel business. He stated that he currently leases 10 spaces from the Lang's. (The Lang's currently operated a restaurant at 325 St. John Street and will be vacating the parcel upon approval of the Dunkin' Donuts project.) I told him I would contact the applicant and present his request to them. He thanked me and suggested that he was in favor of the project and liked the overall layout of the project. His only concern was the loss of the 10 spaces he has been using for his hotel.

Meeting adjourned at 5:35 PM.

Prepared by:
PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., P.E.
Senior Project Manager

Date: 7/11/2018
Job Name: St. John Street, Dunkin Donuts
Job #: 17140
Location: St. John Street, Portland

Treatment Levels for Redevelopment Projects

Land Use	Pollutant Ranking	Existing Area (sf)	Existing Points	Proposed Area (sf)	Proposed Points
Roads where idling may occur periodically due to traffic volume and intersections	5		0.00		0.00
High Use Parking Lots	5	19506	2.24	17317	1.99
Other roads	4		0.00		0.00
Medium Use parking lots	4		0.00		0.00
Other lots and driveways	3		0.00		0.00
flat asphalt rooftops	3	3406	0.23	2518	0.17
roofs on an industrial facility	3		0.00		0.00
other rooftops	2		0.00		0.00
bikeways, grassed area mowed more than twice per year	2	6550	0.30	8652	0.40
walkways/ foot traffic only pavement	2	777	0.04	1690	0.08
non-grass landscaped areas	1		0.00		0.00
storm water treatment, storage systems (except buffers)	1	0	0.00	62	0.00
forest	0		0.00		0.00
meadow mowed no more than twice per year	0		0.00		0.00
Total	30239	30239	2.81	30239	2.64

Net Increase
-0.17

FOCALPOINT #1

HIGH PERFORMANCE MODULAR BIOFILTRATION SYSTEM

St. John Street, Dunkin Donuts

MAINE – CHAPTER 500 DESIGN WORKSHEET/CHECKLIST

1. FocalPoint Bed Area (min 174 square feet per acre of impervious area (e.g. 0.2 acres = 35 sf))

- Tributary Impervious area = 0.057 ac. (A)
- Tributary Pervious area = 0.00 ac. (B)
- Min FocalPoint bed area req'd = (((A) x 1.0) + ((B) x 0.4)) * 174 = 10.06 sf.
- FocalPoint Bed Area provided * = 20 sf.
- Dimensions of Proposed FocalPoint = 4 ft x 5 ft

* see criteria 2. to determine if minimum size is appropriate.

2. A 0.95 inch Type III 24hr rainfall event shall be modelled to demonstrate the entire storm volume is treated prior to activation of the overflow (typically set at 6-12" above the mulch)

- Temporary storage depth provided = 4 inches (typ 6" to 12")
- Temporary storage volume provided at above depth = 4 cubic feet.
- Peak ponding depth from 0.95" 24hr storm event = 4 inches

3. Ratio of the surface area of the filter media (sf) to the temporary ponding volume (cf) shall be no less that 1:5

- Ratio of FocalPoint Bed Area : Temporary Storage Vol = 1 : 3

4. Subsurface Chamber Treatment Row must be sized to treat the peak flow from a 1 yr-24hr storm event.

- 1yr 24hr Peak Flowrate = 0.12 cfs
- Chamber model selected
  - Cultec 330 XLHD (1 chamber per 0.227 cfs) ☐
  - Cultec 150XLHD (1 chamber per 0.185 cfs) ☆

- Number of Chambers required = 1

5. Controlled release of the Channel Protection over 24-48 hrs (Not Applicable for this project)

- Controlled release of the channel protection volume is being achieved by:
  - Expanded subsurface storage basin with OCS ☐
  - Surface detention basin with OCS ☐

6. The Design shall be reviewed by the manufacturer's representative prior to submission and installation will be overseen by the manufacturer's representative.

- The Design has been reviewed by ACF Environmental ☐
- Engineer will coordinate installation inspection with ACF ☐

Contact ACF Environmental at 1800 448 3636 with any questions
or contact Rob Woodman – Senior Stormwater Engineer at rwoodman@acfenv.com

FOCALPOINT #2

HIGH PERFORMANCE MODULAR BIOFILTRATION SYSTEM

St. John Street, Dunkin Donuts

MAINE – CHAPTER 500 DESIGN WORKSHEET/CHECKLIST

1. FocalPoint Bed Area (min 174 square feet per acre of impervious area (e.g. 0.2 acres = 35 sf))

- Tributary Impervious area = 0.26 ac. (A)
- Tributary Pervious area = 0.00 ac. (B)
- Min FocalPoint bed area req'd = (((A) x 1.0) + ((B) x 0.4)) * 174 = 45.24 sf.
- FocalPoint Bed Area provided * = 45.5 sf.
- Dimensions of Proposed FocalPoint = 7 ft x 6.5 ft

* see criteria 2. to determine if minimum size is appropriate.

2. A 0.95 inch Type III 24hr rainfall event shall be modelled to demonstrate the entire storm volume is treated prior to activation of the overflow (typically set at 6-12" above the mulch)

- Temporary storage depth provided = 0 inches (typ 6" to 12")
- Temporary storage volume provided at above depth = 0 cubic feet.
- Peak ponding depth from 0.95" 24hr storm event = 0 inches

3. Ratio of the surface area of the filter media (sf) to the temporary ponding volume (cf) shall be no less that 1:5

- Ratio of FocalPoint Bed Area : Temporary Storage Vol = 1 : 4

4. Subsurface Chamber Treatment Row must be sized to treat the peak flow from a 1 yr-24hr storm event.

- 1yr 24hr Peak Flowrate = 0.40 cfs
- Chamber model selected
  - Cultec 330 XLHD (1 chamber per 0.227 cfs) ☐
  - Cultec 150XLHD (1 chamber per 0.185 cfs) ☒

- Number of Chambers required = 3

5. Controlled release of the Channel Protection over 24-48 hrs (Not Applicable for this project)

- Controlled release of the channel protection volume is being achieved by:
  - Expanded subsurface storage basin with OCS ☐
  - Surface detention basin with OCS ☐

6. The Design shall be reviewed by the manufacturer's representative prior to submission and installation will be overseen by the manufacturer's representative.

- The Design has been reviewed by ACF Environmental ☐
- Engineer will coordinate installation inspection with ACF ☐

Contact ACF Environmental at 1800 448 3636 with any questions
or contact Rob Woodman – Senior Stormwater Engineer at rwoodman@acfenv.com

HOUSEKEEPING PERFORMANCE STANDARDS
FOR:
Dunkin Donuts
325 St. John Street, Portland, Maine

Land Owner: **Dunkin' Brands, Inc.**
130 Royall Street
Canton, MA 02021
Tel: 617-510-4543

Project Developer: **Dunkin' Brands, Inc.**

Responsible Party: **Dunkin' Brands, Inc.**

Prepared By: **Plymouth Engineering, Inc.**
PO Box 46
Plymouth, ME 04969
Tel: 207-257-2071 email: info@plymouthengineering.com

Introduction:
The owner/developer's contractor shall be responsible for maintaining proper housekeeping standards throughout the construction phase of the project. After the construction phase has been completed, the owner and/or operator of the project will be responsible.

Standards:
In accordance with the housekeeping performance standards required by MDEP chapter 500 stormwater regulations, the following standards shall be met:

1. **Spill prevention.** Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

2. **Groundwater protection.** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive sediment and dust.** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads

should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

4. **Debris and other materials.** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

   To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. **Excavation de-watering.** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

6. **Authorized Non-stormwater discharges.** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

   (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);

   (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);

   (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

   (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

(i) Foundation or footer drain-water where flows are not contaminated;

(j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));

(k) Potable water sources including waterline flushings; and

(l) Landscape irrigation.

7. **Unauthorized non-stormwater discharges .** The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

   (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

   (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;

   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

   (d) Toxic or hazardous substances from a spill or other release.

8. **Additional requirements.** Additional requirements may be applied on a site-specific basis.

MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES
FOR:
Dunkin Donuts
325 St. John Street, Portland, Maine

Land Owner: **Dunkin' Brands, Inc.**
130 Royall Street
Canton, MA 02021
Tel: 617-510-4543

Project Developer: **Dunkin' Brands, Inc.**

Responsible Party: **Dunkin' Brands, Inc.**

Plan Prepared by: **Plymouth Engineering, Inc.**
PO Box 46
Plymouth, ME 04969
Tel: 207-257-2071 Email: info@plymouthengineering.com

List of Stormwater Measures:
Vegetated Areas
Conveyance & Distribution System (Stormwater Channels & Culverts)
Roadways and Parking Surfaces
Runoff Filtration Systems

Introduction:
The **Responsible Party** of the project shall be responsible for the maintenance of all stormwater management measures/features, the establishment of any contract services required to implement the program, and the keeping of records and maintenance log book. In no way shall this document be construed to mean that the Responsible Party themselves are necessarily qualified to perform any of these duties. Records of all inspections and maintenance work accomplished must be kept on file and retained for a minimum 5-year time span. The maintenance log book will be made available to the MeDEP upon request. At a minimum, the appropriate and relevant activities for each of the stormwater management features will be performed on the prescribed schedule.

Inspection & Maintenance Tasks:
NOTE: The following instructions are excerpts from the Maine Department of Environmental Protection's *Stormwater Management for Maine, Volume III BMPs Technical Design Manual*, latest edition.

Vegetated Areas:

1. Inspect vegetated areas for vigorous growth. Re-seed areas of sparse growth, as needed.
2. Inspect all vegetated areas, especially sloped areas and embankments for signs of erosion. Erosion rills need to be repaired so as not to promote channelized flow and continued damage.
3. Fertilization of vegetated areas is not recommended for maintaining water quality.

Conveyance & Distribution Systems: (Stormwater Channels & Culverts, etc.)

1. **Mowing:** Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale (MPCA, 1989). The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality storm. A minimum mow height of 6 inches is generally recommended (Galli, 1993).
2. **Routine Maintenance and Inspection:** The area should be inspected for failures following heavy rainfall and repaired as necessary for newly formed channels or gullies, reseeding/ sodding of bare spots, removal of trash, leaves and/or accumulated sediments, the control of woody or other undesirable vegetation and to check the condition and integrity of the check dams.
3. **Aeration:** The buffer strip may require periodic mechanical aeration to restore infiltration capacity. This aeration must be done during a time when the area can be reseeded and mulched prior to any significant rainfall.
4. **Erosion:** It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench.
5. **Fertilization:** Routine fertilization and/or use of pesticides is strongly discouraged. If complete re-seeding is necessary, half the original recommended rate of fertilizer should be applied with a full rate of seed.
6. **Sediment Removal:** The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.
7. **Catch Basins**: All catch basins, and any other field inlets throughout the collection system, need to be inspected on a monthly basis to assure that the inlet entry point is clear of debris and will allow the intended water entry. At that time, these will be cleared, if necessary on a yearly basis or when sediment reaches two thirds of total volume. Catch basins need to be vacuumed and cleaned of all accumulated sediment. This work must be done by a vacuum truck under contract. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Roadways & Parking Surfaces:

Paved surfaces shall be swept or vacuumed at least twice annually in the Spring to remove all Winter sand, and periodically during the year on an as-needed basis to minimize transportation of sediment during rainfall events.

Runoff Filtration Systems:

1. **First Year Inspection:** During the first year, the basin will be inspected semi-annually and following major storm events. Mowing of a grassed basin can occur semi-annually to a height no less than 6 inches. Any bare area of erosion rills shall be repaired with new filter media or sandy loam then seeded and mulched. Maintaining good grass cover will minimize clogging with fine sediments and if ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity.

2. **Soil Filter Inspection:** The soil filter should be inspected after every storm in the first year to be sure it is functioning properly. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours following a one-inch storm or greater. IF the system drains too fast, an orifice may need to be added on the underdrain outlet or, if already present, may need to be modified.
3. **Soil Filter Replacement:** The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. The removed sediments should be disposed of in an acceptable manner.
4. **Sediment Removal:** Sediment and debris should be removed from the grass strip between the pavement and filter depression at least annually.
5. **Mowing:** If mowing is desired, only handheld string trimmers or push mowers are allowed on the filter (no tractor) and the grass bed should be mowed no more than 2 times per growing season to maintain grass heights of no less than 6 inches.
6. **Fertilization:** Fertilization of the underdrained soil filter area should be avoided unless absolutely necessary to established vegetation.
7. **Harvesting and Weeding:** Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary. Add new mulch only as necessary.

Task Frequency:

Table 11-1 Long-Term Inspection & Maintenance Plan	Spring	Fall or Yearly	After a Major Storm	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments	X		X	
Replant bare areas or areas with sparse growth	X		X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows. See Appendix A(5) of Rule.	X		X	
Stormwater Channels				
Inspect ditches, swales and other open stormwater channels	X	X	X	
Remove any obstructions and accumulated sediments or debris	X	X		
Control vegetated growth and woody vegetation		X		
Repair any erosion of the ditch lining		X		
Mow vegetated ditches		X		
Remove woody vegetation growing through riprap		X		
Repair any slumping side slopes		X		
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodge		X		
Culverts				
Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit	X	X	X	
Repair any erosion damage at the culvert's inlet and outlet	X	X	X	
Catch Basin Systems				
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins.	X			
Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such	X			
Roadways and Parking Surfaces				
Clear accumulated winter sand in parking lots and along roadways	X			
Sweep pavement to remove sediment	X			
Grade road shoulders and remove excess sand either manually or by a front-end loader	X			
Grade gravel roads and gravel shoulders	X			
Clean-out the sediment within water bars or open-top culverts	X			
Ensure that stormwater is not impeded by accumulations of material or false ditches in the shoulder	X			

Table 11-1
Long-Term Inspection & Maintenance Plan

	Spring	Fall or Yearly	After a Major Storm	Every 2-5 Years
Buffers				
Inspect treatment buffers for evidence of erosion, concentrated flow, or encroachment by development		X		
Manage the buffer's vegetation with the requirements in any deed restrictions		X		
Mow vegetation in non-wooded buffers no shorter than six inches and less than three times per year		X		
Repair any sign of erosion within a buffer		X		
Inspect and repair down-slope of all spreaders and turn-outs for erosion		X		
Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow		X		
Clean-out any accumulation of sediment within the spreader bays or turnout pools		X		
Stormwater Detention and Retention Facilities				
Inspect the embankments for settlement, slope erosion, internal piping, and downstream swamping. A professional engineer must review these immediately.		X	X	
Mow the embankment to control woody vegetation		X		
Inspect the outlet control structure for broken seals, obstructed orifices, and plugged trash racks		X	X	
Remove and dispose of sediments and debris within the control structure		X		
Repair any damage to trash racks or debris guards		X		
Mow vegetated spillways to control woody vegetation and replace any dislodged stone in riprap spillways		X		
Remove and dispose of accumulated sediments within the impoundment and forebay				X
Runoff Filtration Facilities				
Inspect and clean-out any pre-treatment measures that collect sediment and hydrocarbons entering an infiltration measure	X	X		
Provide for the removal and disposal of accumulated sediments within the filtration area				X
Renew the filter media if it fails to drain within 72 hours after a rainfall of one-inch or more				X
Till and replant the soil of vegetated filtration basins				X
Reconstruct rock-lined basins or stone-filled trenches by removing the stones, replacing new underlying filter fabric, and tilling or removing the underlying soil				X
Proprietary Treatment Devices (Not Applicable)				
Contract with a third-party for the removal of accumulated sediments, oils,and debris within the device and replacement of any absorptive filters.	The frequency of maintenance is established by the unit's storage capacity, the pollutant load and the manufacturer recommendations			
Other Practices and Measures				
Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.				

Maintenance Log Sheet:

Maintenance Log Sheet 325 St. John Street			
BMP's	**Date Inspected**	**Repairs Needed?**	**Date Repaired**
Example	3/11/18	Y	3/15/18
1. Vegetated Areas			
2. Stormwater Channels			
3. Culverts			
4. Catch Basins			
5. Roadways and Parking Surfaces			
6. Stormwater Detention and Retention Facilities			
7.			
8.			
9.			

Detailed Repair Notes:		
BMP Type	**Date**	**Description of Repair Made**
2	3/15/18	Sodded over eroded section (Example)

STORMWATER DRAINAGE SYSTEM
MAINTENANCE AGREEMENT

For SITE PLANS (THAT ARE NOT SUBDIVISIONS)

IN CONSIDERATION OF the site plan approval granted by the Planning Board/Planning Authority of the City of Portland to the proposed 325 St. John Street Dunkin Donuts, Project ID PL-000047-2018, and the associated Grading & Utility Plan (Exhibit A) submitted by Dunkin' Brands, Inc., prepared by Jon H. Whitten, Jr., PE, of Plymouth Engineering, Inc., PO Box 46, Plymouth, ME 04969, dated _____, and pursuant to a condition thereof, Dunkin' Brands, Inc., a Maine company with a principal place of business in Canton, Massachusetts, and having a mailing address of 130 Royall Street, Canton, MA 02021, the owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner"), as follows:

Maintenance Agreement

That it, its successors and assigns, will, at its own cost and expense and at all times in perpetuity, maintain in good repair and in proper working order the FocalPoint subsurface sand filter BMP systems (hereinafter collectively referred to as the "stormwater system"), as shown on the Grading & Utility Plan in Exhibit A and in strict compliance with the approved Maintenance Plan of Stormwater Management Facilities prepared for the Owner by Plymouth Engineering, Inc. (copy attached at Exhibit B) and Chapter 32 of the Portland City Code.

Owner of the subject premises further agrees, at its own cost, to keep a Stormwater Maintenance Log. Such log shall be made available for inspection by the City of Portland upon reasonable notice and request.

Said agreement is for the benefit of the said City of Portland and all persons in lawful possession of said premises and abutters thereto; further, that the said City of Portland and said persons in lawful possession may enforce this Agreement by an action at law or in equity in any court of competent jurisdiction; further, that after giving the Owner written notice and a stated time to perform, the said City of Portland, by its authorized agents or representatives, may, but is not obligated to, enter upon said premises to maintain, repair, or replace said stormwater system in the event of any failure or neglect thereof, the cost and expense thereof to be reimbursed in full to the said City of Portland by the Owner upon written demand. Any funds owed to the City under this paragraph shall be secured by a lien on the property.

This Agreement shall also not be construed to allow any change or deviation from the requirements of the site plan most recently and formally approved by the Planning Board/Planning Authority of the City of Portland.

This agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon the Owner's successors and assigns as their interests may from time to time appear.

The Owner agrees to record a copy of this Agreement in the Cumberland County Registry of Deeds within thirty (30) days of final execution of this Agreement. The Owner further agrees to provide a copy of this Agreement to any Condominium Association or management company, and to any successor or assign and to forward to the City an Addendum signed by any successor or assign in which the successor or assign states that the successor or assign has read the Agreement, agrees to all its terms and conditions and the successor or assign will obtain and forward to the City's Department of Public Services and Department of Planning and Urban Development a similar Addendum from any other successor or assign.

For the purpose of this agreement and release "Owner" is any person or entity who is a successor or assign and has a legal interest in part, or all, of the real estate and any building. The real estate shown by chart, block and lot number in the records on file in the City Assessor's office shall constitute "the property" that may be entered by the City and liened if the City is not paid all of its costs and charges following the mailing of a written demand for payment to the owner pursuant to the process and with the same force and effect as that established by 36 M.R.S.A. §§ 942 and 943 for real estate tax liens.

Any written notices or demands required by the agreement shall be complete on the date the notice is attached to one or more doors providing entry to any buildings and mailed by certified mail, return receipt requested or ordinary mail or both to the owner of record as shown on the tax roles on file in the City Assessor's Office.

If the property has more than one owner on the tax rolls, service shall be complete by mailing it to only the first listed owner. The failure to receive any written notice required by this agreement shall not prevent the City from entering the property and performing maintenance or repairs on the stormwater system, or any component thereof, or liening it or create a cause of action against the City.

Dated at Portland, Maine this _____ day of _____, 2018.

_____

(name of company)

_____

(representative of owner, name and title)

STATE OF MAINE

CUMBERLAND, ss. Date: _____

Personally appeared the above-named _____(name and title), and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me, _____

Notary Public/Attorney at Law

Print name: _____

Exhibit A: Approved Grading and Drainage Plan (name of the plan showing the Stormwater System in detail)

Exhibit B: Approved Stormwater Maintenance and Inspection Agreement

PROPOSED NEW DUNKIN' DONUTS
325 SAINT JOHN STREET
PORTLAND, MAINE

SECTIONS 1 – 6
TRAFFIC MOVEMENT PERMIT APPLICATION

Submitted to:

CITY OF PORTLAND

March 26, 2018

Applicant:

Dunkin' Brands
130 Royall Street
Canton, MA 02021

Prepared by:

Maine Traffic Resources
25 Vine Street Gardiner, ME 04345
(207) 582-5252 FAX (207) 582-1677
mainetrafficresources.com

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE 1/2001
ID #:

Total Fees:
Date: Received

****

PERMIT APPLICATION – TRAFFIC
TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A.§ 704 -A

Please type or print:
This application is for (check all that applies): Traffic 100-200 PCE's _____
Traffic 200+ PCE's X

Name of Applicant: Dunkin' Brands Attn: Robert Mahoney

Address: 130 Royall Street, Canton, MA 02021 Telephone: (617) 510-4543

Name of local contact or agent: Diane W. Morabito, P.E. PTOE Maine Traffic Resources

Address: 25 Vine Street, Gardiner, ME 04345 Telephone: (207) 582-5252

Name and type of development: A new 2,350 square foot Dunkin' Donuts with Drive-Through Window

Location of development: 325 St. John Street (easterly side) and westerly side of Valley Street, between intersections of Park Avenue and Congress Street

City/Town/Plantation: Portland County: Cumberland Tax Map # 65 Lot # C 4001

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A.§ 704-A (7)?
Yes_____ No X

Was this development started prior to obtaining traffic permit? No

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30-A, chapter 187)?
Yes _____ No _____

Is project located within a compact area of an urban compact municipality? Yes X No ____

Is this development or any portion of the site currently subject to state or municipal enforcement action?

Not Known

Existing DEP or MDOT permit number (if applicable):

Name(s) of DOT staff person(s) contacted concerning this application:

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applications:

1/2000

CERTIFICATION

The traffic engineer responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the application for traffic approval is complete and accurate to the best of his/her knowledge.

Signature: Diane W. Morabito Re/Cert/Lic No.: Maine PE # 5077
PTOE # 571

Name(print): Diane W. Morabito

Date: 3/26/18

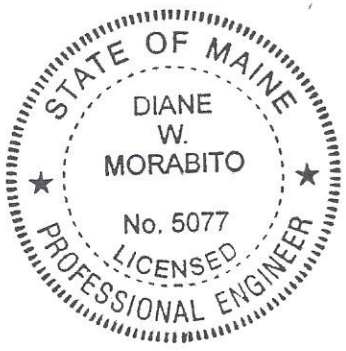
If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature of Applicant

3.20.2018
Date

FORM C 7/97



Maine
Traffic
Resources

25 Vine Street Gardiner, ME 04345
(207) 582-5252 FAX (207) 582-1677
mainetrafficresources.com

NOTICE OF INTENT TO FILE

Please take notice that Dunkin' Brands, Attn: Robert Mahoney, 130 Royall Street, Canton, MA 02021, Telephone (617) 510-4543 is intending to file a Traffic Movement Permit application with the City of Portland Department of Planning and Urban Development pursuant to the provisions of 23 M.R.S.A. § 704-A on or about March 28, 2018.

The application is for a new Dunkin' Donuts with drive-through facility at 325 Saint John Street, just south of the existing Dunkin' Donuts, in Portland, Maine. The proposed new Dunkin' Donuts will be 2,350 square feet in size. Construction is expected to be completed for occupancy in late 2018 or early 2019. The new Dunkin' Donuts is expected to generate approximately 255 one-way trips during the weekday AM peak hour and 101 trips during the PM peak hour.

A request for a public hearing must be received by The City of Portland, in writing, no later than 20 days after the application is found by the City to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at Department of Planning and Urban Development, which is located Portland City Hall, 389 Congress Street, Portland, Maine 04101, during normal working hours. A copy of the application may also be seen at the Maine Department of Transportation Southern Region 1 Office, 51 Pleasant Hill Road, Scarborough, ME 04070-0358.

Written public comments may be sent to the Department of Planning and Urban Development, City of Portland, 389 Congress Street, Portland, Maine 04101.

Diane W. Morabito, P.E. PTOE

Portland – Saint John Street Dunkin' Donuts Abutters

Portland Carry Out Rest Inc.
P.O. Box 10048
Portland, ME 04104

Dominic Reali Realty LLC
312 St John Street, 2nd Floor
Portland, ME 04102

M A C Realty LLC
959 Congress Street, Suite 1
Portland, ME 04102

Arcand Properties LLC
128 Free Street
Portland, ME 04101

Li Ri Teng & Wei Yi Wang
P.O. Box 495
Moody, ME 04054

Inn at St John
939 Congress Street
Portland, ME 04102

Valley 301 LLC
62 Cumberland Avenue, # 3
Portland, ME 04101

CR Ventures LLC
302 Chandler's Wharf
Portland, ME 04101

315 Valley Street LP
106 Gilman Street
Portland, ME 04102

Glassman Jack I Etals
15 Oak Street, # 2
Charlestown, MA 02129

INTRODUCTION

The purpose of this application is to summarize the information required in a Traffic Movement Permit application to request a Scoping Meeting for a proposed new Dunkin' Donuts on Saint John Street in Portland, Maine. Trip generation analysis shows that the project will generate in excess of 100 new peak hour trips. As a result, the project requires a Traffic Movement Permit (TMP) from the Maine Department of Transportation (MaineDOT). The City of Portland has Delegated Review Authority to review the application materials and issue the TMP on behalf of MaineDOT.

SITE DESCRIPTION - SECTION 1A

The proposed site is located at 325 Saint John Street in Portland. The site extends from Saint John Street to Valley Street and is located between Park Avenue and Congress Street, just south of the existing Dunkin' Donuts. The overall parcel is approximately 0.68 acres in size, based upon the site plan prepared by Plymouth Engineering, which is included with this application. The existing terrain is generally flat.

EXISTING AND PROPOSED USES - SECTION 1B

The site currently is the location of a Lang's Express restaurant, which is 3,400 square feet (S.F.) in size. The existing Lang's Express building will be replaced by a 2,350 S.F. Dunkin' Donuts with a drive-through facility.

SITE VICINITY - SECTION 1C

The site location and vicinity are shown on the map in Figure 1.

OTHER DEVELOPMENT - SECTION 1D

The City of Portland was contacted to determine if there are any other proposed or approved developments that are expected to significantly impact traffic volumes in the study area. The City identified the Maine Medical Center Expansion and Thompson's Point projects and provided traffic information for them. The City also indicated that they are performing a Libbytown Traffic Circulation Study, which may also need to be considered in the analysis. These other development projects will be discussed further at the Scoping Meeting.

TRIP GENERATION - SECTION 1E

The number of trips to be generated by the Dunkin' Donuts was estimated using the Institute of Transportation Engineers (ITE) "Trip Generation, 9th Edition" report and Maine's Dunkin' Donuts equations. The ITE 9th edition is accepted by the Maine Department of Transportation for estimating the non AM peak hour trips for Dunkin' Donuts. The ITE data is included in the appendix for reference. Maine's Dunkin' Donuts equations were utilized for the AM peak hour. The Maine Dunkin' Donuts equation results for the proposed 2,350 S.F. facility are shown below:

Square Footage $y = 0.0536 (2,350) + 142.75 = 125.96 + 142.75 = 269$ trips

AADT $y = 0.0081X + 139.36$

AADT on St. John Street (S/O Park Avenue) = 14,000

$y = 0.0081 (14,000) + 139.36 = 113.40 + 139.36 = 253$ trips

AM Peak Traffic $y = 0.1061 X + 144.49$

$y = 0.1061 (938) + 144.49 = 99.52 + 144.49 = 244$ trips

Average of Equations = 255 peak hour trips

As can be seen above, the Dunkin' Donuts is projected to generate 255 one-way trips during the AM peak hour. Trip generation for the Dunkin' Donuts on a daily basis and during the PM peak hour was estimated using the ITE report referenced above. Land use code (LUC) 937 – Coffee/Donut Shop with Drive-Through Window was utilized on the basis of 2,350 S.F. The results are summarized below:

	Trip Generation
Time Period	# of Trips
Weekday	1,924
AM Peak Hour	255
PM Peak Hour	101

There is a credit allowed for the grandfathered trips to the existing Lang's Express restaurant. The trips generated by this development were estimated using LUC 932 – High-Turnover Sit-Down Restaurant on the basis of 3,400 S.F. The results are summarized in the following table along with the Dunkin' Donuts trips:

Overall Trip Generation (one-way trip ends)

Time Period	New Dunkin'	Former Langs	New Trips
Weekday	1,924	432	1,492
AM Peak Hour	255	0 *	255
PM Peak Hour	101	37	64

*While ITE provides data for the AM peak hour it was assumed that Lang's Express was not open and therefore not generating any trips.

Since the project is expected to generate over 100 new trips during the AM peak, it requires a TMP. Given that the Dunkin' Donuts is expected to generate far fewer trips during the PM peak hour, and less than the 100-trip threshold, the AM peak hour is expected to be the analysis period for the traffic study.

Not all of the trips generated by Dunkin' Donuts will be new trips. Many of the trips will be pass-by trips, trips that are already on St. John Street. Based upon Maine's Dunkin' Donuts study, 70 % of the AM peak hour trips are pass-by trips. This results in the following trip summary for the Dunkin' Donuts for the AM analysis period:

Time Period	Pass-by Trips	Primary Trips	Total Trips
AM Peak Hour	178	77	255
Entering	89	44	133
Exiting	89	43	132

As shown above, the proposed Dunkin' Donuts will generate just 77 primary or new trips during the AM peak hour. The majority of the trips, 178, will be pass-by trips, trips that are already on Saint John Street.

TRIP DISTRIBUTION AND ASSIGNMENT - SECTION 1F & G

Turning movement/classification counts were conducted by Maine Traffic Resources during the AM peak hour period (6:30 – 9:00 AM) at the following study area intersections:

Intersection Description (AM Peak Hour)	Count Date	Peak Hour
Park Avenue & St. John Street	June 15, 2017	7:30 – 8:30 AM
Congress Street and St. John Street	June 15, 2017	7:30 – 8:30 AM
St. John Street and Existing Dunkin' Drive	June 20, 2017	7:30 – 8:30 AM

The count records are included in this application. The count data was factored to 30th highest hour volumes, volumes typically used for design and traffic analysis purposes, using published MaineDOT group mean urban factors. The existing 2017 volumes, expected to be representative of peak summer volumes in late July or early August are shown in Figure 2.

In addition, it is important to note that the existing Dunkin' Donuts generated the maximum number of trips from 7:15 to 8:15 AM. The Dunkin' generated 108 total trips into the site via the St. John Street driveway. At this drive, there were also 43 peak hour exit trips. As such, it was assumed that the remaining 65 exit trips were using the drive-through and exiting to Valley Street given Dunkin' Donuts peak hour distribution of 50 % entering and 50 % exiting obtained in the Maine Dunkin' Donuts study. Based upon this assumption, the existing Dunkin' is generating a total of 216 trips during their AM peak hour period. Additionally, the patterns observed during the turning movement counts demonstrated that 60 % of entering trips were from the south with 40 % from the north. Exiting trips were found to be 70 % destined to the north and 30 % percent to the south. The pass-by trips were assigned based upon the traffic volumes on Saint John Street. The known Dunkin' patterns were applied to obtain the overall trip assignments for the new Dunkin' Donuts, shown in Figure 3.

Figure 1

Site Location Map

St. John Street Dunkin' Donuts

Portland, Maine

Maine Traffic Resources
25 Vine Street
Gardiner, ME
04345
tel: (207) 582-5252
fax: (207) 582-1677

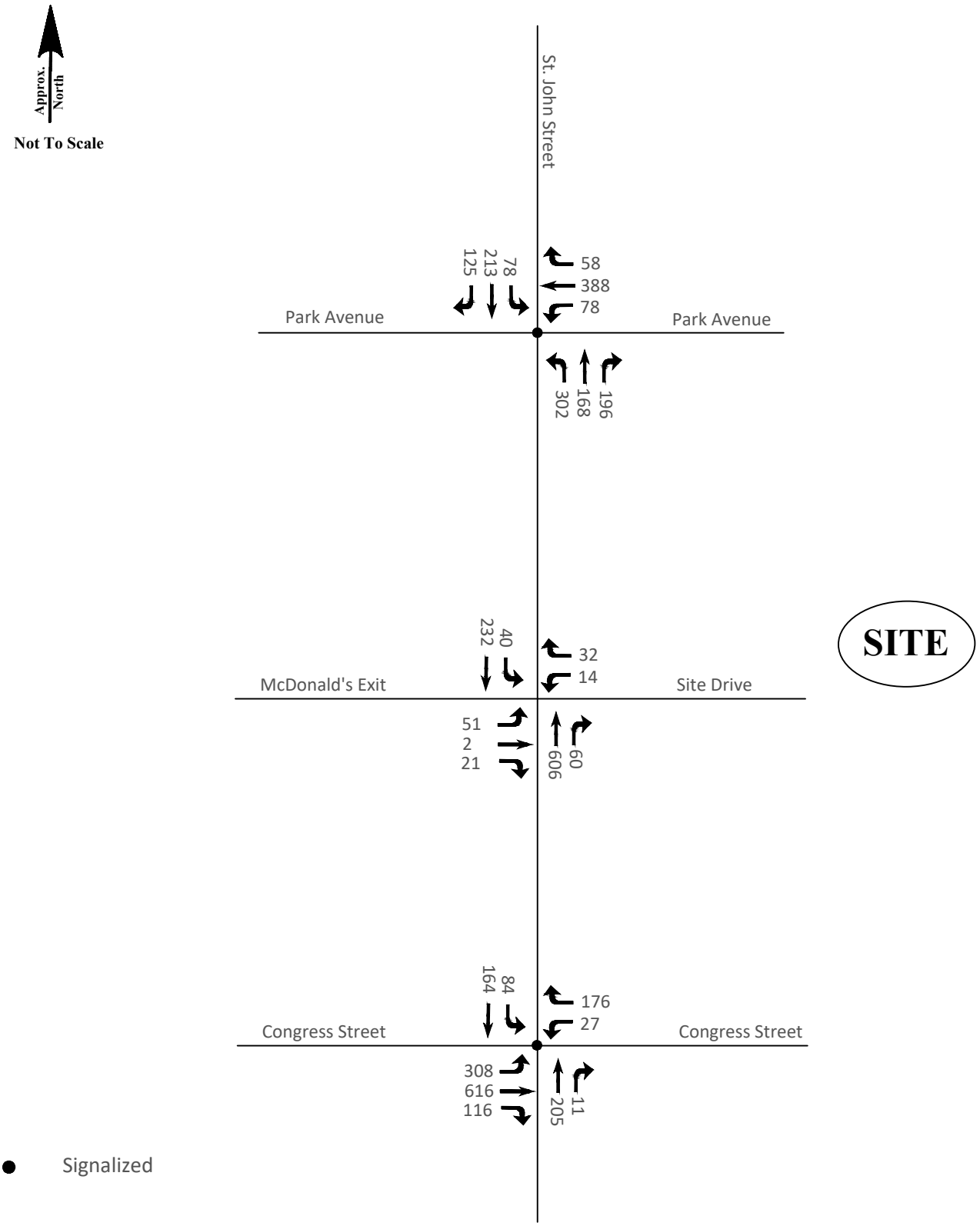


Figure 2

2017 Existing AM Peak Hour Volumes

St. John Street Dunkin' Donuts

Portland, Maine

Maine Traffic Resources
25 Vine Street
Gardiner, ME
04345
tel: (207) 582-5252
fax: (207) 582-1677

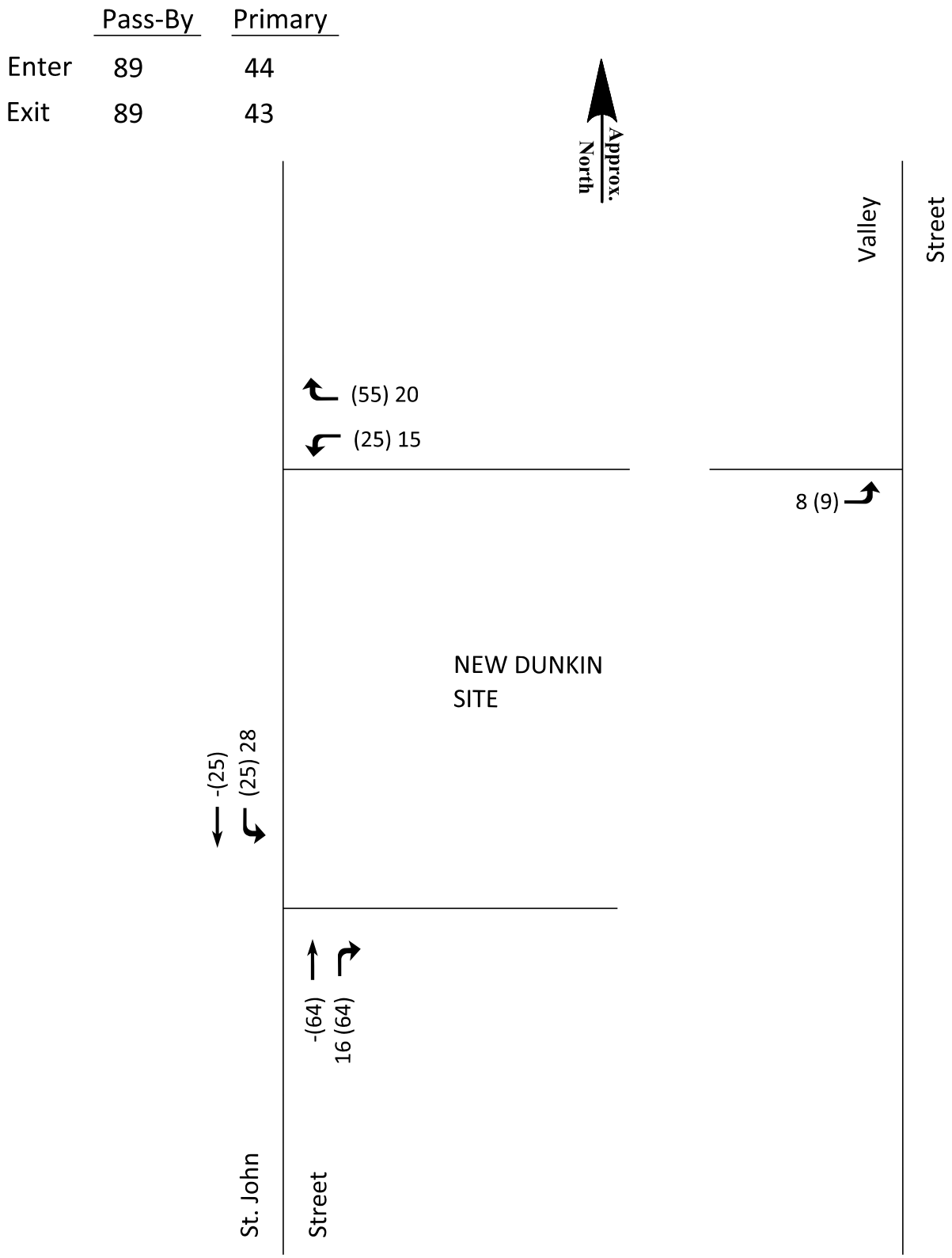


Figure 3

AM Peak HR Trip Assignments
St. John Street Dunkin' Donuts
Portland, Maine

Maine Traffic Resources
25 Vine Street
Gardiner, ME
04345
tel: (207) 582-5252
fax: (207) 582-1677

Maine Traffic Resources
25 Vine Street
Gardiner, ME 04345
mainetrafficresources.com

Title: Congress Street & St. John Street
Town: Portland, Maine
Counter: NLS
Weather: Partly Cloudy

File Name : PortlandCongressStJohnAM
Site Code : 00000000
Start Date : 6/15/2017

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

	St. John Street From North					Congress Street From East					St. John Street From South					Congress Street (Route 22) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	51	39	3	93	29	0	10	3	42	7	21	0	1	29	26	148	32	1	207	371
06:45 AM	0	35	32	5	72	23	0	5	1	29	6	18	0	0	24	42	157	50	0	249	374
Total	0	86	71	8	165	52	0	15	4	71	13	39	0	1	53	68	305	82	1	456	745
07:00 AM	0	32	21	7	60	35	0	13	3	51	3	31	0	0	34	30	106	56	0	192	337
07:15 AM	0	30	34	9	73	33	0	4	6	43	5	58	0	2	65	23	117	62	0	202	383
07:30 AM	0	40	27	4	71	49	0	5	6	60	3	51	0	2	56	24	156	77	1	258	445
07:45 AM	0	44	33	8	85	48	0	9	3	60	1	56	0	1	58	37	143	81	3	264	467
Total	0	146	115	28	289	165	0	31	18	214	12	196	0	5	213	114	522	276	4	916	1632
08:00 AM	0	40	13	3	56	44	0	11	2	57	3	47	0	2	52	27	164	87	2	280	445
08:15 AM	0	40	11	2	53	35	0	2	1	38	4	51	0	0	55	28	153	63	3	247	393
08:30 AM	0	32	15	2	49	29	0	6	4	39	6	42	0	1	49	32	125	43	4	204	341
08:45 AM	0	43	17	0	60	43	0	9	2	54	3	46	0	1	50	36	121	53	2	212	376
Total	0	155	56	7	218	151	0	28	9	188	16	186	0	4	206	123	563	246	11	943	1555
Grand Total	0	387	242	43	672	368	0	74	31	473	41	421	0	10	472	305	1390	604	16	2315	3932
Apprch %	0.0	57.6	36.0	6.4		77.8	0.0	15.6	6.6		8.7	89.2	0.0	2.1		13.2	60.0	26.1	0.7		
Total %	0.0	9.8	6.2	1.1	17.1	9.4	0.0	1.9	0.8	12.0	1.0	10.7	0.0	0.3	12.0	7.8	35.4	15.4	0.4	58.9	

	St. John Street From North					Congress Street From East					St. John Street From South					Congress Street (Route 22) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	164	84	17	265	176	0	27	12	215	11	205	0	5	221	116	616	308	9	1049	1750
Percent	0.0	61.9	31.7	6.4		81.9	0.0	12.6	5.6		5.0	92.8	0.0	2.3		11.1	58.7	29.4	0.9		
07:45 Volume	0	44	33	8	85	48	0	9	3	60	1	56	0	1	58	37	143	81	3	264	467
Peak Factor																					0.937
High Int.	07:45 AM					07:30 AM					07:45 AM					08:00 AM					
Volume	0	44	33	8	85	49	0	5	6	60	1	56	0	1	58	27	164	87	2	280	
Peak Factor					0.779					0.896					0.953					0.937	

Congress Street & St. John Street: Group I - 0.88/0.88 = 1.00
No Factor Necessary

Maine Traffic Resources
25 Vine Street
Gardiner, ME 04345
mainetrafficresources.com

Title: Park Avenue & St. John Street
Town: Portland, Maine
Counter: DWM
Weather: Partly Cloudy

File Name : PortlandParkAveStJohnStAM
Site Code : 00000000
Start Date : 6/15/2017
Page No : 1

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

	St. John Street From North					Park Avenue (Route 22) From East					St. John Street From South					Park Avenue (Route 22) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	15	85	11	0	111	5	43	7	3	58	26	18	29	0	73	0	0	0	1	1	243
06:45 AM	16	61	20	1	98	11	56	7	3	77	20	19	29	1	69	0	0	0	0	0	244
Total	31	146	31	1	209	16	99	14	6	135	46	37	58	1	142	0	0	0	1	1	487
07:00 AM	22	42	14	4	82	16	58	11	2	87	34	22	50	0	106	0	0	0	0	0	275
07:15 AM	31	70	18	1	120	11	74	10	1	96	29	30	71	1	131	0	0	0	0	0	347
07:30 AM	29	59	19	5	112	18	101	16	3	138	40	42	83	2	167	0	0	0	0	0	417
07:45 AM	41	68	21	6	136	14	120	18	1	153	58	52	78	1	189	0	0	0	0	0	478
Total	123	239	72	16	450	59	353	55	7	474	161	146	282	4	593	0	0	0	0	0	1517
08:00 AM	28	44	18	5	95	13	92	23	3	131	56	39	67	0	162	0	0	0	1	1	389
08:15 AM	27	42	20	0	89	13	75	21	2	111	42	35	74	1	152	0	0	0	2	2	354
08:30 AM	33	39	16	5	93	9	86	20	2	117	42	25	49	5	121	0	0	0	1	1	332
08:45 AM	29	52	21	3	105	17	83	20	2	122	41	30	62	2	135	0	0	0	1	1	363
Total	117	177	75	13	382	52	336	84	9	481	181	129	252	8	570	0	0	0	5	5	1438
Grand Total	271	562	178	30	1041	127	788	153	22	1090	388	312	592	13	1305	0	0	0	6	6	3442
Apprch %	26.0	54.0	17.1	2.9		11.7	72.3	14.0	2.0		29.7	23.9	45.4	1.0		0.0	0.0	0.0	100.0		
Total %	7.9	16.3	5.2	0.9	30.2	3.7	22.9	4.4	0.6	31.7	11.3	9.1	17.2	0.4	37.9	0.0	0.0	0.0	0.2	0.2	

	St. John Street From North					Park Avenue (Route 22) From East					St. John Street From South					Park Avenue (Route 22) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	125	213	78	16	432	58	388	78	9	533	196	168	302	4	670	0	0	0	3	3	1638
Percent	28.9	49.3	18.1	3.7		10.9	72.8	14.6	1.7		29.3	25.1	45.1	0.6		0.0	0.0	0.0	100.0		
07:45 Volume	41	68	21	6	136	14	120	18	1	153	58	52	78	1	189	0	0	0	0	0	478
Peak Factor																					0.857
High Int.	07:45 AM					07:45 AM					07:45 AM					08:15 AM					
Volume	41	68	21	6	136	14	120	18	1	153	58	52	78	1	189	0	0	0	2	2	
Peak Factor					0.794					0.871					0.886					0.375	

Park Avenue & St. John Street: Group I - 0.88/0.88 = 1.00
No Factor Necessary

Maine Traffic Resources
25 Vine Street
Gardiner, ME 04345
mainetrafficresources.com

Title: St. John St & Dunkin' Donuts
Town: Portland, Maine
Counter: NLS
Weather: Cloudy, Some Showers

File Name : PortlandStJohnDDSiteAM
Site Code : 00000000
Start Date : 6/20/2017
Page No : 1

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

	St. John Street From North					Dunkin' Donuts Drive From East					St. John Street From South					McDonald's Exit Drive From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
06:30 AM	0	67	8	0	75	7	0	0	2	9	12	51	0	0	63	3	0	5	2	10	157
06:45 AM	0	62	10	0	72	6	0	2	3	11	14	75	0	0	89	4	0	6	0	10	182
Total	0	129	18	0	147	13	0	2	5	20	26	126	0	0	152	7	0	11	2	20	339
07:00 AM	0	41	2	0	43	7	0	0	2	9	18	114	0	1	133	5	0	9	1	15	200
07:15 AM	0	51	8	0	59	6	0	2	1	9	23	114	0	0	137	5	1	5	0	11	216
07:30 AM	0	66	9	2	77	8	0	5	2	15	20	160	0	0	180	4	0	15	0	19	291
07:45 AM	0	71	5	1	77	10	0	5	4	19	15	180	0	0	195	3	0	14	2	19	310
Total	0	229	24	3	256	31	0	12	9	52	76	568	0	1	645	17	1	43	3	64	1017
08:00 AM	0	49	14	0	63	6	0	1	0	7	12	133	0	1	146	7	1	12	0	20	236
08:15 AM	0	41	12	0	53	8	0	3	2	13	13	119	0	0	132	7	1	10	1	19	217
08:30 AM	0	57	6	0	63	10	0	2	0	12	14	134	0	0	148	5	0	7	1	13	236
Grand Total	0	505	74	3	582	68	0	20	16	104	141	1080	0	2	1223	43	3	83	7	136	2045
Apprch %	0.0	86.8	12.7	0.5		65.4	0.0	19.2	15.4		11.5	88.3	0.0	0.2		31.6	2.2	61.0	5.1		
Total %	0.0	24.7	3.6	0.1	28.5	3.3	0.0	1.0	0.8	5.1	6.9	52.8	0.0	0.1	59.8	2.1	0.1	4.1	0.3	6.7	

	St. John Street From North					Dunkin' Donuts Drive From East					St. John Street From South					McDonald's Exit Drive From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	0	227	40	3	270	32	0	14	8	54	60	592	0	1	653	21	2	51	3	77	1054
Percent	0.0	84.1	14.8	1.1		59.3	0.0	25.9	14.8		9.2	90.7	0.0	0.2		27.3	2.6	66.2	3.9		
07:45 Volume	0	71	5	1	77	10	0	5	4	19	15	180	0	0	195	3	0	14	2	19	310
Peak Factor																					0.850
High Int.	07:30 AM					07:45 AM					07:45 AM					08:00 AM					
Volume	0	66	9	2	77	10	0	5	4	19	15	180	0	0	195	7	1	12	0	20	
Peak Factor					0.877					0.711					0.837					0.963	

232

606

St. John Street: Group I - 0.90/0.88 = 1.023

ACCIDENT REVIEW - SECTION 2

The Maine Department of Transportation uses two criteria to determine high crash locations (HCLs). The first is the critical rate factor (CRF), which is a measure of the accident rate. A CRF greater than one indicates a location which has a higher than expected accident rate. The expected rate is calculated as a statewide average of similar facilities.

The second criterion, which must also be met, is based upon the number of accidents that occur at a particular location. Eight or more accidents must occur over the three-year study period for the location to be considered a high crash location. Accident data was obtained from MaineDOT for the Saint John Street and Valley Street study area. The CRF and number of accidents are summarized by location for the most recent three-year period 2014 to 2016 below:

St. John Street Location Description	# of Acc.	CRF
Intersection of Congress Street	25	0.71
Between Congress Street and 0.14 miles north	**28**	**2.94**
Intersection 0.14 miles north of Congress Street	1	0.30
Intersection of Park Avenue	**36**	**1.95**

Valley Street Location Description	# of Acc.	CRF
Intersection of Congress Street	17	0.91
Between Congress Street and Park Avenue	1	0.38
Intersection of Park Avenue	**8**	**1.53**

As can be seen in the above accident table, there are two high crash locations on St. John Street within the vicinity of the proposed Dunkin' Donuts. Additionally, the intersection of Park Avenue and Valley Street just meets the high crash criteria. Individual accident reports were obtained and collision diagrams were prepared to determine if there are any accident patterns or trends evident that may indicate a correctable safety deficiency. The diagrams are included in the appendix and are evaluated below:

Intersection of Park Avenue and St. John Street

The signalized intersection of Park Avenue and St. John Street had 36 accidents during the three-year period from 2014 – 2016 and a CRF of 1.95. One of the accidents was miscoded to the intersection. There were eight rear-end collisions, three on the northbound approach, three on the westbound approach and two on the southbound approach. Eight of

the accidents involved northbound St. John Street vehicles that attempted to continue through to St. John Street from the left-turn lane, while the vehicle in the through-left lane was turning left. An additional three accidents occurred when the driver realized he or she was in the left-turn only lane and wanted to continue through on St. John Street. As such, he or she attempted to change lanes and sideswiped the vehicle in the through-left lane. Seven of the accidents occurred when vehicles in the left and through-left St. John Street lanes began turning and failed to stay in their lane, thus causing a sideswipe collision. Eight accidents were cause by drivers running a red light, seven of which resulted in angle collisions. Of those eight accidents, one was cause by a driver under the influence and the other when stop signs were put out due to a malfunctioning signal. The final accident was a sideswipe with an unknown cause.

There is a pattern of crashes involving northbound St. John Street vehicles attempted to travel through from the left-turn only lane, ultimately resulting in a crash with another left-turning vehicle, or a sideswipe due to an improper lane change. Based on a review of the northbound St. John Street corridor approaching the signal, there is adequate advanced lane use signage, both post mounted and overhead. However, it may be beneficial to provide some additional signage next to the signal heads, such as an R3-7L "Left Lane Must Turn Left". There is also a pattern of northbound St. John Street left-turns failing to stay in their lane as both the left-turn only and left-through lane turn left. Based on images from GoogleEarth dated October 2016 a white dotted skip line is marked on the pavement to separate the two lanes. However, as of June 2017, the pavement markings had worn off and not been restriped. Therefore, Maine Traffic Resources recommends this striping be repainted and should be maintained more often to try to reduce this pattern of accidents.

St. John Street Link Between Congress Street and 0.14 Miles North

The St. John Street link between Congress Street and 0.14 miles north had 28 accidents over the three-year period from 2014 – 2016 and a CRF of 2.94. Seven of the accidents occurred in 2014, twelve in 2015 and nine in 2016. There were seven rear-end collisions in stop and go traffic. Five of the accidents involved a vehicle attempting to exit a driveway in traffic. A vehicle traveling on St. John Street on the outermost lane would stop and wave on the vehicle to exit the drive. When the vehicle began to exit they would fail to yield to the innermost lane, thus causing the collision. Five additional accidents involved vehicles failing to yield right-of-way, one being attributed to a truck limiting sight distance. Four of the accidents involved a vehicle turning right from the improper lane (closest lane to center) and failing to yield to the vehicle in the outermost lane. Four of the accidents were sideswipe collisions cause by improper lane changes. Two accidents were single vehicle loss of control type, one due to over acceleration on a turn and the other left the roadway for an unknown reason. The final accident involved a garbage truck hitting a pedestrian.

This link demonstrates patterns of rear-ends, failing to yield due to being waved on, improper lane changes and right-turns from the incorrect lane. These patterns are typical of busy corridors with multiple travel lanes and driveways. Generally, access management would be recommended as properties are redeveloped. However, this portion of St. John Street generally provides adequate access management, with driveways aligned and limited as necessary. Therefore, Maine Traffic Resources considers this section of St. John Street an ideal candidate for a "road diet." The roadway should be restriped to provide a single through lane northbound and southbound with a continuous two-way center turn-lane. This would eliminate crashes that were caused by right-turns from the wrong lane and would be expected to reduce improper lane changes. Additionally, the continuous left-turn lane would provide a safe area for left-turning vehicles and would serve all of the commercial businesses along this section of roadway.

Intersection of Park Avenue and Valley Street

The unsignalized intersection of Park Avenue and Valley Street had 8 reported accidents during the three-year period from 2014 – 2016 with a CRF of 1.53, two (2) in 2015 and six (6) in 2016. One of the accidents was a single vehicle run off road due to OUI. There were five angle type collisions as vehicles exited Valley Street and failed to yield to Park Avenue vehicles. One accident involved a pedestrian in a crosswalk crossing Valley Street. A similar accident involved a bicyclist being struck crossing Valley Street in the bike lane. There is no pattern of accidents that would indicate a particular intersection deficiency or any pattern of correctable type collisions. Hence, there are no recommendations for improvements.

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I**	☐ **Section Detail**	☑ **Crash Summary II**	☐ **1320 Public**	☐ **1320 Private**	☑ **1320 Summary**

REPORT DESCRIPTION

St John

REPORT PARAMETERS

Year 2014, Start Month 1 through Year 2016 End Month: 12

Route: **0022S**	Start Node: **16765**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **16770**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

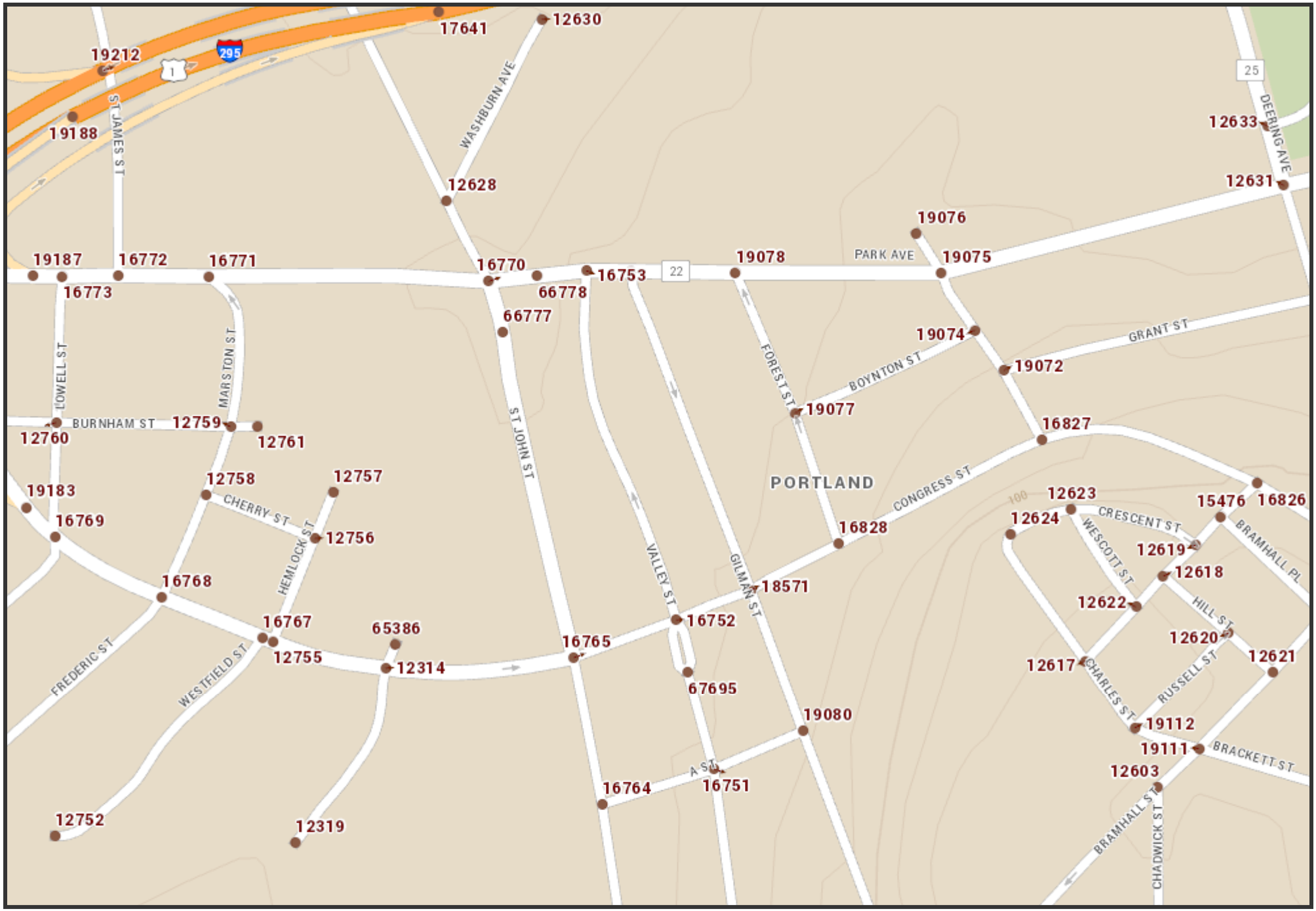
Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
16765	0022S - 0.88	Int of CONGRESS ST ST JOHN ST	9	25	0	0	1	3	21	16.0	11.025	0.76	1.07	0.71
											Statewide Crash Rate:	0.71		
66777	0022S - 1.02	Non Int ST JOHN ST	2	1	0	0	0	0	1	0.0	2.595	0.13	0.44	0.30
											Statewide Crash Rate:	0.15		
16770	0022S - 1.04	Int of PARK AV ST JOHN ST	9	36	0	0	2	4	30	16.7	4.971	2.41	1.24	1.95
											Statewide Crash Rate:	0.71		
Study Years:	3.00	**NODE TOTALS:**		62	0	0	3	7	52	16.1	18.591	1.11	0.90	1.24

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
16765	66777	3155094	0 - 0.14	0022S - 0.88	0.14	2	28	0	0	2	5	20	25.9	0.00727	1284.45	436.56	2.94
Int of CONGRESS ST	ST JOHN ST			ST RTE 22S											Statewide Crash Rate: 207.92		
66777	16770	3154475	0 - 0.02	0022S - 1.02	0.02	2	0	0	0	0	0	0	0.0	0.00104	0.00	712.98	0.00
Non Int ST JOHN ST				ST RTE 22S											Statewide Crash Rate: 207.92		
Study Years: 3.00				**Section Totals:**	0.16		28	0	0	2	5	20	25.0	0.00830	1123.89	423.18	2.66
				Grand Totals:	0.16		90	0	0	5	12	72	18.9	0.00830	3612.51	579.72	6.23

PORTLAND MAP



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.1 Miles

1 inch = 0.07 miles

Date: 6/12/2017
Time: 2:55:08 PM

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Valley St. from Congress St. to Park Ave.

REPORT PARAMETERS

Year 2014, Start Month 1 through Year 2016 End Month: 12

Route:	**3201019**	Start Node:	**16752**	Start Offset: **0**	☐ **Exclude First Node**
		End Node:	**16753**	End Offset: **0**	☐ **Exclude Last Node**

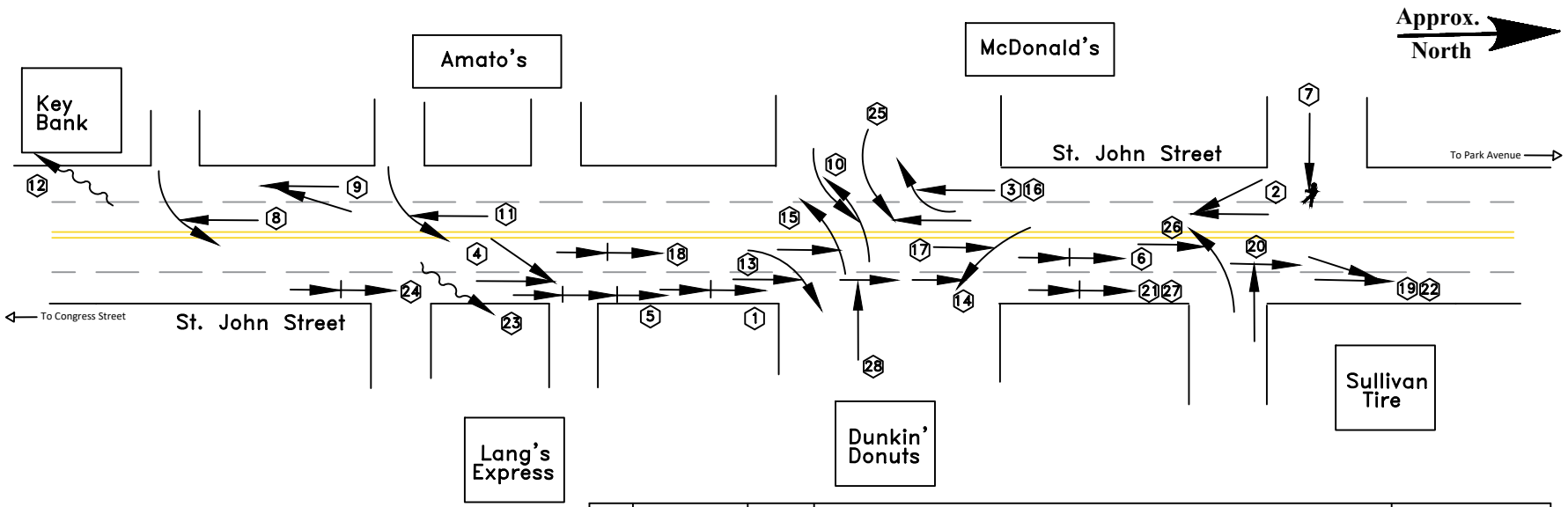
Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
16753	3201019 - 0.82	Int of PARK AV VALLEY ST	2	8	0	0	1	3	4	50.0	4.562	0.58	0.38	1.53
												Statewide Crash Rate:	0.15	
16752	3201019 - 0.66	Int of CONGRESS ST VALLEY ST	9	17	0	0	0	2	15	11.8	5.123	1.11	1.22	0.00
												Statewide Crash Rate:	0.70	
Study Years:	3.00	**NODE TOTALS:**		25	0	0	1	5	19	24.0	9.685	0.86	0.74	1.16

Crash Summary I

Sections																	
Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
16752	16753	3118516	0 - 0.16	3201019 - 0.66	0.16	2	1	0	0	0	0	1	0.0	0.00132	252.56	670.56	0.00
Int of CONGRESS ST	VALLEY ST			RD INV 3201019											Statewide Crash Rate: 207.35		
Study Years: 3.00				**Section Totals:**	0.16		1	0	0	0	0	1	0.0	0.00132	252.56	670.56	0.38
				Grand Totals:	0.16		26	0	0	1	5	20	23.1	0.00132	6566.45	908.01	7.23



CRF = 2.94

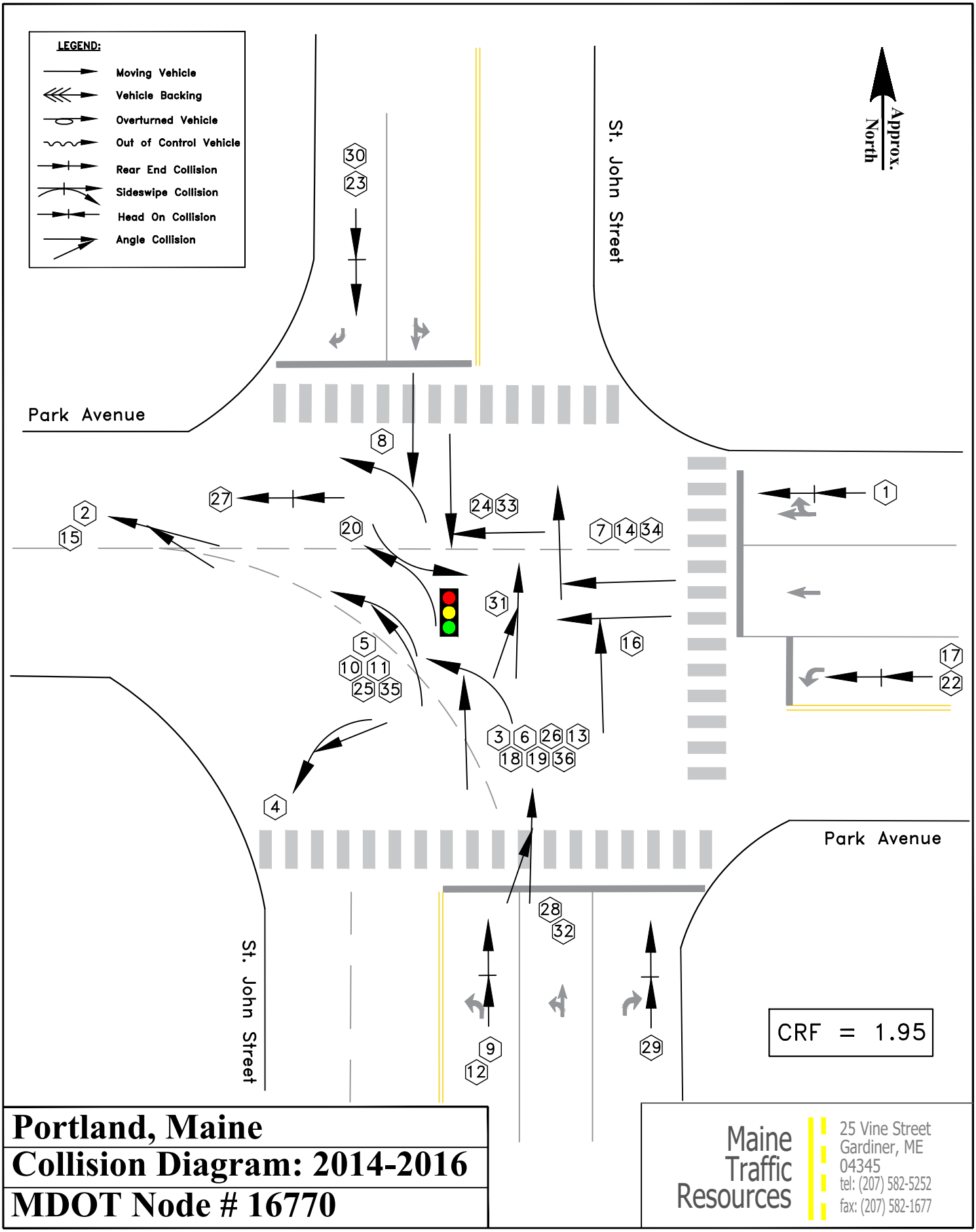
LEGEND:

- Moving Vehicle
- Vehicle Backing
- Overturned Vehicle
- Out of Control Vehicle
- Rear End Collision
- Sideswipe Collision
- Head On Collision
- Angle Collision

#	DATE	TIME	CONTRIBUTING FACTOR	MDOT REPORT #
1	01/23/14	06:31	REAR-END WHILE TURNING RIGHT INTO DUNKIN' DONUTS	14-000299
2	04/04/14	13:00	SIDESWIPE - UNKNOWN CAUSE - FLED SCENE	14-001129
3	07/10/14	06:08	ATTEMPTED RIGHT-TURN FROM OUTER LANE	14-001990
4	08/12/14	14:30	ATTEMPTED RIGHT-TURN FROM OUTER LANE	14-002345
5	10/23/14	18:01	REAR-END - SLAMMED ON BRAKES TO AVOID PED - RAINY	14-003141
6	10/29/14	16:03	REAR-END - SLOWING IN TRAFFIC	14-003202
7	12/29/14	00:55	GARBAGE TRUCK HIT PEDESTRIAN	14-003836
8	03/05/15	14:47	WAVED ON BY OUTSIDE LANE - DID NOT YIELD TO INSIDE	15-001075
9	03/11/15	08:00	DID NOT SEE VEHICLE ON ATTEMPTED LANE CHANGE	15-001142
10	03/17/15	14:58	FAILED TO YIELD R.O.W - FLED SCENE	15-001208
11	04/13/15	12:00	WAVED ON BY OUTSIDE LANE - DID NOT YIELD TO INSIDE	15-001458
12	05/05/15	15:24	ACCELERATED ON TURN FROM WRONG LANE - HIT BUILDING	15-001654
13	05/26/15	20:18	ATTEMPTED RIGHT-TURN FROM OUTER LANE	15-001861
14	07/08/15	19:21	SIGHT DISTANCE BLOCKED BY CAR STOPPED IN OUTER LANE	15-002343
15	08/27/15	15:49	WAVED ON BY INSIDE LANE - DID NOT YIELD TO OUTSIDE	15-002908
16	09/25/15	16:04	ATTEMPTED RIGHT-TURN FROM OUTER LANE	15-003228
17	10/30/15	10:41	FAILED TO YIELD R.O.W	15-003635
18	11/03/15	11:50	REAR-END - STARTING IN TRAFFIC	15-003684
19	11/17/15	12:17	SIDESWIPE - ATTEMPTED LANE CHANGE	15-003841
20	01/05/16	15:09	FAILED TO YIELD R.O.W	16-000030
21	01/11/16	14:15	REAR-END - SWERVED TO AVOID OTHER VEHICLE	16-000108
22	02/09/16	16:09	SIDESWIPE - ATTEMPTING TO CHANGE LANES	16-000489
23	03/19/16	18:45	LEFT ROADWAY AND STRUCK SIGN - DRIVER FLED SCENE	16-000902
24	04/24/16	16:24	REAR-ENDED BUS - DRIVING ALONE WITH LEARNERS PERMIT	16-001219
25	04/27/16	12:02	WAVED ON BY INSIDE LANE - DID NOT YIELD TO OUTSIDE	16-001251
26	07/21/16	17:52	WAVED ON BY INSIDE LANE - DID NOT YIELD TO OUTSIDE	16-002261
27	09/22/16	11:08	REAR-END - IN TRAFFIC	16-002929
28	11/05/16	10:30	FAILED TO YIELD R.O.W	16-003415

Portland, Maine
Collision Diagram: 2014-2016
MDOT Link # 66777 - # 16765

Maine Traffic Resources
25 Vine Street
Gardiner, ME
04345
tel: (207) 582-5252
fax: (207) 582-1677



Portland, Maine
Collision Diagram: 2014-2016
MDOT Node # 16770

Maine Traffic Resources
25 Vine Street
Gardiner, ME
04345
tel: (207) 582-5252
fax: (207) 582-1677

#	DATE	TIME	CONTRIBUTING FACTOR	MDOT REPORT #
1	01/08/14	16:36	REAR-END - FOOT SLIPPED OFF BRAKE	14-000131
2	04/10/14	09:27	DID NOT REALIZE THERE WERE TWO TURN LANES	14-001176
3	05/27/14	14:55	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	14-001574
4	06/07/14	20:50	SIDESWIPE - UNKNOWN CAUSE	14-001683
5	06/09/14	16:37	IMPROPER WIDE LEFT-TURN - FAILED TO STAY IN LANE	14-001705
6	07/03/14	12:19	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	14-1927
7	07/04/14	11:20	WB VEHICLE RAN RED LIGHT	14-001940
8	07/04/14	17:37	UNDER THE INFLUENCE - RAN RED LIGHT	14-001947
9	08/14/14	16:57	REAR-END - IN TRAFFIC	14-002382
10	08/22/14	12:41	IMPROPER LEFT-TURN - FAILED TO STAY IN LANE	14-002466
11	11/14/14	23:52	IMPROPER LEFT-TURN - FAILED TO STAY IN LANE	14-003368
12	11/24/14	09:52	REAR-END - STOPPED FOR RED LIGHT	14-003463
13	12/23/14	16:02	FAILED TO STAY IN CORRECT LANE	14-003793
14	01/05/15	15:28	RAN RED LIGHT	15-000051
15	03/02/15	20:45	IMPROPER LEFT-TURN - FAILED TO STAY IN LANE	15-001037
16	03/08/15	11:39	DID NOT STOP AT STOP SIGN - MALFUNCTIONING LIGHTS	15-001106
17	03/13/15	13:58	REAR-END - MISSED BRAKE PEDAL	15-001164
18	03/24/15	15:30	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	15-001273
19	06/13/15	16:42	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	15-002027
20	06/25/15	18:55	SB VEHICLE RAN RED LIGHT	15-002184
21	08/03/15	17:20	** MISCODED **	15-002605
22	09/06/15	14:31	REAR-END - DID NOT SEE STOPPED VEHICLE	15-003014
23	09/16/15	14:28	REAR-END - FOOT SLIPPED OFF BRAKE	15-003110
24	09/21/15	05:36	RAN RED LIGHT	15-003164
25	09/28/15	10:29	IMPROPER LEFT-TURNS	15-003253
26	12/03/15	17:09	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	15-004031
27	12/17/15	14:58	CHANGED LANES AND SLAMMED ON BRAKES	15-004211
28	12/21/15	20:35	SIDESWIPE - IMPROPER LANE CHANGE	15-004278
29	01/18/16	15:00	REAR-END - SLID ON SNOWY ROADWAY SURFACE	16-000208
30	04/05/16	15:42	REAR-END - URGENT BRAKE FOR PEDESTRIAN	16-001078
31	05/13/16	13:17	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	16-001420
32	05/19/16	17:32	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	16-001502
33	07/11/16	13:10	RAN RED LIGHT	16-002107
34	07/28/16	20:06	WB VEHICLE RAN RED LIGHT	16-002341
35	09/21/16	16:33	IMPROPER LEFT-TURN - FAILED TO STAY IN LANE	16-002921
36	12/21/16	12:47	ATTEMPTED TO GO THROUGH FROM LEFT-TURN LANE	16-003906

Portland, Maine
Collision Diagram: 2014-2016
MDOT Node # 16770

Maine Traffic Resources
25 Vine Street
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04345
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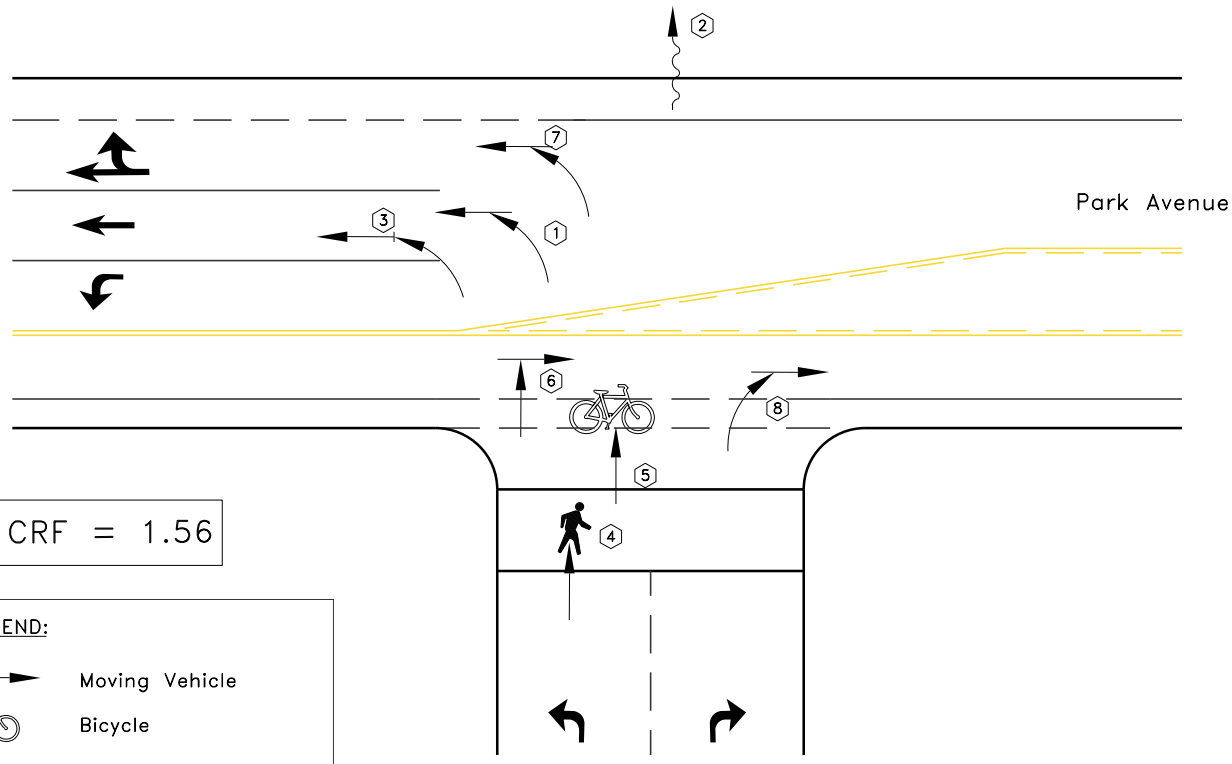


Approx. North

CRF = 1.56

LEGEND:

- Moving Vehicle
- Bicycle
- Pedestrian
- Out of Control Vehicle
- Rear End Collision
- Sideswipe Collision
- Head On Collision
- Angle Collision

#	DATE	TIME	CONTRIBUTING FACTOR	MDOT REPORT #
1	1/14/2015	12:40	Failed to yield merging	15-1264
2	7/29/2015	17:30	OUI	15-37419
3	2/1/2016	14:50	Hit rear of vehicle in queue turning	16-3446
4	5/23/2016	22:02	Hit Pedestrian in crosswalk	16-14150
5	7/20/2016	17:24	Hit bicycle in bike lane	16-20777
6	7/22/2016	13:48	failed to yield inching forward	16-20707
7	11/14/2016	12:20	Failed to see and yield	16-32426
8	12/24/2016	11:10	Failed to see and yield	16-38297

Portland, Maine
Collision Diagram: 2015-2016
MDOT Node # 16753

Maine Traffic Resources
25 Vine Street
Gardiner, ME
04345
tel: (207) 582-5252
fax: (207) 582-1677

ENTRANCES AND EXITS - SECTION 3

Access to and from the proposed new Dunkin' Donuts will be provided by a single entrance to Saint John Street, a single exit to Saint John Street and by an exit to Valley Street. It is understood that the occasional large delivery vehicles will need to enter the site from the Valley Street exit. To accommodate this, this exit will be signed and marked appropriately as exit only. A small authorized vehicle only sign faced towards Valley Street will provide for the delivery truck entrance. It is recommended that these delivery trucks be restricted to non-peak times to minimize site disruption.

The speed limit and sight distances were measured by Plymouth Engineering and are shown on their site plan included in this application package.

TITLE, RIGHT OR INTEREST - SECTION 4

The lease and the deed for the parcel are included in this application package.

FIRST AMENDMENT TO
GROUND LEASE WITH EXISTING BUILDING

THIS FIRST AMENDMENT TO GROUND LEASE WITH EXISTING BUILDING ("Lease") is dated September 27, 2017 between **Nancy E. Hurst**, having an address at 1876 Harpswell Neck Road, Harpswell, Maine 04079 ("**Landlord**") and **DB Real Estate Assets I LLC**, a Delaware limited liability company, having an address of 130 Royall Street, Canton, Massachusetts 02021 ("**Tenant**").

RECITALS

A. The parties have entered into a Ground Lease dated March 31, 2017, affecting the real estate located 325 St. John Street in Portland, Maine.

B. The parties desire to enter into an agreement modifying or supplementing the provisions of the aforesaid Ground Lease in order to extend its Contingency Period for certain but not all conditions.

AGREEMENT

In consideration of the mutual covenants contained herein, the parties agree, effective on the date of this First Amendment, that the Ground Lease dated March 31, 2017 shall be and hereby is amended as follows:

Section 2.1, and its subsections 2.1.1 through 2.1.7, inclusive, of the Ground Lease are eliminated in their entirety and shall be of no further force and effect, and the following Section 2.1 and its subsections shall be substituted for it:

2.1. Tenant's Contingency Period: Tenant shall have the unilateral right to terminate this Lease in the event any of the contingencies set forth below (each, a "contingency" and collectively, the "contingencies") are not satisfied in Tenant's sole and absolute discretion by May 31, 2018 (the "Contingency Deadline"). In the event Tenant shall elect to terminate this Lease pursuant to this Section 2.1, Tenant shall provide Landlord with written notice of its election on or before the Contingency Deadline, in which event this Lease shall be deemed null and void and neither party shall have any further obligation to the other hereunder. The Contingencies are:

2.1.1 Tenant's receipt of written approval of the Lease and the development of the Premises as a Dunkin' Donuts restaurant in accordance with Tenant's corporate approval policies;

2.1.2 Tenant's receipt, at Tenant's expense, of a title search which is free of any exceptions which are unacceptable to Tenant; and

2.1.3 Tenant's receipt of all permits, licenses, and approvals required or deemed appropriate by Tenant for the construction of the improvements on the Premises (including, without limitation, those required for the installation of Tenant's pylon and storefront signs) permitting the operation of a typical Dunkin' Donuts restaurant on the Premises with a drive-up window and patio, seven (7) days per week, twenty-four (24) hours per day ("Necessary Permits").

2.1.4 Tenant's receipt, at Tenant's option of a current Phase I, Phase II or any other environmental report pertaining to the Premises certified to Tenant, which report shall confirm there are no hazardous substances in existence in or upon the Premises, subject only to exceptions and qualifications as may be usual and customary. Tenant agrees that all testing in or under the existing building will conducted by Tenant's agents or contractors subject to the following representations by Tenant:

a) Tenant or its agents or contractors shall provide Landlord 48 hours' notice of its intention to conduct testing within or beneath the building (notice from Tenant's counsel to Landlord's counsel shall be deemed to comply with the terms of this paragraph);

b) All testing shall be performed in a manner which minimizes the disruption to Landlord's existing tenant, including performing all work, to the extent possible, between 8 AM and 11 AM (prior to opening of existing tenant's business hours); and

c) All testing causing damage to any part of the existing building shall be repaired immediately by Tenant to its condition prior to the testing.

The parties have duly executed the Lease Amendment Agreement in duplicate effective as of the day and year first above written.

Landlord:

Nancy E. Hurst

Nancy E. Hurst

Tenant:

By: :

Dennis McCarthy
VP, Finance and Treasury

GROUND LEASE WITH EXISTING BUILDING

THIS GROUND LEASE WITH EXISTING BUILDING ("Lease") is dated MARCH 31 2017 2017 ("Effective Date") between **Nancy E. Hurst**, having an address at 1876 Harpswell Neck Road, Harpswell, Maine 04079 ("**Landlord**") and **DB Real Estate Assets I LLC**, a Delaware limited liability company, having an address of 130 Royall Street, Canton, Massachusetts 02021 ("**Tenant**").

PREMISES

1.1 Description: Landlord, for and in consideration of the covenants contained in this Lease and made on the part of Tenant, demises and leases unto Tenant, and Tenant leases from Landlord the parcel of land of approximately .68 acres in size depicted as Map 65, Block C, Lots 4, 7 and 11 on the City of Portland Tax Maps, known as 325 St. John Street in the City of Portland, County of Cumberland, and State of Maine with an existing approximately 2800 square foot building located thereon (not including roads or public rights-of-way), and being more particularly described on **Exhibit A**, attached hereto and incorporated herein for all purposes, together with all of Landlord's easement rights and appurtenances thereto, and all necessary easements and appurtenances in Landlord's adjoining and adjacent land, highways, roads, streets, lanes, whether public or private, reasonably required for the installation, maintenance, operation and service of sewers, water, gas, drainage, electricity and other utilities and for driveways and approaches to and from abutting highways, for the use and benefit of the parcel, including the improvements to be erected thereon (the parcel, together with the easements, appurtenances, buildings and improvements described above are collectively hereinafter referred to as the "**Premises**").

1.2 Liens, Mortgages, Encumbrances, Easements, Tenancies and Restrictions: The liens, mortgages, encumbrances, easements, tenancies and restrictions, if any, are described on **Exhibit A-1** attached hereto and incorporated herein for all purposes and Landlord shall obtain, execute (or cause to be executed), delivered and recorded, all easements referred to in this Lease and easements for ingress, egress and parking over and across land adjacent to the Premises as may be necessary, in Tenant's reasonable judgment for the operation of Tenant's business in the Premises, and so as to enable Tenant, its agents, employees and invitees to have ingress and egress to the Premises as more fully shown on the Site Plan *(to be attached hereto following its approval by both parties)* and incorporated herein for all purposes as **Exhibit B**. Such easements shall be paramount to any lien on the servient property, shall run with the land described as the Premises and shall be in such form and content reasonable acceptable to Tenant.

1.3 Survey: If Landlord has one, Landlord agrees to provide Tenant with a copy of Landlord's Survey for the Premises. If Landlord does not have a Survey and if Tenant elects to have the Premises or any portion thereof surveyed (which will be at Tenant's sole cost and expense, if

done at all), then, at Tenant's option, the parties shall execute an amendment by which survey descriptions shall be inserted in lieu of the descriptions contained on **Exhibit A** and **Exhibit A-1**, but Tenant shall not be obligated to lease less than is described above.

CONTINGENCIES

2.1. Tenant's Contingency Period: Tenant shall have the unilateral right to terminate this Lease in the event any of the contingencies set forth below (each, a **"contingency"** and collectively, the **"contingencies"**) are not satisfied in Tenant's sole and absolute discretion within one hundred and twenty (120) days of the Effective Date (**"Contingency Period"**). Notwithstanding the foregoing, Tenant shall have the right to extend the Contingency Period for two (2) extensions of thirty (30) days each. In the event Tenant shall elect to terminate this Lease pursuant to this Section 2.1, Tenant shall provide Landlord with written notice of its election on or before the expiration of the Contingency Period, in which event this Lease shall be deemed null and void and neither party shall have any further obligation to the other hereunder. The Contingencies are:

2.1.1 Tenant's receipt of written approval of the Lease and the development of the Premises as a Dunkin' Donuts restaurant in accordance with Tenant's corporate approval policies;

2.1.2 Tenant's receipt of an SNDA from Landlord, and each of Landlord's lenders and ground lessors, to the extent applicable;

2.1.3 Tenant's receipt, from Landlord, and approval of all applicable covenants, conditions and restrictions pertaining to the Premises;

2.1.4 Tenant's receipt, at Tenant's expense, of a title search which is free of any exceptions which are unacceptable to Tenant;

2.1.5 Tenant's receipt of all permits, licenses, and approvals required or deemed appropriate by Tenant for the construction of the improvements on the Premises (including, without limitation, those required for the installation of Tenant's pylon and storefront signs) permitting the operation of a typical Dunkin- Donuts restaurant on the Premises with a drive-up window and patio, seven (7) days per week, twenty-four (24) hours per day (**"Necessary Permits"**);

2.1.6 Tenant's receipt, at Tenant's option and its sole expense, of a current Phase I environmental report pertaining to the Premises certified to Tenant, which report shall confirm there are no hazardous substances in existence in or upon the Premises, subject only to exceptions and qualifications as may be usual and customary; and

2.1.7 Tenant's receipt, at Tenant's option and sole cost, of a certified survey of the Premises showing the location of utilities, easements, encroachments and restrictions, if any.

2.2 Good Faith: Landlord agrees to work in good faith to assist Tenant in Tenant's efforts to seek all permits, licenses, and approvals as described in Section 2.1.5 above including, without limitation, promptly executing any documents deemed necessary by Tenant, all at no cost to Landlord.

INITIAL TERM AND OPTION PERIODS

3.1 Initial Term: Tenant shall have and hold the Premises for an Initial Term commencing upon Tenant's receipt of possession of the Premises from Landlord (**"Commencement Date"**) and ending ten (10) years from the date upon which the restaurant developed on the Premises is first opened for business to serve the public for its Permitted Use (**"Expiration Date"**) (**"Initial Term"**).

3.2 Option Period(s): Landlord agrees that Tenant may elect to extend the Term of this Lease for six (6) successive periods of five (5) years each upon the same terms and conditions as contained in this Lease except that the Fixed Rent for each Option Period will be as set forth in Exhibit C (each, an **"Option Period"** and collectively, the **"Option Periods"**). If Tenant so elects to extend the Term of this Lease for one or more of the Option Periods, Tenant shall do so by providing Landlord with written notice thereof given not less than one hundred and eighty (180) days prior to the expiration of the Initial Term or the then current Option Period, as the case may be.

3.3 Term: The word **"Term"** as hereinafter used in this Lease shall include the Initial Term and the Option Period(s) exercised by Tenant, if any.

FIXED RENT

4.1 Rent Commencement Date: Tenant shall begin paying Fixed Rent (as defined below) to Landlord on the date that is sixty (60) days from the Commencement Date (**"Rent Commencement Date"**).

4.2 Fixed Rent for the Initial Term: Tenant, in consideration of the covenants made by Landlord, promises to pay Fixed Rent in equal monthly installments during the Term of this Lease, commencing on the Rent Commencement Date, and thereafter in advance on the first day of each month to Landlord at the address provided in the Notice section of this Lease (or such other address as Landlord may designate in writing from time to time to Tenant) according to the **Exhibit C**, attached hereto and incorporated herein for all purposes (**"Fixed Rent"**). For purposes of this Lease, the first **"Lease Year"** shall be defined as the period beginning with the Rent Commencement Date and ending on the last day of the month that is twelve (12) months after the day the restaurant on the Premises first opens to serve the general public. Subsequent Lease Years shall be consecutive twelve (12) calendar month periods thereafter. If the Rent Commencement Date is other than the first day of the month, the first payment of Fixed Rent shall be adjusted for the proportionate fraction of the whole month.

TAXES AND UTILITIES

5.1 Taxes: Landlord represents and warrants that the Premises is separately assessed and is three individual tax parcels. Effective on the Rent Commencement Date, Tenant shall pay all real property taxes and assessments accruing during the Term pertaining to the Premises (**"taxes"**) directly to the taxing authority on or before the date the same become due. All

payments of Taxes for the first and last Lease Year of the Term shall be prorated between Landlord and Tenant so that Tenant shall be responsible for only that portion of the Taxes attributable to the Term. Tenant shall pay all personal property taxes pertaining to Tenant=s furniture, fixtures and equipment located on the Premises directly to the taxing authority on or before the date the same become due. Tenant may, at its own expense and in the name of either or both Landlord or Tenant, initiate and prosecute proceedings for an abatement or review of any such real estate tax or assessment. Any refunds obtained by Tenant shall be retained by Tenant. Notwithstanding anything to the contrary contained herein, in no event shall Tenant be liable for nor shall Taxes include income, franchise, transfer, inheritance, business privilege, or capital stock taxes imposed upon Landlord or the estate of Landlord, nor shall Tenant pay any income, franchise, excise, business privilege, or sales taxes assessed by any taxing authority on the rental income received by Landlord, or excess profits tax levied upon, required to be collected by, or assessed against Landlord.

5.2 Utilities: Tenant shall pay directly to the provider for all water, sanitary services, storm sewer charges, electricity, gas, oil and all other required utilities (collectively, the "**Utilities**") consumed by Tenant in its use and occupancy of the Premises.

5.3 Triple Net Lease. Landlord and Tenant agree that they intend this Lease to operate as a "true triple net lease", except as otherwise expressly set forth herein, in which the Tenant remains solely responsible for all property taxes, insurance, utilities of any kind, and maintenance of all buildings, structures and improvements on the Premises.

REPRESENTATIONS, WARRANTIES AND COVENANTS

6.1 Tenant's Covenants: Tenant covenants and agrees, during the Term:

6.1.1 Payments: To pay Fixed Rent and all other sums required to be paid by Tenant hereunder on the days and in the manner as provided in this Lease.

6.1.2 Insurance: At its own expense to insure and keep insured (or cause its sublessee to insure and keep insured), from the Delivery Date, the building and improvements constructed by Tenant on the Premises against loss or damage by means of all-risk insurance on a replacement cost basis by responsible insurance companies licensed in the state in which the Premises are located. Subject to the terms of this Lease, such insurance shall be made payable in case of loss to Tenant.

Tenant shall also maintain and keep in force Comprehensive General Liability insurance, on an occurrence basis, insuring against claims for personal injury, death or property damage occurring in, on or about the Premises with a combined single limit of $2,000,000.00 for Bodily Injury, Death and Property Damage Liability. Tenant shall deliver to Landlord, upon request, a certificate of insurance naming Landlord and its mortgagee as an additional insured and evidence of any renewals from time to time made during the Term of this Lease.

Notwithstanding anything to the contrary contained in this Section 6.1.2, Tenant may self-insure for any or all of Tenant's insurance coverages to the extent that it is not prohibited by law from doing so.

6.1.3 **Indemnity:** Tenant agrees to indemnify, defend and save Landlord harmless from any liability, loss, cost, expense or claim of any nature resulting from any damage to person or property arising out of the failure of Tenant or Tenant's agents, employees, servants, licensees or contractors, in any respect, to keep the Premises in a safe condition or to comply with and perform all of the requirements and provisions of this Lease. In the event of an adverse judgment against Landlord on such claims, the judgment having become final, and the time for all appeals having expired, Tenant agrees to cause such judgment to be satisfied, and agrees to indemnify and hold Landlord harmless from and against any and all losses, costs, expenses, damages, liabilities or reasonable attorney's fees that arise if such judgment is not so satisfied.

Tenant shall have the sole and exclusive right to retain counsel of its choice, to determine all litigation issues including, without limitation, trial strategy, trial preparation, discovery techniques and strategy, right of appeal, and settlement decisions.

Landlord agrees to notify Tenant in writing by delivery to Tenant within ten (10) days and by telephone immediately after Landlord receives any such complaint or claim. The delivery of written notification shall include a copy of all pleadings if a complaint is filed or of all correspondence and exhibits if a claim is filed.

6.1.4 **Repairs:** To keep the Premises in a safe and good condition and repair, subject to ordinary wear and tear, damage or destruction by casualty or other unavoidable causes, and to Landlord's obligations under this Lease, if any.

6.1.5 **Compliance with Law:** To comply with all governmental laws, rules and regulations applicable to Tenant's Permitted Use, Tenant's development, and Tenant's operation of the Premises, including, but not limited to, the following ADA matters:

A. GENERAL ADA INDEMNITY

Tenant shall indemnify, defend and hold Landlord harmless from and against any and all claims, judgments, damages, penalties, fines, costs, liabilities, or losses (including, without limitation, sums paid in settlement of claims, reasonable attorney fees, paralegal consultant fees, and expert fees) that arise during the Term from Tenant's use of the Premises or the conduct of its business or from any activity, work or thing done, permitted, or suffered by Tenant, in or on the Premises by virtue of the application of the Maine Human Rights Act, the

Americans with Disabilities Act, and their respective implementing regulations, as they may be amended.

B. INDEMNITY FOR ALTERATIONS

Tenant shall indemnify, defend and hold Landlord harmless from and against any and all claims, judgments, damages, penalties, fines, costs, liabilities, or losses (including, without limitation, sums paid in settlement of claims, reasonable attorney fees, paralegal fees, consultant fees, and expert fees) that arise during the Term from or in connection with alterations made by Tenant to the Premises by virtue of the application of the Maine Human Rights Act, the Americans with Disabilities Act and their respective implementing regulations, as they may be amended.

C. OBLIGATION FOR COMPLIANCE IF ALTERATIONS ARE MADE

Landlord and Tenant agree that Tenant shall, during the Term of this Lease, be entitled to make improvements, alterations, and repairs to the Premises. Landlord and Tenant agree that Tenant shall be obligated to ensure that all improvements, alterations, and repairs comply with the Maine Human Rights Act, the Americans with Disabilities Act and their respective governing regulations, as they may be amended.

6.1.6 Surrender: Tenant agrees to remove its goods and effects upon the expiration or earlier termination of this Lease and to peaceably yield up the Premises in as good order, repair and condition as the same may have been in at the commencement of the Term or may be put in thereafter, except for reasonable wear and use and damage resulting from fire or other casualty and damage resulting from default by Landlord. At or prior to the expiration of the Term, or for thirty (30) days after the sooner termination thereof, Tenant shall have the right to remove all fixtures, signs and equipment installed by it or on its behalf and shall also have the right to remove or change any particular features of the Premises which may be distinctive of a Dunkin' Donuts restaurant, irrespective of the degree or character of annexation to the realty (all fixtures, signs and equipment being deemed at all times to be personal property), provided that any damage caused by any such removals or changes shall be repaired forthwith by Tenant at its expense.

6.2 Landlord's Covenants, Representations, and Warranties: Landlord covenants, represents and warrants that:

6.2.1 Zoning: The Premises is properly zoned for Tenant's Permitted Use (as defined in Section 7.1 below). To the extent the Premises is not properly zoned for Tenant's Permitted Use, Landlord shall obtain the approval of all public and governmental authorities as to all matters relating to zoning (including any special or

conditional use approvals), subdivision, lot splits, lot ties, replats or similar requirements for use of the Premises as a Dunkin' Donuts restaurant in accordance with Tenant's plans and specifications as will permit Tenant to obtain all Necessary Permits (as defined in Section 2.1 above). Landlord agrees to dedicate or grant any easements for public ways and to diligently perform and pay for any improvements located off the Premises required as a condition of approval and/or recordation of the final parcel map or subdivision plat.

6.2.2 **Utilities:** All Utilities are located within the boundary of the Premises not less than ten (10) feet from the location of Tenant's building on the Premises and are available and adequate for Tenant's Permitted Use. If any Utility(ies) are not located as set forth above, or are not available, Landlord agrees to extend such Utility(ies) meeting Tenant's specifications to a point that is not less than ten (10) feet from the location of Tenant's building on the Premises within thirty (30) days from the date that Tenant notifies Landlord that it has satisfied or waived all Contingencies (as defined in Section 2.1 above) and Tenant delivers its plans and specifications for Utilities to Landlord. Any and all impact, tap and connection fees associated with Utilities shall be paid by Tenant.

6.2.3 **Hazardous Substances:** The Premises are free of Hazardous Substances. **Hazardous Substances**, as that term is used herein, shall include, but not be limited to: (a) any "hazardous substance" as that term is defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 United States Code section 9601-9675); (b) "Hazardous waste", as that term is defined in the Resource Conservation and Recovery Act of 1976 (RCRA) (42 United States Code sections 6901-6992k); (c) any pollutant, contaminant, or hazardous, dangerous, or toxic chemical, material, or substance, within the meaning of any other applicable federal, state, or local law, regulation, ordinance, or requirement (including consent decrees and administrative orders imposing liability or standards of conduct concerning any hazardous, dangerous, or toxic waste, substance or material, now or hereafter in effect); (d) petroleum products; (e) radioactive material, including any source, special nuclear, or byproduct material a defined in United States Code sections 2011-2297g-4; (f) asbestos in any form or condition; and (g) polychlorinated biphenyls (PCBs) and substances or compounds containing PCBs. Landlord represents and warrants that it has never generated, stored, handled or disposed of any Hazardous Substance in or upon the Premises. Landlord shall indemnify, defend upon demand with counsel reasonably acceptable to Tenant, and hold Tenant and each of its affiliates, directors, officers, employees, agents and representatives harmless from and against any liabilities, losses, claims damages, interest, penalties, fines, attorneys fees, experts fees, court costs, remediation costs, and other expenses (collectively, "losses") which result from or arise out of or in connection with (i) any use, storage, handling, generation, processing, treatment, transportation, release, discharge, migration or disposal of Hazardous Materials in, on at or under the Premises, which occurred prior to

the Term Commencement Date; (ii) any past or future exposure to Hazardous Materials in, on, at or under the Premises (whether the Hazardous Materials originated from the Premises or migrated to the Premises from an adjacent property), except to the extent that such exposure is the result of Tenant's use of Hazardous Materials on or about the Premises after the Term Commencement Date; (iii) Landlord's violation of, or failure to take reasonably necessary measures to minimize Landlord's liability under any environmental law.

6.2.4 **Possession:** The Premises is free and clear of all tenancies, whether oral or written, and as of the Delivery Date, Tenant shall have sole and actual possession of the Premises.

6.2.5 **Covenant of Title and Quiet Enjoyment:** Landlord is well seized of and has good title to the Premises and all improvements located on it as of the Effective Date, free and clear of all liens, mortgages, encumbrances, easements, tenancies and restrictions except as set forth on **Exhibit A-1** (Landlord agrees to provide copies of any and all such documentation related thereto). Landlord warrants and will defend title, and will indemnify Tenant against any damage and expense which Tenant may suffer by reason of any claim against title or defect in the title or description of the Premises. In addition, Landlord agrees that Tenant's quiet enjoyment of the Premises will not be disturbed or interfered with by Landlord or by anyone claiming by, through or under Landlord. If, at any time, Landlord's title or right to receive rent under this Lease is disputed, or there is a change of ownership of Landlord's estate by act of the parties or operation of law, Tenant may withhold rent thereafter accruing until Tenant is furnished proof satisfactory to it as to the party entitled to the rent.

6.2.6 **Tenant's Exclusive Use:** That no property (other than the Premises) now or hereafter owned, leased or controlled, directly or indirectly, by Landlord or, if Landlord is a corporation, any subsidiary or affiliate of Landlord, adjacent or contiguous to the Premises or within one (1) mile of the perimeter of the Premises (whether or not such other property is subsequently voluntarily conveyed by Landlord) shall, during the term of this Lease and any extensions, be leased, used or occupied (i) for the manufacture or sale of coffee (including, but not limited to, frozen beverages), smoothies, donuts, bagels, breakfast sandwiches, pastry or bakery products, except that the sale of coffee, smoothies, donuts, bagels, pastry and bakery products at retail, if not manufactured on the premises, may be made in connection with the operation of supermarkets and waiter/ess service restaurants which do not specialize in the sale of any such items. Landlord further agrees that it shall not lease to any of the following: Starbuck's Coffee Company, Seattle's Best Coffee, Tim Horton's, Krispy Kreme Doughnuts, Caribou Coffee, Peet's Coffee & Tea, Einstein Bros. Bagels, McDonald's, Bruegger's Bagels, Coffee Beanery, Manhattan Bagels, Panera Bread Co., WaWa, Quick Chek, or 7-Eleven. If the covenant referenced in this Section

6.2.6 is broken, one-half (1/2) of all payments required to be made by Tenant under this Lease shall be abated for so long as such breach continues. The total sums so abated shall be liquidated damages for such breach and not a penalty, the parties agreeing that Tenant, or its subtenant, inevitably must sustain proximate and substantial damages from such breach, but that it will be very difficult, if not impossible, to ascertain the amount of such damage. In addition to this remedy, Tenant shall be entitled to injunctive and other appropriate relief, whether under the provisions of this Lease or otherwise. If Landlord's breach of this Section 6.2.6 continues for one (1) year or more, Tenant shall have the right to terminate this Lease by written notice to Landlord in which case Landlord shall be required to reimburse Tenant for the unamortized value of Tenant's leasehold and other improvements to the Premises.

6.2.7 **Indemnity:** Landlord shall defend, indemnify and hold Tenant and its affiliates, officers, directors, agents and employees (each, an "Indemnified Party") harmless from and against any and all claims, demands, actions, suits, liabilities, costs or expenses (including reasonable attorneys' fees and any other costs of investigation and/or defense) (collectively, "damages") arising directly or indirectly out of Landlord's conduct (or that of its affiliates, officers, directors, agents or employees) or its violation of any of the terms of this Lease; provided that Tenant shall not be entitled to indemnification hereunder to the extent that the relevant Damages arise out of Tenant's (or that of its affiliates, officers, directors, agents or employees) own negligence or willful misconduct.

6.2.8 **Landlord's W-9:** Landlord's accurate and current W-9 is attached hereto and incorporated herein as **Exhibit E**.

USE, ALTERATIONS, DELIVERY, DEVELOPMENT, AND TITLE TO IMPROVEMENTS

7.1 **Permitted Use:** Tenant shall have the right to use and occupy the Premises for the operation of a Dunkin'Donuts restaurant and for any other legally permissible use ("Permitted Use").

7.2 **Alterations and Title to Improvements:** Tenant shall have the right to make, or permit any subtenant to make, alterations, additions and improvements to the Premises from time to time. All of such alterations, additions and improvements constructed by Tenant or such subtenant shall be and remain the property of Tenant or such subtenant, as the case may be, at all times during the Term. Landlord agrees to execute such documents, make such appearances and do such other things as Tenant may reasonably request so as to comply with the intent of this Section 7.2. Tenant and any subtenant shall have the right to remove any such alterations, additions and improvements at any time during the Term, and for a period of thirty (30) days after the termination of this Lease. However, neither Tenant not any such subtenant shall be required to remove any such alterations, additions or improvements, and Tenant's (or such subtenant's) failure to do so after the expiration of such period of thirty (30) days shall be

deemed to be an abandonment and the same shall, at such time, become a part of the real estate with title vesting in the Landlord.

7.3 Landlord's Delivery: No later than January 1, 2019, but in no event earlier than the expiration or waiver by Tenant of the Contingency Period, Landlord, at Landlord's sole cost and expense, shall deliver the Premises to Tenant in the condition required by the terms of this Lease ("**Delivery Date**"). If Landlord fails to deliver the Premises by the Delivery Date, Tenant may (i) elect to receive credit(s) against Fixed Rent of two (2) days of Fixed Rent for each day of delay after the expiration of the Delivery Date (calculated based on a 30 day month); or (ii) Tenant may terminate the Lease by written notice to Landlord, in which case neither party shall have any further rights or obligations hereunder, provided that, Landlord shall reimburse Tenant for its out-of-pocket expenses incurred in negotiating this Lease (including, without limitation, reasonable attorney's fees), inspecting and investigating the Premises and preparing Tenant's plans (including, without limitation, architectural and engineering fees).

7.4 Landlord's Approval of Tenant's Plans: During the Contingency Period, Tenant shall deliver Tenant's plans and specifications for the construction or material alteration (including, if applicable, demolition of the existing building on the Premises) of Tenant's improvements ("**tenant's Plans**") to Landlord. Landlord agrees to provide its written approval of or objections to Tenant's Plans within ten (10) days from Landlord's receipt thereof, such approval not to be unreasonably withheld, delayed or conditioned. Any objections to Tenant's Plans provided by Landlord shall be accompanied by detailed written reasons for such objection(s). Tenant agrees to review Landlord's objection(s) and provide a response to Landlord (which response may include modification(s) to Tenant's Plans) within ten (10) days from Tenant's receipt thereof. If Landlord shall fail to provide its approval or rejection of Tenant's Plans, or any revisions thereof, within any such ten (10) day period, Tenant's Plans shall be deemed approved by Landlord in all respects. Notwithstanding anything to the contrary contained herein, if Landlord and Tenant are unable to agree as to Tenant's Plans within thirty (30) days of Tenant's original submission of Tenant's Plans to Landlord, Tenant may terminate this Lease upon written notice to Landlord.

7.5 Tenant's Construction Obligations: Provided that Tenant has not terminated this Lease as permitted herein, Tenant shall, at its sole cost and expense, perform its construction of the improvements in accordance with Tenant's Plans. Tenant shall employ a licensed contractor of its choosing to construct the improvements upon the Premises. Landlord expressly acknowledges and agrees that Tenant shall have no obligation to use union labor for any portion or portions of Tenant's construction. Prior to commencement of construction, Tenant shall procure and deliver to Landlord all certificates of insurance required hereunder. Tenant shall perform all work in a good and workmanlike manner and in accordance with Tenant's Plans and all applicable laws. Tenant acknowledges that it assumes sole responsibility for the construction and maintenance of all buildings, structures and improvements on the Premises, and that Landlord shall not be required to construct, repair, maintain, or make capital improvements to any such buildings, structures or improvements at any time.

7.6 Mechanic's Liens: Tenant agrees to pay when due the entire cost of any work on the Premises undertaken by Tenant so that the Premises shall at all times remain free of liens for labor and materials; provided that, Tenant may contest any such liens so long as such lien is bonded, removed or satisfied within sixty (60) days after receipt by Tenant of written notice of the filing thereof or such shorter time as may be required to prevent a judgment of sale thereunder. In the event that Tenant fails to discharge the mechanic's lien as provided in this Section 7.6, then Landlord, may, but shall not be obligated to, following fifteen (15) days prior written notice to Tenant of its intention to do so and Tenant's failure to cure within said fifteen (15) day period, discharge the same by paying the amount of the claim to be due or by bonding or other commercially reasonable proceeding deemed appropriate by Landlord, and the amount so paid by Landlord shall be deemed to be additional monies due and payable under this Lease by Tenant to Landlord which shall be paid within ten (10) days of Landlord's written demand therefor (provided that Landlord shall include adequate supporting information related thereto with such demand notice).

7.7 Signage: Tenant's prototypical building elevations and signage is attached hereto as **Exhibit D** which Landlord has approved. Notwithstanding the foregoing, Landlord hereby agrees that Tenant may utilize any elevations and signage that Tenant desires so long as it is permitted by the applicable governmental authorities. Tenant agrees to maintain its signs, awnings, canopies, decorations, lettering, and advertising in good condition, operating order and repair at all times. Tenant may also put signs and placards within the interior of the building(s) on the Premises consistent with its business practice; construct and maintain a dedicated pylon or monument sign on the Premises; and install temporary "Now Hiring" and "Grand Opening" signage on the Premises.

ASSIGNMENT AND SUBLETTING

8.1 Consent Required: Tenant shall not sublease the Premises or assign this Lease without first obtaining the prior written consent of Landlord, such consent not to be unreasonably withheld, conditioned or delayed.

8.2 Consent Not Required: Tenant shall have the right, without the need to obtain Landlord's consent, to sublet the Premises or assign this Lease to an approved franchisee of Dunkin'Donuts Franchising LLC ("franchisor") or to an entity related to Tenant provided Tenant remains liable for the payment of Fixed Rent and the performance of Tenant's duties under this Lease. In the case of an assignment of this Lease to an approved franchisee of Franchisor, Landlord agrees, within ten (10) days of Tenant's request, to execute and deliver to Tenant a copy of Tenant's standard form Option to Assume Lease, which is attached hereto and incorporated herein for all purposes as **Exhibit F**.

DEFAULT

9.1 Default by Tenant: If Tenant defaults in any payment of Fixed Rent or other payments required to be made by Tenant herein contained and such default continues for five (5) days after Tenant's receipt of written notice thereof from Landlord (provided however, that Landlord

shall not be required to provide Tenant with written notice of Tenant's failure to make any required payments hereunder more than two (2) times in any lease year, or if Tenant defaults in any of its other (non-monetary) obligation herein contained and such default continues for thirty (30) days after Tenant=s receipt of written notice thereof from Landlord specifying such default (or, if the same cannot reasonably be cured within such thirty (30) day period, Tenant has not begun to cure such default within such thirty (30) day period and thereafter diligently pursued such cure to completion), Landlord shall be entitled to seek any available legal remedies in Maine, including, but not limited to, any of the following remedies:

9.1.1 Upon entry of a court order, Landlord may declare this Lease ended and terminated and, with appropriate judicial decree, re-enter the Premises and take possession thereof, and eject and remove all persons and, remove all property therefrom and place any such property in storage in a public warehouse at the expense and risk of Tenant.

9.1.2 If Landlord has terminated this Lease pursuant to legal proceedings, Landlord may either continue to recover Fixed Rent as and when it becomes due for the remainder of the then current term or relet the Premises or any part thereof for such term or terms and upon such provisions as Landlord, in its sole judgment, may deem advisable.

9.2 Default by Landlord: If Landlord defaults in any of its covenants herein contained and fails to cure the same within a period of thirty (30) days after receipt of written notice from Tenant specifying such default (or, if the same cannot reasonably be cured within such thirty (30) day period, Landlord has not begun to cure such default and thereafter diligently pursued such cure to completion), Tenant may, at its option, either cure such default at Landlord=s expense (or offset such sums against Fixed Rent next coming due until Tenant is reimbursed in full), terminate this Lease, and/or avail itself of any other remedies available in equity and at law.

CASUALTY

10.1 Notice of Casualty: If the improvements on the Premises, or any material part thereto, should be destroyed or damaged by fire or other casualty, then Tenant shall promptly deliver written notice thereof to Landlord.

10.2 Reconstruction of Premises: If the improvements on the Premises should be damaged by fire or other casualty within the extended coverage of the property insurance policies carried by Tenant during the Term of this Lease, then Tenant shall, within ninety (90) days after Tenant's receipt of such insurance proceeds, commence (and shall thereafter diligently and continuously prosecute to completion) restore, replace and/or rebuild the improvements to substantially the same condition in which they existed prior to such damage (**"Restoration"**). If it is not reasonably possible to complete the Restoration in accordance with the preceding sentence within one hundred eighty (180) days after such casualty, subject to force majeure, Tenant, at Tenant's option, may elect to terminate this Lease upon written notice to Landlord. Upon termination pursuant to the preceding sentence, Tenant shall remove all damaged

buildings and improvements, and thereafter neither party shall have any further rights, duties or other obligations under this Lease accruing from and after the effective date of said termination, except as specifically otherwise provided in this Lease. To the extent the Premises is rendered all or partially untenantable as a result of said casualty, Fixed Rent shall abate for the period commencing upon the date of said casualty and continuing until Tenant's completion of the Restoration, but not for greater than 90 days after Tenant's receipt of all necessary permits to complete such restoration, provided however, that if such restoration cannot be reasonably commenced and completed due to winter weather, such period of time shall be extended until such time as the work may be reasonably completed. If, despite such damage, Tenant elects to continue occupancy of the Premises, then from the date of such damage until the date that the Restoration is completed, there shall be an equitable adjustment in Fixed Rent, for up to a maximum of 90 days, taking into account the interference with Tenant's normal conduct of business and loss of profit resulting therefrom.

10.3 Final Two (2) Years: If the improvements on the Premises should be totally or materially damaged by fire or other casualty within the last two (2) years of the Initial Term or during any Option Period, Tenant may elect to terminate this Lease upon written notice to Landlord given within ninety (90) days after the date of said casualty. Upon termination of this Lease pursuant to this Section 10.3, neither party shall have any further rights, duties or obligations under this Lease, except as specifically provided otherwise in this Lease. In the event that this Lease is terminated by Tenant within the last two (2) years of the Initial Term or during any Option Period as set forth herein, all insurance proceeds relating to the improvements on the Premises (but not Tenant's Property) shall be retained by Landlord.

10.4 Application of Insurance Proceeds: Except as otherwise provided in Section 10.3 above, insurance proceeds received on account of any damage to or destruction of the improvements on the Premises (or any part thereof) shall be applied solely to pay for the cost of Restoration. If the insurance proceeds exceed the cost of Restoration, Tenant shall be entitled to retain such excess proceeds but only after Landlord has been furnished with reasonably satisfactory evidence that all Restoration has been completed and that no mechanic's liens exist in connection with the Restoration.

CONDEMNATION

11.1 Taking: If the whole or any part of the Premises is taken or condemned by any competent authority for any public use or purpose during the Term, Tenant reserves unto itself the right to claim and prosecute its claim in all appropriate courts and agencies for an award or damages for such taking based upon its leasehold interest, business, and ownership of buildings, alterations and improvements located on the Premises. Landlord shall have the right to make a claim for the taking of or injury to the reversion.

11.2 Partial Taking: If a part of the Premises shall be taken or condemned which, in the sole judgment of Tenant, is sufficient to render the remaining portion unsuitable for its continued use or occupancy, then Tenant may, at any time, either prior to or within a period of ninety (90) days after the date when possession of the Premises shall be required by the condemning

authority, elect to terminate this Lease, or, if an option to purchase the Premises is conferred upon Tenant by any other provision of this Lease, may as an alternative to such termination of this Lease, elect to purchase the Premises in accordance with such purchase option, except that there shall be deducted from the purchase price to be paid for the Premises all of Landlord's award from the condemnation proceeding.

11.3 No Termination: In the event of any taking or condemnation not resulting in termination of this Lease, this Lease shall continue in effect with respect to the portion of the Premises not so taken, except that the Fixed Rent and other charges payable hereunder shall be reduced by a fraction, the numerator of which shall be the number of square feet taken or condemned, and the denominator of which shall be the square footage of the Premises prior to the taking or condemnation. Tenant will, with all due diligence and at its own cost and expense, repair and restore the Premises or what may remain of it to its former condition to the extent practicable, and to the extent that Tenant has received an award or compensation for such repair or restoration. Until the completion of such work, the obligation of Tenant to pay Fixed Rent and other charges payable hereunder shall abate.

11.4 Notice: Landlord shall give Tenant prompt notice of a taking or proposed taking by eminent domain or through temporary or permanent easements of all or any portion of the Premises, and Landlord shall include Tenant in any discussions or negotiations with the right of way agent or other condemning authority.

TRADE FIXTURES, MACHINERY AND EQUIPMENT

12.1 Landlord agrees that all trade fixtures, machinery, equipment, furniture and other personal property of whatever kind and nature kept or installed in the Premises by Tenant or Tenant's assignees or subtenants shall not become the property of Landlord or a part of the realty no matter how affixed to the Premises and may be removed by Tenant or Tenant's assignees or subtenants, in their discretion, at any time and from time to time during the Term. Upon request of Tenant or Tenant's assignees or subtenants, Landlord shall execute and deliver any real estate consent or waiver forms submitted by any vendors, lessors, chattel mortgagees or holders or owners of any trade fixtures, machinery, equipment, furniture or other personal property of any kind and description kept or installed in the Premises by any subtenant or assignee setting forth the fact that Landlord waives, in favor of such vendors, lessors, chattel mortgagees or any holders or owners, any lien, claim, interest or other right superior to that of such vendors, lessors, chattel mortgagees, owners or holders. Landlord shall further acknowledge that property covered by such consent or waiver forms is personal property and is not to become a part of the realty no matter how affixed to it, and that such property may be removed from the Premises by the vendors, lessors, chattel mortgagees, owners or holders at any time upon default by the subtenant or assignee in the terms of such chattel mortgage or other similar documents, free and clear of any claim or lien of Landlord.

ESTOPPEL CERTIFICATES, ATTORNMENT AND SUBORDINATION

13.1 Estoppel Certificates: Within twenty (20) days after written request from a party hereto, the other party shall execute and deliver to the requesting party a statement, in writing, certifying (a) that this Lease is in full force and effect, (b) the Rent Commencement Date, (c) that Fixed Rent is paid currently without any off-set or defense thereto, or, if delinquent, stating the delinquency, (d) the amount of Fixed Rent then in effect and, if any, paid in advance, (e) that, to the knowledge of the certifying party, there are no uncured defaults by Landlord or Tenant, or stating those claimed, and (f) any other information reasonably requested.

13.2 Attornment: In the event any proceedings are brought for the foreclosure of, or in the event of conveyance by deed-in-lieu of foreclosure of, or in the event of exercise of the power of sale under any mortgage made by Landlord covering the Premises, Tenant hereby attorns to the successor in interest and covenants and agrees to execute an instrument in writing reasonably satisfactory to such successor and Tenant whereby Tenant attorns to such successor in interest and recognizes such successor in interest as Landlord hereunder.

13.3 Subordination: Tenant agrees that this Lease shall, at the request of Landlord, be subordinate to any first mortgages or deeds of trust that may be placed upon the Premises and to any and all advances to be made thereunder, and to the interest thereon, and all renewals, replacements and extensions thereof; provided that, (a) if there are no existing defaults hereunder beyond applicable notice and cure periods on the part of Tenant, the right of possession of Tenant to the Premises and Tenant's rights under this Lease shall not be affected or disturbed by the mortgagee, or the trustee or the beneficiary under the mortgage or deed of trust in the exercise of any of its rights under the mortgage or the deed of trust; (b) Tenant shall not, in any foreclosure or other proceeding under the mortgage or deed of trust, nor in any other way, be deprived of its rights under this Lease, nor shall this Lease be terminated or affected by any foreclosure or sale or any proceeding under any mortgage or deed of trust; and (c) Landlord shall cause the mortgagee, trustee and/or beneficiary under any mortgage or deed of trust to execute, acknowledge and deliver to Tenant a written and recordable subordination, non-disturbance and attornment agreement ("SNDA") in form reasonably acceptable to Tenant prior to the execution of any mortgage or deed of trust or, if the same is in place at the time of execution of this Lease, on or before the expiration of the Contingency Period. Landlord agrees that in the event of any foreclosure of any mortgage or deed of trust, Tenant shall have the right to rely on any written communication from any mortgagee or trustee without the need to investigate the validity thereof and, as such, Tenant may withhold the payment of Fixed Rent or other amounts due hereunder and pay the same directly to the mortgagee or trustee in satisfaction of any of said indebtedness.

MISCELLANEOUS PROVISIONS

14.1 Holding Over: If Tenant continues to occupy the Premises after the last day of the Term, and Landlord elects to accept rent thereafter, a tenancy from month-to-month only shall be created, and not for any longer period. Fixed Rent payable during any such month-to-month tenancy shall be an amount equal to one hundred twenty-five percent (125%) of the Fixed Rent in effect at the expiration of the Term.

14.2 Invalidity: If any term or provision of this Lease or the application to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term or provision to persons whose circumstances other than those as to which it is held invalid or unenforceable, shall not be affected.

14.3 Recording: At the request of either party hereto, Tenant and Landlord agree to execute and record a short form or memorandum of this Lease as soon as Tenant has obtained an approved survey and legal description of the Premises. The recording fees shall be paid by the requesting party.

14.4 Successors: The terms, conditions and covenants of this Lease shall be binding upon and shall inure to the benefit of each of the parties, their heirs, personal representatives, successors or assigns, and shall run with the land; and where more than one party shall be lessors under this Lease, the word "Landlord" whenever used in this Lease shall be deemed to include all lessors jointly and severally.

14.5 Writing: No waivers, alterations or modifications of this Lease or any agreements in connection with this Lease shall be valid unless in writing duly executed by both Landlord and Tenant.

14.6 Construction: The captions appearing in this Lease are inserted only as a matter of convenience and in no way define, limit, construe or describe the scope or intent of such paragraphs of this Lease or in any way affect this Lease. Any gender used shall be deemed to refer to any other gender more grammatically applicable to the party to whom such use of gender relates. The use of singular shall be deemed to include the plural and, conversely, the plural shall be deemed to include the singular.

14.7 Notice: If at any time after the execution of this Lease, it shall become necessary or convenient for one of the parties to serve any notice, demand or communication upon the other party, such notice, demand or communication shall be in writing signed by the party serving notice, sent by (i) nationally recognized overnight carrier or (ii) registered or certified United States mail, return receipt requested and postage or other charges prepaid.

If intended for Landlord, the notice shall be addressed to:

Nancy E. Hurst
1876 Harpswell Neck Road
Harpswell, ME 04079

If intended for Tenant, the notice shall be addressed to:

DB Real Estate Assets I LLC
c/o Dunkin' Brands, Inc., as Manager
130 Royall Street, Canton, Massachusetts 02021
Attention: Manager, Corporate Real Estate

or such other address as either party may have furnished to the other in writing as a place for the service of notice. Any notice sent as set forth herein shall be deemed to have been given as of the date it is received (or, if delivery is refused, the date of refusal) as evidenced by the receipt.

14.8 Waiver of Jury Trial: Landlord and Tenant agree to waive any right to have a trial by jury with respect to any lawsuit based on, or arising under this Lease or any course of conduct, course of dealing, statements or actions of Landlord or Tenant in connection with this Lease.

14.9 Authority to Sign: No employee or agent of Tenant (other than an authorized signatory) has authority to make a lease or any other warranty, representation, agreement or undertaking. The submission of this document for examination and negotiation does not constitute an offer to lease or a reservation of or option for the Premises, and this document will become effective and binding only upon execution and delivery by Landlord and an authorized signatory of Tenant. All negotiations, considerations, representations and understandings between the parties are incorporated in this document and may be modified or altered only by agreement in writing between the parties, and no act or omission of any employee or agent of the parties or any broker, if any, shall alter, change or modify any of the provisions of this Lease. The parties executing this Lease on behalf of Landlord and Tenant represent that they have authority and power to sign this Lease on behalf of Landlord and Tenant.

14.10 Counterparts/Electronic Execution: This Lease may be executed in one or more counterparts and shall become effective when the appropriate counterparts have been signed by all of the parties hereto. Each counterpart shall be deemed an original but all counterparts shall constitute a single instrument. The parties agree that they may enter into this Lease (including any amendments and riders hereto) via facsimile and/or email/scan and execution in such a manner, including facsimile and/or emailed/scanned signatures, shall be binding and be deemed as originals for all purposes and shall in no way affect the validity or enforceability of the provisions of this Lease.

14.11 Quiet Enjoyment: Landlord hereby covenants and agrees that if Tenant shall not be in default beyond any period for the cure thereof, Tenant shall, at all times during the Term have peaceable and quiet enjoyment and possession of the Premises without hindrance, disturbance or interruption from Landlord or any other Person.

14.12 Broker's Commission: The parties hereto represent and warrant that they have dealt with no broker regarding this Lease.

14.13 Force Majeure: Each party shall be excused for the period of any delay and shall not be deemed in default with respect to the performance of any of the terms, covenants and conditions of this Lease when prevented from doing so by delays beyond the control of a party due to unusually inclement weather, acts of God, inability to obtain labor or materials, strikes, lock outs, labor troubles, government restrictions, enemy action, civil commotion, fire, flood,

casualty loss, war, government restrictions, revolution, terrorism, delays caused by the other party or its employees, agents or representatives, and other causes whether similar or dissimilar to the foregoing which are beyond the control of the party.

14.14 Confidentiality: The terms of this Lease and all related agreements are highly confidential. In no event shall the parties disclose any information concerning terms of this Lease to any third party unless (i) specifically required to do so by operation of law or (ii) after receiving the approval of the other party hereto permitting such disclosure. Notwithstanding the foregoing, Tenant shall be permitted to provide its subtenant, if any, with a copy of this Lease and Tenant shall be permitted to provide its permitted assignee(s) with a copy of this Lease. In addition, the parties shall be permitted to disclose the terms of this Lease to their accountants, attorneys, prospective lenders and/or operating management.

14.15 Exhibits: This Lease includes the following Exhibits, which shall take precedence over conflicting provisions (if any) of this Lease, and are made an integral part of this Lease and fully incorporated by reference:

Exhibit A	Legal Description
Exhibit A-1	Covenant, Conditions, Restrictions, and Easements
Exhibit B	Site Plan
Exhibit C	Schedule of Fixed Rent
Exhibit D	Tenant's Prototypical Signage and Elevations
Exhibit E	Landlord's Form W-9
Exhibit F	Tenant's Option to Assume Lease

[the remainder of this page intentionally left blank,the next page is the signature page]

Landlord and Tenant, by their execution below, indicate their consent to the terms of this Lease.

Landlord:

Nancy E. Hurst

Nancy E. Hurst

Witness:

Tenant:
DB Real Estate Assets I LLC

By:
Name: Jason S. Maceda
Its: VP, Finance

Witness:

EXHIBIT A
LEGAL DESCRIPTION

PARCEL 1:

A certain lot or parcel of land situated on the easterly side of St. John Street in the City of Portland, County of Cumberland, and State of Maine, being bounded and described as follows:

BEGINNING at an iron on the easterly side of St. John Street, a distance of two hundred fifty-two and four hundredths (252.04) feet northerly from Congress Street;
THENCE North 2 14' East, along the easterly sideline of St. John Street, a distance of sixty-two and fifty hundredths (62.50) feet to an iron;
THENCE South 87 46' East, a distance of one hundred forty-one and fifteen hundredths (141.15) feet-to an iron at the westerly sideline of Valley Street;
THENCE South 8 30' East, along the westerly sideline of Valley Street, a distance of one hundred seven and eighty-eight hundredths (107.88) feet to an iron;
THENCE South 81 27' West, a distance of seventy-nine and sixty-nine hundredths (79.69) feet to an iron;
THENCE North 8 45' West, a distance of ten (10) feet to an iron;
THENCE North 56 55' West, a distance of ninety-four and sixty hundredths (94.60) feet to an iron at the easterly sideline of St. John Street and the point of beginning.

Reference may be had to a deed from Resnick Oil Company to Philip R. Resnick dated September 6, 1966, and recorded in the Cumberland County Registry of Deeds, Book 2972, Page 535. Further reference may be had to a Trustees Deed from Casco Bank & Trust Company and Diana Resnick, Trustees for the Philip P. Resnick Revocable Trust, to Nancy R. Hurst dated October 5, 1976, and recorded in the Cumberland County Registry of Deeds, Book 3923, Page 45.

PARCEL 2:

A certain lot or parcel of land situated on the westerly side of Valley Street in the City of Portland, County of Cumberland and State of Maine, being bounded and described as follows:

BEGINNING on the westerly sideline of Valley Street at a point one hundred thirty-one and seventy-one hundredths (131.71) feet northerly thereon from the northerly sideline of Congress Street, being the northeasterly corner of land conveyed by John W. Deering to Emma C. Henderson by deed dated September 1, 1943 and recorded in the Cumberland County, Registry of Deeds, Book 1724, Page 287;
THENCE northerly by the westerly sideline of Valley Street sixty (60) feet to the southeasterly corner of land conveyed by Franklin S. Olsen to Margaret Howard, et al by deed dated April 2, 1942 and recorded in said Registry of Deeds, Book 1671, Page 150;

THENCE westerly at right angles with Valley Street and by said Howard land seventy-nine and sixty-nine hundredths (79.69) feet to an iron hub in the easterly sideline of land conveyed by Gifford Realty Co. to Mary E. Hansen by deed dated November 3, 1969 and recorded in said Registry of Deeds, Book 3107, Page 809;
THENCE southerly by said Hansen land fifty-three and forty-four hundredths (53.44) feet to an iron hub at the northwesterly corner of said Henderson land;
THENCE easterly by said Henderson land seventy-nine and ninety-four hundredths (79.94) feet to the point of beginning.

Reference may be had to a deed from Hildegarde M. Ledue to Philip P. Resnick recorded in the Cumberland County Registry of Deeds, Book 2983, Page 372. Further reference may be had to a Trustees Deed from Casco Bank & Trust Company and Diana Resnick, Trustees for the Philip P. Resnick Revocable Trust, to Nancy R. Hurst, dated October 5, 1976 and recorded in the Cumberland County Registry of Deeds, Book 3923, Page 45.

PARCEL 3:

A certain lot or parcel of land situated in the City of Portland, County of Cumberland and State of Maine, being bounded and described as follows:

BEGINNING at the northeasterly corner of land formerly of Lindley M. Webb, which corner is about one hundred (100)' feet northerly from Congress Street;
THENCE running westerly by said Webb land and land formerly of C.N. Carleton, a distance of ninety-nine and twenty-eight (99.28) feet, more or less, to St. John Street;
THENCE northerly by St. John Street one hundred fifty-two and thirty-one hundredths (152.31) feet, more or less, to a point distant two hundred fifty-three and seventy-three hundredths (253.73) feet northerly from the intersection of said side of St. John Street with the northerly side of Congress Street;
THENCE easterly at right angles with St. John Street seventy and five tenths (70.5) feet to land formerly of Hans Hansen;
THENCE southerly by said Hansen land one hundred forty-three and five tenths (143.5) feet, more or less, to the point of beginning.

EXCEPTING therefrom the portion of the premises conveyed to Philip P. Resnick by Resnick Oil Co., Inc. by Warranty Deed dated September 6, 1966, and recorded in the Cumberland County Registry of Deeds, Book 2972, Page 535.

Reference may be had to a deed from C.H. McKenzie Company to Eugene S. Martin dated June 30, 1979, and recorded in the Cumberland County Registry of Deeds, Book 4465, Page 18. Further reference may be had to a deed from Eugene S. Martin to Wayne R. Hurst dated December 30 1983 and recorded in the Cumberland County Registry of Deeds, Book 6361, Page 156.

Further reference may be had to the Quit Claim Deed of Wayne R. Hurst to Nancy E. Hurst dated March 27, 1992 and recorded in the Cumberland County Registry of Deeds, Book 9982, Page 346.

EXHIBIT F

OPTION TO ASSUME LEASE

Option to Assume Lease (PC _____)

1. If _____ ("tenant") defaults under the Lease dated _____ ("lease") by and between _____ ("landlord") and Tenant for the premises located at _____ _____ ("Premises"), or if Dunkin' Donuts Franchising LLC or Baskin-Robbins Franchising LLC ("Franchisor@) terminates Tenant's franchise agreement covering the Premises, Landlord and Tenant acknowledge and agree that Franchisor will have the option to assume the Lease pursuant to the terms of this Option which supplements and forms a part of the Lease.

2. Landlord agrees to give Franchisor written notice specifying all default(s) of Tenant under the Lease. Franchisor agrees to give written notice to Landlord if Franchisor terminates Tenant"s franchise agreement and, in such notice, will request that Landlord provide Franchisor with a copy of the Lease and specify any of Tenant's defaults thereunder. All notices will be by nationally recognized overnight courier (with tracking capability).

3. Franchisor may, within 30 days from receipt of notice from Landlord that Tenant has defaulted under the Lease and failed to cure such default(s) as required or permitted by the terms of the Lease, or sending of notice to Landlord that Franchisor has terminated Tenant's franchise agreement covering the Premises, notify Landlord of Franchisor's decision to assume the Lease. If Franchisor exercises its right to assume the Lease by sending Landlord the required notice, immediately upon Franchisor's receipt of possession of the Premises, Franchisor will cure all of Tenant's monetary defaults under the Lease, begin curing all of Tenant's non-monetary defaults under the Lease, and execute an agreement pursuant to which Franchisor agrees to assume all of Tenant's rights and obligations under the Lease, subject to (i) Franchisor's right, without the need to obtain Landlord's consent, to sublet the Premises or assign the Lease to an approved franchisee of Franchisor provided Franchisor remains liable for the payment of rent and the performance of Tenant's duties under the Lease (ii) Franchisor not being subject to any provision of the Lease that requires Tenant to continuously operate a business in the Premises during any period that the Premises is closed for remodeling or while Franchisor is seeking to obtain and train a new franchisee, provided however, that such period of closure will not exceed 90 days in each instance and provided further that Franchisor continues to pay rent during such period of closure pursuant to the terms of the Lease; and (iii) Franchisor=s right, if it subleases the Premises to a franchisee as provided above, to retain all consideration payable under such sublease.

4. If Franchisor exercises its right to assume the Lease, Tenant agrees to assign all of its right, title and interest in the Lease to Franchisor and, if Tenant does not do so within ten (10) days of Franchisor's written notice, Tenant appoints Franchisor as its agent to execute all documents that may be necessary for Franchisor to take assignment of the Lease. Notwithstanding anything to the contrary contained herein, Tenant shall remain liable to Landlord for all of its obligations under the Lease and to Franchisor for all amounts that Franchisor pays to Landlord to cure Tenant's defaults under the Lease, including interest, reasonable collection costs and de-identification costs (the parties acknowledging that Franchisor may enter the Premises without being guilty of trespass or tort to de-identify the Premises). Franchisor may assign this Option and its rights hereunder to any affiliate, subsidiary or parent of Franchisor. This Option may be signed in any number of counterparts by facsimile or otherwise, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. A facsimile signature may be used for any purpose in lieu of an original signature.

This Option is dated _____, 20____.

LANDLORD

_____

Nancy E. Hurst

Address _____

_____

Phone _____

TENANT

_____

By: _____

Its: _____

By: _____

, Individually

By: _____

, Individually

By: _____

, Individually

FRANCHISOR

_____

By: _____

Its: _____

c/o Dunkin= Brands, Inc., as Manager
130 Royall Street

Canton, Massachusetts 02021
Attention: Legal Department

95

25089

TRUSTEES' DEED

KNOW ALL MEN BY THESE PRESENTS,

That, We, Casco Bank & Trust Company, a banking institution duly organized and existing by law and having a principal place of business at Portland, Maine, and Diana Resnick, both Trustees under an Indenture of Trust dated September 21, 1976, said trust being known as the Philip P. Resnick Revocable Trust, by virtue of the authority given to us in said Trust, in our capacities as Trustees, as aforesaid, and in consideration of One Dollar ($1.00) and other valuable considerations paid to us by Nancy E. Hurst of South Harpswell, County of Cumberland and State of Maine, the receipt whereof is hereby acknowledged, do hereby sell, and convey unto the said Nancy E. Hurst, her heirs and assigns, the following described real estate, with the buildings thereon, situated in Portland, bounded and described as follows:

> A certain lot or parcel of land situated in Portland, County of Cumberland and State of Maine, bounded and described as follows: Beginning at an iron on the easterly side of St. John Street, distant 252.04 feet northerly from Congress Street; thence North 2 degrees 14' East along the easterly side line of St. John Street, a distance of 62.50 feet, to an iron; thence South 87 degrees 46' East, a distance of 141.15 feet to an iron at the westerly side line of Valley Street; thence South 8 degrees 30' East along the westerly side line of Valley Street, a distance of 107.88 feet to an iron; thence South 81 degrees 27' West, a distance of 79.69 feet to an iron; thence North 8 degrees 45' West, a distance of 10 feet to an iron; thence North 56 degrees 55' West, a distance of 94.60 feet to an iron at the easterly side line of St. John Street and the point of beginning.
>
> The premises described being the same as conveyed by Resnick Oil Co. to Philip P. Resnick and recorded in Book 2972, Page 535, Cumberland County Registry of Deeds.

A certain lot or parcel of land situated on the westerly side of Valley Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the westerly side line of Valley Street at a point one hundred thirty-one and seventy-one hundredths (131.71) feet northerly thereon from the northerly side line of Congress Street, being the northeasterly corner of land conveyed by John W. Deering to Emma C. Henderson by deed dated September 1, 1943, and recorded in Cumberland County Registry of Deeds in Book 1724, Page 287; thence northerly by the westerly side line of Valley Street sixty (60) feet to the southeasterly corner of land conveyed by Franklin S. Olsen to Margaret Howard, et al, by deed dated April 2, 1942, and recorded in said Registry of Deeds in Book 1671, Page 150; thence westerly at right angles with Valley Street and by said Howard land seventy-nine and sixty-nine hundredths (79.69) feet to an iron hub in the easterly side line of land conveyed by Gifford Realty Co. to Mary E. Hansen by deed dated November 3, 1969, and recorded in said Registry of Deeds in Book 3107, Page 809; thence southerly by said Hansen land fifty-three and forty-four hundredths (53.44) feet to an iron hub at the northwesterly corner of said Henderson land; thence easterly by said Henderson land seventy-nine and ninety-four hundredths (79.94) feet to the point of beginning.

The premises described being the same conveyed to Philip P. Resnick from Hildegarde M. Ledue, and recorded in Book 2983, Page 372, in the Cumberland County Registry of Deeds.

To Have and to Hold the above granted premises unto the said Nancy E. Hurst and her heirs and assigns forever, and we the said Casco Bank & Trust Company and Diana Resnick, in our said capacities as Trustees do hereby COVENANT to and with the said Nancy E. Hurst that we are the lawful Trustees under the said Philip P. Resnick Revocable Trust; that we have power under said Trust to sell, as aforesaid and that in making this conveyance we have in all respect acted in pursuance of the authority granted in said Trust.

In Witness Whereof, we the said Casco Bank & Trust Company by Ashton Johnson, its Trust Officer, and Diana Resnick, both in their capacity as Trustees aforesaid, have hereunto put their hand and seals this 5th day of October, 1976.

Signed, Sealed and Delivered
in the presence of

CASCO BANK & TRUST COMPANY

Rose M. Bouchard
Witness

By its Trust Officer - Trustee

Rose M. Bouchard
Witness

Diana Resnick
Trustee

45

State of Maine
Cumberland, ss.

October 5, 1976

Then personally appeared the above-named Ashton Johnson, Trust Officer of said Casco Bank & Trust Company, duly authorized, and acknowledged the above instrument to be the free act and deed of said Casco Bank & Trust Company, and his free act and deed in his capacity.

Before me,

Rose M. Bouchard

MY COMMISSION EXPIRES
APRIL 8, 1977

State of Maine
Cumberland, ss

October 5, 1976

Then personally appeared Diana Resnick and acknowledged the above instrument to be her free act and deed.

Before me,

Rose M. Bouchard

MY COMMISSION EXPIRES
APRIL 8, 1977

OCT 15 1976
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 1 H 52M P M, and recorded in
BOOK 3923 PAGE 45. Margaret L Weber Acting Register

Instr 16840 Bk 9982 Pg 346

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS

WAYNE R. HURST, of South Harpswell, County of Cumberland and State of Maine

FOR CONSIDERATION PAID - GRANTS TO

NANCY E. HURST, of South Harpswell, County of Cumberland and State of Maine

16840

WITH WARRANTY COVENANTS the land in Portland, County of Cumberland and State of Maine

A certain lot or parcel of land, together with the buildings thereon, situated on the easterly side of St. John Street in said Portland, more particularly bounded and described as follows:

BEGINNING at the northeasterly corner of land formerly of Lindley M. Webb, which corner is about one hundred (100) feet northerly from Congress Street;
THENCE running westerly by said Webb land and land formerly of C. M. Carleton ninety-nine and twenty-eight hundredths (99.28) feet, more or less, to St. John Street;
THENCE northerly by St. John Street one hundred fifty-two and thirty-one hundredths (152.31) feet, more or less, to a point distant two hundred fifty-three and seventy-three hundredths (253.73) feet northerly from the intersection of said side of St. John Street with the northerly side of Congress street;
THENCE easterly at right angles with St. John Street seventy and five tenths (70.5) feet to land formerly of Hans Hansen;
THENCE southerly by said Hansen land one hundred forty-three and five tenths (143.5) feet, more or less, to the point of beginning.

Excepting therefrom the portion of the premises conveyed to Philip P. Resnick by Resnick Oil Co., Inc. by Warranty Deed, dated September 6, 1966 and recorded in Cumberland County Registry of Deeds in Book 2972, Page 535.

Meaning and intending to convey the same premises conveyed to the Grantor herein by Warranty Deed of Eugene S. Martin dated December 30, 1983 and recorded in the Cumberland County Registry of Deeds in Book 6361, Page 156.

WITNESS my hand and seals this 27 day of March, 1992.

Wayne R. Hurst
WAYNE R. HURST

STATE OF MAINE

Sagadahoc, ss. March 27, 1992

Then personally appeared the above named WAYNE R. HURST and acknowledged the foregoing instrument to be his free act and deed,

BEFORE ME,

David R. Weiss

~~Notary Public Atty at Law~~
~~My Commission Expires~~

David R. Weiss
Printed or Typed Name of Notary

Recorded
Cumberland County
Registry of Deeds
03/31/92 09:31:26AM
~~Robert P.~~ Titcomb
Register

PUBLIC OR PRIVATE RIGHTS-OF-WAY - SECTION 5

No new public or private right-of-ways are proposed for this project.

SCHEDULE - SECTION 6

Construction is expected to begin in 2018 as soon as permits are issued. Construction is expected to be completed approximately 36 weeks later.

Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

July 19, 2018 Project No. 17140

Ms. Jean Fraser, Planner
City of Portland Planning & Urban Development Department
389 Congress Street, 4th Floor
Portland, ME 04101

Request for Deviation from the City Sidewalk & Driveway Apron Material Policy for St. John Street – Proposed Dunkin Donuts Restaurant, 325 St. John Street, Portland, Maine. (PL-000047-2018)

Ms. Fraser:

The applicant, Dunkin' Brands, Inc. is proposing to replace an existing restaurant with a new Dunkin' Donuts Restaurant at 325 St. John Street, Portland, Maine. St. John Street is currently within the Brick Sidewalk Zone of the City Sidewalk & Driveway Apron Material Policy Map and is not located within a Historic District. It is the applicant's understanding that, based on the "City Sidewalk & Driveway Apron Material Policy" found in Appendix A of the *City of Portland Technical Manual*, they will be required to remove the existing concrete sidewalk along the frontage of the 325 St. John Street parcel and replace it with a brick sidewalk and entrance aprons. Based on this information and the following excerpt from the Technical Manual, the applicant offers the following information in support of a deviation from this policy for this project.

Excerpt from the "City Sidewalk & Driveway Apron Material Policy" found in Appendix A of the *City of Portland Technical Manual:*

The following policy is intended to be used as a standard for all sidewalk construction in the City of Portland, Maine. This policy will be employed when reviewing development proposals involving public infrastructure within the City of Portland.

Sidewalk Material

The Sidewalk Material map identifies three sidewalk materials, brick, concrete, and asphalt, specific to each city street. Within the City's historic districts, only brick shall be used. Note that the following exceptions may apply:

- *Exception to brick sidewalks: On sidewalks, or sections of sidewalks, where the slope exceeds 10% percent, the Department of Public Works may approve the use of alternative material in lieu of brick if such alternative material would provide a more slip resistant surface to improve pedestrian safety. The alternative material includes concrete for sidewalks outside of the designated historic districts, and Pinehall/Pathway Lachance item #193623 Brick Pavers, for sidewalks within all designated historic districts.*
- *Partial replacement: The Department of Public Works may approve a deviation from the sidewalk material policy to match existing sidewalks in cases where:*
    1. *A substantial portion of sidewalks adjacent to and in the area surround(ing) the portion to be constructed or disturbed are of a material other than that designated on the Sidewalk Material map, and:*
        a. *Existing sidewalks on the affected street frontage, other than those in the area to be disturbed, are in sound conditions, and*
        b. *Less than 50% of the existing sidewalk on the affected block is to be disturbed; or*
    2. *Other unusual circumstances exist, subject to the approval of the City Manager*

The applicant respectfully requests that the Department of Public Works consider and approve a deviation from the Sidewalk & Driveway Apron Material Policy to match existing sidewalks for this project based on the fact that:

1. A substantial portion of sidewalks adjacent to and in the area surrounding the portion to be constructed or disturbed are of a material other than that designated on the Sidewalk Material map, and:
   a. Existing sidewalks on the affected street frontage, other than those in the area to be disturbed, are in sound conditions, and
   b. Less than 50% of the existing sidewalk on the affected block is to be disturbed.

This project meets the criteria based on the following:

a. The existing sidewalks within the City's right of way of St. John Street, between Congress Street and Park Ave., are almost exclusively concrete material and appear to be in sound condition. There is a section of brick sidewalk on both sides of St. John Street, at its intersection with Congress Street. The brick materials terminate at the first paved entrance on either side. This is the only brick within this area of St. John Street. There are no brick sidewalks at the intersection of St. John and Park. Additionally, it appears all existing entrances on St. John Street, between Congress Street and Park Ave., are constructed of pavement material

b. The proposed project is to be located on a site with approximately 215 feet of frontage on St. John Street. There are currently two paved entrances and approximately 165 feet of concrete sidewalk along the property's frontage. The proposed site layout will include two paved entrances and approximately 148 feet of sidewalk. There will be approximately 72 feet of existing concrete sidewalk that will be disturbed by the construction of the proposed project. This is a 44% disturbance within the property frontage of St. John Street. Much of the disturbance will be constructing new ADA access ramps on either side of the entrances.

We look forward to discussing this request further with City Staff and the Planning Board. Please let us know if you have any questions in the meantime.

Sincerely,
PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., PE
Senior Project Manager

Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

July 19, 2018 Project No. 17140

Ms. Jean Fraser, Planner
City of Portland Planning & Urban Development Department
389 Congress Street, 4th Floor
Portland, ME 04101

Request for Deviation from the City Sidewalk & Driveway Apron Material Policy for Valley Street – Proposed Dunkin Donuts Restaurant, 325 St. John Street, Portland, Maine. (PL-000047-2018)

Ms. Fraser:

The applicant, Dunkin' Brands, Inc. is proposing to replace an existing restaurant with a new Dunkin' Donuts Restaurant at 325 St. John Street, Portland, Maine. Valley Street is currently within the Brick Sidewalk Zone of the City Sidewalk & Driveway Apron Material Policy Map and is not located within a Historic District. It is the applicant's understanding that, based on the "City Sidewalk & Driveway Apron Material Policy" found in Appendix A of the *City of Portland Technical Manual*, they will be required to remove the existing paved sidewalk along the frontage of the 325 St. John Street parcel and replace it with a brick sidewalk and entrance apron. Based on this information and the following excerpt from the Technical Manual, the applicant offers the following information in support of a request for deviation from this policy for this project.

Excerpt from the "City Sidewalk & Driveway Apron Material Policy" found in Appendix A of the *City of Portland Technical Manual:*

The following policy is intended to be used as a standard for all sidewalk construction in the City of Portland, Maine. This policy will be employed when reviewing development proposals involving public infrastructure within the City of Portland.

Sidewalk Material

The Sidewalk Material map identifies three sidewalk materials, brick, concrete, and asphalt, specific to each city street. Within the City's historic districts, only brick shall be used. Note that the following exceptions may apply:

- *Exception to brick sidewalks: On sidewalks, or sections of sidewalks, where the slope exceeds 10% percent, the Department of Public Works may approve the use of alternative material in lieu of brick if such alternative material would provide a more slip resistant surface to improve pedestrian safety. The alternative material includes concrete for sidewalks outside of the designated historic districts, and Pinehall/Pathway Lachance item #193623 Brick Pavers, for sidewalks within all designated historic districts.*
- *Partial replacement: The Department of Public Works may approve a deviation from the sidewalk material policy to match existing sidewalks in cases where:*
    1. *A substantial portion of sidewalks adjacent to and in the area surround(ing) the portion to be constructed or disturbed are of a material other than that designated on the Sidewalk Material map, and:*
        a. *Existing sidewalks on the affected street frontage, other than those in the area to be disturbed, are in sound conditions, and*
        b. *Less than 50% of the existing sidewalk on the affected block is to be disturbed; or*
    2. *Other unusual circumstances exist, subject to the approval of the City Manager*

The applicant respectfully requests that the Department of Public Works consider and approve a deviation from the Sidewalk & Driveway Apron Material Policy to match existing sidewalks for this project based on the following criterion:

1. A substantial portion of sidewalks adjacent to and in the area surrounding the portion to be constructed or disturbed are of a material other than that designated on the Sidewalk Material map, and:
   a. Existing sidewalks on the affected street frontage, other than those in the area to be disturbed, are in sound conditions, and
   b. Less than 50% of the existing sidewalk on the affected block is to be disturbed.

This project meets the criteria based on the following:

a. The existing sidewalks within the City's right of way of Valley Street are a mixture of brick, pavement and concrete and appear to be in sound condition. The sidewalk along the frontage of this site is paved with a grassed esplanade against granite curbing. The pavement sidewalk material continues along the west side of Valley Street until approximately 40 feet before its intersection with Park Ave. The existence of granite curbing varies on this side of the street. Additionally, it appears all existing entrances on Valley Street, between Congress Street and Park Ave., are constructed of pavement material.

b. The proposed project is to be located on a site with approximately 168 feet of frontage on Valley Street. There are currently no entrances along this frontage, so there is approximately 168 feet of paved sidewalk adjacent to the site. The proposed site layout will include a single entrance on Valley Street. This will disturb approximately 65 feet of existing sidewalk. This is a 39% disturbance within the property frontage of Valley Street. The disturbance will be limited to the new entrance, ADA access ramps and utility connections.

We look forward to discussing this request further with City Staff and the Planning Board. Please let us know if you have any questions in the meantime.

Sincerely,
PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., PE
Senior Project Manager

Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

July 19, 2018 Project No. 17140

Ms. Jean Fraser, Planner
City of Portland Planning & Urban Development Department
389 Congress Street, 4th Floor
Portland, ME 04101

Request for Waiver from Location and Spacing of Driveways, Section 1.7.2.7 of the City of Portland Technical Manual – Proposed Dunkin Donuts Restaurant, 325 St. John Street, Portland, Maine. (PL-000047-2018)

Ms. Fraser:

The applicant, Dunkin' Brands, Inc. is proposing to replace an existing restaurant with a new Dunkin' Donuts Restaurant at 325 St. John Street, Portland, Maine. The proposed site layout includes three driveway entrances for the site:

1. A one-way entrance off St. John Street,
2. A one-way exit onto St. John Street, and
3. A one-way exit onto Valley Street.

According to Section 1.7.2.7 of the City of Portland Technical Manual, the required spacing between double driveways either on the same lot or on adjacent properties is 100 feet for commercial driveways on any roadway with a speed limit of 25 or less. The proposed spacing on for this project is:

1. Distance from the one-way entrance off St. John Street to the adjacent driveway on the lot to the south = 91.7 feet
2. Distance from the one-way entrance off St. John Street to the one-way exit onto St. John Street = 100.2 feet
3. Distance from the one-way exit onto St. John Street to the adjacent driveway on the lot to the north = 77.8 feet
4. Distance from the one-way exit onto Valley Street to the adjacent driveway on the lot to the north = 117.7 feet.
5. Distance from the one-way exit onto Valley Street from the adjacent driveway on the lot to the south = 155.7 feet

The proposed location of the driveways on St. John Street are proposed to provide safe access into, through and out of the site. We have worked with City Staff in the past to look at alternative site layouts for this use, on this property. This layout worked the best for everyone. Additionally, the proposed locations provide for greater separation distances from the neighboring properties when compared to the existing conditions. There is an increase of approximately 16 feet from the driveway to the north of the site and approximately 2 feet from the driveway to the south. All measurements are taken centerline to centerline.

The applicant is of the opinion that the three driveways are critical to the safe and successful operation of the restaurant and respectfully requests that a waiver of the minimum spacing between driveways be granted for this project.

Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
Tel: (207) 257-2071 fax: (207) 257-2130

July 19, 2018 Project No. 17140

Ms. Jean Fraser, Planner
City of Portland Planning & Urban Development Department
389 Congress Street, 4th Floor
Portland, ME 04101

Request for Waiver from the Number of Driveways, Section 1.7.2.8 of the City of Portland Technical Manual – Proposed Dunkin Donuts Restaurant, 325 St. John Street, Portland, Maine. (PL-000047-2018)

Ms. Fraser:

The applicant, Dunkin' Brands, Inc. is proposing to replace an existing restaurant with a new Dunkin' Donuts Restaurant at 325 St. John Street, Portland, Maine. The proposed site layout includes three driveway entrances for the site:

1. A one-way entrance off St. John Street,
2. A one-way exit onto St. John Street, and
3. A one-way exit onto Valley Street.

The site is currently a sit-down restaurant with two, two-way driveway entrances on St. John Street and no driveway entrance on Valley Street. The entrances on St. John Street will be slightly repositioned and widened only to allow for current curb radii standards. The use of the property will be a drive-thru restaurant with the need to queue vehicles within the property limits as much as possible. The current recommendations from the Maine Department of Transportation for this type of use is a queue of at least 15 cars within the property limits. In order to achieve this goal on this site, the queue is required to wrap around three sides of the building. Additionally, the building can not be located more than 10 feet from the front property line. We worked with City Staff on various layouts for this project that would minimize the driveways and this proposed configuration was what worked the best for everyone. This configuration mandates the two, one-way driveways along St. John Street.

The driveway exiting to Valley Street was added to benefit customers who park on the site and enter the building for service. When exiting the site, they can choose to exit at the rear of the site through a less-utilized driveway, onto a less traveled roadway. Additionally, this driveway allows for a trailer truck to travel down Valley Street, enter the site through this driveway as an authorized vehicle and park next to the building for deliveries. Once the delivery is complete, the trailer truck can continue straight through the site and exit in either direction onto St. John Street.

The applicant is of the opinion that the three driveways are critical to the safe and successful operation of the restaurant and respectfully requests that a waiver of the maximum number of driveways be granted for this project.

We look forward to discussing this request further with City Staff and the Planning Board. Please let us know if you have any questions in the meantime.

Sincerely,
PLYMOUTH ENGINEERING, INC.

Jon H. Whitten, Jr., PE
Senior Project Manager

VALLEY STREET (ONE-WAY)

SIGHT DISTANCE >400' (300' TO INTERSECTION)

EXIT ONLY LEFT TURN ONLY SIGN

S23°09'18"E 167.68'

EXIT ONLY/LEFT TURN ONLY SIGN. ("DELIVERY ENTRANCE" ON BACK SIDE OF SIGN)

10' REAR SETBACK

SNOW STORAGE

VERTICAL GRANITE CURB, TYP.

CURB INLET FOR STORMWATER TREATMENT STRUCTURE

7' GRANITE TIPDOWN

6' STOCKADE FENCE ENCLOSER WITH GATE

DUMPSTER ENCLOSER

LANE SEPARATION LINES TO MEET DUNKIN DONUTS STANDARDS

LANE DIRECTIONAL ARROWS TO MEET DUNKIN DONUTS STANDARDS

N/F
THE INN AT ST. JOHN
14301/177
65-C013 & 65-C001

79.93'

S71°32'42"W

MAGNETIC NORTH

17±

N77°37'01"E 141.11'

SNOW STORAGE

14'X73' LOADING ZONE

8 SPACES

MENU BOARD AND SPEAKER BOX

TRASH RECEPTACLE

CLEARANCE BAR AND STOP BAR TO MEET DUNKIN DONUTS STANDARDS

7'X25' FREEZER

EMPLOYEE ONLY DOOR

VERTICAL GRANITE CURB, TYP.

BOLLARDS (TYP)

2,277 S.F. DUNKIN' DONUTS BUILDING FFE=23.5

DRIVE THRU LANE

ON-THE-GO LANE

BY-PASS LANE

S23° 09' 18"E 28.97

N/F
RI TENG LI & WEI YI WANG
25137/258
65-C002

99.08'

S70°57'46"W

SNOW STORAGE

8 SPACES

FAST FORWARD WINDOW

CUSTOMER ENTRANCE

BIKE RACK

7' GRANITE TIPDOWN

DINING ROOM

CUSTOMER ENTRANCE

EXISTING TRANSFORMER

DO NOT ENTER/ DUNKIN THANK YOU SIGNS

N12°22'26"W 213.12'

EXISTING CONCRETE SIDEWALK

UTILITY POLE WITH LIGHTING

SIGHT DISTANCE >500'

SIGHT DISTANCE >500' (320' TO LIGHT)

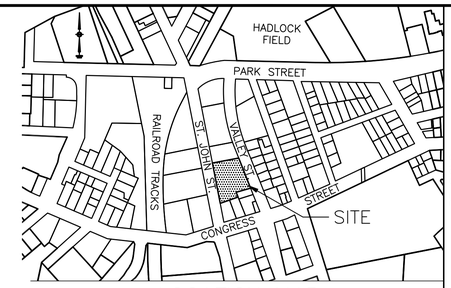
N/F
ARCAND PROPERTIES, LLC

10' MAX. FRONT SETBACK

ST. JOHN STREET
SPEED LIMIT 30 MPH
ACCEPTED 60' WIDE

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED SETBACK LINE
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- EXISTING CURB
- PROPOSED CURB
- EXISTING STREAM
- (7) PARKING SPACE QUANTITY
- PROPOSED SIGN
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED PAVEMENT



LOCATION MAP

GENERAL NOTES:

1. THE RECORD OWNER IS NANCY E. HURST, WHOSE ADDRESS IS 1876 HARPSWELL NECK ROAD, HARPSWELL, MAINE, 04079.

2. THE APPLICANT IS DUNKIN BRANDS, INC. WHOSE ADDRESS IS 130 ROYALL STREET, CONTON, MA 02021

3. THE PROPERTY IS LOCATED AT 325 SAINT JOHN STREET, PORTLAND, MAINE AND AND IS DESCRIBED AS CHART, BLOCK, LOT 065 C004001 WITHIN THE CITY OF PORTLAND ASSESSOR'S DATABASE AND INTERACTIVE GIS MAP.

4. THE PURPOSE OF THIS PLAN SET IS TO PERMIT THE DEVELOPMENT OF A NEW DUNKIN' DONUTS DRIVE-THRU RESTAURANT WITH ASSOCIATED PARKING AND MANEUVERING AREAS.

5. THE SITE IS LOCATED WITHIN B-2 COMMUNITY BUSINESS ZONE.

6. TOTAL AREA OF PARCEL: . . . . . 30,239 S.F.+/-, OR 0.69 AC.+/-

7. SPACE AND BULK INFORMATION FOR B-2 ZONE:

MIN. LOT AREA:	NONE
MIN. STREET FRONTAGE	20'
MIN. FRONT YARD SETBACK	NONE
MAX. FRONT YARD SETBACK	10'
REAR YARD SETBACK	10' (5' ACCESS. STRUCTURE)
SIDE YARD SETBACK	NONE (5' ACCESS. STRUCTURE)
MAX. IMPERVIOUS RATIO.	80%
MAX. BUILDING HEIGHT	45'
MIN. PAVEMENT SETBACK	10' FROM BOUNDARY LINES

8. BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY JONES ASSOCIATES, INC., AUBURN, MAINE. ELEVATIONS BASED ON GRID NORTH, MAINE STATE COORDINATE SYSTEM – MAINE WEST ZONE (2 ZONE) NAD 83.

9. SITE ENGINEERING PROVIDED BY JON H. WHITTEN, JR., P.E. #10414 OF PLYMOUTH ENGINEERING, INC., WHOSE ADDRESS IS PO BOX 46, PLYMOUTH, ME 04969.

APPROVAL–
CITY OF PORTLAND
PLANNING BOARD

_____ DATE

_____ CHAIRPERSON

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

NO.	DATE	REVISIONS DESCRIPTION	DRAWN	APPD
1	07/11/18	REVISED PER ENGINEERING COMMENTS	JHW	JHW

ST. JOHN STREET
DUNKIN DONUTS
PORTLAND MAINE

PRELIMINARY SITE PLAN

PROJECT NAME:

SHEET NAME:

DESIGNED: JHW
DRAWN: JHW
CHECKED: SEB
APPROVED: SEB
PLAN DATE: 05-04-18

PROJECT NO. 17140
DRAWING NO. 17140 B
FIELDBOOK:
SCALE:
DATE ISSUED: 05-04-18

CLIENT & OWNER:
Dunkin' Brands, Inc.
130 Royall St.
Canton, MA 02021

Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257-2071 Fax: (207) 257-2130
info@plymouthengineering.com
www.plymouthengineering.com

STATE OF MAINE
JON H. WHITTEN JR.
10414
LICENSED
PROFESSIONAL ENGINEER

DRAWINGS NOT SEALED ARE FOR PLANNING PURPOSES ONLY AND ARE NOT APPROVED FOR PERMITTING, BIDDING OR CONSTRUCTION

RIM:18.29
INV.IN:10.44
INV.OUT:10.39

RIM:19.32
10"INV.IN:11.87
INV.OUT:11.77
INV.IN:13.12

VALLEY STREET
SPEED LIMIT 25 MPH
ACCEPTED 60' WIDE

EXISTING 12" PVC TO REMAIN

PAVEMENT JOINT,SEE DETAIL,TYP.

SIGHT DISTANCE
>400' (300' TO INTERSECTION)

INSTALLL CONSTRUCTION ENTRANCES AT ALL ACCESS POINTS. DETAILS FROM THE SITE SHALL NOT BE DEPOSITED ON CITY STREETS. FOLLOW CITY REQUIREMENTS FOR CLEANING, IF NESSECARY

RIM:17.73
FULL OF SAND

INSTALL SEDIMENT INSERT

SHOW AS EXISTING

17±
MAGNETIC NORTH

20x0 t.o.c.
19x5 b.o.c.

NEW CB-7
RIM=20.1
INV.IN=15.63 (FROM DMH-5)
INV.IN=15.63 (FROM CB-6)
INV.OUT=15.53

21x0 t.o.c.
20x5 b.o.c.

DMH-5
RIM=21.10
INV.IN=16.25 (FROM CB-4)
INV.IN=16.25 (FROM USF-1)
INV.IN=16.25 (FROM USF-2)
INV.OUT=16.15

TOM 19.5'

CB #4
RIM:20.97
INV.IN :17.52
INV OUT: 17.42

NEW CB-4
RIM:20.80
INV.IN :16.54
INV OUT: 16.44

RIM:19.00

21x75 t.o.c.
21x25 b.o.c.

CB-3
RIM=21.70
INV.IN=17.04 (FROM CB-4)
INV.IN=17.04 (FROM USF-1)
INV.OUT=16.94

22x75
22x25
EOP
TOM 20.75
OUTLET 18.50
23x0
23x16
23x46
23x16 t.o.c.
22.66 b.o.c.
22x25
21x25
22x0 t.o.c.
21x5 b.o.c.

CB-2 (TYPE F BASIN)
RIM=20.90
INV.OUT=17.25

NOTE: INSTALL CATCH BASIN SEDIMENT CONTROL INSERT'S IN ALL NEW AND EXISTING CATCH BASIN FRAME'S UNTIL SUCH TIME THAT THE SITE SOILS ARE STABILIZED WITH VIGOROUS GROWTH OF VEGETATIO, PERMANENT MULCH OR PAVEMENT,TYP.

NEW CB-6
RIM=21.85
INV.OUT=16.38

22x5 t.o.c.
22x0 b.o.c.

CB #6
RIM:21.6
INV.:16.55

RIM:19.61

23x0 t.o.c.
22x5 b.o.c.

23x25 t.o.c.
22x75 b.o.c.

23x3
22x8
22x75

CB-1 (TYPE F BASIN)
RIM=21.90
INV.OUT=17.94

REMOVE PORTIONS OF EXIST. CONCRETE SIDEWALK AND GRANITE CURB.

RIM:23.83
12"CMP
OUT:19.33

UP 39

UP 38

SIGHT DISTANCE
>500'

SIGHT DISTANCE
>500' (320' TO LIGHT)

PAVEMENT JOINT, SEE DETAIL,TYP.

12" HDPE

6" HDPE

CONSTRUCTION ENTRANCE

CONSTRUCTION ENTRANCE

RIM:22.46

RIM:22.84

RIM:24.14
OUT:18.04
12"IN:18.14

6"IN

ST. JOHN STREET
SPEED LIMIT 30 MPH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	APPD
1	07/11/18	REVISED PER ENGINEERING COMMENTS	JHW	JHW

PROJECT NAME:
ST. JOHN STREET
DUNKIN DONUTS
PORTLAND MAINE

SHEET NAME:
GRADING & DRAINAGE PLAN

PROJECT NO.	17140
DRAWING NO.	17140 B
FIELDBOOK:	
SCALE:	
DATE ISSUED:	05-04-18

DESIGNED:	JHW
DRAWN:	JHW
CHECKED:	SEB
APPROVED:	SEB
PLAN DATE:	05-04-18

CLIENT & OWNER: Dunkin' Brands, Inc.
130 Royall St.
Canton, MA 02021

Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257-2071 Fax: (207) 257-2130
info@plymouthengineering.com
www.plymouthengineering.com

DRAWINGS NOT SEALED ARE FOR PLANNING PURPOSES ONLY AND ARE NOT INTENDED FOR PERMITTING, BIDDING OR CONSTRUCTION

C2

VALLEY STREET
SPEED LIMIT 25 MPH
ACCEPTED 60' WIDE

RIM:18.29
INV.IN:10.44
INV.OUT:10.39

RIM:19.32
10"INV.IN:11.87
INV.OUT:11.77

12" PVC
INV.IN:13.12

SIGHT DISTANCE
>400' (300' TO INTERSECTION)

RIM:17.73
FULL OF SAND

17±
MAGNETIC NORTH

RIM:19.00

NEW CB-7
RIM=20.1
INV.IN=15.63 (FROM DMH-5)
INV.IN=15.63 (FROM CB-6)
INV.OUT=15.53

21x0 t.o.c.
20x5 b.o.c.

TOM 19.5'

DMH-5
RIM=21.10
INV.IN=16.25 (FROM CB-4)
INV.IN=16.25 (FROM USF-1)
INV.IN=16.25 (FROM USF-2)
INV.OUT=16.15

CB #4
RIM:20.97
INV.IN :17.52
INV OUT: 17.42

NEW CB-4
RIM:20.80
INV.IN :16.54
INV OUT: 16.44

CB-3
RIM=21.70
INV.IN=17.04 (FROM CB-4)
INV.IN=17.04 (FROM USF-1)
INV.OUT=16.94

CB-2 (TYPE F BASIN)
RIM=20.90
INV.OUT=17.25

NEW CB-6
RIM=21.85
INV.OUT=16.38

CB #5
RIM:21.46
INV.IN:16.55

RIM:19.61

CB-1 (TYPE F BASIN)
RIM=21.90
INV.OUT=17.94

RIM:23.83
12"CMP
OUT:19.33

RIM:24.14
OUT:18.04
12"IN: 18.14
6"IN

6" HDPE

12" HDPE

SIGHT DISTANCE
>500'

SIGHT DISTANCE
>500' (320' TO LIGHT)

RIM:22.46

RIM:22.84

ST. JOHN STREET
SPEED LIMIT 30 MPH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	APPD.

ST. JOHN STREET
DUNKIN DONUTS
PORTLAND MAINE

SHEET NAME: UTILITY PLAN

PROJECT NO. 17140
DRAWING NO. 17140 B
FIELDBOOK:
SCALE:
DATE ISSUED: 05-04-18

DESIGNED: JHW
DRAWN: JHW
CHECKED: SEB
APPROVED: SEB
PLAN DATE: 05-04-18

CLIENT & OWNER:
Dunkin' Brands, Inc.
130 Royall St.
Canton, MA 02021

Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
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PLANT LIST

ABBREV.	LATIN NAME	COMMON NAME	SIZE	NOTES
AF	Abies fraseri	Fraser Fir	5'–6' ht.	
SR	Syringa reticulata	Japanese Lilac Tree	6'–8' ht.	
JP	Juniperus pfitzeriana 'Glauca'	Blue Pfitzer Juniper	#3 cont.	
HS	Hemerocallis "Stella in Red"	Daylilly – red	#2 Pot	2' o.c.
TT	Taxus x media 'Tauntonii'	Tauntoni Yew	18"–24" ht.	
PF	Potentillia Fruticosa "Katherine Dykes	Potentillia	#5 Cont.	

VALLEY STREET
SPEED LIMIT 25 MPH
ACCEPTED 60' WIDE

SIGHT DISTANCE
>400' (300' TO INTERSECTION)

RIM:19.32
10"INV.IN:11.87
INV.OUT:11.77

12" PVC
INV.IN:13.12

RIM:17.
FULL OI

17±
MAGNETIC NORTH

RIM:19.00

NEW CB–7
RIM=20.1
INV.IN=15.63 (FROM DMH–5)
INV.IN=15.63 (FROM CB–6)
INV.OUT=15.53

21x0 t.o.c.
20x5 b.o.c.

20x0 t.o.c.
19x5 b.o.c.

DMH–5
RIM=21.10
INV.IN=16.25 (FROM CB–4)
INV.IN=16.25 (FROM USF–1)
INV.IN=16.25 (FROM USF–2)
INV.OUT=16.15

CB #4
RIM:20.97
INV.IN :17.52
INV OUT: 17.42

NEW CB–4
RIM:20.80
INV.IN :16.54
INV OUT: 16.44

CB–3
RIM=21.70
INV.IN=17.04 (FROM CB–4)
INV.IN=17.04 (FROM USF–1)
INV.OUT=16.94

CB–2 (TYPE F BASIN)
RIM=20.90
INV.OUT=17.25

NEW CB–6
RIM=21.85
INV.OUT=16.38

RIM:19.61

CB #5
RIM:21.6
INV.:16.55

CB–1 (TYPE F BASIN)
RIM=21.90
INV.OUT=17.94

RIM:23.83
12"CMP
OUT:19.33

RIM:24.14
OUT:18.04
12"IN: 18.14

6"IN & 12" HDPE

12" HDPE

RIM:22.46

RIM:22.84

SIGHT DISTANCE
>500'

SIGHT DISTANCE
>500' (320' TO LIGHT)

ST. JOHN STREET
SPEED LIMIT 30 MPH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	APPD.

ST. JOHN STREET
DUNKIN DONUTS
PORTLAND MAINE

LANDSCAPE PLAN

PROJECT NO.	17140
DRAWING NO.	17140 B
FIELDBOOK:	
SCALE:	
DATE ISSUED:	05–04–18
DESIGNED:	JHW
DRAWN:	JHW
CHECKED:	SEB
APPROVED:	SEB
PLAN DATE:	05–04–18

CLIENT & OWNER:
Dunkin' Brands, Inc.
130 Royall St.
Canton, MA 02021

Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257–2071 Fax: (207) 257–2130
info@plymouthengineering.com
www.plymouthengineering.com

DRAWINGS NOT SEALED ARE FOR PLANNING PURPOSES ONLY AND ARE NOT INTENDED FOR PERMITTING, BIDDING OR CONSTRUCTION

EROSION AND SEDIMENT CONTROL PLAN

Pre-Construction Phase
A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 MRSA § 480-B. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken. The site must be maintained to prevent unreasonable erosion and sedimentation. Minimize disturbed areas and protect natural downgradient buffer areas to the extent practicable.

BMP Construction Phase
A. Sediment barriers. Prior to the beginning of any construction, properly install sediment barriers at the edge of any downgradient disturbed area and adjacent to any drainage channels within the proposed disturbed area. Maintain the sediment barriers until the disturbed area is permanently stabilized.

B. Construction entrance: Prior to any clearing or grubbing, a construction entrance shall be constructed at the intersection with the proposed access drive and the existing roadway to avoid tracking of mud, dust and debris from the site.

C. Riprap: Since riprap is used where erosion potential is high, construction must be sequenced so that the riprap is put in place with the minimum delay. Disturbance of areas where riprap is to be placed should be undertaken only when final preparation and placement of the riprap can follow immediately behind the initial disturbance. Where riprap is used for outlet protection, the riprap should be placed before or in conjunction with the construction of the pipe or channel so that it is in place when the pipe or channel begins to operate. Maintain temporary riprap, such as temporary check dams until the disturbed area is permanently stabilized.

D. Temporary stabilization. Stabilize with temporary seeding, mulch, or other non-erodable cover any exposed soils that will remain unworked for more than 14 days except, stabilize areas within 100 feet of a wetland or waterbody within 7 days or prior to a predicted storm event, whichever comes first. If hay or straw mulch is used, the application rate must be 2 bales (70-90 pounds) per 1000 sf or 1.5 to 2 tons (90-100 bales) per acre to cover 75 to 90% of the ground surface. Hay mulch must be kept moist or anchored to prevent wind blowing. An erosion control blanket or mat shall be used at the base of grassed waterways, steep slopes (15% or greater) and on any disturbed soil within 100 feet of lakes, streams and wetlands. Grading shall be planned so as to minimize the length of time between initial soil exposure and final grading. On large projects this should be accomplished by phasing the operation and completing the first phase up to final grading and seeding before starting the second phase, and so on.

E. Vegetated waterway. Upon final grading, the disturbed areas shall be immediately seeded to permanent vegetation and mulched and will not be used as outlets until a dense, vigorous vegetative cover has been obtained. Once soil is exposed for waterway construction, it should be immediately shaped, graded and stabilized. Vegetated waterways need to be stabilized early during the growing season (prior to September 15). If final seeding of waterways is delayed past September 15, emergency provisions such as sod or riprap may be required to stabilize the channel. Waterways should be fully stabilized prior to directing runoff to them.

Permanent Stabilization Defined
A. Seeded areas. For seeded areas, permanent stabilization means an 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

B. Sodded areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

C. Permanent mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

D. Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

E. Agricultural use. For construction projects on land used for agricultural purposes (E.G., pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

F. Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed.

G. Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with mature vegetation at least three inches in height, with well-graded riprap, or with another non-erosive lining capable of withstanding the anticipated flow velocities and flow depths without reliance on check dams to slow flow. There must be no evidence of slumping of the lining, undercutting of the banks, or down-cutting of the channel.

General Construction Phase
The following erosion control measures shall be followed by the contractor throughout construction of this project:

A. All topsoil shall be collected, stockpiled, seeded with rye at 3 pounds/1,000 sf and mulched, and reused as required. Silt fencing shall be placed down gradient from the stockpiled loam. Stockpile to be located by designation of the owner and inspecting engineer.

B. The inspecting engineer at his/her discretion, may require additional erosion control measures and/or supplemental vegetative provisions to maintain stability of earthworks and finish graded areas. The contractor shall be responsible for providing and installing any supplemental measures as directed by the inspecting engineer. Failure to comply with the engineer's directions will result in discontinuation of construction activities.

C. Erosion control mesh shall be applied in accordance with the plans over all finish seeded areas as specified on the design plans.

D. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.

E. All erosion, and sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved erosion and sediment control plan.

F. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.

G. Areas shall be scarified to a minimum depth of 3 inches prior to placement of topsoil.

H. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.

I. All fills shall be placed and compacted in layers not to exceed 8 inches in thickness.

J. Except for approved landfills or non-structural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory lifts.

K. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.

L. Fill shall not be placed on a frozen foundation.

M. Seeps or springs encountered during construction shall be handled appropriately.

N. All graded areas shall be permanently stabilized immediately following finished grading.

O. Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

Permanent Vegetation
Permanent vegetative cover should be established on disturbed areas where permanent, long lived vegetative cover is needed to stabilize the soil, to reduce damages from sediment and runoff, and to enhance the environment.

Seedbed Preparation
A. Grade as feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.

B. Apply limestone and fertilizer according to soil tests such as those offered by the University of Maine soil testing laboratory. Soil sample mailers are available from the local cooperative extension service office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 800 pounds per acre or 18.4 pounds per 1,000 square feet using 10-20-20 (n-p2o5-k2o) or equivalent. Apply ground limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 3 tons per acre (138 lb. Per 1,000 sq. Ft).

C. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, spring tooth harrow or other suitable equipment. The final harrowing operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared. All but clay or silty soils and coarse sands should be rolled to firm the seedbed wherever feasible.D. Remove from the surface all stones 2 inches or larger in any dimension. Remove all other debris, such as wire, cable, tree roots, concrete, clods, lumps or other unsuitable material.

E. Inspect seedbed just before seeding. If traffic has left the soil compacted; the area must be tilled and firmed as above.

F. Permanent seeding should be made 45 days prior to the first killing frost or as a dormant seeding with mulch after the first killing frost and before snowfall. When crown vetch is seeded in later summer, at least 35% of the seed should be hard seed (unscarified). If seeding cannot be done within the seeding dates, mulch according to the temporary mulching BMP and overwinter stabilization and construction to protect the site and delay seeding until the next recommended seeding period.

G. Following seed bed preparation, swale areas, fill areas and back slopes shall be seeded at a rate of 3 lbs./1,000 s.F. With a mixture of 35% creeping red h. Fescue, 6% red top, 24% Kentucky bluegrass, 10% perennial ryegrass, 20% annual ryegrass and 5% white Dutch clover.

I. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.

J. Areas which cannot be seeded within the growing season shall be mulched for over-winter protection and the area should be seeded at the beginning of the growing season.

Winter Construction Phase
If an area is not stabilized with temporary or permanent measures by November 15, then the site must be protected with additional stabilization measures.

A. Permanent stabilization consists of at least 90% vegetation, pavement/gravel base or riprap.

B. Do not expose slopes or leave slopes exposed over the winter or for any other extended time of work suspension unless fully protected with mulch.

C. Apply hay mulch at twice the standard rate (150 lbs. Per 1,000 sf). The mulch must be thick enough such that the ground surface will not be visible and must be anchored.

D. Use mulch and mulch netting or an erosion control mulch blanket or all slopes greater than 8 % or other areas exposed to direct wind.

E. Install an erosion control blanket in all drainageways (bottom and sides) with a slope greater than 3 %.

F. See the vegetation measures for more information on seeding dates and types.

G. Winter excavation and earthwork shall be completed so that no more than 1 acre of the site is without stabilization at any one time.

H. An area within 100 feet of a protected natural resource must be protected with a double row of sediment barrier.

I. Temporary mulch must be applied within 7 days of soil exposure or prior to any storm event, but after every workday in areas within 100 feet from a protected natural resource.

J. Areas that have been brought to final grade must be permanently mulched that same day.

K. If snowfall is greater than 1 inch (fresh or cumulative), the snow shall be removed from the areas due to be seeded and mulched.

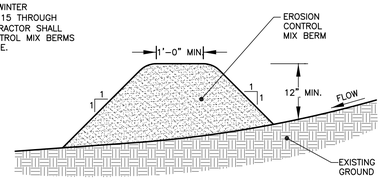
L. Loam shall be free of frozen clumps before it is applied.

M. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.

Maintenance and Inspection Phase
A. Contractor shall inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel at least once a week and before and after a storm event, prior to completion of permanent stabilization. A person with knowledge of erosion and stormwater must conduct the inspection. This person must be identified in the inspection log. If best management practices (BMPs) need to be modified or if additional BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

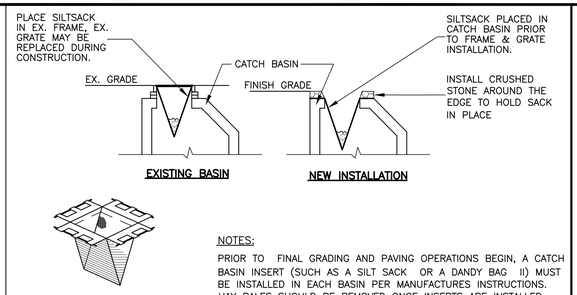
B. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the date(s) of the inspection, and major observations relating to operation of erosion and sedimentation controls and pollution prevention measures. Major observations must include: BMPs that need to be maintained; location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location; and location(s) where additional BMPs are needed that did not exist at the time of inspection. Follow-up to correct deficiencies or enhance controls must also be indicated in the log and dated, including what action was taken and when.

NOTE:
DURING PERIODS OF WINTER CONSTRUCTION (NOV. 15 THROUGH APRIL 15), THE CONTRACTOR SHALL INSTALL EROSION CONTROL MIX BERMS IN LIEU OF SILT FENCE.



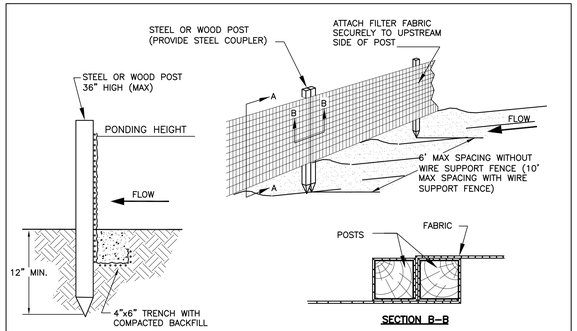
EROSION CONTROL MIX:
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES & MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80% - 100% DRY WEIGHT BASIS
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70%, MAXIMUM OF 85% PASSING A 0.75" SCREEN
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE < 4.0 mmhos/cm.
- ph SHALL FALL BETWEEN 5.0 - 8.0.

EROSION CONTROL MIX BERM
NOT TO SCALE

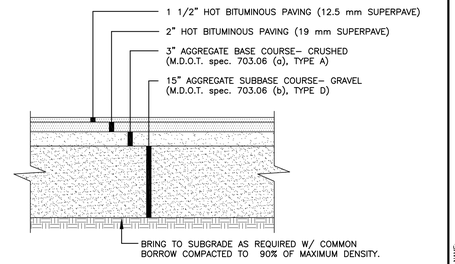


NOTES:
PRIOR TO FINAL GRADING AND PAVING OPERATIONS BEGIN, A CATCH BASIN INSERT (SUCH AS A SILT SACK OR A DANDY BAG II) MUST BE INSTALLED IN EACH BASIN PER MANUFACTURES INSTRUCTIONS. HAY BALES SHOULD BE REMOVED ONCE INSERTS ARE INSTALLED.

CATCH BASIN EROSION CONTROL INSERT
NOT TO SCALE

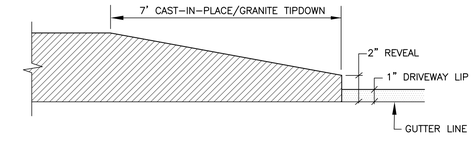


SILT FENCE
NOT TO SCALE

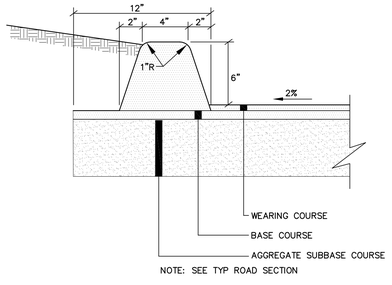


NOTES:
1. COMPACT GRAVEL SUBBASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

PAVED PARKING LOT SECTION
NOT TO SCALE

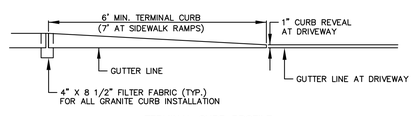


TYPICAL TIPDOWN CURB INSTALLATION
NOT TO SCALE

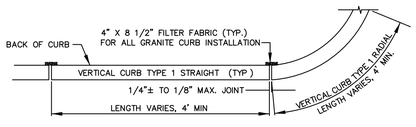


NOTE: SEE TYP ROAD SECTION

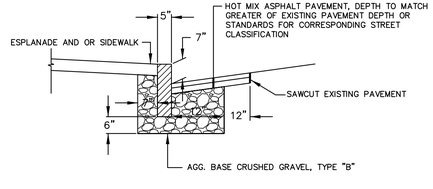
CAST IN PLACE CONCRETE CURB
NOT TO SCALE



TERMINAL CURB PROFILE

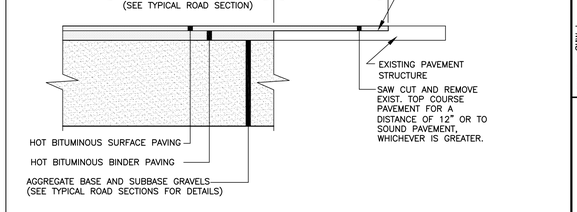


VERTICAL GRANITE CURB PLAN VIEW

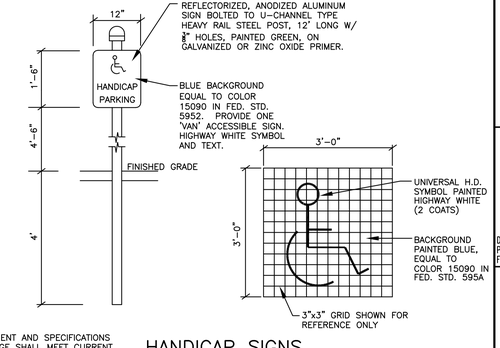


VERTICAL GRANITE CURB CROSS SECTION

VERTICAL GRANITE CURB INSTALLATION IN EXISTING STREETS
NOT TO SCALE



TYPICAL PAVEMENT JOINT
NOT TO SCALE



NOTE: PLACEMENT AND SPECIFICATIONS OF ALL SIGNAGE SHALL MEET CURRENT ADA AND MUTCD STANDARDS.

HANDICAP SIGNS
NOT TO SCALE

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	APPD.

PROJECT NAME: ST. JOHN STREET DUNKIN DONUTS PORTLAND MAINE

SHEET NAME: STORMWATER PLAN

DESIGNED:	JHW
DRAWN:	SEB
CHECKED:	SEB
APPROVED:	SEB
PLAN DATE:	05-04-18
CLIENT & OWNER:	Dunkin' Brands, Inc. 130 Royall St. Canton, MA 02021

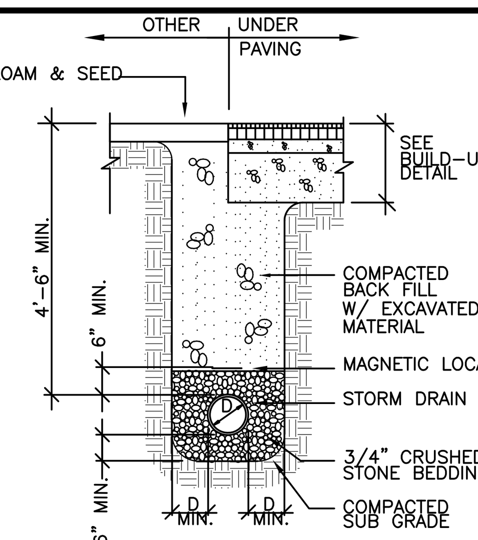
PROJECT NO. 17140
DRAWING NO. 17140 B
FIELDBOOK:
SCALE:
DATE ISSUED: 05-04-18

Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257-2071 Fax: (207) 257-2130
info@plymouthengineering.com
www.plymouthengineering.com

DRAWINGS NOT SEALED ARE FOR PLANNING PURPOSES ONLY AND ARE NOT INTENDED FOR PERMITTING, BIDDING OR CONSTRUCTION

SHEET 5 OF 7

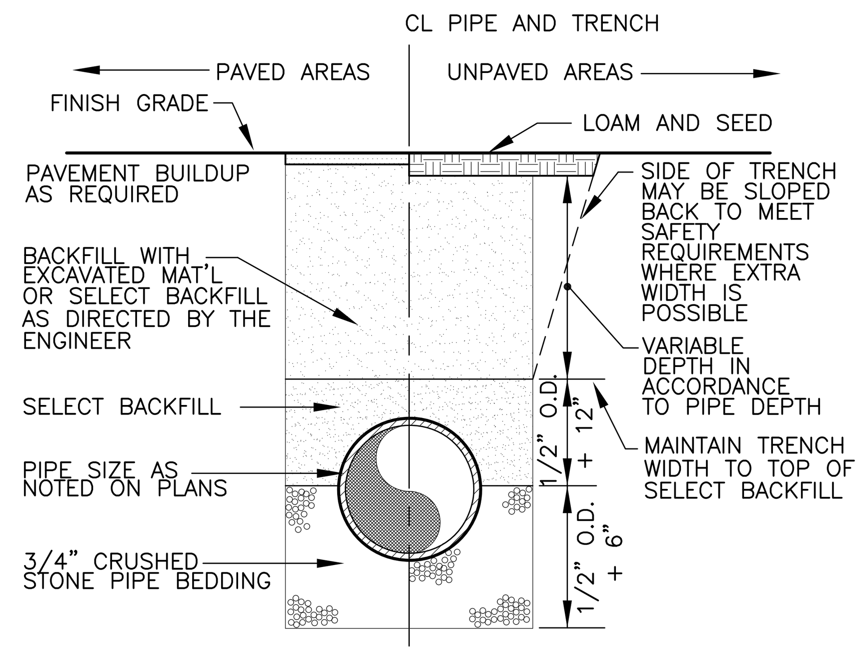
C5



NOTES:
1. ALL BACKFILL PROCEDURES MUST BE PROVIDED USING MAXIMUM 8" LIFTS, LOOSE MEASURE.
2. ANY LINE TO BE PLACED WITH LESS THAN 4'-6" OF COVER MUST BE AUTHORIZED BY THE OWNER/ENGINEER AND MUST BE INSULATED WITH 2" RIGID INSULATION. WIDTH OF INSULATION SHALL BE BASED UPON DEPTH AND LOCATION.
3. ANY LINE CROSSING OF OTHER UTILITIES WHERE THE VERTICAL SEPARATION DISTANCE IS LESS THAN 2-FEET SHALL BE INSULATED WITH 2" RIGID INSULATION, IN ALL DIRECTIONS FOR A DISTANCE OF 2' FROM THE CROSSING. (SEE DETAIL)

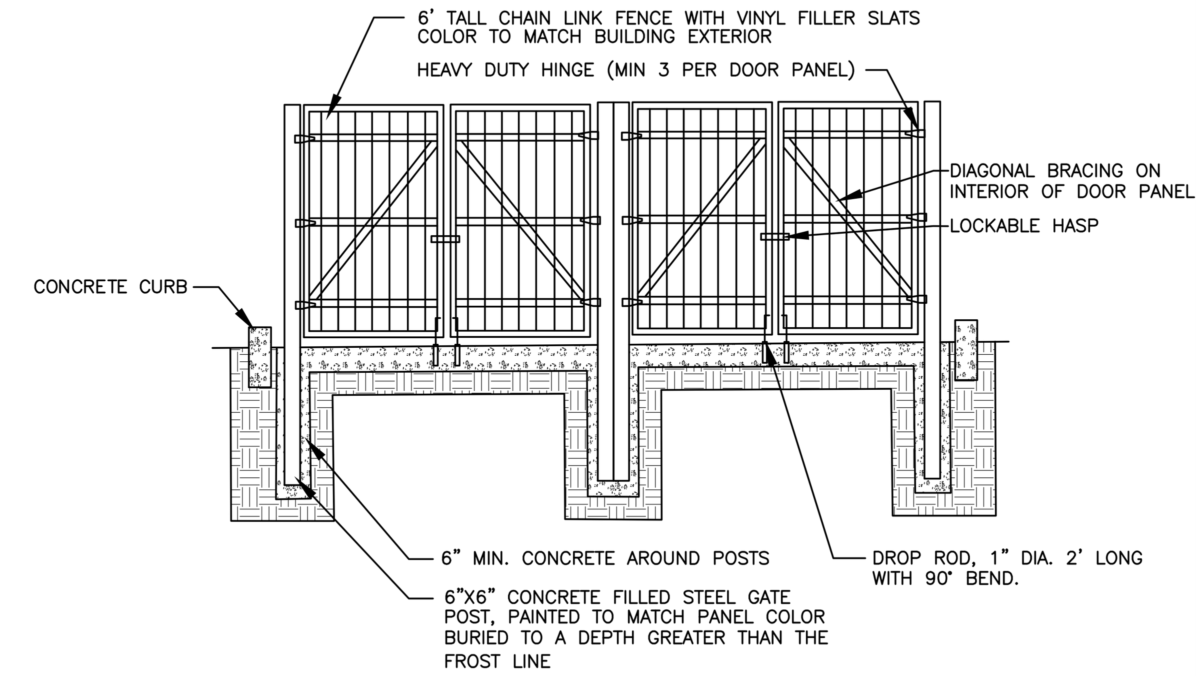
STORM DRAIN/SANITARY SEWER TRENCH DETAIL

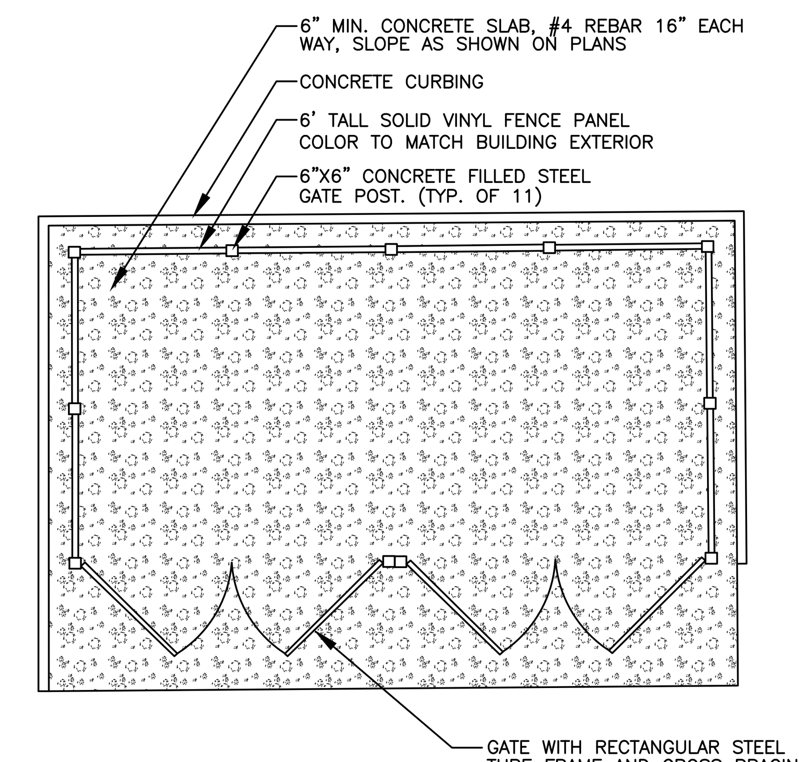
NOT TO SCALE



TYPICAL TRENCH SECTION

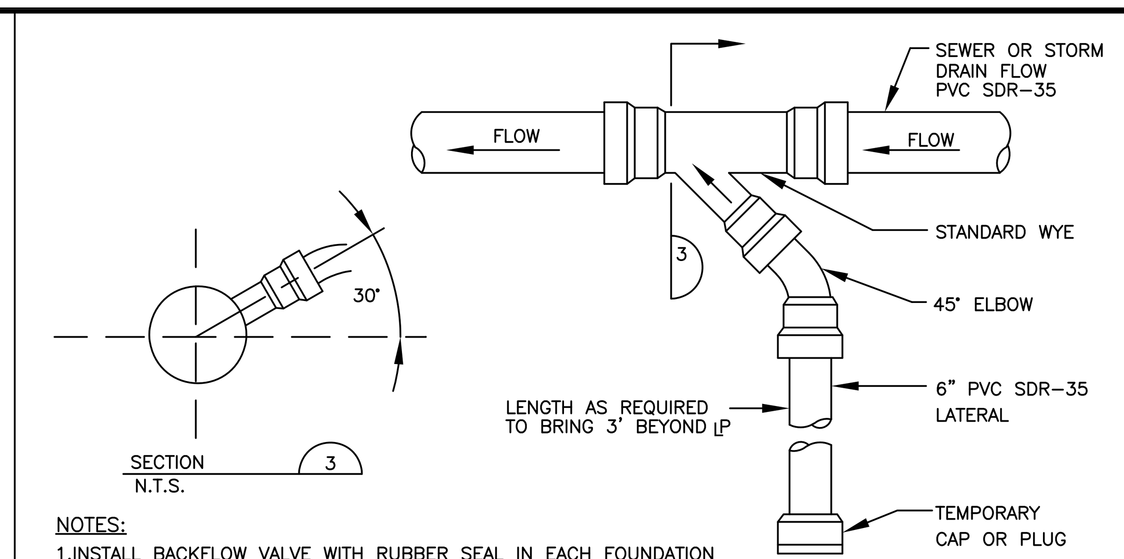
NOT TO SCALE





DUMPSTER ENCLOSURE DETAIL

NOT TO SCALE

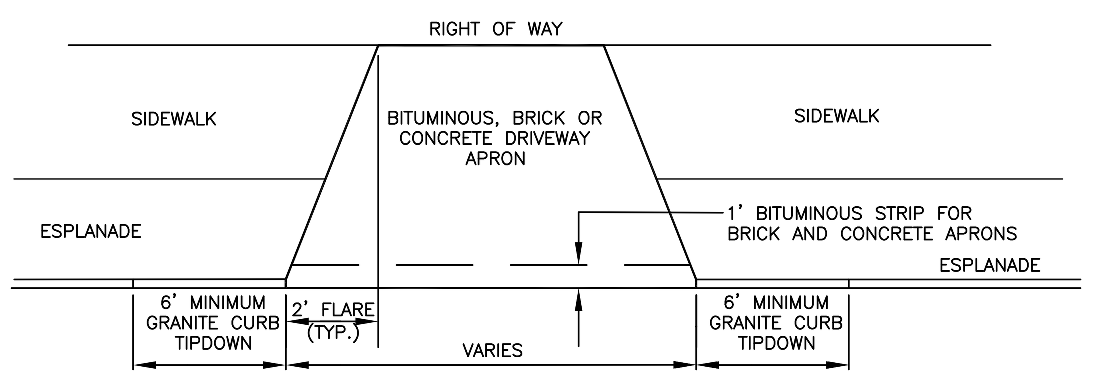


NOTES:
1. INSTALL BACKFLOW VALVE WITH RUBBER SEAL IN EACH FOUNDATION DRAIN SERVICE.
2. IF SUMP PUMP IS UTILIZED INSTALL CHECK VALVE AT SUMP PUMP.

SEWER / FOUNDATION DRAIN SERVICE CONNECTION

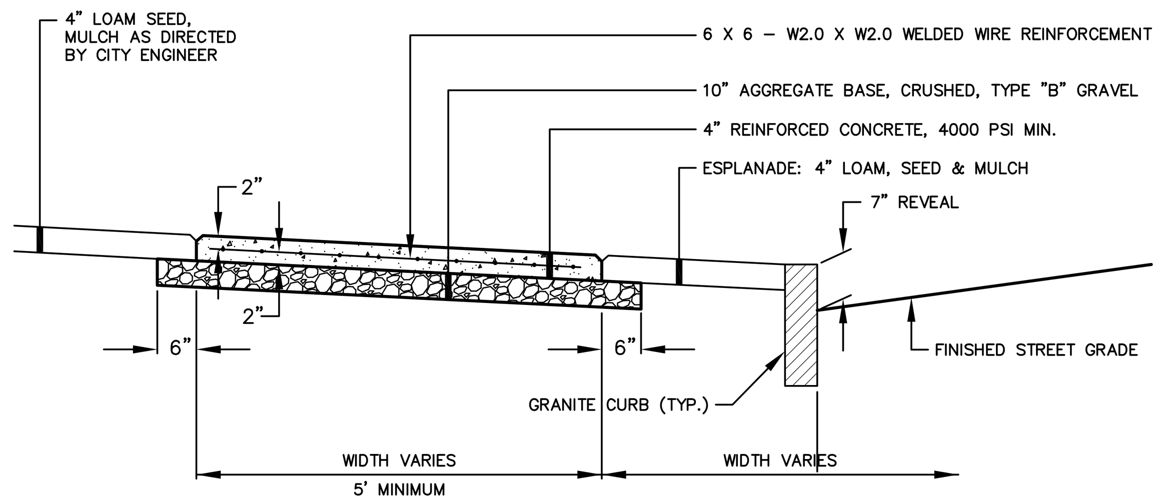
NOT TO SCALE

NOTE:
MATCH GRADE OF EXISTING DRIVEWAY AT R.O.W. LINE, EXCEPT WHEN DIRECTED OTHERWISE BY CITY ENGINEER.



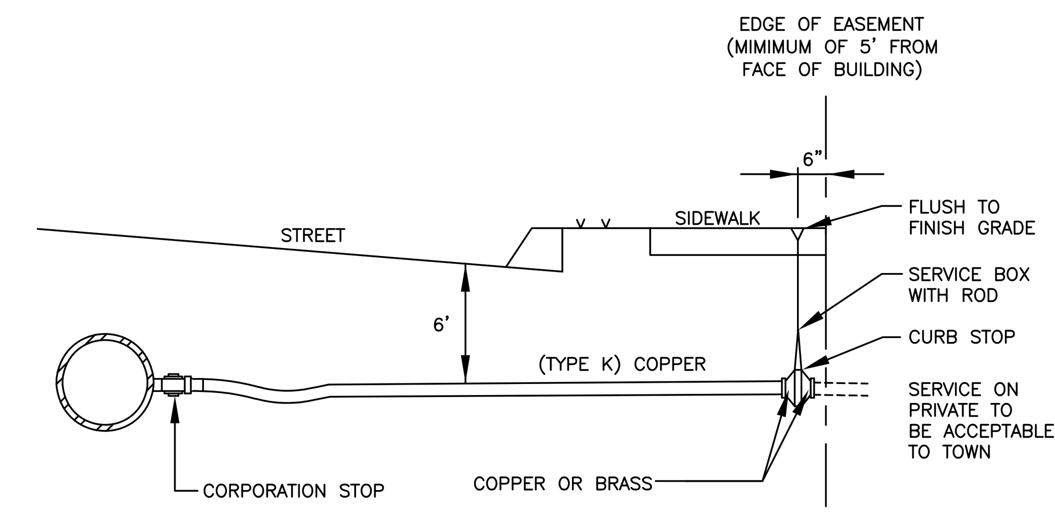
DRIVEWAY APRON LAYOUT

NOT TO SCALE



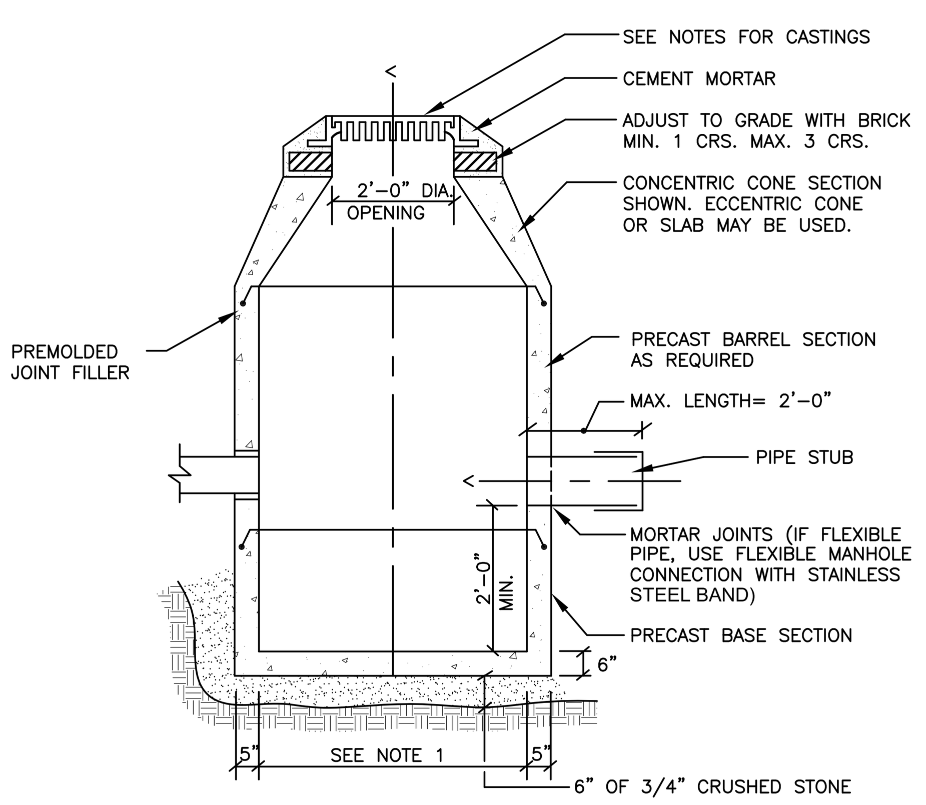
REINFORCED CONCRETE SIDEWALK

NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION

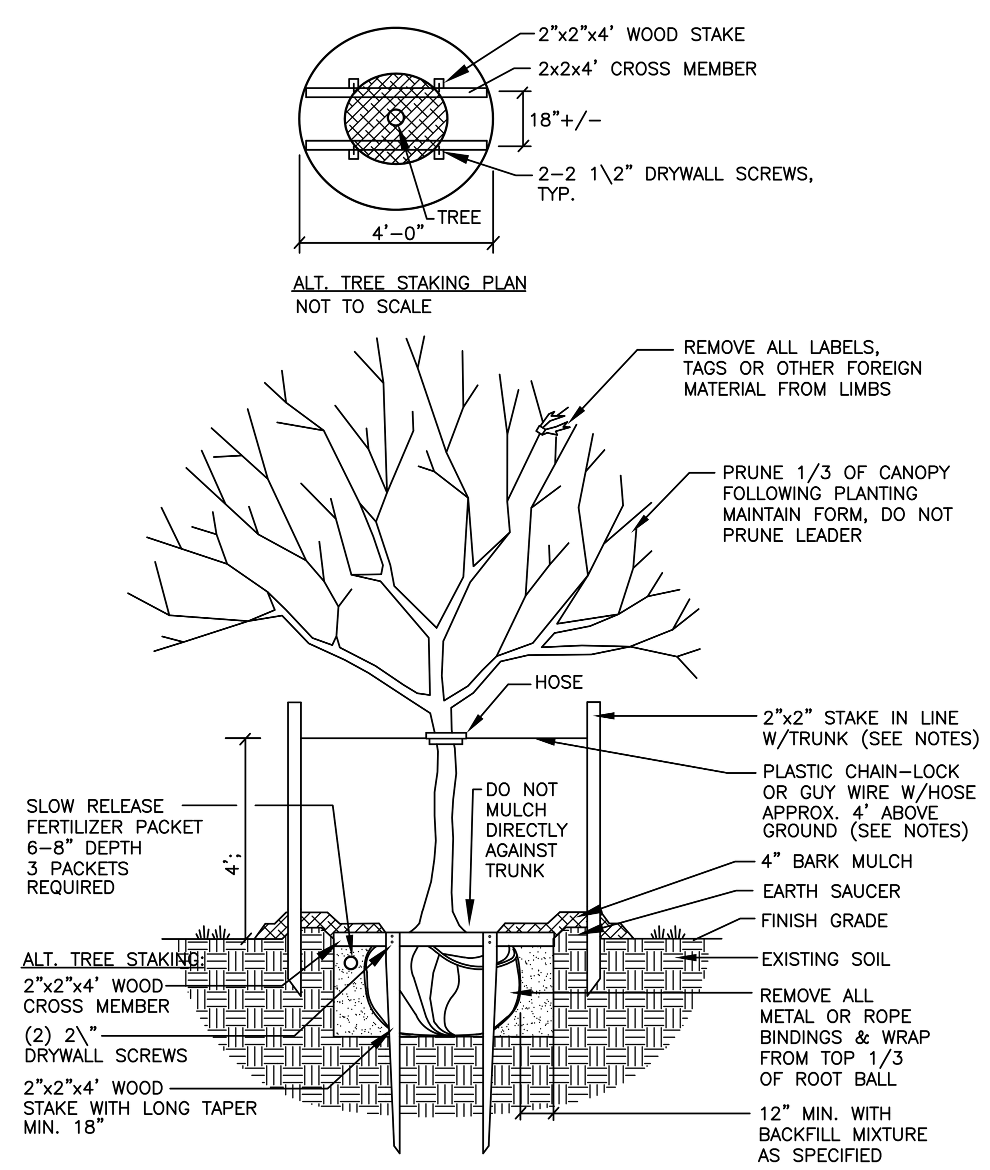
NOT TO SCALE



NOTES:
1. 4'-0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
4. CATCH BASIN FRAME AND GRATE TO BE ETHERIDGE FOUNDRY SA248, TYPE M OR C OR APPROVED EQUAL.
5. DRAINAGE MANHOLE FRAME AND COVER TO BE ETHERIDGE FOUNDRY M248S OR APPROVED EQUAL. COVER SHALL BE MARKED "DRAIN".

TYPICAL CATCH BASIN

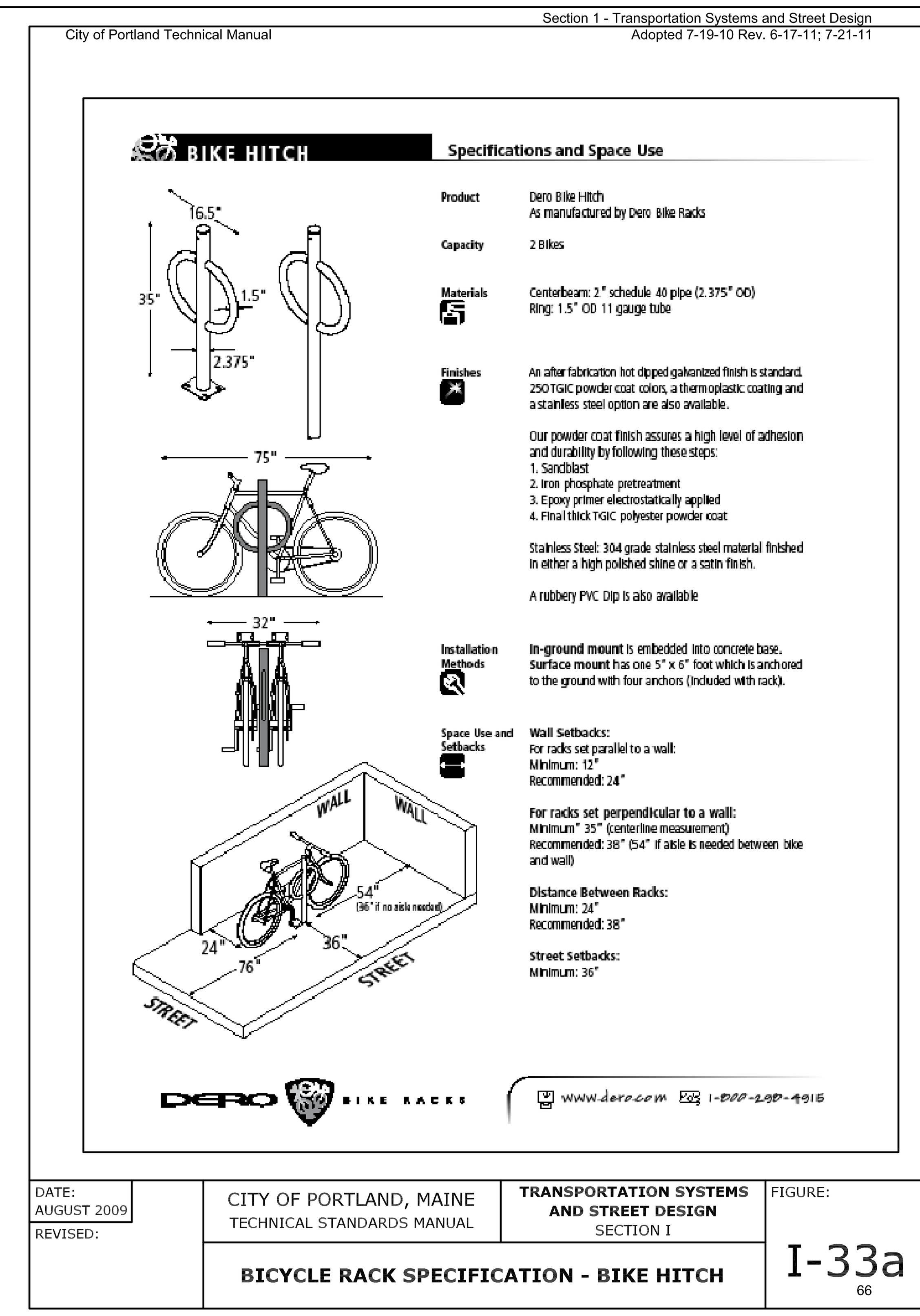
NOT TO SCALE



NOTES:
INSTALL STAKES AND GUYS TO TREES IF THE FOLLOWING APPLY:
1. THE TREE IS OF SUBSTANTIAL SIZE.
2. THE PLANTING LOCATION IS EXTREMELY WINDY, AS ON OPEN UNDEVELOPED SITES.
3. THE PLANTING LOCATION IS COMPRISED OF SAND OR OTHER LOOSE TEXTURED SOILS.
4. IF STAKES AND GUYS ARE REQUIRED, REMOVE AFTER ONE YEAR TIME.

DECIDUOUS TREES 2" TO 4" CALIPER

NOT TO SCALE



City of Portland Technical Manual

Section 1 - Transportation Systems and Street Design
Adopted 7-19-10 Rev. 6-17-11; 7-21-11

BIKE HITCH

Specifications and Space Use

Product Dero Bike Hitch
As manufactured by Dero Bike Racks

Capacity 2 Bikes

Materials Centerbeam: 2" schedule 40 pipe (2.375" OD)
Ring: 1.5" OD 11 gauge tube

Finishes An after fabrication hot dipped galvanized finish is standard. 250 TGIC powder coat colors, a thermoplastic coating and a stainless steel option are also available.

Our powder coat finish assures a high level of adhesion and durability by following these steps:
1. Sandblast
2. Iron phosphate pretreatment
3. Epoxy primer electrostatically applied
4. Final thick TGIC polyester powder coat

Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

A rubbery PVC Dip is also available

Installation Methods **In-ground mount** is embedded into concrete base. **Surface mount** has one 5" x 6" foot which is anchored to the ground with four anchors (included with rack).

Space Use and Setbacks **Wall Setbacks:**
For racks set parallel to a wall:
Minimum: 12"
Recommended: 24"

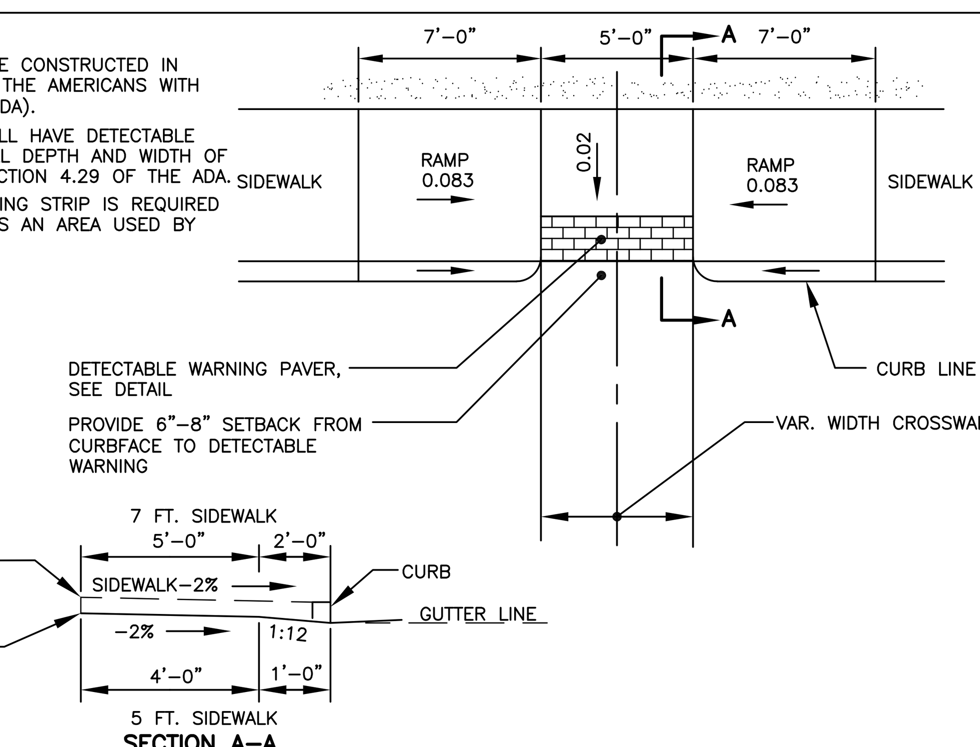
For racks set perpendicular to a wall:
Minimum" 35" (centerline measurement)
Recommended: 38" (54" if aisle is needed between bike and wall)

Distance Between Racks:
Minimum: 24"
Recommended: 38"

Street Setbacks:
Minimum: 36"

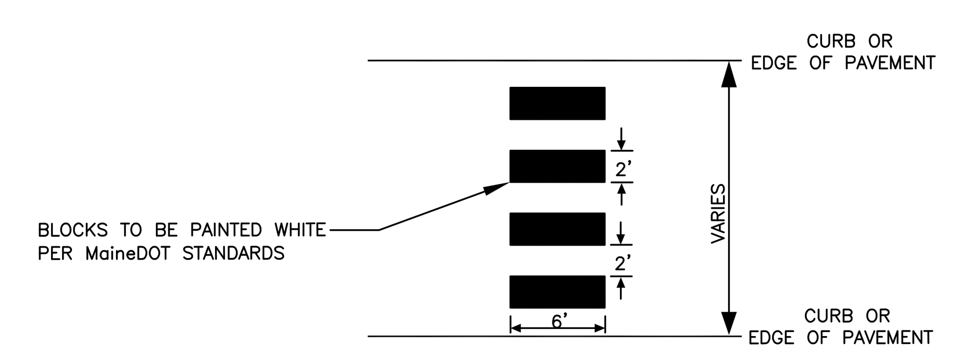
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION SYSTEMS AND STREET DESIGN SECTION I	FIGURE: I-33a
	BICYCLE RACK SPECIFICATION - BIKE HITCH		66

NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
2. ALL RAMPS SHALL HAVE DETECTABLE WARNINGS THE FULL DEPTH AND WIDTH OF THE RAMP PER SECTION 4.29 OF THE ADA.
3. A TACTILE WARNING STRIP IS REQUIRED WHERE RAMP ABUTS AN AREA USED BY VEHICLES.



HANDICAP RAMP

NOT TO SCALE



CROSS WALK DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS DESCRIPTION	DRAWN	APPD.

PROJECT NAME: ST. JOHN STREET DUNKIN DONUTS
PORTLAND MAINE

SHEET NAME: EROSION CONTROL PLAN/DETAILS

PROJECT NO. 17140
DRAWING NO. 17140 B
FIELDBOOK:
SCALE:
DATE ISSUED: 05-04-18

DESIGNED: JHW
DRAWN: JHW
CHECKED: SEB
APPROVED: SEB
PLAN DATE: 05-04-18
CLIENT & OWNER: Dunkin' Brands, Inc. 130 Royall St. Canton, MA 02021

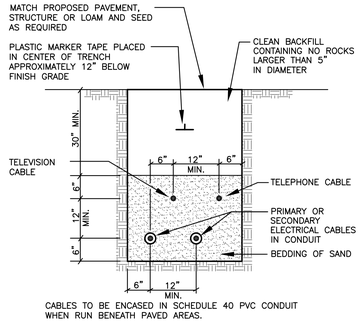
Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257-2071 Fax: (207) 257-2130
info@plymouthengineering.com
www.plymouthengineering.com

STATE OF MAINE ... LICENSED

DRAWINGS NOT SEALED ARE FOR PLANNING PURPOSES ONLY, AND ARE NOT INTENDED FOR PERMITTING, BIDDING OR CONSTRUCTION

SHEET 6 OF 7

C6

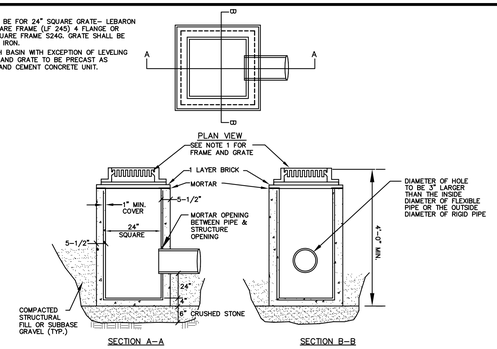


CABLES TO BE ENCASED IN SCHEDULE 40 PVC CONDUIT WHEN RUN BENEATH PAVED AREAS.

TYPICAL UNDERGROUND CABLE INSTALLATION

NOT TO SCALE

NOTES:
1. FRAME SHALL BE FOR 24" SQUARE GRATE- LEBARON TYPE "F" SQUARE FRAME (LF 245) A FLANGE OR ETHERIDGE SQUARE FRAME S24G. GRATE SHALL BE 24"x24" CAST IRON.
2. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.



TYP. TYPE "F" CATCH BASIN

NOT TO SCALE

CONSTRUCTION NOTES:

1. All work shall conform to the applicable codes and ordinances.

2. Contractor shall visit the site and familiarize him or herself with all conditions affecting the proposed work and shall make provisions as to the cost thereof. Contractor shall be responsible for familiarizing him or herself with all contract documents, field conditions and dimensions and confirming that the work may be accomplished as shown prior to proceeding with construction. Any discrepancies shall be brought to the attention of the engineer prior to the commencement of work.

3. Contractor shall notify engineer of all products or items noted as "existing" which are not found in the field.

4. Install all equipment and materials in accordance with manufacturer's recommendations and owner's requirements unless specifically otherwise indicated or where local codes or regulations take precedence.

5. Contractor shall verify all dimensions and conditions in the field prior to fabrication and erection of any material. Any unusual conditions shall be reported to the attention of the engineer.

6. Contractor shall clean and remove debris and sediment deposited on public streets, sidewalks, adjacent areas, or other public ways due to construction.

7. Contractor shall incorporate provisions as necessary in construction to protect existing structures, physical features, and maintain site stability during construction. Contractor shall restore all areas to original condition and as directed by design drawings.

8. Site contractor shall obtain all required permits prior to construction.

9. All erosion and sediment control measures shall be installed in accordance with "Maine Erosion and Sedimentation Control Handbook for Construction: Best Management Practices" published by the Cumberland County Soil and Water Conservation District and Maine Department of Environmental Protection, March 2004 or latest edition. It shall be the responsibility of the contractor to possess a copy of the erosion control plan at all times.

10. The contractor is hereby cautioned that all site features shown hereon are based on field observations by the surveyor and by information provided by utility companies. The information is not to be relied on as being exact or complete. The contractor shall contact Dig Safe (1-888-digsafe) at least three (3) but not more than thirty (30) days prior to commencement of excavation or demolition to verify horizontal and vertical location of all utilities.

11. Contractor shall be aware that Dig Safe only notifies its "member" utilities about the dig. When notified, Dig Safe will advise contractor of member utilities in the area. Contractor is responsible for identifying and contacting non-member utilities directly. Non-member utilities may include town or city water and sewer districts and small local utilities, as well as USG public works systems.

12. Contractors shall be responsible for compliance with the requirements of 23 MRSA 3360-A. It shall be the responsibility of the contractor to coordinate with the appropriate utilities to obtain authorization prior to relocation of any existing utilities which conflict with the proposed improvements shown on these plans. If a utility conflict arises, the contractor shall immediately notify the owner, the municipality and appropriate utility company prior to proceeding with any relocation.

13. All pavement markings and directional signage shown on the plan shall conform to the Manual of Uniform Traffic Control Devices (MUTCD) standards.

14. All pavement joints shall be sawcut prior to paving to provide a durable and uniform joint.

15. No holes, trenches or structures shall be left open overnight in any excavation accessible to the public or in public rights-of-way.

16. All work within the public right-of-way shall require a M.D.O.T. Permit as well as permits from the town as applicable.

17. The proposed limits of clearing shown hereon are approximate based upon the proposed limits of site grading. The applicant reserves the right to perform normal forest management activities outside of the clearing limit as shown. Tree removal outside of the limits of clearing may be necessary to remove dead or dying trees or tree limbs. This removal is due to potential safety hazards and to promote proper forest growth.

18. Immediately upon completion of cuts/fills, the contractor shall stabilize disturbed areas in accordance with erosion control notes and as specified on plans.

19. The contractor shall be fully and solely responsible for the removal, replacement and rectification of all damaged and defective material and workmanship in connection with the contract work. The contractor shall replace or repair as directed by the owner all such damaged or defective materials which appear within a period of one year from the date of substantial completion.

20. All work performed by the general contractor and/or trade subcontractor shall conform to the requirements of local, state or federal laws, as well as any other governing requirements, whether or not specified on the drawings.

21. Where the terms "approved equal", "other approved", "equal to", "acceptable" or other general qualifying terms are used in these notes, it shall be understood that reference is made to the ruling and judgment of the owner and/or owner's engineer.

22. The general contractor shall provide all necessary protection for the work until turned over to the owner.

23. The general contractor shall maintain a current and complete set of construction drawings on site during all phases of construction for use of all trades.

24. The contractor shall take full responsibility for any changes and deviation of approved plans not authorized by the architect/engineer and/or client/owner.

25. Details are intended to show end result of design. Any modification to suit field dimension and condition shall be submitted to the engineer for review and approval prior to any work.

26. Before the final acceptance of the project, the contractor shall remove all equipment and materials, repair or replace private or public property which may have been damaged or destroyed during construction, clean the areas within and adjacent to the project which have been obstructed by his/her operations, and leave the project area neat and presentable.

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	APPD.

ST. JOHN STREET
DUNKIN DONUTS
PORTLAND MAINE

SHEET NAME: EROSION CONTROL PLAN/DETAILS

PROJECT NAME:

PROJECT NO.	17140
DRAWING NO.	17140 B
FIELDBOOK:	
SCALE:	
DATE ISSUED:	05-04-18

DESIGNED:	JHW
DRAWN:	JHW
CHECKED:	SEB
APPROVED:	SEB
PLAN DATE:	05-04-18

CLIENT & OWNER: Dunkin Brands, Inc.
130 Royall St.
Canton, MA 02021

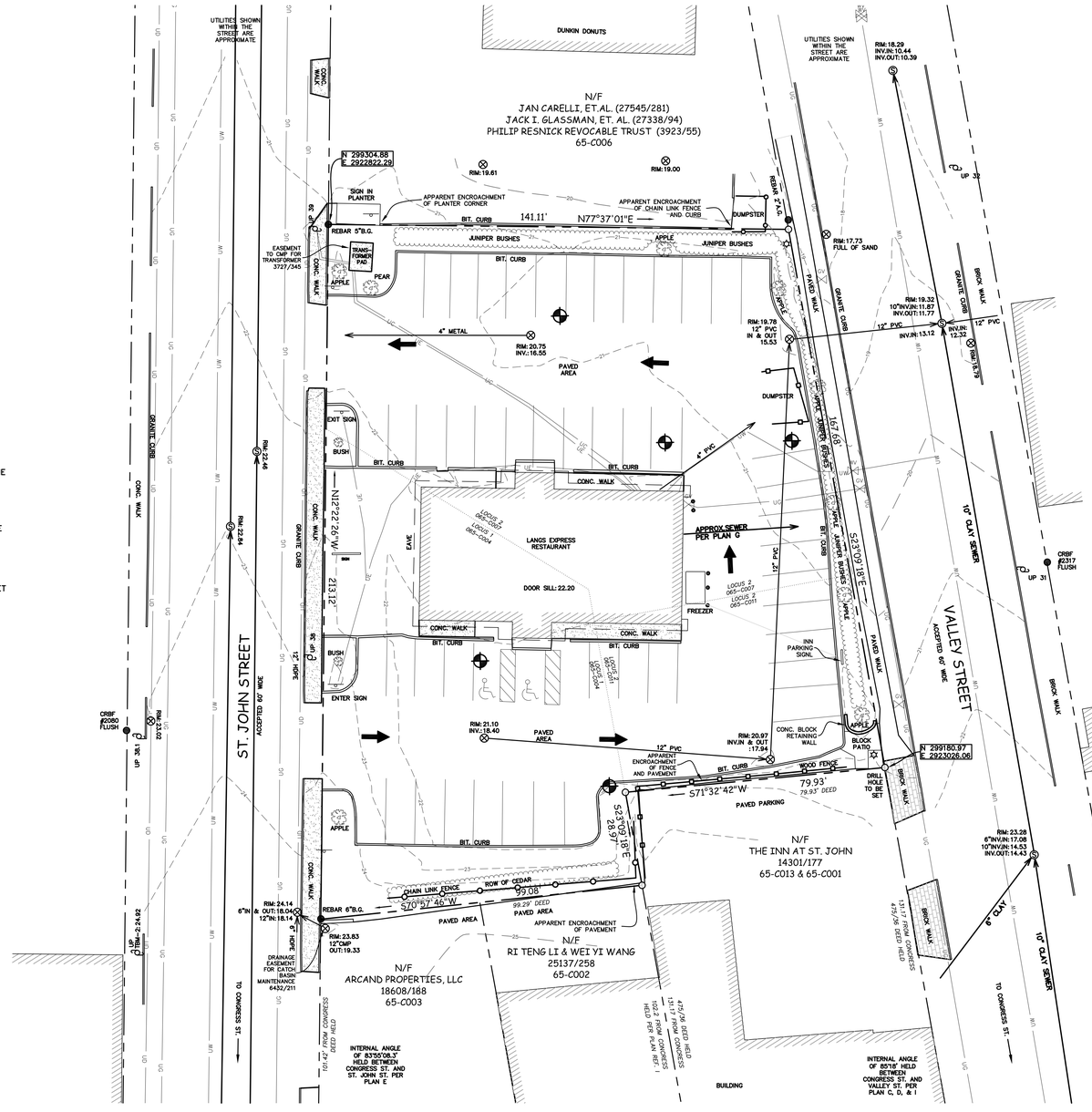
Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257-2071 Fax: (207) 257-2130
info@plymouthengineering.com
www.plymouthengineering.com

STATE OF MAINE
JOHN H. WHITEN, JR.
NO. 10144
LICENSED PROFESSIONAL ENGINEER

DRAWINGS NOT SEALED ARE FOR PLANNING PURPOSES ONLY AND ARE NOT INTENDED FOR PERMITTING, BIDDING OR CONSTRUCTION

SHEET 7 OF 7

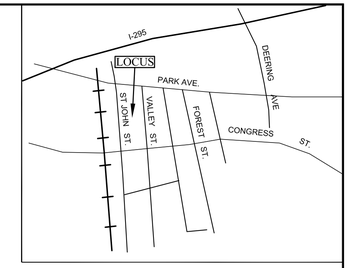
C7



LEGEND

	SUBJECT BOUNDARY LINE
	ABUTTER OR RIGHT OF WAY LINE
N/F	NOW OR FORMERLY
000/000	DEED BOOK PAGE REFERENCE
000-000	TAX MAP AND LOT NUMBER
	DECIDUOUS / CONIFEROUS TREE
MF	GRANITE MONUMENT FOUND
IPF/IRF/RBF	IRON PIPE/ROD/REBAR FOUND
DHF	DRILL HOLE FOUND
CRBS	5/8" REBAR W/ CAP TO BE SET
	UTILITY POLE
S	SEWER MANHOLE
D	DRAIN MANHOLE
	CATCH BASINS
	BORING
UW	UNDERGROUND WATER
UC	UNDERGROUND CABLE
UG	UNDERGROUND GAS
UE	UNDERGROUND ELECTRIC
UD	UNDERGROUND DRAIN
GV	GAS VALVE
WV	WATER VALVE

GRAPHIC SCALE
0 10 20 40
1 inch = 20 ft.



LOCATION PLAN
Not to Scale

NOTES:

1. RECORD OWNER: NANCY E. HURST
2. PARCEL DEED REFERENCE:

   LOCUS 1: SEE DEED FROM WAYNE R. HURST TO NANCY E. HURST DATED MARCH 27, 1992, RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9982, PAGE 346.

   LOCUS 2: SEE DEED FROM CASCO BANK & TRUST CO., AND DIANA RESNICK, TRUTEES OF PHILIP P. RESNICK REVOCABLE TRUST TO NANCY E. HURST DATED OCTOBER 5, 1976, RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 3923, PAGE 45.
3. ALL BOOK AND PAGE REFERENCES REFER TO THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
4. PARCEL TAX MAP REFERENCE:
   LOCUS 1: CITY OF PORTLAND, TAX MAP 65, LOT C004
   LOCUS 2: CITY OF PORTLAND, TAX MAP 65, LOT C011, & LOT C007
5. TOTAL AREA OF PARCEL 30,239 SQUARE FEET.
6. ALL BEARINGS ARE REFERENCED TO MAINE STATE PLANE WEST ZONE, U.S. SURVEY FEET BY LOCATION OF MONUMENTS WITH COORDINATES PROVIDED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT.
7. ELEVATIONS SHOWN ARE TIED TO THE CITY OF PORTLAND VERTICAL DATUM (NGVD29) BY LOCATION OF TBM 2 (PK NAIL IN 1ST WOOD UTILITY POLE, ALONG W'LY SIDE OF ST. JOHN ST. N'LY OF CONGRESS ST.) WITH AN ELEVATION OF 24.92' AS PROVIDED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT.
8. THE LOCATION, SIZE, AND DEPTH OF UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES NOT DETERMINED BY THIS SURVEY EXCEPT UNDERGROUND MARKINGS PROVIDED BY DIG-SMART OF MAINE AS LOCATED.
9. THIS PARCEL IS NOT LOCATED IN A SPECIAL FLOOD HAZARD ZONE AS DEPICTED ON FEMA FLOOD PANEL #230051-0013-B.
10. PLAN REFERENCES:
   A.) STANDARD BOUNDARY SURVEY OF HURLEY AND JOHNSTON PROPERTY PREPARED FOR AMATO'S ITALIAN SANDWICH SHOPS, INC PREPARED BY SEBAGO TECHNICS DATED 4-17-96 RECORDED IN PLAN BOOK 196, PAGE 284.
   B.) ST. JOHN STREET, SHEETS NO. 2 AND NO. 3, CITY OF PORTLAND ENGINEERING DEPARTMENT, VOLUME 1, PAGE 39 AND VOLUME 1, PAGE 40 DATED JULY 1925.
   C.) CONGRESS STREET, SHEETS NO. 3 AND NO. 4, CITY OF PORTLAND ENGINEERING DEPARTMENT, VOLUME 2, PAGE 150 AND VOLUME 2, PAGE 151 DATED DECEMBER 1925.
   D.) PLAN SHOWING FOREST, GILMAN, VALLEY AND CONGRESS, CITY OF PORTLAND ENGINEERING DEPARTMENT, VOLUME 2, PAGE 177 DATED FEBRUARY 1926.
   E.) MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY "I", FEDERAL AID PROJECT NO. M-0640(1), DOT FILE NO 3-317, SHEETS 1, 2, AND 3 DATED OCTOBER 1983, RECORDED IN PLAN BOOK 163, PAGES 20, 21, & 22.
   F.) BOUNDARY & TOPOGRAPHY SURVEY ON VALLEY STREET, PORTLAND, MAINE MADE FOR SHALOM HOUSE, INC PREAPRED BY OWEN HASKELL, INC. DATED JUNE 16, 2005, REVISED 06-27-05 RECORDED IN PLAN BOOK 205, PAGE 417.
   G.) LISA'S PIZZA, ST. JOHN ST. LOCATION, SITE PLAN PREPARED FOR LISA'S PIZZA INC PREPARED BY E.C. JORDAN CO. DATED 12-11-84, REVISED 12-13-84 NOT RECORDED.
   H.) WORKSHEET PROVIDED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT DEPICTING SAINT JOHN STREET, NOT DATED.
   I.) PLAN OF THE ESTATE OF THE LATE LEVI WEYMOUTH, PORTLAND MAINE, BY E.C. JORDAN. C.E., RECORDED IN PLAN BOOK 3, PAGE 53.

CERTIFICATION:

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY CONFORMS TO THE STATE OF MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS, STANDARDS OF PRACTICE (CHAPTER 90, SECTIONS 1 & 2).

Michael A. Hartman

MICHAEL A. HARTMAN, P.L.S. #2433
FOR JONES ASSOCIATES INC.

STATE OF MAINE
MICHAEL A. HARTMAN
NO. 2433
PROFESSIONAL LAND SURVEYOR

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DRAFT PLAN OF LAND OF

NANCY E. HURST

305-319 ST JOHN ST. & 302-314 VALLEY ST.
PORTLAND, MAINE

PREPARED FOR: DUNKIN BRANDS, INC
130 ROYALL STREET
CANTON, MA 02021

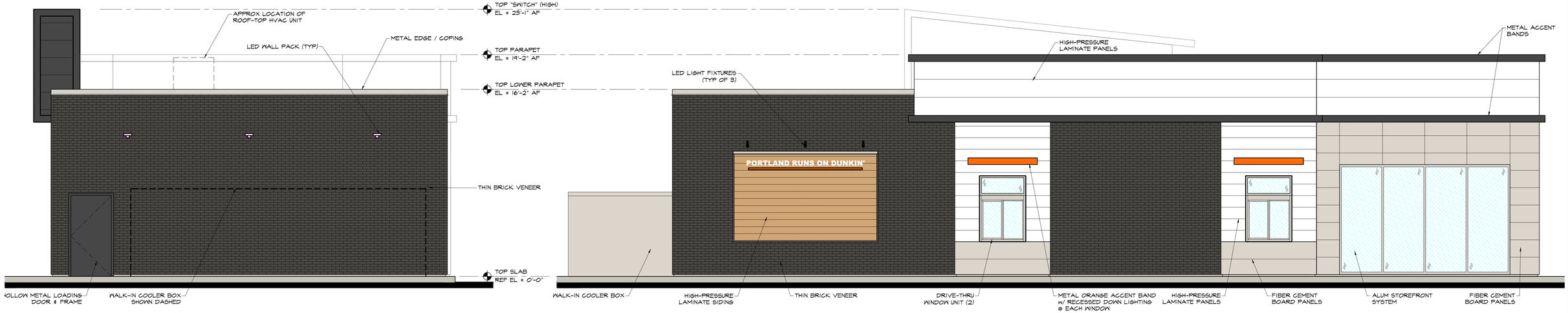
PREPARED BY:
JONES ASSOCIATES INC.
Foresters, Surveyors And Environmental Consultants
280 POLAND SPRING ROAD, AUBURN, MAINE 04210
(207) 241-0235

RECORD OWNERS:
NANCY E. HURST
1876 HAPRSWELL NECK RD
HARPSWELL, ME 04079

PLAN DATE: MAY 24, 2017

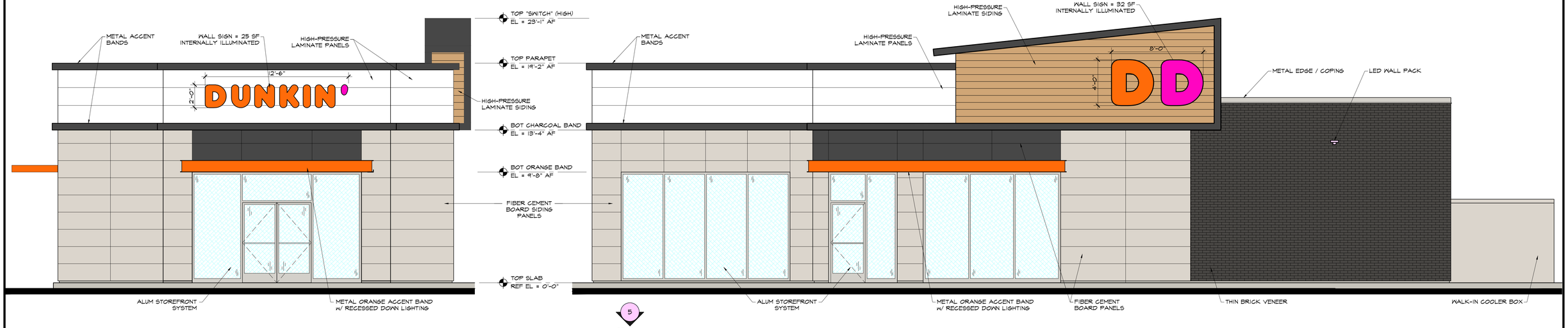
SCALE: 1" = 20'

PROJ. #: 17-043PD



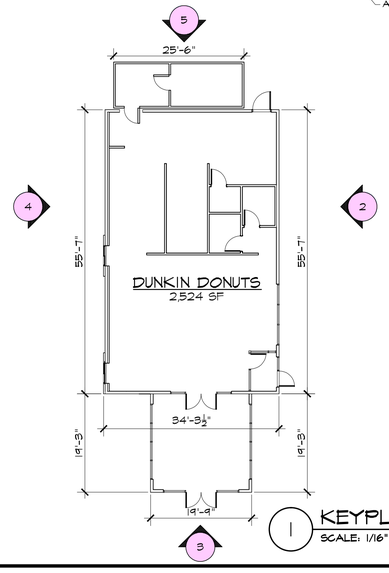
5 PROPOSED EAST ELEVATION
SCALE: 1/4" = 1'-0"

4 PROPOSED NORTH ELEVATION
SCALE: 1/4" = 1'-0"



3 PROPOSED WEST ELEVATION
SCALE: 1/4" = 1'-0"

2 PROPOSED SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



1 KEYPLAN
SCALE: 1/16" = 1'-0"

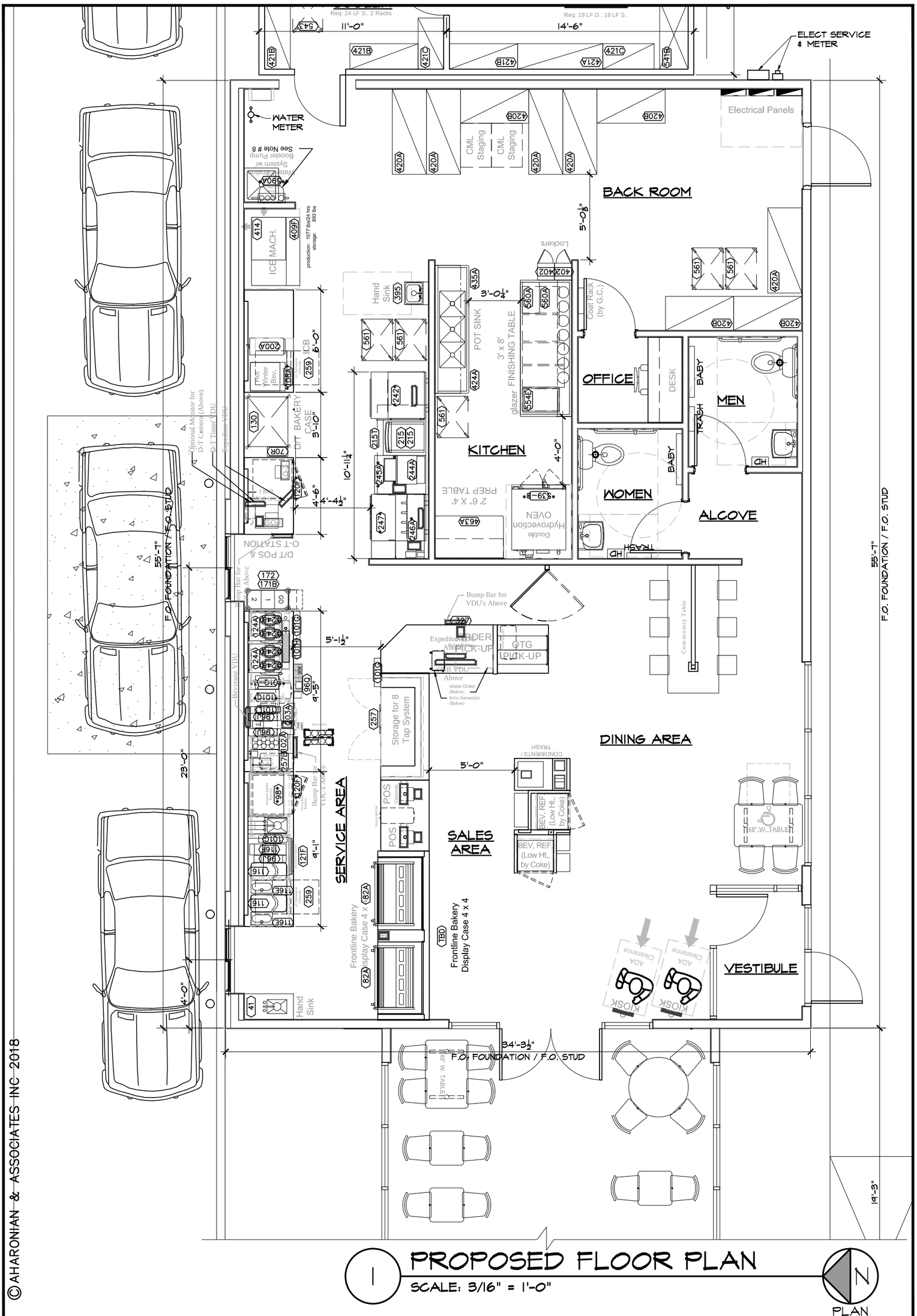
PLAN

DARK PALETTE

AHARONIAN & ASSOCIATES, INC.
Architects
401·232·5010
www.arch-eng.com

DUNKIN' DONUTS

325 ST. JOHN STREET
PORTLAND, ME 04102
APRIL 9, 2018



1 PROPOSED FLOOR PLAN

SCALE: 3/16" = 1'-0"

PLAN

© AHARONIAN & ASSOCIATES INC 2018

AHARONIAN & ASSOCIATES INC.
ARCHITECTS

310 George Washington Highway
Suite 100
Smithfield, Rhode Island
0 2 9 1 7

T 401-232-5010
F 401-232-5080
WWW.ARCH-ENG.COM

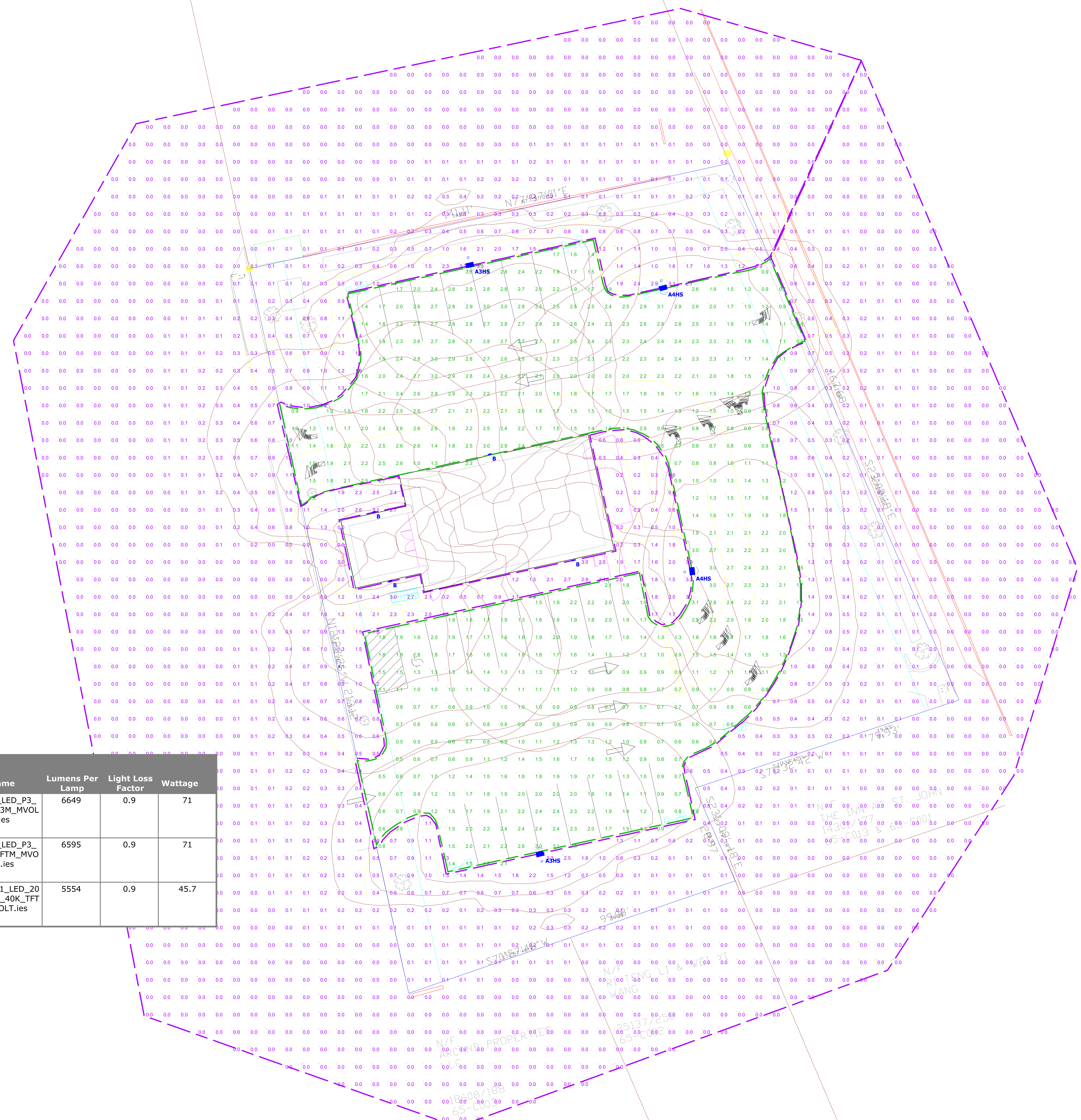
REVISIONS NUMBER	REMARKS	DATE
1	UTILITY COORD	4/17/18

PROJECT TITLE
DUNKIN' BRANDS
[eat drink think]
PC# 356088
325 ST. JOHN STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY
FOR REVIEW

DRAWING TITLE
PROPOSED FLOOR PLAN

DATE	PROJ NO
APR 9, 2018	18047
DRAWN BY AH	CHECKED BY JB

DRAWING NUMBER
K1.1



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Outside of Parking Lot	+	0.2 fc	3.5 fc	0.0 fc	N/A	N/A
Parking Lot	+	1.7 fc	3.6 fc	0.5 fc	7.2:1	3.4:1

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A3HS	2	Lithonia Lighting	DSX0 LED P3 40K T3M MVOLT HS SPA DDBXD with SSS 16 4C DM19AS DDBXD	DSX0 LED P3 40K T3M MVOLT with houseside shield; mounted at 18ft (16ft pole on 2ft base)	LED	1	DSX0_LED_P3_40K_T3M_MVOLT_HS.ies	6649	0.9	71
	A4HS	2	Lithonia Lighting	DSX0 LED P3 40K TFTM MVOLT HS SPA DDBXD with SSS 16 4C DM19AS DDBXD	DSX0 LED P3 40K TFTM MVOLT with houseside shield; mounted at 18ft (16ft pole on 2ft base)	LED	1	DSX0_LED_P3_40K_TFTM_MVOLT_HS.ies	6595	0.9	71
	B	4	Lithonia Lighting	DSXW1 LED 20C 700 40K TFTM MVOLT DDBXD	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE TFTM OPTIC, 4000K, @ 700mA; mounted at 14ft	LED	1	DSXW1_LED_20C_700_40K_TFTM_MVOLT.ies	5554	0.9	45.7

ST. JOHN ST SITE
Portland, ME
Lighting Layout

Designer
Heidi G. Connors
Visible Light, Inc.
24 Stickney Terrace
Suite 6
Hampton, NH 03842

Date
6/13/2018

Scale
1"=16'

Drawing No.

Summary

VALLEY STREET
SPEED LIMIT 25 MPH
ACCEPTED 60' WIDE

RIM:18.29
INV.IN:10.44
INV.OUT:10.39

RIM:19.32
10"INV.IN:11.87
INV.OUT:11.77

12" PVC
INV.IN:13.12

SIGHT DISTANCE
>400' (300' TO INTERSECTION)

RIM:17.73
FULL OF SAND

17±
MAGNETIC NORTH

RIM:19.00

STOCK PILE

20x0 t.o.c.
19x5 b.o.c.

NEW CB-7
RIM=20.1
INV.IN=15.63 (FROM DMH-5)
INV.IN=15.63 (FROM CB-6)
INV.OUT=15.53

21x0 t.o.c.
20x5 b.o.c.

TOM 19.5'

DMH-5
RIM=21.10
INV.IN=16.25 (FROM CB-4)
INV.IN=16.25 (FROM USF-1)
INV.IN=16.25 (FROM USF-2)
INV.OUT=16.15

CB #4
RIM:20.97
INV.IN :17.52
INV OUT: 17.42

NEW CB-4
RIM:20.80
INV.IN :16.54
INV OUT: 16.44

21x0 t.o.c.
20x5 b.o.c.

21x75 t.o.c.
21x25 b.o.c.

12"SD

CB-3
RIM=21.70
INV.IN=17.04 (FROM CB-4)
INV.IN=17.04 (FROM USF-1)
INV.OUT=16.94

22x75
22x25
EOP
TOM 20.75
OUTLET 18.50
23x0
23x16
23x46
23x16 t.o.c.
22.66 b.o.c.

21x25

CB-2 (TYPE F BASIN)
RIM=20.90
INV.OUT=17.25

NEW CB-6
RIM=21.85
INV.OUT=16.38

PB-1

22x5 t.o.c.
22x0 b.o.c.

CB #6
RIM:21.6
INV.:16.55

RIM:19.61

22x75
23x0
23x46

CONSTRUCTION ENTRANCE
FOR PARKING LOT

23x0 t.o.c.
22x5 b.o.c.

23x3
22x5
22x8

CB-1 (TYPE F BASIN)
RIM=21.90
INV.OUT=17.94

PB-5
PB-4

UP 39
UP 38

SIGHT DISTANCE
>500'

SIGHT DISTANCE
>500' (320' TO LIGHT)

12" HDPE

RIM:23.83
12"CMP
OUT:19.33

6" HDPE

RIM:24.14
OUT:18.04
12"IN:18.14

RIM:22.46

RIM:22.84

ST. JOHN STREET
SPEED LIMIT 30 MPH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	APPD.

PROJECT NAME:
ST. JOHN STREET
DUNKIN DONUTS
PORTLAND MAINE

SHEET NAME:
CONSTRUCTION MANAGEMENT PLAN

DESIGNED:	JHW
DRAWN:	JHW
CHECKED:	SEB
APPROVED:	SEB
PLAN DATE:	05-04-18
CLIENT & OWNER:	Dunkin' Brands, Inc. 130 Royall St. Canton, MA 02021

PROJECT NO.	17140
DRAWING NO.	17140 B
FIELDBOOK:	
SCALE:	
DATE ISSUED:	05-04-18

Plymouth Engineering, Inc.
P.O. Box 46 30 Lower Detroit Road
Plymouth, Maine 04969
Tel: (207) 257-2071 Fax: (207) 257-2130
info@plymouthengineering.com
www.plymouthengineering.com

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