CITY OF PORTLAND, MAINE
PLANNING BOARD

Sean Dundon, Chair
Brandon Mazer, Vice Chair
Bob Dunfey
David Eaton
David Silk
Austin Smith
Maggie Stanley

AGENDA
PORTLAND PLANNING BOARD MEETING

The Portland Planning Board will hold a meeting on Tuesday, July 9, 2019, 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 PM

i. Level III Subdivision and Site Plan; 55-59 St. Lawrence Street; St. Lawrence Development, LLC., Applicant. (estimated time 4:30 - 5:30 p.m.) The Planning Board will hold a workshop on a proposed residential project to renovate the existing seven (7) unit building, add a 5 level building addition of eight (8) new residential units, and add a separate single-family dwelling to create a total of 16 residential units on the site. The total proposed floor area is 21,590 sf. Access to parking is proposed off of a shared private accessway with parking for 16 vehicles and 7 bicycles. The application includes one affordable unit and one inclusionary zoning unit. The 11,644 sf lot is within the R-6 zone and is subject to the R-6 and Munjoy Hill Neighborhood Conservation Overlay District provisions; the proposal is also subject to review under the standards contained in Portland's Subdivision, Site Plan and Inclusionary Zoning ordinances.

PUBLIC HEARING - 7:00 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON JUNE 25, 2019

Workshop: Mazer, Dunfey, Smith present; Dundon, Eaton and Silk absent; Stanley recused.

Public Hearing: Mazer, Dunfey, Smith and Stanley present; Dundon, Eaton and Silk absent.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON JUNE 25, 2019

i. Level III Site Plan; 1 Portland Square; North River IV, LLC., Applicant. Stanley moved and Smith seconded a motion to approve a waiver from the standard parking stall dimension to allow the existing dimension of 8 x 18 spaces. Vote: 4-0, Dundon, Eaton and Silk absent. Stanley moved and Smith seconded a motion to approve the Site Location of Development Application. Vote: 4-0, Dundon, Eaton and Silk absent. Stanley moved and Smith seconded a motion to approve the site plan application with one amended condition of approval. Vote: 4-0, Dundon, Eaton and Silk absent.

5. NEW BUSINESS

i. Level III Site Plan; 1 Center Street; Fathom CC., LLC., Applicant. (estimated time 7:00 - 8:00 p.m.) The Planning Board will hold a public hearing on a proposal for a 135-room hotel in a six-story structure with a ground floor area of 22,758 sf and a total square footage of 112,046 sf. The hotel includes a first-floor restaurant along Commercial Street and a rooftop bar. The 23,795 sf property is part of the holdings of North River IV, LLC. It is located within the Downtown B-3 zone within the pedestrian activity and Old Port district overlay zones. The project is subject to review under the standards of Portland's Site Plan and Historic Preservation Ordinances.

ii. Level III Subdivision/Site Plan and IZ Conditional Use; 46 (40) Free Street; 40 Free Street, LLC., Applicant. (estimated time 8:00 p.m.) The Planning Board will hold a public hearing on a proposal for a 58,563 sf six-story mixed use building. The project consists of five (5) retail units, fifty-one (51) residential units (consisting of 37 one-bedroom and 14 two-bedroom units) on the upper floors. Structured parking is proposed within the building. The 16,853 sf lot is located in the B-3 zone, the Downtown Entertainment Overlay Zone, and within an Historic District. The application is subject to review under Portland's subdivision, site plan, and inclusionary zoning conditional use standards.

Memorandum
Planning and Urban Development Department
Planning Division

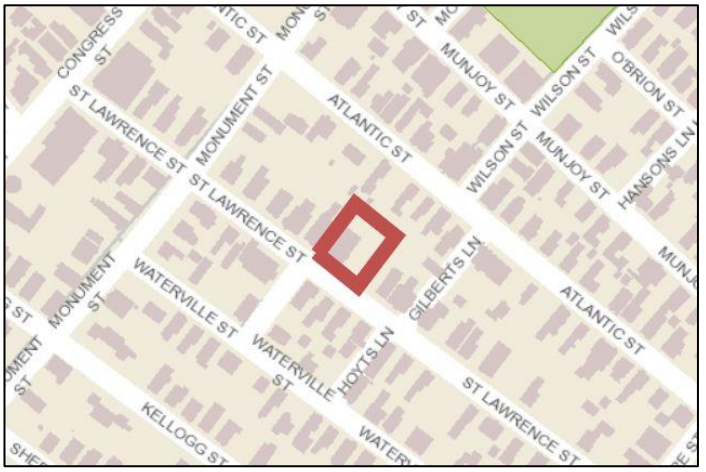
To: Chair Dundon and Members of the Portland Planning Board
From: Jean Fraser, Planner
Date: July 3rd, 2019

Re: **Level III Subdivision and Site Plan; Conditional Use Inclusionary Zoning**
Renovation and New construction to create 16 apartments
55-59 St Lawrence Street

Project: # PL000525-2019 CBL: 16 E016001
Applicant: St Lawrence Development, LLC
Meeting Date: July 9th, 2019

I. INTRODUCTION

St Lawrence Development, LLC has submitted a Level III Subdivision and Site Plan application for the renovation of an existing 7-unit apartment building, construction of a 5- level 8 unit residential addition to the existing apartment building, and one stand-alone townhouse on a 11,644 sq ft parcel that abuts a private 16 foot wide lane. The parcel is located in the R6 zone and within the Munjoy Hill Neighborhood Conservation District, which includes design standards.



The proposals are subject to the Inclusionary Zoning Conditional Use provisions of the Land Use code.

The existing building and connected addition are 45 feet in height, and 15 parking spaces are proposed beneath the building/addition, with one further space incorporated into the townhouse design.

The applicant held a Neighborhood Meeting on June 19, 2019, which was attended by 15 neighbors. The notes are included in Attachment N and it appears that the scale of the project was a key issue. The Planning Division has received two public comments as of the completion of the Memo, including one from a neighbor who has rights in the private lane that provides access to the development.

This Workshop was noticed to 251 neighbors and interested parties, and the public notice appeared in the *Portland Press-Herald* on June 28th and 29th.

Applicant: St Lawrence Development, LLC
(Greg Shinberg)
Consultants: Mark Mueller Architects (Mark Mueller)

Required reviews:

Applicant's Proposal	*Applicable Standards*
Renovated and New structures totaling 16 dwelling units	Subdivision Review
Multifamily buildings of 21,950 sq ft	Ordinance 14-526 for Level III Site Plan Review
Workforce housing is required for developments of 10 units or more residential units	Ordinance 14-487 Inclusionary Zoning Ordinance
Buildings up to 45 feet	Ordinance 14-140.5 R-6 MH Neighborhood Conservation District Review

Required waivers:

Waiver Requests	*Applicable Standards*
Parking Aisle Width – to allow for a parking aisle width behind the compact parking spaces of 20.5 feet.	Technical Standard 1.14 *Parking Lot and Parking Space Design (Figures I-28 thru I-31)* requires a 24 foot wide parking aisle for both compact and regular sized parking spaces.
Compact Parking Spaces – to allow 15 of the 16 spaces to be slightly undersized in terms of width and 13 of the 16 to be compact parking spaces (80%).	Technical Manual, *Section 1.14.* In parking areas of over 10 parking spaces, no more than 20% of parking spaces shall be compact in size.

II. PROJECT DATA

SUBJECT	*DATA*
Existing Zoning	R-6
Existing Use	7-unit residential building
Proposed Use	16-units (existing, addition and townhome)
Parcel Size	11,644 sq ft
Impervious Surface Area **--Existing** **--Proposed** **--Net Change**	 3,145 sq ft
Total Disturbed Area	Not submitted
Building Footprint **--Existing** **--Proposed** **--Net Change**	 Not submitted
Building Floor Area **--Existing** **--Proposed**	 7,303 sq ft 21,590 sq ft
Parking Spaces	16 (13 compact=81%)
Bicycle parking Spaces	7
Proposed Paved Area	Not submitted

III. EXISTING CONDITIONS

The site currently comprises an existing building (about 35 feet in height) that covers just over half of the development parcel, with the remainder landscaped areas and surface parking.

The parcel abuts the private St Lawrence Place that is 16 feet in width and unpaved and uneven in parts. This lane provides access to the parking area for the development parcel and to land owned by a neighbor at the far eastern end (used for parking). That neighbor (7 Gilbert Lane), the immediate neighbor on St Lawrence (49 St Lawrence) and the applicant (via P&S for 55-59 St Lawrence) all have rights of access over this lane; the deed for 55-59 St Lawrence specifically has right in common in that lane "to be kept open forever". The applicant was requested to privide a legal opinion to clarify the rights to to use this lane for access to all of the parking and this is included in Attachment D).

The existing building is over 100 years old and comprises 7 apartments. The applicant has submitted this historic photos of this building (Attachment 17.) and it is currently under consideration for inclusion in the Munjoy Hill Historic District.

(photos right from applicant and in Attachment 17).

The surrounding area includes residential buidlngs of a mixed scale and type, although to the rear of the site the scale is predominantly 1.5 story buildings. Two mature trees are on the rear boundary line and overhang into the development site.

Photo courtesy of Jeff Tarling, City Arborist

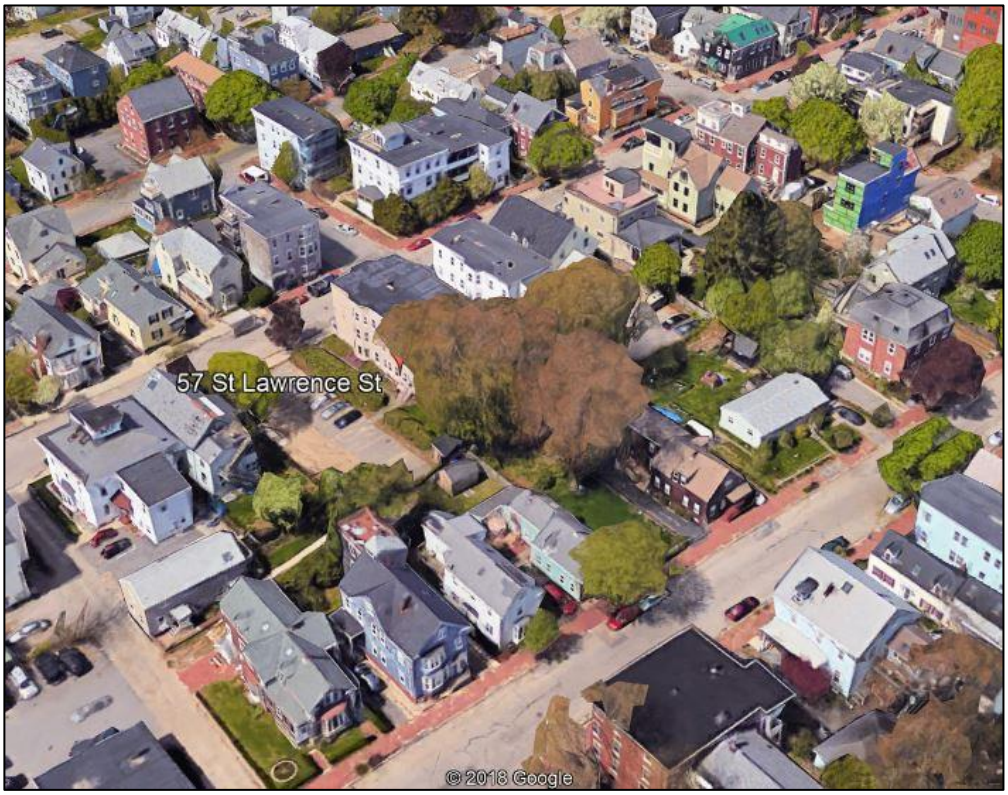


Photo from Google Earth

IV. PROPOSED DEVELOPMENT

The proposals, including floor plans and elevations, are illustrated in the Plan Set.

In summary the proposals include:

- Renovation of the existing 7 unit residential apartment building, with added partial floor on roof (45 feet in height); 6 compact parking spaces located below the building off of the vehicle/ pedestrian courtyard.
- Proposed 8-unit 5-level addition connected to the existing building and wrapping around the rear of the site, partially below grade at the rear (45 feet in height); 9 parking spaces provided beneath the building, of which all are under-sized with 6 tandem.
- Proposed 1 BR 3-story town home, with its own standard sized parking space, on front downhill corner.
- Upgrading of the private (shared rights) St Lawrence Place to provide access to all of the parking spaces.
- Associated landscaping.

V. RIGHT, TITLE AND INTEREST

The applicant has submitted a Purchase and Sale agreement for the parcel at 55-59 St Lawrence Street (Attachment C). The access to all of the parking spaces on this parcel is proposed to be via an abutting

private lane (St Lawrence Place) that is shared (for access) with two abutters (Thayer of 7 Gilbert Lane - *Public Comment PC2* - and 49 St Lawrence). Staff requested a legal clarification of what rights and obligations would apply to the applicant's project regarding:

- Rights for the applicant to use the private lane to access the subject parcel: The submitted *Title Opinion* (Attachment D) clarifies, based on a deed review, that the applicants parcel has right to use the private lane for access and that it must be kept "open" forever. Similar rights are also deeded to the two abutters.

- Rights of the applicant to make physical changes in the private lane, such as the proposed grading, paving and vegetation removal: The above-referenced *Title Opinion* does not address this question and the abutter at 7 Gilbert Lane (PC2) has raised this question as these changes may impact her property.

VI. STAFF REVIEW

A. ZONING ASSESSMENT

The project is located in the R6 zone and within the *Munjoy Hill Neighborhood Conservation District. The* following table summarizes the review:

Zoning Provisions	***Standard***	***Evaluation re submitted proposals***
Inclusionary Zoning (14-487 (d) and (e03	**No of Bedrooms:** IZ requires 10 % of units and of bedrooms be in the Workforce Units.	See clarification of options for addressing this standard from Victoria Volent, Housing Program Manager, dated 6.5.19 (Att. 5). The applicant has indicated that they will provide one 2-BR unit on site and a fee in lieu for the remainder.
Munjoy Hill Neighborhood Conservation District (14-140.5) ***c) DIMENSIONAL STANDARDS***	**Height** - 45" if Affordable unit included (that is no smaller that 50% of the average size of the other units).	*Complies with zoning* as the proposals include a one-BR Affordable unit (610 sq ft) which exceeds the average of the rest of the units.
	Height – Rooftop appurtenances not above permitted height except that HVAC can be up to 5 feet above maximum height if screened and set back 5 ft from building edge	*Complies with zoning* The applicant has revised the initial proposals to meet the standard, and submitted calculations to confirm the average grade (in order to confirm proposed height meets zoning) and these are set out in Plan P12; the methodology utilized has been reviewed by the City's Zoning Administrator.
	Minimum Side Yard Setback – Buildings over 35 require 10 ft for all side yards, except a side yard no less than 5 ft is permitted when "used to continue a documented built pattern of the surrounding streetscape, in which case a proportional increase in another side yard must be provided". (Buildings at or below 35 ft have lower side yard requirements as per R6 zone)	*Complies with zoning* The existing building and the addition are proposed to be increased to 45 ft in height and thus require side yard setbacks to total 20 ft. The side yard on the north side of existing building is 6.58 ft - which is acceptable as it the existing built pattern - provided that the other side yard is 13.42 ft. The side and rear yards meet the standards.
	Minimum Side Yard Setback on a side street	Not applied; side street is a private access drive
	Minimum Rear Yard Setback - 15 feet required	*Complies with zoning.* The proposed building is at or more than 15 feet from property line

Munjoy Hill Neighborhood Conservation District (14-140.5) ***d) DESIGN STANDARDS***	**Design Standard a** – Use simple traditional roof forms and flat roofs permitted in buildings of 3 or more units	Staff do not consider that all of these requirements have been met- please see section **VI D** below under Design Review.
	Design Standard b - first floor shall contain active living space (LR, BR)	
	Design Standard c - Parking not with in the front 10ft depth of the building tandem parking spaces encouraged)	
***R6 Zone Ordinance (14-136 Permitted uses*)**	**(a) Res 2 Multi-family dwellings:** c. A below-grade dwelling unit shall be permitted only if access is provided directly to the outside of the building	*Complies with zoning* Unit 104 is below the average grade (see Plan P14), but meets zoning because the grade of finished floor elev. of the bedrooms is the same as the elev. just outside.
R6 Dimensional Standards that are not superceded by the MHNCD (14-139) (a)	**Minimum Lot Size:** 2000 sq ft required	*Complies with zoning* Assessors show lot as 11,598 sq ft; submitted survey shows it as 11,644 sq ft
	Minimum Lot Area/Dwelling: 725 sq ft required	*Complies with zoning* The lot area per swelling is 727.75 sq ft
	Street frontage: 20 feet required	*Complies with zoning* The street frontage is 97 feet
	Minimum Front yard setback: 5 ft or average depths of adjacent front yards required	*Complies with zoning* the existing building is set back 6 ft; the new S/F is set back 5 ft; both are less than the average of adjacent yards.
	Maximum Lot coverage: 60% required	*Appears to comply with zoning* Site Plan states that this is 48%; documentation needed for PB Hearing
	Maximum Lot width: 20 feet required	*Complies with zoning* Lot width is 97 feet
	Landscaped Open space: 20% required (does not include parking areas or other impervious surfaces)	*Complies with Zoning* The "Landscaped Open Space Plan (Plan P11) confirms that the landscaped open space is 21.81% of the lot. Zoning reviewers confirmed that the proposed turf walkway using *Grasspave2* Grasspavers (type of plastic mesh below grass) can be considered as part of the landscaped OS in this instance (with cond's re use, visibility of the product & main.
R6 Dimensional Standards that are not superceded by the MHNCD (14-139) (c)	**Alterations to single family, two-family and multi-family dwellings in existence as of June 15, 2015** shall not result in the creation of any additional dwelling unit of less than 600 sq ft of floor area (excl common hallways & storage in basement and attic); and shall not result in any existing dwelling unit being reduced in size to less than 1000 sq ft of floor area (same exclusions)	*Complies with Zoning* The floorplans of the existing building (Plan P13) and the proposed floorplans after renovation (Plan P14) show that this standard bas been met.
Parking Requirements (14-330)	The on-site requirement is one space per dwelling unit with the first three units exempt.	*Complies with Zoning* Staff consider the proposals constitute one development of 16 units, requiring 13 parking spaces. 16 spaces provided (not all meet Technical Standards).

B. SUBDIVISION STANDARDS

14-496. Subdivision Plat Requirements

The applicant has not submitted a draft Subdivision Plat, and this will need to be included in the final submission for a Planning board hearing.

14-497. General Requirements (a) Review Criteria

Water, Air Pollution and Soil Erosion The applicant has not submitted information regarding erosion control , and this should be included in the final submissions.

Traffic

The current proposals provide a 20 foot drive access from St Lawrence Street, which is considered acceptable for the level of use anticipated. Staff have not raised any traffic concerns.

Sanitary Sewer/Soils A detailed review has not been completed.

Storm water

The proposals propose to manage stormwater impacts by directing stormwater into a Stormtech Chamber system to reduce run off rates and provide treatment. The Peer Engineer's preliminary comments raised questions over the treatment of the garage areas and the need for documentation of that the proposed system meets city standards, and these comments have been addressed subject to a review of the final Grading and Erosion control Plans (Attachment 4)

Scenic Beauty

The City Arborist has expressed concern regarding the impact on the two mature trees that are located on the rear property boundary - see photo above and Attachment 3. The applicant has responded (Attachment M) that they will coordinate with abutter regarding limbing of branches and potential removal of at least one of the trees. Staff recommend that the question of treatment/limbing, measures to protect the trees, and replacement trees should be resolved before the project is considered at a Public Hearing.

Street Trees

The subdivision requirement would be one tree per unit, or 16 street trees, in or near the ROW. Two street trees are shown on the site plan - one existing and one relocated existing. The applicant has not clarified how the remaining 14 street trees will be provided; a contribution to the tree fund of $400 per required tree is an option.

Comprehensive Plan (Portland Plan 2030)

The proposals address the Housing policies in the latest *Plan* through increasing the supply and range of housing available to Portland residents.

C. SITE PLAN STANDARDS

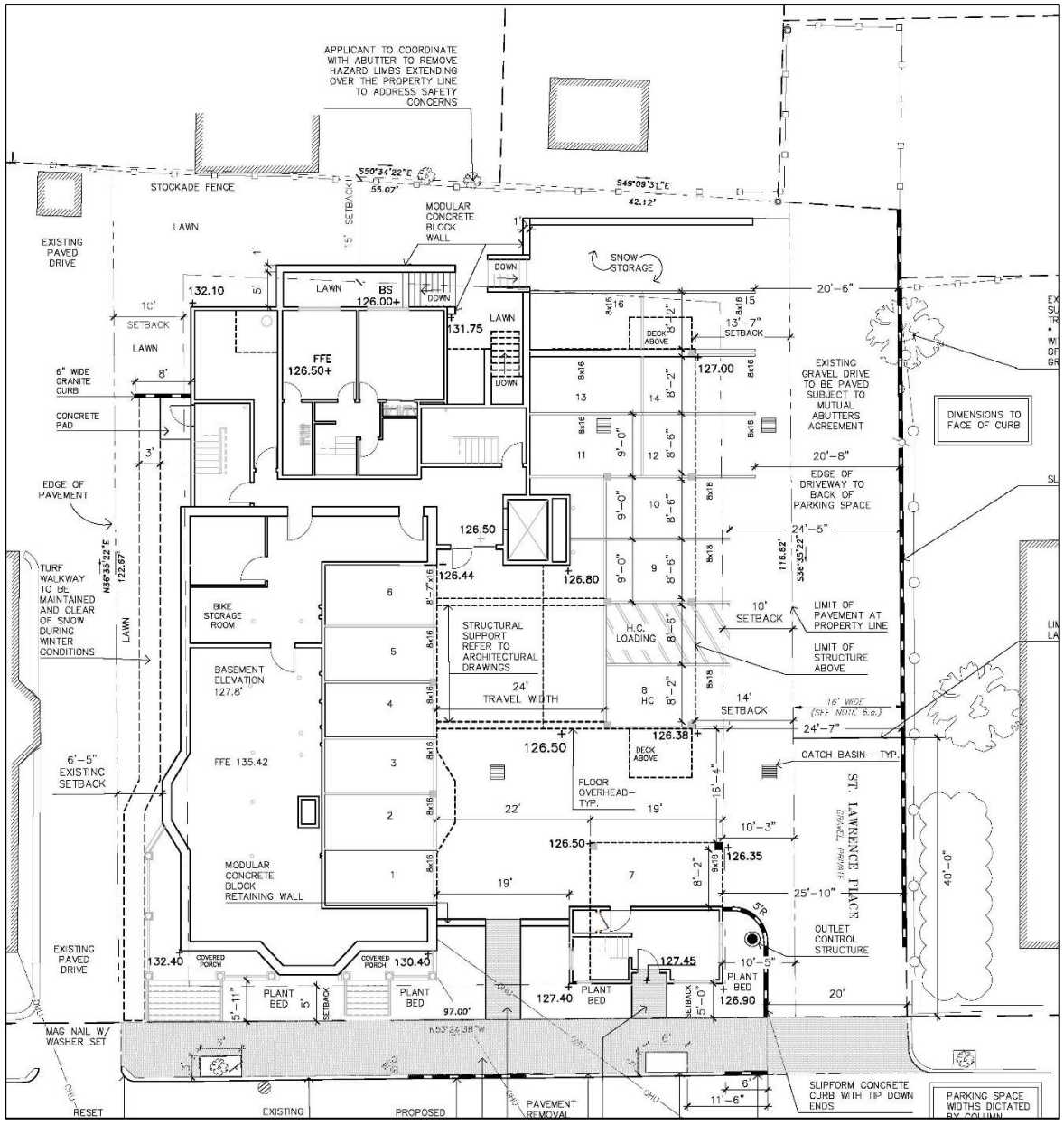
14-526 Requirements for approval

Staff note that while the proposals are considered to be in compliance with the applicable zoning requirements (see above), they are not considered to be fully compliant with the site plan standards. Key concerns include the overly constrained parking layout/access, and the overall scale and massing which appears excessive within the neighborhood context. The Board is requested to offer direction on these two issues. The comments below focus on the key review issues.

Traffic - as discussed above under Subdivision Review

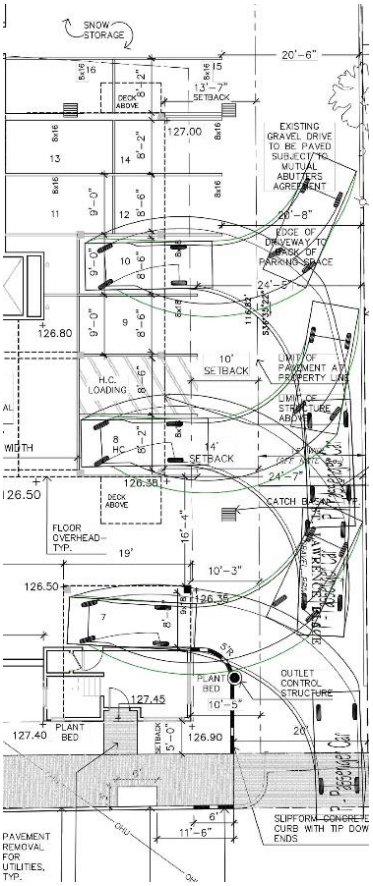
Parking

(Layout Plan See Plan P4)



The proposal includes 16 parking spaces, of which:

- All but the townhome space are about 1 foot narrower than specified by the Technical Standards
- 13 are also shorter and therefore "compact" (representing 80% - the Technical Standard is 20% so a waiver has been requested (Attachment G)
- 6 of the compact spaces are in 3 sets of tandem spaces (tandem parking spaces are encouraged in the Munjoy Hill Neighborhood Overlay district); these abut St Lawrence Place (private lane shared with 2 abutters)
- The parking aisle behind the three sets of tandem spaces is 20.5 ft to the edge of St Lawrence Lane (24 ft is the Technical Standard, so a waiver has been requested - (Attachment G)



The applicant was requested to submit turning templates to show that the reduced parking aisle would allow vehicles to access the spaces, and leave the spaces so as to exit site going forward- these were submitted and are included in Attachment P10. An extract is included at left and (as noted in the DPW comments in Attachment 2) these indicate that the parking access is difficult.

Regarding the compact spaces, staff met with the applicant to outline the main concern - that the tandem compacts would result in vehicles overhanging the space and intruding into the private lane which is not part of the development parcel. It would be impossible for any party to enforce the occupancy of these spaces by compact cars and this concern is underscored by the fact that the parking aisle width is below the Technical Standard. Two neighbors have rights of access over the entirety of the private lane, and it is essential that at least 16 feet of that width (the width of the private lane) should be kept clear for their access. Public Comment PC 2 explains these concerns in detail.

DPW are concerned that all of the spaces are undersized (under 9 feet in width) and impeded by columns etc- and that the potential congestion in this lane will result from the combination of parking space size, difficulty of access, and vehicles not parking within the parking space area. This could result in a safety concern as vehicles may resort to backing out onto St Lawrence Street or parking in the private lane. Since the proposal includes more parking spaces than required by zoning, the recommendation is to revise the parking layout to avoid the problems noted in this review.

DPW have commented (Att. 2):

- The Applicant will require waivers for the number of compact spaces and drive aisle width.

- DPW has concerns that the parking spaces are generally small, and that larger vehicles will park in them and impede the ability to get into adjacent spaces or impede the drive aisle. Turning movement templates have been provided; Applicant has committed to providing additional detail including large vehicles parking in compact spaces and vehicles backing out of spaces.

- Vehicles backing out of the driveway onto St. Lawrence Street shall not be permitted.

Bicycle Parking and Snow Storage - the review has not been completed.

Site Landscaping and Screening – Staff suggest that as part of the resolution of the treatment/preservation/replacement of the mature trees along the rear boundary, that the applicant consider additional tree and other planting to soften the impact of the 5-level elevation facing the small residences along that property line, and possibly along the north property boundary.

Water quality, Stormwater Management and Erosion Control - As discussed above under ***Subdivision Review.***

Public Infrastructure

The Department of Public Works has commented (Attachment 2):

- The driveway apron at St. Lawrence Place should be constructed without transverse granite curb extending across the sidewalk. The tipdown proposed should be mirrored on the opposite

side of St. Lawrence Drive. The sidewalk should continue uninterrupted through St. Lawrence Place, minimum 5 feet wide with a 2% maximum cross-slope. Bricks in the driveway shall be oriented in the same direction as the sidewalk itself, running widthwise from the curb to the property line (this is shown incorrectly in the 7-2-2019 site plan). Soldier course brick shall not be used. The applicant shall also include replacing the first concrete panel on the opposite side of St. Lawrence Place with brick to ensure proper grading at the driveway with the new tipdown.

The applicant has submitted a Construction Management Plan and Narrative (Plan P19) which has not been reviewed in detail.

Public Safety - No concerns have been raised.

Public Utilities - Capacity letters have been received for water, electricity and gas- see Attachment K; confirmation of wastewater capacity is awaited.

Site Design Standards - *Massing, Ventilation and Wind Impact*
The applicable site plan standard is (14-526 (d) (1) b:

The bulk, location or height of proposed buildings and structure shall minimize, to the extent feasible, any substantial diminution in the value or utility to neighboring structures under different ownership and not subject to a legal servitude in favor of the site being developed.

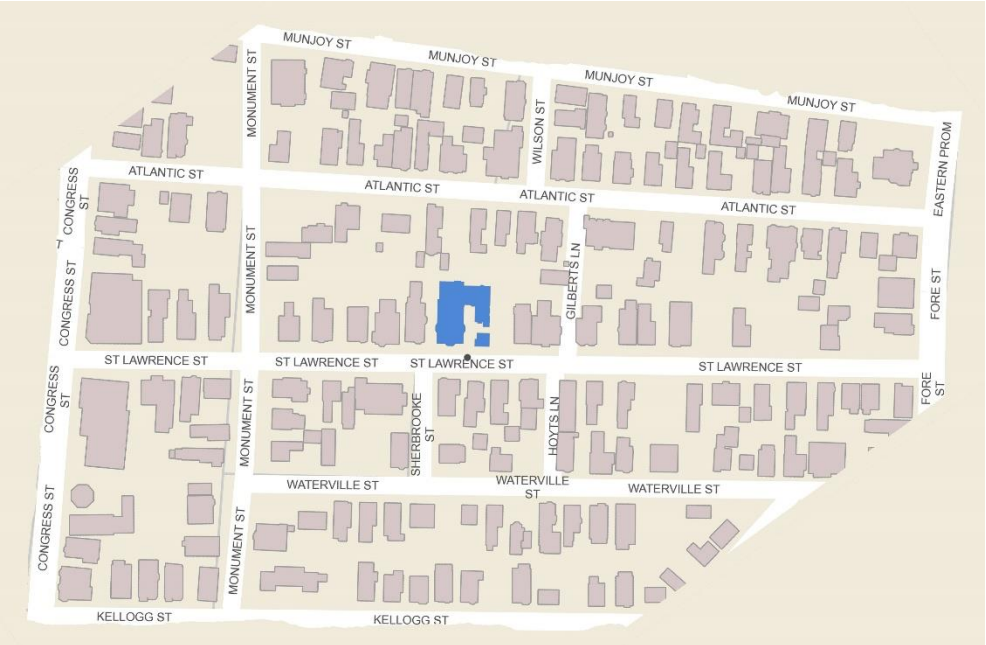
This standard may be relevant to the issues raised in the *Design Review* below.

Exterior Lighting - the applicant has submitted a Photometric Plan (Plan P9). It appears to have excessive light levels in the courtyard and there is no lighting for the private lane. Since this lane is proposed to provide vehicle access for the 16 parking spaces and abutters parking areas, consideration should be given to the adding wall lighting that would improve security and safety in this area.

D. DESIGN STANDARDS IN THE SITE PLAN ORDINANCE

The applicant has provided additional information to help inform the design review, including the elevations facing the internal courtyard **(**Plan P16) and graphics regarding the relationship of the overall development to the surrounding area (see photos and analysis and the plan below in **Plan P17**).

Submitted Neighborhood Map (also in Plan P17)



The design review has been undertaken by the City's Urban Designer and planning staff and the detailed review is included below and in Attachment 6. In view of the recent R6 MH Neighborhood Conservation District requirements, and discussions more generally regarding the scale of new development in this area, staff would like to get direction from the Planning Board regarding compatibility of fundamental design elements such as scale, massing, form.

In this case, the two buildings do meet the dimensional requirements of the R-6 zone and Munjoy Hill Conservation Overlay district. However, as commented in the review below, the proposal deviates from traditional scale, especially height, form, roof forms, and massing. For the workshop, the Board is asked to comment on whether these elements of the proposal meet the design standards before reviewing more detailed design elements.

Munjoy Hill Neighborhood Conservation District (Design Standards only- see above under *Zoning* for zone dimensional standards)

Munjoy Hill Neighborhood Conservation District (14-140.5) ***d) DESIGN STANDARDS***	**Design Standard a** – Use simple traditional roof forms and flat roofs permitted in buildings of 3 or more units
	Design Standard b - first floor shall contain active living space (LR, BR)
	Design Standard c - Parking not with in the front 10ft depth of the building (also tandem parking spaces encouraged)

Findings of the Design Review:
The proposed design **does not pass** all of the criteria of the applicable design standards – please refer to comments below.

Staff noted a number of areas where the current design does not comply with the design standards, and offer suggestions for modifications that would bring the design into compliance.

Additional information requested:
- Material labels on elevations
- Images showing the project in context

Design Review Comments *(red text denotes principles or standards that are not met)**:***

Single-family Home
The predominant Single and Two-family building type within this context include front-end gable New England single-family and double-house buildings ranging from 1.5 to 2.5 stories in height. The characteristics include front-end gables, vertical proportions, one or two-bay, symmetrical façade composition, simple materials and window types (typically vertical proportion, double-hung), slightly recessed entrances with canopy and steps. Occasionally, there are bay windows at the ground floor living space. Materials are predominantly clapboard with a masonry water table, brick and shingle also appear. The buildings on this street have very small front yard setbacks or have a slope that creates a ground floor high above the sidewalk grade.

Multi-family and Other Housing Types Design Standard

This design standard also applies to this proposal as outlined in sections below with associated staff review comments (also in Attachment 6):

(i) ***TWO-FAMILY, SPECIAL NEEDS INDEPENDENT LIVING UNITS, MULTIPLE-FAMILY, LODGING HOUSES, BED AND BREAKFASTS, AND EMERGENCY SHELTERS:***

(1) ***STANDARDS.*** *Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts, and emergency shelters shall meet the following standards:*

a. Proposed structures and related site improvements shall meet the following standards:

1. The exterior design of the proposed structures, including architectural style, facade materials, roof pitch, building form and height, window pattern and spacing, porches and entryways, cornerboard and trim details, and facade variation in projecting or recessed building elements, shall be designed to complement and enhance the nearest residential neighborhood. The design of exterior facades shall provide positive visual interest by incorporating appropriate architectural elements;

Staff comment: *Standard 1* – Not Met – Designed to complement and enhance the residential neighborhood; Provide positive visual interest. Architectural Style – The building's scale and height can be considered harmonious with those found in the context (predominantly one and a half, two and a half, three story). However, the proportion and form of the building is incongruous with single-family homes found within the same streetscape – this building is taller, wider, and uses a hipped roof form. Overall, there are not enough elements to the architecture that complement or enhance the patterns found in the residential context – find more ways to relate the form and style to the context.

Façade Materials – The clapboard material choices is fine-grained and the use of a single material is consistent with the context. Material placement is typically quite simple with a single material for the primary mass of the building.

Roof Pitch – Hipped roofs are not found in this immediate context, especially on single-family homes – however, the use of the hip roof here is consistent with the Munjoy Hill Overlay zone. The irregular footprint of the building creates an irregular roof form. From the street, the roof will appear to be a flat roof. **Though the roof form is not traditional to the building type, the question is whether this form can be considered to compliment and enhance the residential neighborhood and whether the irregularity of the hip roof is acceptable.**

Building Form and Height – When viewed in the renderings and neighborhood plan, the single-family home has a very small footprint and the three-story height is similar in scale to the other single-family homes nearby – therefore staff find the building's scale and height relates to those found in the context (predominantly one and a half, two and a half, three story). The building has a vertical proportion similar to what is found in the context. However, the form of the building differs from the single-family homes found within the same streetscape – this building is smaller and uses a hipped roof form. Staff note that the building footprint could be revised to move the stair tower towards the back of the building thus making the massing more similar to houses nearby with a side entry set back from the street – this change would prevent the odd jog in the roof form and be more consistent with the massing found nearby. The overall project exceeds the parking requirements and the design and forms should not be compromised to facilitate parking maneuvers. **Does the Planning Board consider these variations from the established pattern to complement and enhance the residential neighborhood?**

Window Pattern and Spacing – The composition of the street-facing façade varies somewhat from the compositions found in single-family residential buildings within the context in several ways. The façade has a two-bay rhythm and local symmetry and the majority of windows align vertically and horizontally, but this is disrupted by the door, blank wall, and balcony placement. Some variation here is okay as long as there is an overall balance to the façade. Different or smaller windows are often used within stairwells which is the case here – however, there is blank wall at the front façade at the circulation. **Staff request feedback from the Planning Board on the overall composition as it relates to the established neighborhood patterns.**

Porches and Entryways – The main entrance faces the street and is emphasized with a recess and canopy. The entry is at grade which is atypical – for privacy and separation from the public realm, the ground floor living space is typically raised above grade and set back slightly with a stoop and front yard plantings to provide a buffer. In this case, the building is slightly set back but otherwise, the transition is quite abrupt from public to private realm with living space at the ground floor adjacent to the sidewalk.

Cornerboard and Trim Details – More information is needed regarding this level of detail for the building. Articulation is provided through material and trim texture, railings, and recessed entry. The design uses the texture of the material, balcony, overhanging roof line to provide surface articulation and visual interest.

Façade Variation (Projecting or Recessed Building Elements) – There is adequate façade variation. The project varies the massing with a hipped roof, recessed balcony.

> *2. The proposed development shall respect the existing relationship of buildings to public streets. New development shall be integrated with the existing city fabric and streetscape including building placement, landscaping, lawn areas, porch and entrance areas, fencing, and other streetscape elements;*

Staff comment: *Standard 2* – Not Met – The street wall is maintained and building placement in relationship to St. Lawrence Street is consistent with the neighboring properties (front yard setback). The project does not provide a sense of transition and privacy for the residential use. The ground floor should be set back, elevated, and/or include transition area such as a planter or porch (refer to strategies found in the context). The ground floor living space is typically raised above the sidewalk grade to provide privacy and transition (although there are a couple of examples within this streetscape of entries at grade). **The Planning Board is asked to weigh in whether this at-grade entry condition is consistent with the context and meets the standard to "respect the existing relationship of buildings to public streets. New development shall be integrated with the existing city fabric and streetscape including building placement, landscaping, lawn areas, porch and entrance areas, fending, and other streetscape elements."**

> *3. Open space on the site for all two-family, special needs independent living unit, bed and breakfast and multiple-family development shall be integrated into the development site. Such open space in a special needs independent living unit or a multiple-family development shall be designed to complement and enhance the building form and development proposed on the site. Open space functions may include but are not limited to buffers and screening from streets and neighboring properties, yard space for residents, play areas, and planting strips along the perimeter of proposed buildings;*

Staff comment: *Standard 3* – Met – The project provides balcony space for each dwelling unit. Very little usable open space is provided at the ground level.

> *4. The design of proposed dwellings shall provide ample windows to enhance opportunities for sunlight and air in each dwelling in principal living areas and shall also provide sufficient storage areas;*

Staff comment: *Standard 4* – Met – The project has a high level of fenestration and the provision of balconies also contributes to resident's access to light and air. Storage is provided within the unit.

5. The scale and surface area of parking, driveways and paved areas are arranged and landscaped to properly screen vehicles from adjacent properties and streets;

Staff comment: *Standard 5* – Met – The parking is structured and set back from the street. There are no garage doors, parking does not face the street. However, the parking areas are exposed and visible from the downhill approach.

VII. WORKFORCE HOUSING CONDITIONAL USE (Section 14-487)

The proposed 16 unit development is subject to the city's Inclusionary Zoning ordinance, which requires that residential developments of ten or more units be reviewed as conditional uses subject to 14-487, and that these projects provide on-site workforce housing units or make an in-lieu payment to the City's Housing Trust Fund.

The Housing Program Manager has outlined the options for this project to meet the IZ requirements in Attachment 5. The applicant has confirmed (Attachment B) that one 2-BR unit will be designated as the IZ unit along with a fee-in-lieu for the remaining required partial unit.

It should be noted that the proposed 1-BR workforce unit (see Plan 14) is not part of this "equation" as it is included to meet the R6 Overlay District requirement for a height bonus to 45 feet (see above under *Zoning*).

VIII NEXT STEPS

The final submission will need to respond to the Planning Board and review comments outlined in this Memorandum and include:

- Draft Subdivision Plat
- Revised parking layout to address comments regarding parking access and parking spaces sizes
- Any revisions as directed by the Planning Board regarding scale and massing
- Clarification as to how the street tree requirement is intended to be addressed
- Confirmation of plans for preserving or replacing trees and providing enhanced screening on the rear and north side property lines
- Documentation that the improvements (to meet site plan requirements) in St Lawrence Place may be undertaken by the applicant

ATTACHMENTS:

Attachments to Memorandum

1. Staff e-mail prelim review comments
2. DPW comments
3. City arborist Comments
4. Peer Engineering Review comments
5. Housing Program Manager comments
6. Design Review

Public Comments

PC1 Kathy
PC2 N Thayer (has rights in St Lawrence Place)

Applicant's Submittal

A. Application
B. Project Description
C. Right, Title and Interest (P&S)
D. Rights in St Lawrence Place (Title Opinion)
E. Financial Capability letter
F. Technical Capability information
G. Waiver Requests
H. Site Design Narrative
I. Zone Related Design Standards
J. Stormwater Management submissions
K. Utility letters of capacity
L. Public Safety & Fire Prev Narrative
M. Responses to prelim May staff comments
N. Neighborhood Meeting Information

Plans

P1. Boundary Survey
P2. Cover sheet
P3. Existing Conditions
P4. Layout Plan
P5. Landscape and Lighting
P6. Grading and Utilities Plan
P7. Erosion Control
P8. Details
P9. Photometrics
P10. Parking Aisle Waiver information
P11. Landscaped Open Space Exhibit
P12. Building Height Exhibit
P13. Existing Building Floor Plans
P14. Proposed Floor Plans
P15. Perimeter Elevations
P16. Courtyard facing Elevations
P17. Context photos incl Neighborhood Map
P18. Renderings
P19. Construction Management Plan and Narrative

Att. 1

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

57 St Lawrence

1 message

Jean Fraser <jf@portlandmaine.gov> Thu, May 9, 2019 at 11:31 AM
To: Greg Shinberg <gls@shinbergconsulting.com>
Cc: Mark Mueller <Mark@muellerarchitects.com>, Bob Metcalf <rmetcalf@mitchellassociates.biz>

Greg

I hope you feel today's meeting was useful- please let me know if there are any other questions and I will try to get answers. As Barbara Barhydt advised, please move forward to schedule your Neighborhood Meeting asap - I attach the current *Neighborhood Meeting Guidance Note* and please note that the invitations to the meeting need to be sent at least 10 days prior to the meeting date.

Please note that today's meeting did not cover all of the other site plan review comments (eg parking layout and access; landscape and buffering; stormwater; sidewalks) - and there may be some that you would want to address at the same time as you are thinking about responses to the zoning and design comments. So I will send a preliminary set of "key" site plan comments by the end of tomorrow.

In the meantime, please send me the following - as these need to be on the record before we can schedule a PB Workshop (and preferably before a Neighborhood Meeting):

- The previously requested corrected average grade calculations (with the elevations amended to be consistent) as we cannot sign off on the zoning until we are able to confirm that your proposal meets the height requirements- and in order to confirm that we need a correct plan showing the average grade calculations as per my earlier e-mail (attached);

- The deeds or other recorded documents that clarify your rights in St Lawrence Place. We have noted that there are signs saying that certain parking spaces are "reserved" for other addresses, so this is a "Right, Title and Interest" requirement.

Thank you
Jean

Jean Fraser, Planner
Planning & Urban Development Department
City of Portland
389 Congress Street
Portland, ME 04101
phone: (207) 874-8728
email: jf@portlandmaine.gov

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2 attachments

5.1.19 Staff re ave grade calc.pdf
187K

Neighborhood Mtg. Guidelines (updated 2-5-19).pdf
110K

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

Re: 57 St Lawrence Street

1 message

Mike Tremblay <mtremblay@portlandmaine.gov> Tue, Jul 2, 2019 at 3:46 PM
To: Tom Errico <thomas.errico@tylin.com>, Jean Fraser <jf@portlandmaine.gov>

Jean,

Here are my comments for your report on this:

- The Applicant will require waivers for the number of compact spaces and drive aisle width.
- DPW has concerns that the parking spaces are generally small, and that larger vehicles will park in them and impede the ability to get into adjacent spaces or impede the drive aisle. Turning movement templates have been provided; Applicant has committed to providing additional detail including large vehicles parking in compact spaces and vehicles backing out of spaces.
- Vehicles backing out of the driveway onto St. Lawrence Street shall not be permitted.
- The driveway apron at St. Lawrence Place should be constructed without transverse granite curb extending across the sidewalk. The tipdown proposed should be mirrored on the opposite side of St. Lawrence Drive. The sidewalk should continue uninterrupted through St. Lawrence Place, minimum 5 feet wide with a 2% maximum cross-slope. Bricks in the driveway shall be oriented in the same direction as the sidewalk itself, running widthwise from the curb to the property line (this is shown incorrectly in the 7-2-2019 site plan). Soldier course brick shall not be used. The applicant shall also include replacing the first concrete panel on the opposite side of St. Lawrence Place with brick to ensure proper grading at the driveway with the new tipdown.

Let me know if I missed anything that we discussed yesterday.

Mike Tremblay, P.E.
Senior Engineer
Engineering Division
Department of Public Works
City of Portland, ME
mtremblay@portlandmaine.gov
P. 207.874.8881 F. 207.874.8852

On Tue, Jul 2, 2019 at 2:53 PM Robert Metcalf <RMetcalf@mitchellassociates.biz> wrote:

> Jean and Mike,
>
> Attached are the updated Average Height Exhibit, the Green Space Exhibit and the Site Plan revised to show the dimensions travel way and the 20 FT curb opening as discussed yesterday. We expect the turning movement exhibits this afternoon and will send them to you, Mike and Tom and upload them as well. I have to amend the Waiver Request to revise the travel way widths.
>
> Bob

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

Re: 57 St Lawrence

1 message

Mike Tremblay <mtremblay@portlandmaine.gov> Wed, Jul 3, 2019 at 8:40 AM
To: Tom Errico <thomas.errico@tylin.com>, Jean Fraser <jf@portlandmaine.gov>

Tom/Jean,

These plainly don't work. Vehicles are running through walls and columns, not to mention adjacent spaces that may have vehicles in them.. Typically I'd like to see how many K-turns it'd take to get into a space without conflict; in a relatively small residential parking area like this, if it takes a few tries, that's not the end of the world.

I need to see more, and/or a field test, before I feel comfortable with these parking spaces.

-Mike

Mike Tremblay, P.E.
Senior Engineer
Engineering Division
Department of Public Works
City of Portland, ME
mtremblay@portlandmaine.gov
P. 207.874.8881 F. 207.874.8852

On Tue, Jul 2, 2019 at 5:29 PM Robert Metcalf <RMetcalf@mitchellassociates.biz> wrote:

> Jean,
>
> Attached are the two turning movement exhibits. I will ask Matt to upload the drawings in the morning. Sorry for the delay, some technical modifications were required.
>
> Bob
>
> Robert B. Metcalf, Principal
>
> Maine Licensed Landscape Architect
>
> Mitchell & Associates
>
> 70 Center Street
>
> Portland, Maine 04101
>
> 207-774-4427

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

57 St. Lawrence Place

1 message

Mike Tremblay <mtremblay@portlandmaine.gov> Wed, May 8, 2019 at 11:21 AM
To: Jean Fraser <jf@portlandmaine.gov>
Cc: Tom Errico <thomas.errico@tylin.com>, Bruce Hyman <bhyman@portlandmaine.gov>, "Swett, Lauren" <lswett@woodardcurran.com>

Jean,

Some initial thoughts for your meeting tomorrow (I may have more after I discuss with Keith and DPW next week):

- The gravel driveway is not sufficent width to allow access into the parking spaces along St. Lawrence Place. Confirm that St. Lawrence Place will be regraded and paved graveled to sufficient width to access these parking spaces (24'). It appears unlikely that the tandem spaces will have an adequate aisle to be able to turn into and out of these spaces. Turning templates should be provided for vehicles turning into spaces 16 and 17.

- Tandem parking spaces are shown as compact spaces. 14 of the 18 spaces are shown as compact on-site. Tandem spaces may be acceptable as pairs of tandem spaces will be accessed by the same unit; however, users must park efficiently in order to not intrude into the (already too narrow) drive aisle. One of the four standard-size spaces is a handicap space, so there are only 3 standard-size spaces

- St. Lawrence Street is in the brick district. Currently, the street is a mix of brick and concrete, with the immediate abutters having concrete sidewalks in fair condition. The applicant will require a sidewalk material waiver. DPW will not commit to whether we will support such a waiver at this time; I need to discuss internally.

- The Applicant should design their site driveway to provide a 5-foot pedestrian sidewalk at 2% maximum cross-slope and a 6% maximum driveway apron.

I'll get more feedback on the utility stuff later this week or early next - let me know if you have a deadline.

-Mike

Mike Tremblay, P.E.
Senior Engineer
Engineering Division
Department of Public Works
City of Portland, ME
mtremblay@portlandmaine.gov
P. 207.874.8881 F. 207.874.8852

Att. 3

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

57 St Lawrence Street Project

1 message

Jeff Tarling <jst@portlandmaine.gov> Thu, May 9, 2019 at 9:48 AM
To: Jean Fraser <jf@portlandmaine.gov>
Cc: John Peverada <jbp@portlandmaine.gov>, Errico Thomas <thomas.errico@tylin.com>

Jean -

The proposed will significantly impact the 2 existing trees on the Atlantic Street property adjacent to the proposed project. One of the trees is in poor condition
and the second one in fair to good condition. Impact will result from both crown disturbance with the height of the proposed building and site work - root problems. One of the 2 trees might be savable...

The lane to the right of the project appears to be named Gilbert Lane
and is interesting as it already has a number of reserved car parking.

See pics:

RESERVED
PARKING
49 St
Lawrence

Property pin is just inside or to the left of the curb where it meets the gravel roadway & appears to go all the way to the wooden fence past the red car. Cars from nearby already park along the right edge note the signs above.

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>

57 St. Lawrence Street

1 message

Lauren Swett <lswett@woodardcurran.com> Wed, Jul 3, 2019 at 10:52 AM
To: Jean Fraser <jf@portlandmaine.gov>

Hi Jean,

I have reviewed their response to comments, and have the following review discussion:

- In their initial application, they evaluated their stormwater treatment threshold as 60% of all redeveloped area. Per our last comment, they have evaluated based on the City's standards for new impervious surface. They will be providing treatment for 95% of all new impervious surface (95% required), and 94% of all non-roof redeveloped area (50% required).
- We understand that there is currently discussion going on related to sidewalk materials. Details should be provided for the final materials as part of the final plans.
- I will review the updated plans submitted this week following the workshop, but based on the prior responses, if there haven't been any additional significant changes, I don't anticipate having many further comments on grading and drainage on the latest plans.

If there are any 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

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

Fwd: 57 St. Lawrence Place

1 message

Jean Fraser <jf@portlandmaine.gov> Fri, May 10, 2019 at 2:48 PM
To: "Fraser, Jean" <jf@portlandmaine.gov>

Peer Engineer Prelim comments

---------- Forwarded message ---------
From: **Lauren Swett** <lswett@woodardcurran.com>
Date: Fri, May 10, 2019 at 1:45 PM
Subject: RE: 57 St. Lawrence Place
To: Jean Fraser <jf@portlandmaine.gov>, Mike Tremblay <mtremblay@portlandmaine.gov>
Cc: Tom Errico <thomas.errico@tylin.com>, Bruce Hyman <bhyman@portlandmaine.gov>

Hi Jean,

My comments are below, and I will add them to Energov as well:

- The proposed project is required to provide stormwater management in compliance with the City of Portland's Technical Manual Section 5, which references the Maine DEP Chapter 500 standards. The Applicant has provided a stormwater management system, incorporating a subsurface sand filter to provide both quantity and quality management. This system is likely adequate to provide treatment for the site, but additional clarification is required to verify that the project is in compliance with the City's standards. We have the following comments:
    - The City of Portland's Section 5 stormwater standards require compliance with the General Standard when 1,000 square feet or more of new impervious surface is created. 95% of this new impervious surface must be treated. The standards also require treatment if 5,000 square feet or more of non-roof, redeveloped, impervious surface is created. 50% treatment is required for this case. The Applicant has completed a different analysis of the redevelopment area to size their proposed treatment system, and the sizing may be adequate, but the Applicant should verify that the system will provide treatment in accordance with the City's standards.
    - The Applicant should provide pre-development and post-development stormwater figures to support the provided HydroCAD model to clarify the areas that are being modeled.
- Additional clarification is needed on the grading and drainage near the northern corner of the building. It appears that the intent is to create a small infiltration area. It is unclear from the plan and elevations if the retaining wall will be constructed prevent flow from outside the walled area. The Applicant should clarify the drainage to this space to ensure that there is no ponding of stormwater at the building.
- Drainage from covered parking areas is typically required to be collected separately and sent through an oil/water separator to the sewer. The catch basins appear to be located outside of the roofed areas, but drainag from within the covered parking isn't be separated. Please clarify.
- Grading is proposed within the St. Lawrence Place Drive, and excavation for the stormwater system will also likely impact the driveway. Additional information on proposed surface conditions within the driveway should be provided.
- Plans should account for snow storage or snow management.
- Verification of sewer ability to serve will be required.
- Details for pavement and sidewalk repair should be provided in accordance with the City of Portland Technical Manual.

Any questions, let me know.

Portland Maine | Yes. Google's good here.

Jean Fraser <jf@portlandmaine.gov>

57 St. Lawrence Street

1 message

Victoria Volent <vvolent@portlandmaine.gov> Wed, Jun 5, 2019 at 5:05 PM
To: Greg Shinberg <gls@shinbergconsulting.com>
Cc: Jeff Levine <jlevine@portlandmaine.gov>, Jean Fraser <jf@portlandmaine.gov>, Ann Machado <amachado@portlandmaine.gov>, Christina Stacey <cstacey@portlandmaine.gov>, Barbara Barhydt <bab@portlandmaine.gov>, Mark Mueller <Mark@muellerarchitects.com>, evan@muellerarchitects.com, Matt Provencal <matt@muellerarchitects.com>, Bob Metcalf <rmetcalf@mitchellassociates.biz>, rmn@shinbergconsulting.com

Hi Greg,

Thank you for clarifying you are not pursuing the 25% density bonus at this time.

To refocus on your original proposal of 16 units, please allow this e-mail to confirm:

If the project is 45' then the project must include one Deed Restricted one bedroom unit for the height bonus that meets the size requirements as noted in the Ordinance.

Your options with the Inclusionary Zoning Conditional Use (IZ CU) are:
1) Create the units on site. Two units are required with a total of three bedrooms. So one unit may be two-bedrooms and the other unit is one-bedroom.
2) Create one on-site unit with two-bedrooms and pay the fee-in-lieu for the unit not created. The fee-in-lieu is .6 X $106,090 or $63,645
3) Pay the fee-in-lieu for the 1.6 units required under the IZ CU provisions. The fee-in-lieu is 1.6 X $106,909 or $169,744.

These options need to be determined and confirmed at the time you are seeking Planning Board approval. Once the Planning Board grants approval, any change to your IZ CU plan will need to be amended with approval by the Planning Board.

Please note, the building permit will be issued after an Agreement regarding construction of the IZ unit(s) and the Height Bonus unit is signed by you and the City.

The certificate of occupancy will be issued after the above noted Agreement is filed with the Cumberland County Registry of Deeds and if necessary, the fee-in-lieu is paid.

Once again, the above information only pertains to a proposed 16 unit project at 45'.

Thank you,

Victoria

Victoria Volent
Housing Program Manager
Housing and Community Development
Phone: 207-482-5028
Fax: 207-874-8949
www.portlandmaine.gov

Planning and Urban Development Department
Planning Division

Subject: R6 Multi-Family Design Review – 57 St. Lawrence Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Friday, June 28, 2019

A design review according to the *City of Portland Design Manual* Standards was performed for the proposed new construction of a multi-family and single-family dwelling at 57 St. Lawrence Street. The review was performed by Caitlin Cameron, Urban Designer, Jean Fraser, Planner, and Rob Wiener, Preservation Compliance Coordinator, all within the Planning Division of the Department of Planning & Urban Development. The project was reviewed against the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters* (Section I of the Design Manual).

Board Considerations:
Staff would like to get direction from the Planning Board regarding compatibility of fundamental design elements such as **scale, massing, form**. In this case, the two buildings do meet the dimensional requirements of the R-6 zone and Munjoy Hill Conservation Overlay district. However, as commented in the review below, the proposal deviates from traditional scale, especially height, form, roof forms, and massing. **For the workshop, the Board is asked to comment on whether these elements of the proposal meet the design standards before reviewing more detailed design elements.**

Findings of the Design Review:
The proposed design **does not pass** all of the criteria of the applicable design standards – please refer to comments below.

Staff noted a number of areas where the current design does not comply with the design standards, and offer suggestions for modifications that would bring the design into compliance.

Additional information requested:
- Material labels on elevations
- Images showing the project in context

Design Review Comments *(red text denotes principles or standards that are not met)**:***

Single-family Home
The predominant Single and Two-family building type within this context include front-end gable New England single-family and double-house buildings ranging from 1.5 to 2.5 stories in height. The characteristics include front-end gables, vertical proportions, one or two-bay, symmetrical façade composition, simple materials and window types (typically vertical proportion, double-

hung), slightly recessed entrances with canopy and steps. Occasionally, there are bay windows at the ground floor living space. Materials are predominantly clapboard with a masonry water table, brick and shingle also appear. The buildings on this street have very small front yard setbacks or have a slope that creates a ground floor high above the sidewalk grade.

(i) Two-family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters:

Standard 1 – Not Met – Designed to complement and enhance the residential neighborhood; Provide positive visual interest.

Architectural Style – The building's scale and height can be considered harmonious with those found in the context (predominantly one and a half, two and a half, three story). However, the proportion and form of the building is incongruous with single-family homes found within the same streetscape – this building is taller, wider, and uses a hipped roof form. Overall, there are not enough elements to the architecture that complement or enhance the patterns found in the residential context – find more ways to relate the form and style to the context.

Façade Materials – The clapboard material choices is fine-grained and the use of a single material is consistent with the context. Material placement is typically quite simple with a single material for the primary mass of the building.

Roof Pitch – Hipped roofs are not found in this immediate context, especially on single-family homes – however, the use of the hip roof here is consistent with the Munjoy Hill Overlay zone. The irregular footprint of the building creates an irregular roof form. From the street, the roof will appear to be a flat roof. **Though the roof form is not traditional to the building type, the question is whether this form can be considered to compliment and enhance the residential neighborhood and whether the irregularity of the hip roof is acceptable.**

Building Form and Height – When viewed in the renderings and neighborhood plan, the single-family home has a very small footprint and the three-story height is similar in scale to the other single-family homes nearby – therefore staff find the building's scale and height relates to those found in the context (predominantly one and a half, two and a half, three story). The building has a vertical proportion similar to what is found in the context. However, the form of the building differs from the single-family homes found within the same streetscape – this building is smaller and uses a hipped roof form. Staff note that the building footprint could be revised to move the stair tower towards the back of the building thus making the massing more similar to houses nearby with a side entry set back from the street – this change would prevent the odd jog in the roof form and be more consistent with the massing found nearby. The overall project exceeds the parking requirements and the design and forms should not be compromised to facilitate parking maneuvers. **Does the Planning Board consider these variations from the established pattern to complement and enhance the residential neighborhood?**

Window Pattern and Spacing – The composition of the street-facing façade varies somewhat from the compositions found in single-family residential buildings within the context in several ways. The façade has a two-bay rhythm and local symmetry and the

majority of windows align vertically and horizontally, but this is disrupted by the door, blank wall, and balcony placement. Some variation here is okay as long as there is an overall balance to the façade. Different or smaller windows are often used within stairwells which is the case here – however, there is blank wall at the front façade at the circulation. **Staff request feedback from the Planning Board on the overall composition as it relates to the established neighborhood patterns.**

Porches and Entryways – The main entrance faces the street and is emphasized with a recess and canopy. The entry is at grade which is atypical – for privacy and separation from the public realm, the ground floor living space is typically raised above grade and set back slightly with a stoop and front yard plantings to provide a buffer. In this case, the building is slightly set back but otherwise, the transition is quite abrupt from public to private realm with living space at the ground floor adjacent to the sidewalk.

Cornerboard and Trim Details – More information is needed regarding this level of detail for the building. Articulation is provided through material and trim texture, railings, and recessed entry. The design uses the texture of the material, balcony, overhanging roof line to provide surface articulation and visual interest.

Façade Variation (Projecting or Recessed Building Elements) – There is adequate façade variation. The project varies the massing with a hipped roof, recessed balcony.

Standard 2 – Not Met – The street wall is maintained and building placement in relationship to St. Lawrence Street is consistent with the neighboring properties (front yard setback). The project does not provide a sense of transition and privacy for the residential use. The ground floor should be set back, elevated, and/or include transition area such as a planter or porch (refer to strategies found in the context). The ground floor living space is typically raised above the sidewalk grade to provide privacy and transition (although there are a couple of examples within this streetscape of entries at grade). **The Planning Board is asked to weigh in whether this at-grade entry condition is consistent with the context and meets the standard to "respect the existing relationship of buildings to public streets. New development shall be integrated with the existing city fabric and streetscape including building placement, landscaping, lawn areas, porch and entrance areas, fending, and other streetscape elements."**

Standard 3 – Met – The project provides balcony space for each dwelling unit. Very little usable open space is provided at the ground level.

Standard 4 – Met – The project has a high level of fenestration and the provision of balconies also contributes to resident's access to light and air. Storage is provided within the unit.

Standard 5 – Met – The parking is structured and set back from the street. There are no garage doors, parking does not face the street. However, the parking areas are exposed and visible from the downhill approach.

Standard 6 – Not Applicable

Multi-family Building
The predominant multi-family building type in this context includes triple-decker buildings and some double-triples. These building types are characterized by three stories, flat roofs, pronounced cornice lines with an overhang, bay windows, simple materials and few window types (typically vertical proportioned, double-hung), and two or three-bay, symmetrical façade composition. Accent, or varying window types are not predominant in this context except at stair towers, side elevations. The predominant materials are clapboard with masonry watertable and panel details at bays, brick and shingle also appear. The ground floor is elevated from the sidewalk grade with either a recessed entry with canopy and steps or porches although there is some variation to this on the St. Lawrence streetscape. Occasionally, there are side entries with a porch extending to the sidewalk or very high or at-grade entrances due to the grade changes in the topography.

(i) Two-family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters:

Standard 1 – Not Met – Designed to complement and enhance the residential neighborhood; Provide positive visual interest.

Architectural Style – The new addition should be distinct from the existing building to which it is an addition. This is accomplished with materials, window types, and details. The building form, height, and massing deviate from the contextual patterns – therefore, to better meet the standard to complement and enhance the residential neighborhood, the details of the building should relate or reference the predominant patterns (material type, placement, window type and proportion).

Façade Materials – The existing portion of the building maintains a fine-grain material consistent with the context. The new addition uses a fine grain material (shiplap). However, the material changes on the upper floor – material placement should remain consistent on all floors.

Roof Pitch – A flat roof with overhanging cornice is appropriate and consistent with the predominant characteristic of the neighborhood. However, the project includes rooftop appurtenances and additions that create complex roof forms. This is not typical or consistent with the context which has predominantly simple roof forms. Additions are most often placed towards the back of the building, minimizing the impact on the public right-of-way and height and massing impacts on the street – the building addition is pushed back and simplified and appears to have minimal impact on the street.

Building Form and Height – A height of five stories is not found in this context – **Planning Board is asked to weigh in on whether five stories adjacent to 1.5 and 2.5 story buildings can be considered to complement and enhance the residential neighborhood**. Simple roof forms are typical – the addition, roof top appurtenances do not complement that predominant formal pattern and should be minimized or revise. Overall, the form is also anomalous to those simple forms found within the context. A courtyard building form is not found in this context. However, in this case, as an addition to an existing building, this form does complement the residential context by making the taller addition more recessive to the traditional, existing building, and creates a vertical proportion façade nearer the street. Staff support the unique

form and massing because it enables the larger scale building to integrate into the existing fabric and mitigate the scale impact – **does the Planning Board agree?**

Window Pattern and Spacing – The alterations to the existing building keep simple window types with a regular, symmetrical pattern consistent with the context. The new addition uses two window types and at proportions and sizes not typical (more square).

Porches and Entryways – The building keeps the two elevated porch entries from the street directly. An additional building entrance is introduced via a courtyard, deeply recessed – there is a legibility issue with this approach. Buildings with this courtyard layout are not found in the context – **the main entrance is made legible with a walkway and gate – is this sufficiently prominent and legible from the street?**

Cornerboard and Trim Details – More information is needed regarding this level of detail for the building. Contemporary buildings typically do not have as much trim details as found in the traditional context – this is acceptable and allows the building to be of its time. The cornice line includes a depth and overhang consistent with multi-family buildings in the context and provides a strong reference that relates to these surrounding buildings.

Façade Variation (Projecting or Recessed Building Elements) – There is adequate façade variation. The project includes porches, bays, and balconies. These should be designed to have consistent detailing to appear as part of one building. The relationship of the bays to the balconies is awkward and should be better integrated (refer to triple-decker façade composition for cues). There are too many elements on the building between the bays, the recesses, and the projecting balconies – simplification and consistency should be pursued with elements that relate to the context.

Standard 2 – Not Met – The existing building keeps the established relationship to the street with its width, placement, and entry design (elevated porches). The new addition is anomalous in its relationship to the street – it is set back with a deeply recessed entrance. Staff find logic to this approach – the building is taller and wider than traditional buildings and by setting it back, that scale is mitigated. Therefore, staff support the overall placement; when viewed in the neighborhood plan, this strategy helps the building to fit into the context and the footprint is not overly large – it relates to the surrounding building footprints. However, there are concerns about the relationship of the entrances to the street. There are three entrances with varying levels of design and emphasis – how are these differentiated? How is the courtyard entry legible from the street? **The Planning Board is asked to weigh in on whether the building feels integrated into the existing fabric and streetscape.**

Standard 3 – Met – The project provides balcony space, roof decks, or porches for each dwelling unit. Very little usable open space is provided at the ground level.

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 set back from the street. There are no garage doors, parking does not face the street. However, the parking areas are exposed and visible

from the downhill approach – screened or enclosed parking would better meet this standard, especially to screen the parking from the neighboring properties and street.

Standard 6 – Not Applicable

PC1

Google Groups

Comment on 57 St Lawrence St Notice

kmci <kmcinern@gmail.com> Apr 22, 2019 4:22 PM
Posted in group: **Planning Board**

Hi,
Re: 57 St Lawrence application.
I'm against this plan. We have had way too much investor-development activity in this area, and we have no idea what the impact of that development will be.
No additional development should occur until a period of time has passed and we can assess the impact. That is likely to take a period of years.
Until then no applications of this sort should be approved. This is not to be punitive but to be pragmatic. The amount of development has been off the charts and uncontrolled.
We only now see a possibility of managing development on Munjoy Hill using things like the proposed historic district designation. Too little, too late.
Thank you,
Kathy

To the Portland Planning Board
Re: 57 St. Lawrence Street
July 3, 2019
From Nancy Thayer - 7 Gilbert Lane
Nancy.thayer1@gmail.com
207-831-8674

The Project on 57 Saint Lawrence Street

I just want to say how sad it is that this project is so massive and does not fit into the neighborhood at all. A lot of small homes against this big project I find disappointing. I would like to see it downsized and that is my opinion only.

Parking and Private Way
There are three owners of the private way call St. Lawrence Place. If there are any decisions regarding the way, it should be discussed and mutually agreed on. Not a two against one situation. I don't want Greg Shinberg to decide on what he wants with the drive because of the massive project he has.

I know that there were previous homes in the past, which are not there now. But it does have utility/water lines still intact, I believe. I may have the need to access those lines because of where I live on Gilbert lane. The line right now goes down a historic lane to St. Lawrence Street. I want to know that I have the right to use those lines on St. Lawrence Place if needed.

I also do not want the drive paved. If my gas line needs repair, the pavement would have to be taken up and obviously there is an extra cost to that. I also believe that should be mutually agreed upon.

Greg would have 17 cars using that lane and the other owner would have four cars as well. I have two. That is a lot of congestion on the private way. I am concerned about visibility when coming out of the lane because of the large town house he has right up to the curb. What about people walking on the sidewalk, how will we see them?

On the first set of plans, he showed a tandem parking space he numbered 16 &17. These spots would have to turn into my private parking area to get out. On the second set of plans he has them removed and labeled it for snow. I want to be assured that cars will not be parking there from the tenants, maintenance people etc….

There are trees on my side of the drive that I don't want cut down. They are on my side of the road. Also, a stump that is referred to as a marker in previous

deeds is on my side of the road I do not want that removed. Part of it is on my property as well. Pictures are also available.

For years I have been parking along the side of my fence/property area which does not affect the use of the lane. I want the right to maintain that. Pictures are available.

Snow and maintenance Concerns

Greg should maintain the private way because of the amount of tenants he has. I also have a concern that who he uses for snow removal does not put snow in my private parking area or block me in.

Construction

I have parking at the end of the lane and I am concerned about not having access to it during his construction. How is he going to handle that? A picture is available.

Thank you!
Nancy Thayer

MAINE
5700 IP

LEVEL II and LEVEL III APPLICATION SUBMISSION CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes to the left

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.

Please submit each document as a separate PDF file.

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

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

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

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

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
✔		✔	**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)
	✔		**Noise and Vibration (14-526 (d) 7)** • Evidence of noise levels for equipment, such as equipment specifications, to demonstrate consistency with zoning requirements
	✔		**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
✔		✔	**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

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 as separate pdfs.

☑ **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

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☑ **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

Att. B

55 to 59 St Lawrence Street

LEVEL III PRELIMINARY SITE PLAN APPLICATION

shinberg CONSULTING, LLC

APPLICANT

ST LAWRENCE DEVELOPMENT, LLC
PO Box 4424
Portland, Maine 04101
(207) 772 7070

June 17, 2019

City of Portland Planning Department &
City of Portland Planning Board Members
389 Congress Street
Portland, Maine 04101

55 to 59 St Lawrence Street Apartments in Portland Maine

Dear Planning Board Members and City Staff,

On behalf of St Lawrence Development LLC we are pleased to submit this revised Level III Preliminary Site Plan Application to renovate an existing 7-unit apartment building and add 8 more apartments adjacent to the current building plus one stand-alone Townhouse style apartment for a total of 16 apartments with 16 parking spaces.

After the initial submission was accepted as complete on April 15, 2019 our team met with several members of the City Planning Staff to address some interpretations of the new Munjoy Hill Overlay Zone and to respond to comments made by the City's architectural review team.

The apartment building is approximately 100 years old and needs substantial updates to most or all of the heating, mechanical, plumbing and electrical systems as well as the need to replace all of the windows, siding, roof, and some of the doors. It will be transformed into an attractive building utilizing modern long-lasting exterior materials that match the look and character of the buildings nearby. We plan to provide much needed urban infill housing that recognizes the character of the existing neighborhood.

The Site

The site is comprised of 11,644 square feet and is located near to the intersection of Sherbrook Street and St Lawrence Street. There are many multi-family 3 to 4 story buildings nearby that range in height from 25 to 45 feet. The site is party covered with an impervious paved parking lot plus a yard space at the rear of the property.

Project Description

The main building will be constructed with five levels that includes a basement area that is located under a portion of the first floor that is currently the existing basement for the apartment building. The Garden Level will have a main front and rear entrance, mechanical room(s), trash, recycling and bicycle storage area, storage lockers for the tenants and an elevator that goes to the third floor. The stand-alone town house will be constructed to three levels with one parking space adjacent to the unit.

55 to 59 St Lawrence Apartments will include 4 – 1 bedroom apartments, 9 – 2 bedroom apartments and 2 – 3 bedroom apartments plus the Townhouse Unit located at 55 St Lawrence. Apartment 103 is a 1 bedroom apartment that will be Deed Restricted as the Affordable Unit as required in the Munjoy Hill Overlay Zone to construct the building to 45 feet. A total of 16 apartments requires that 1.6 units Inclusionary Zoning Conditional Use (IZCU) units are included. Apartment 203 will be designated as one IZCU unit. A fee-in-lieu for the remaining .6 unit as required by the IZCU will be paid to the City of Portland as per the amount determined by the Housing Program Manager.

Parking for 55 to 59 St Lawrence Street

The adjacent surface parking lot will have 15 parking spaces, of which 6 will be tandem plus one space will be designated to 55 St Lawrence Street.

Design Elements

Mark Mueller Architects has addressed the design elements which is presented later in this application.

We have worked diligently with our talented design professionals to create an exciting project that will be a great addition to the Munjoy Hill neighborhood. This includes an experienced team that is comprised of a local Owner, local General Contractor, local Landscape Architect, Architect and Engineering Firms and a local Owner's Representative.

Please consider this application complete for the next available Planning Board Workshop.

Do not hesitate to contact me if you desire any additional information or have any questions.

Sincerely,

Greg Shinberg

Owner's Representative
St Lawrence Development LLC

Att. C

CONTRACT FOR THE SALE OF COMMERCIAL REAL ESTATE

RECEIVED from **Greg L.Shinberg** , _____ , whose mailing address is **37 Beech Hill Road, Freeport, Me 04032** (hereinafter called "Purchaser"), this **28th** day of **November** , **2017** , the sum of **Ten Thousand** Dollars ($**10,000.00**) as earnest money deposit toward purchase and sale of certain real estate owned by **57 St. Lawrence Street LLC, Hiram Cottage Properties LLC** (hereinafter called the "Seller") and located at **57 St. Lawrence Street** in the city/town of **Portland** , County of **Cumberland** , State of Maine, described as follows: **11598 SF lot with a 7 unit building situated thereon**

_____ and being fully more described at said County Registry of Deeds in Book **32689** , Page **166** , upon the terms and conditions indicated below.

1. PERSONAL PROPERTY: The following items of personal property are included in this sale (if applicable):
all appliances as viewed on 11-27-17 .

2. PURCHASE PRICE: The total Purchase Price is **Two Million, One Hundred Twenty Thousand** Dollars ($ **2,120,000.00**), with payment made as follows:

Earnest money to be delivered on or before **11/29/2017** :	$ **10,000.00**
Other: **after 21 business days from the effective date**	$ **15,000.00**
Other:	$
Balance due at closing, in immediately-available funds:	$ **2,095,000.00**

DS

3. EARNEST MONEY/ACCEPTANCE: **The Flaherty Group** ("Escrow Agent") shall hold the earnest money in a non-interest bearing account and act as escrow agent until closing. This offer shall be valid until ~~November 29~~ **12/1, 2017** at **8:00** (☐ AM ☒ PM). In the event of Seller's non-acceptance of this offer, the earnest money shall be returned promptly to Purchaser

DS

4. TITLE: Within **21** days of the Effective Date (the "Title Review Period"), Purchaser shall notify Seller in writing (the "Title Objection Notice") of any matters affecting title to the property that are objectionable to Purchaser in Purchaser's sole discretion ("Title Defects"). Purchaser shall be deemed to have waived the right to object to any matter affecting title as of the Effective Date, except for any mortgage, tax lien, mechanics' lien, judgment lien, or other liens encumbering the property (for which no objection is required), if Purchaser fails to specifically identify such matters in the Title Objection Notice (each matter not objected to being a "Permitted Encumbrance"). Within seven (7) days of Seller's receipt of the Title Objection Notice, Seller shall notify Purchaser in writing whether or not Seller elects to cure any of the matters identified in the Title Objection Notice. If Seller elects to cure certain Title Defects, Seller shall use good faith efforts to cure such Title Defects and shall have a period of not more than thirty (30) days after notice of Seller's election within which to cure any such Title Defects (the "Title Cure Period"), and the Closing Date shall be extended until five (5) days after the expiration of the Title Cure Period. Seller agrees that, after the Effective Date, it shall not permit or suffer encumbrance of the property with any liens, easements, leases or other encumbrances without Purchaser's prior written consent, except that Purchaser shall not unreasonably withhold or delay its consent to new leases. On or before the Closing Date, Seller shall remove at its sole cost any such matters affecting the title to the property suffered or created by or consented to by Seller after the Effective Date that are not approved in writing by Purchaser. If Seller elects not to cure any Title Defects or if Title Defects which Seller elects to cure are not cured within the Title Cure Period, then Purchaser shall elect, by written notice to Seller on or before the Closing Date, as the same may be extended, either (i) to accept title to the property subject to such uncured Title Defects without reduction of the purchase price and without any liability on the part of Seller therefor, in which case such Title Defects shall be Permitted Encumbrances, or (ii) to terminate this Contract, whereupon the earnest money immediately shall be returned to Purchaser and neither party shall have any further obligations under this Contract.

5. DEED: In return for payment in full of the purchase price, Seller shall convey the property on **on or before 8-1-18** (the "Closing Date") to Purchaser by Maine Statutory Short-Form **warranty** Deed (the "Deed"), and the parties agree to execute and deliver on the Closing Date such other documents that are customary and/or reasonably necessary to complete the conveyance. It is a condition to Purchaser's obligations hereunder that title to the property shall be free and clear of all liens and encumbrances except for the following matters and otherwise in compliance with the requirements of this Contract: (i) zoning restrictions and land use laws and regulations and permits and approvals issued pursuant thereto; (ii) current taxes and assessments attributable to periods from and after the Closing, which Purchaser shall be liable to pay; (iii) leases and occupancies disclosed to Purchaser pursuant to Section 11 below; and (iv) any Permitted Encumbrance.

The Flaherty Group, 386 Bridgton Rd Westbrook, ME 04092 Phone: (207)400-3121 114 Fax: 207-878-3579 Greg Shinberg
Karen Thompson
Produced with zipForm® by zipLogix 18070 Fifteen Mile Road, Fraser, Michigan 48026 www.zipLogix.com

6. LEASES/TENANT SECURITY DEPOSITS: Seller agrees at closing to transfer to Purchaser, by proper assignment thereof, all Seller's rights under the current leases to the property and any and all security deposits held by Seller pursuant to said leases.

7. POSSESSION/OCCUPANCY: Possession/occupancy of property shall be given to Purchaser on the Closing Date subject only to the leases and tenancies disclosed to Purchaser pursuant to Section 11 below, unless otherwise agreed by both parties in writing.

8. RISK OF LOSS: Until transfer of title, the risk of loss or damage to the property by fire or otherwise is assumed by Seller unless otherwise agreed in writing. The property shall at closing be in substantially the same condition as of the Effective Date, excepting reasonable use and wear. If the property is materially damaged or destroyed prior to closing, Purchaser may either terminate this Contract and be refunded the earnest money deposit, or close this transaction and accept the property in its as-is condition together with an assignment of the Seller's right to any insurance proceeds relating thereto.

9. PRORATIONS: The following items shall be prorated as of the Closing Date:
   a. Real Estate Taxes based on the municipality's tax year. Seller is responsible for any unpaid taxes for prior years.
   b. Fuel.
   c. Metered utilities, such as water and sewer, shall be paid by the Seller through the date of closing.
   d. Purchaser and Seller shall each pay one-half of the transfer tax as required by the laws of the State of Maine.
   e. Rents, estimated monthly common area maintenance charges, estimated monthly property tax payments, and all other additional revenue received by Seller pursuant to leases of the property.
   f. ---

10. DUE DILIGENCE: Purchaser is advised to seek information from professionals regarding any specific issue of concern. Purchaser acknowledges receipt of property disclosure form attached hereto. Neither Seller nor the Real Estate Licensees identified below make any representations or warranties regarding the condition, permitted use or value of Seller's real or personal property. Purchaser's obligation to close under this Contract is conditioned upon Purchaser's satisfaction with its investigations of the property, which may without limitation include survey, environmental assessment, engineering studies, wetlands or soils studies, zoning compliance or feasibility, and code compliance, all within **21** days of the Effective Date.

    All investigations will be done by professionals chosen and paid for by Purchaser. If the result of any investigation is unsatisfactory to Purchaser, Purchaser may declare this Contract null and void by notifying Seller in writing within the specified number of days set forth above, and said earnest money shall be returned to Purchaser. If Purchaser does not notify Seller that Purchaser's investigations are unsatisfactory within the time period set forth above, this contingency is waived by Purchaser. In the absence of any investigations(s) mentioned above, Purchaser is relying completely upon Purchaser's own opinion as to the condition of the property. Purchaser agrees to restore any disturbance to the property caused by Purchaser's investigations, and Purchaser agrees to indemnify and hold Seller harmless for any claims, damages, losses or costs, including without limitation reasonable attorneys' fees, incurred or suffered by Seller as a result of Purchaser's investigations of the property, which indemnification obligation shall survive termination or closing under this Contract.

11. REVIEW OF LEASES AND INCOME AND EXPENSE INFORMATION: Seller represents: (a) that below is a complete list of all tenants occupying the property under leases or other tenancy arrangements or agreements (the "Leases"), (b) that the Leases are in full force and effect, (c) that to Seller's knowledge, all tenants under the Leases are in full compliance therewith and (d) that Seller is not in violation of its obligations under the Leases. Seller agrees to provide Purchaser within five (5) days of the Effective Date of this Contract complete copies of all Leases, including any amendments, and income and expense information concerning the property. Purchaser shall have **15** days from the date Purchaser has been provided all Leases and income and expense information to review same, and if the result of the review is unsatisfactory to Purchaser, Purchaser may declare the Contract terminated and the earnest money shall be immediately refunded to Purchaser and thereafter neither party shall have any further obligation under this Contract. Seller represents and warrants that income and expense information provided to Purchaser will be true, accurate and complete in all material respects when given. Seller shall use reasonable efforts to obtain a tenant estoppel certificate and a subordination, non disturbance and attornment agreement in form reasonably satisfactory to Purchaser and/or Purchaser's lender for each Lease within **15** days from delivery of forms therefor. Purchaser shall also on a rolling basis have **15** days from the date of actual receipt of fully-executed written tenant estoppel certificates in which to terminate this Contract pursuant to this Section 11 due to unsatisfactory information contained therein and upon such termination the earnest money shall be immediately refunded to Purchaser and thereafter neither party shall have any further obligation under this Contract. Between the Effective Date and the closing, Seller shall not modify, voluntarily terminate or enter into new leases or tenancy arrangements or agreements and shall obtain Purchaser's written consent to any modification or termination of Leases and to any new lease that Seller proposes to enter into with respect to the property, Purchaser's consent not to be unreasonably withheld, conditioned or delayed. In the event that Seller modifies or terminates any Leases or enters into a new Lease without Purchaser's consent, Purchaser's sole remedy shall be to terminate this Contract and receive an immediate refund of the earnest

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money and thereafter neither party shall have any further obligation under this Contract. Failure of Purchaser to timely notify Seller of its termination of the Contract pursuant to any of its foregoing rights to do so under this Section 11 shall be deemed to be a waiver of the applicable right under this Section 11 to terminate the Contract. At the closing, Seller shall deliver written notice to the tenants and occupants of the property of the transfer of the property, and of the tenants' security deposits, to Purchaser. List tenants:
57-1 Waszak/Hewitt (through 11-30-17); 57-2 Lowe; 57-3 Berg/DiMenna
59-1 McDonald ; 59-2 Veilleux ; 59-3 Smith; 59-4 Scrutchfield/Hill

12. FINANCING: Notwithstanding anything to the contrary contained in this Contract, Purchaser's obligation to close hereunder is conditioned upon Purchaser's obtaining within **Seventy-Five** (**75**) days from the Effective Date of this Contract (the "Commitment Date") a written commitment (the "Commitment") from a lender for a mortgage loan of not less than **80.000** % of the purchase price at an initial interest rate not to exceed **8.000** % per annum, amortized over a period of not less than **Fifteen** (**15**) years and otherwise on terms reasonably acceptable to Purchaser. In the event the Purchaser is unable to obtain the Commitment and Purchaser notifies Seller thereof by the Commitment Date, then Escrow Agent shall immediately return the earnest money to Purchaser, this Contract shall terminate, and neither party shall be under any further obligation under this Contract. It shall be a further condition of Purchaser's obligation to close hereunder that the Commitment shall not lapse, be terminated and/or withdrawn prior to the Closing Date for any reason whatsoever, including but not limited to the property failing to appraise at or above the Purchase Price, or any such other level acceptable to Purchaser and Purchaser's lender sufficient to support the Commitment. In the event the Commitment shall lapse, be terminated and/or withdrawn by Purchaser's lender for any reason (other than at the request of Purchaser) at any time prior to the Closing Date, Purchaser shall within **Two** (**2**) days of Purchaser's receipt of notice of lapse, termination and/or withdrawal notify Seller of same, and upon such notification Purchaser may, at Purchaser's option, elect to terminate this Contract and thereafter the earnest money immediately shall be returned to Purchaser and neither party shall have any further obligation under this Contract. If Purchaser does not timely notify Seller that it has failed to obtain the Commitment or that the Commitment has lapsed, terminated and/or been withdrawn, then Purchaser shall be in default of this Contract at the election of Seller. This contingency benefits Purchaser only, and only Purchaser may waive it by providing written notice to Seller specifically waiving this condition and contingency or any part thereof.

13. AGENCY DISCLOSURE: Purchaser and Seller acknowledge that they have been informed that **- ----------** ("Transaction Broker") is acting as a transaction broker in this transaction and does not have a client relationship with either Purchaser or Seller. **Karen J Thompson** ("Selling Agent") is acting as a **Buyer** agent in this transaction and is representing **Greg L Shinberg** and that **Marie Flaherty** ("Listing Agent") is acting as a **Seller** agent in this transaction and is representing **57 St.Lawrence &Hiram CottageProp LLC** (Transaction Broker, Selling Agent and Listing Agent are referred to elsewhere herein as "Licensees").

14. DEFAULT: If the sale of the property as contemplated hereunder is not consummated solely by reason of Purchaser's default hereunder, provided that Seller is then ready, willing and able to consummate the sale of the property as contemplated by this Contract and provided further that all conditions to Purchaser's obligation to consummate such purchase have been satisfied or waived by Purchaser, Seller shall be entitled to either (i) pursue any and all legal and/or equitable remedies or (ii) terminate this Contract and receive the earnest money as full and complete liquidated damages for the breach of this Contract, it being agreed between the parties that the actual damages to Seller in the event of such breach are difficult to ascertain and/or prove and the earnest money is a reasonable estimate and forecast of such actual damages. The parties acknowledge that the payment of the earnest money is not intended as a forfeiture or penalty, but is intended to constitute liquidated damages to Seller. In the event of an undisputed default by either party, the Escrow Agent may deliver the earnest money to the party entitled to it under this Contract, with written notice to both parties pursuant to Maine Real Estate Commission regulations. If a dispute arises between Purchaser and Seller as of the existence of a default hereunder and said dispute is not resolved by the parties within thirty (30) days, the Escrow Agent may elect to file an action in interpleader and deposit the earnest money in the court to resolve said dispute, or otherwise disburse the earnest money pursuant to Maine Real Estate Commission regulations. Purchaser and Seller, jointly and severally, shall indemnify Escrow Agent for all costs, losses, expenses, and damages, including reasonable attorneys' fees, incurred by the Escrow Agent in connection with said action and/or in connection with any dispute relating to this Contract and/or the earnest money.

15. MEDIATION: Any dispute or claim arising out of or relating to this Contract or the property addressed in this Contract shall be submitted to mediation in accordance with the Maine Residential Real Estate Mediation Rules of the Maine Association of Dispute Resolution Professionals or its successor organization. This clause shall survive the closing of this transaction.

16. PRIOR STATEMENTS: This Contract sets forth the entire agreement between the parties, and there are no other representations, agreements or understandings with respect to the subject matter of this Contract. This Contract shall be construed according to the laws of the State of Maine.

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17. HEIRS/ASSIGNS: This Contract shall extend to and be obligatory upon heirs, personal representatives, successors, and assigns of Seller and assigns of Buyer.

18. COUNTERPARTS: This Contract may be signed on any number of identical counterparts, including telefax copies and electronically transmitted copies with the same binding effect as if all of the signatures were on one instrument.

19. EFFECTIVE DATE: This Contract is a binding contract when signed by both Seller and Purchaser and when that fact has been communicated to all parties or to their agents. Time is of the essence of this Contract. Seller or Licensees are given permission by the parties to complete the Effective Date blank below with the date of the last signature of the parties, and that date shall be the Effective Date for all purposes under this Contract, and if that blank is not completed, then the Effective Date shall be the date of the last signature of the parties. Except as expressly set forth to the contrary in this Contract, the use of the term "days" in this Contract, including all addenda made a part hereof, shall mean calendar days. Deadlines in this Contract, including all addenda, expressed as "within x days" or the like shall be counted from the Effective Date, unless another starting date is expressly set forth, beginning with the first day after the Effective Date, or such other established starting date, and ending at 5:00 pm, Eastern Time, on the last day counted.

20. CONFIDENTIALITY: Buyer and Seller authorize the disclosure of the information herein to the real estate licensees, attorneys, lenders, appraisers, inspectors, investigators and others involved in the transaction necessary for the purpose of closing this transaction. Buyer and Seller authorize the lender and/or closing agent preparing the closing statement to release a copy of the closing statement to the parties and their licensees prior to, at and after the closing.

21. A copy of this Contract is to be received by all parties and, by signature, receipt of a copy is hereby acknowledged. If not fully understood, consult an attorney.

22. Seller acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2 1/2 % of the consideration unless Seller furnishes to Purchaser a certificate by the Seller stating, under penalty of perjury, that Seller is a resident of the State of Maine or the transfer is otherwise exempt from withholding.

23. ADDENDA: This Contract has addenda containing additional terms and conditions. Yes ____ No **X** .

24. OTHER PROVISIONS:
Earnest monies in the amount of $25,000 shall become non-refundable after the 21 business day due diligence period. If at the buyers option, the contract is extended beyond August 1,2018 to October 1,2018, the buyer shall deliver an additional non-refundable deposit of $15,000 on August 1, 2018, which shall not be applied to the purchase price but will be considered payment above and beyond the contract price.

The parties agree that none of the above are collateral agreements. It is the intent of the parties that except as expressly set forth in this Contract, all covenants, representations, statements and obligations of both parties herein shall not survive closing.

Greg L.Shinberg
Legal Name of Purchaser

Tax ID #

By: DocuSigned by: 24F1C7014B8A447...
Signature

Name/Title, thereunto duly authorized

Seller accepts and agrees to the terms and conditions set forth in this Contract and agrees to pay the Licensees the commission for services according to the terms of the listing agreement or if there is no listing agreement, the sum of **N/A** . In the event the earnest money is forfeited by Purchaser, it shall be evenly distributed between (1) Licensees and (2) Seller; provided, however, that the Licensees' portion shall not exceed the full amount of the commission specified.

Signed this 1st day of December, 2017.

57 St. Lawrence Street LLC, Hiram Cottage Properties LLC
Legal Name of Seller

Tax ID #

 Buyer's Initials DS Seller's Initials ____

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Anthony P Russo
E272966CAC4F427...
DocuSigned by:

Anthony Russo 57 St. Lawrence Street LLC

By: Susan Baker
152F56A562634D6...
Signature

Susan Baker Hiram Cottage Properties LLC
Name/Title, thereunto duly authorized

The Flaherty Group
Legal Name of Escrow Agent

Marie Flaherty, Treasurer
Name/Title, thereunto duly authorized

DocuSigned by:
By: Marie E Flaherty
E1DC90782B4C40D...
Signature

EFFECTIVE DATE OF THIS CONTRACT: 12/1/2017 , _____ .

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MLS # 1332681

DS 11/29/2017

This page contains a detailed description of the Parcel ID you selected.

New Search!

DS APR DS SB

Current Owner Information:

Services

CBL	016 E016001
Land Use Type Verify legal use with Inspections Division	FIVE TO TEN FAMILY
Property Location	57 ST LAWRENCE ST
Owner Information	57 ST LAWRENCE STREET LLC & HIRAM COTTAGE PROPERTIES LLC PO BOX 593 PORTLAND ME 04112
Book and Page	32689/166
Legal Description	16-E-16-19 ST LAWRENCE ST 57-59 11598 SF
Current Rental Registration	Yes
Acres	0.2663

Current Assessed Valuation:

TAX ACCT NO.	2592
LAND VALUE	$145,700.00
BUILDING VALUE	$273,300.00
NET TAXABLE - REAL ESTATE	$419,000.00
TAX AMOUNT	$9,071.36

OWNER OF RECORD AS OF APRIL 2017
57 ST LAWRENCE STREET LLC & HIRAM COTTAGE PROPERTIES LLC
PO BOX 593
PORTLAND ME 04112

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or e-mailed.

Building Information:

	Building 1
Year Built	1915
Style/Structure Type	
# Units	7
Square Feet	9600

View Sketch View Map View Picture

Exterior/Interior Information:

	Building 1
Levels	B1/B1
Size	2400
Use	SUPPORT AREA
Height	7
Heating	NONE
A/C	NONE

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	Building 1
Levels	01/01
Size	2400
Use	APARTMENT
Height	9
Walls	FRAME
Heating	UNIT HEAT
A/C	NONE

DS 11/29/2017

DS APR DS SB

	Building 1
Levels	02/03
Size	2400
Use	APARTMENT
Height	9
Walls	FRAME
Heating	UNIT HEAT
A/C	NONE

Other Features:

	Building 1
Size	1X2304

	Building 1
Size	1X48

	Building 1
Size	1X30

	Building 1
Size	1X30

	Building 1
Size	1X48

	Building 1
Structure	PORCH - COVERED
Size	120X1

	Building 1
Structure	PORCH - COVERED
Size	4X12

	Building 1
Size	1X120

Outbuildings/Yard Improvements:

	Building 1
Year Built	1976
Structure	ASPHALT PARKING
Size	1X4000
Units	1
Grade	C
Condition	3

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DS 11/29/2017

DS APR DS SB

	Building 1
Year Built	1970
Structure	SHED FRAME
Size	1X120
Units	1
Grade	C
Condition	3

Sales Information:

Sale Date	Type	Price	Book/Page
10/27/2015	LAND + BUILDING	$0.00	32689/166
6/12/2015	LAND + BUILDING	$0.00	32341/090
4/25/2013	LAND + BUILDING	$0.00	30588/092
9/26/1984	LAND + BUILDING	$0.00	6573/221

New Search!

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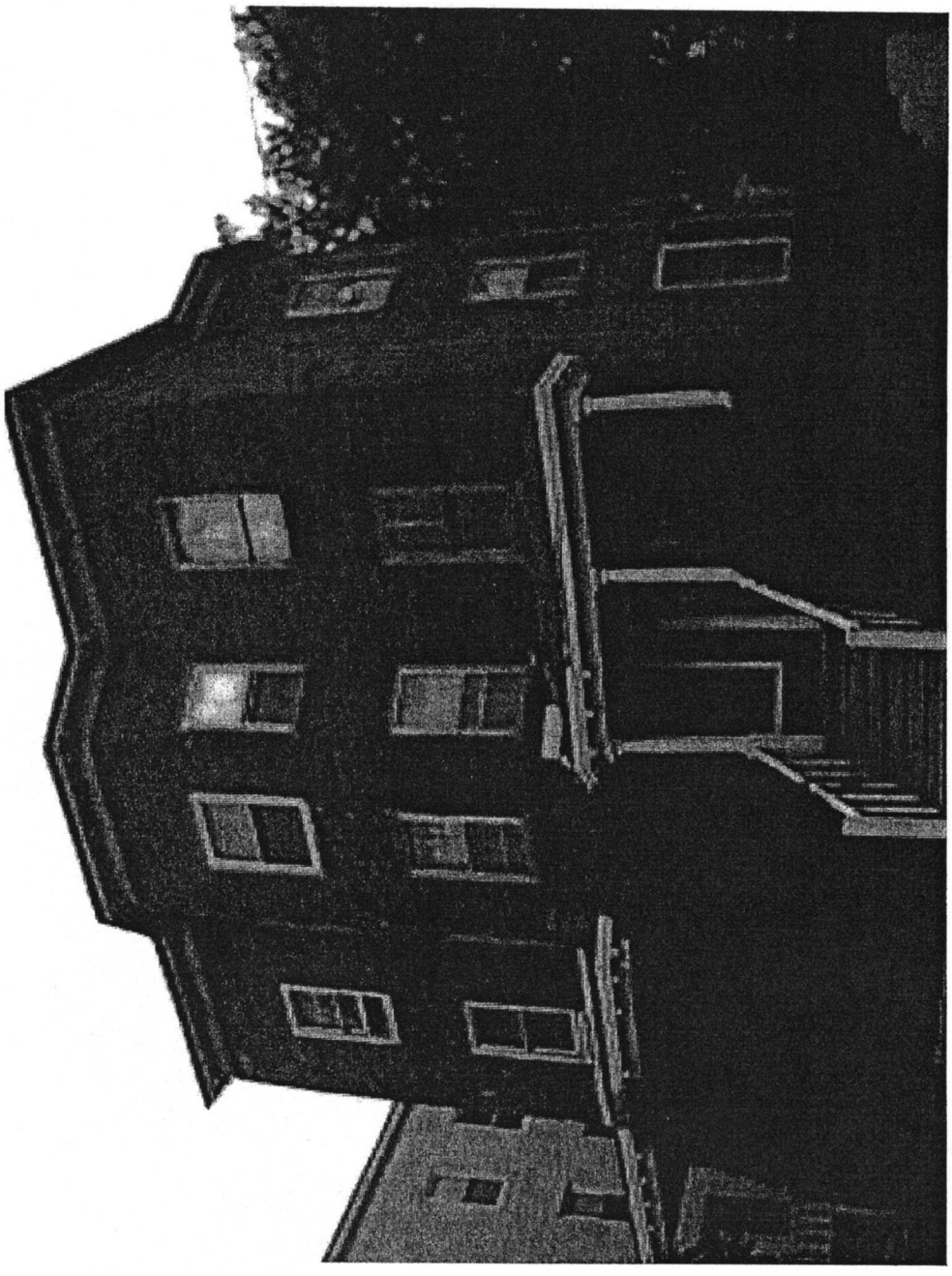
DS

11/29/2017

DS APR

DS SB



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PERIOD: January 1, 2016 - December 31, 2016

PROPERTY LOCATION: 57-59 St. Lawrence St., Portland, Me

Owner: Russo/Baker

1. INCOME

Rents Received:	$85,432.00
Other Income:	0.00
TOTAL INCOME:	**$85,432.00**

2. EXPENSES

A. Advertising	
B. Cleaning and maintenance	$3,216.00
C. Management Fees	
D. Insurance	$3,760.00
E. Legal Fees	
F. Mortgage Interest paid to Banks	
G. Other	
H. Repairs	$5,880.00
I. Supplies	$1,840.00
J. Taxes	$8,692.00
K. Oil	
L. Gas	
M. Water & Sewer-Gas & Electric water & sewer	$11,270.00
N. Electric	
O. Painting and Decoration	
P. Plumbing	
Q. Plowing	
R. Trash	
TOTAL EXPENSES:*	**$ 34,658.00**

** Does not include depreciation*

2017 Current rent roll:
57-#1 - 1 BR - $1000 mo.
57-#2 - 1 BR - $970 mo.
57-#3 - 2 BR - $1400 mo. (water views)
59-#1 - 2 BR - $1150 mo.
59A-#2 - 2 BR - $1100 mo.
59A-#3 - 2 BR - $1150 mo.
59A-#4 - 3 BR - $1600 mo. (water views)

Current gross monthly rent = $8,370.00

DS 11/29/2017

DS APR DS SB

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SELLER'S PROPERTY DISCLOSURE

Under Maine Law, certain information must be made available to buyers prior to or during preparation of an offer. This statement has been prepared to assist prospective buyers in evaluating this property. This disclosure is not a warranty of the condition of the property and is not part of any contract between the Seller and any Buyer. The Seller authorizes the Listing Broker in this transaction to disclose the information in this statement to other real estate licensees and to prospective buyers of this property. The Seller agrees to notify the Listing Broker promptly of any changes in the information and this form will be appropriately changed with an amendment date. Inspections are highly recommended.

NOTE: DO NOT LEAVE ANY QUESTIONS BLANK. WRITE N/A (NOT APPLICABLE) OR UNKNOWN IF NEEDED.

PROPERTY LOCATED AT: 57 St. Lawrence St. Portland, Me 04112

SECTION I. WATER SUPPLY

TYPE OF SYSTEM: ☒ Public ☐ Private ☐ Seasonal _____ ☐ Unknown
☐ Drilled ☐ Dug ☐ Other _____

MALFUNCTIONS: Are you aware of or have you experienced any malfunctions with the (public/private/other) water system?
Pump: ☐ Yes ☐ No ☒ N/A Quantity: ..... ☐ Yes ☒ No ☐ Unknown
Quality: ☐ Yes ☒ No ☐ Unknown
~~If YES to any question, please explain in the comment section below or with attachment.~~

~~WATER TEST:~~ ~~Have you had the water tested?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~
~~IF YES: Date of most recent test:~~ _____ ~~Are test results available?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~
~~To your knowledge, have any test results ever been reported as unsatisfactory or satisfactory with notation?~~ ☐ ~~Yes~~ ☐ ~~No~~
~~IF YES, are test results available?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~
~~What steps were taken to remedy the problem?~~ _____

- ~~IF PRIVATE:~~

~~INSTALLATION:~~ ~~Location:~~ _____
~~Installed BY:~~ _____ ~~DATE of Installation:~~ _____
~~USE:~~ ~~Number of Persons currently using system?~~ _____
~~Does system supply water for more than one household?~~ ..... ☐ Yes ☐ No ☐ ~~Unknown~~

COMMENTS: Billed by Portland Water District. Stormwater fee $436/year
Source of SECTION I information: Seller

SECTION II. WASTE WATER DISPOSAL

TYPE OF SYSTEM: ☒ Public ☐ Private ☐ Quasi-Public _____ ☐ Unknown

- IF PUBLIC OR QUASI-PUBLIC:

Have you had the sewer line inspected? ☐ Yes ☒ No ~~If yes, what results:~~ _____
Have you experienced any problems such as line or other malfunctions? ..... ☐ Yes ☒ No
~~What steps were taken to remedy the problem?~~ _____

- ~~IF PRIVATE:~~

~~TANK:~~ ☐ ~~Septic Tank~~ ☐ ~~Holding Tank~~ ☐ ~~Cesspool~~ ☐ ~~Other:~~ _____
~~Tank Size:~~ ☐ ~~500 Gal.~~ ☐ ~~1000 Gal.~~ ☐ ~~Unknown~~ ☐ ~~Other:~~ _____
~~Tank Type:~~ ☐ ~~Concrete~~ ☐ ~~Metal~~ ☐ ~~Unknown~~ ☐ ~~Other:~~ _____
~~Location:~~ _____ ~~OR~~ ☐ ~~Unknown~~ ~~Date of Installation:~~ _____
~~Date Last Pumped:~~ _____ ~~Name of Company Pumping Tank:~~ _____
~~Have you experienced any malfunctions?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~
~~If yes, give the date and describe the problem:~~ _____
~~Date of Last Servicing of tank:~~ _____ ~~Name of Company Servicing Tank:~~ _____
~~LEACH FIELD:~~ ..... ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~
~~IF YES: Location:~~ _____
~~Date of installation of leach field:~~ _____ ~~Installed by:~~ _____
~~Date of Last Servicing of leach field:~~ _____ ~~Name of Company Servicing leach field:~~ _____
~~Have you experienced any malfunctions?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~
~~If yes, give the date and describe the problem & what steps were taken to remedy:~~ _____
~~Does Seller have records of the septic system design indicating the number of bedrooms the system was designed for?~~ ☐ ~~Yes~~ ☐ ~~No~~
~~IF YES, is it available?~~ _____
~~Is System located in a Shoreland Zone?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~
~~Is System located in a Coastal Shoreland Zone?~~ ..... ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~

COMMENTS: Billed by Portland Water District
Source of SECTION II information: Seller

 Buyer(s) Initials DS _____ Seller(s) Initials DS APR DS SB

The Flaherty Group, 386 Bridgton Road Westbrook, ME 04092
Marie Flaherty
Phone: (207)400-3115 Fax:

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PROPERTY LOCATED AT 57 St. Lawrence St., Portland, Me 04112

SECTION III. HEATING SYSTEM(S)/SOURCES(S)

Heating System(s)/Source(s)	SYSTEM 1	SYSTEM 2	SYSTEM 3	SYSTEM 4
TYPE(S)	Rinnai/gas hot wat			
Age of system(s)/source(s)				
Name of company that services system(s)/source(s)				
Date of most recent service call				
Annual consumption per system/ source (i.e., gallons, kilowatt hours, cord(s))	Individually metered			
Malfunction per system(s)/ source(s) within past 2 years				
Other pertinent information				

Is there an oil supply line? ☐ Yes ☐ No ☒ Unknown Is it buried? ☐ Yes ☐ No ☒ Unknown Is it Sleeved? ☐ Yes ☐ No ☒ Unknown

Chimney(s): ☐ Yes ☐ No If yes, lined: ☐ Yes ☐ No ☒ Unknown Last Cleaned: _____

Is more than one heat source vented through one flue? ☐ Yes ☒ No ☐ Unknown Had a chimney fire: ☐ Yes ☐ No ☒ Unknown

Has chimney been inspected? ☐ Yes ☒ No ☐ Unknown; If Yes, when: _____ Direct/Power Vent: ☐ Yes ☒ No ☐ Unknown

COMMENTS: _____

Source of SECTION III information: Seller

SECTION IV. HAZARDOUS MATERIAL

The licensee is disclosing that the Seller is making representations contained herein.

A. UNDERGROUND STORAGE TANKS - Current or previously existing:

Are there now, or have there ever been, any underground storage tanks on your property? ☐ Yes ☐ No ☒ Unknown

~~IF YES: Are tanks in current use?~~ ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~

~~IF NO above: How long have tank(s) been out of service?~~ _____

~~What materials are, or were, stored in the tank(s)?~~ _____

~~Age of tank(s):~~ _____ ~~Size of tank(s):~~ _____

~~Location:~~ _____

~~Have you experienced any problems such as leakage?~~ _____

~~Are tanks registered with the Dept. of Environmental Protection?~~ ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~

~~If tanks are no longer in use, have tanks been abandoned according to D.E.P.?~~ ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~

COMMENTS: _____

Source of information: Seller

B. ASBESTOS - Current or previously existing:

- as insulation on the heating system pipes or duct work? ☐ Yes ☐ No ☒ Unknown
- in the siding? ☐ Yes ☐ No ☒ Unknown
- in the roofing shingles? ☐ Yes ☐ No ☒ Unknown
- in flooring tiles? ☐ Yes ☐ No ☒ Unknown
- other: _____ ☐ Yes ☐ No ☒ Unknown

Source of information: Seller

COMMENTS: none

C. RADON/AIR - Current or previously existing:

Has the property been tested? ☐ Yes ☒ No ☐ Unknown

~~IF YES: Date:~~ _____ ~~By:~~ _____

~~Results:~~ _____ ~~If applicable, What remedial steps were taken?~~ _____

~~Has the property been tested since remedial steps?~~ ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~

~~Are test results available?~~ ☐ ~~Yes~~ ☐ ~~No~~ ~~Results & Comments:~~ _____

Source of information: Seller

D. RADON/WATER - Current or previously existing:

Has the property been tested? ☐ Yes ☒ No ☐ Unknown

~~IF YES: Date:~~ _____ ~~By:~~ _____

~~Results:~~ _____ ~~If applicable, What remedial steps were taken?~~ _____

~~Has the property been tested since remedial steps?~~ ☐ ~~Yes~~ ☐ ~~No~~ ☐ ~~Unknown~~

~~Are test results available?~~ ☐ ~~Yes~~ ☐ ~~No~~ ~~Results & Comments:~~ _____

Source of information: Public water

E. LEAD-BASED PAINT/PAINT HAZARDS - Current or previously existing: *(Note: Lead-based paint is most commonly found in homes constructed prior to 1978)*

Is there now or has there ever been lead-based paint and/or lead-based paint hazards on the property? ☐ Yes ☐ No ☐ Unknown ☒ Unknown but possible due to age

IF YES, describe location and the basis for the determination: _____

Do you know of any records or reports pertaining to such lead-based paint or lead-based paint hazards: ☐ Yes ☒ No

~~IF YES, describe:~~ _____

Are you aware of any cracking, peeling or flaking paint? ☒ Yes ☐ No

COMMENTS: none

Source of information: Seller/visible/age of home

PROPERTY LOCATED AT 57 St. Lawrence St., Portland, Me 04112

F. OTHER HAZARDOUS MATERIALS - Current or previously existing:
TOXIC MATERIAL: ☐ Yes ☐ No ☒ Unknown OTHER:
LAND FILL: ☐ Yes ☐ No ☒ Unknown
RADIOACTIVE MATERIAL: ☐ Yes ☐ No ☒ Unknown
Source of information: Seller
Buyers are encouraged to seek information from professionals regarding any specific issue or concern.

SECTION V. GENERAL INFORMATION

Is the property subject to or have the benefit of any encroachments, easements, rights-of-way, leases, rights of first refusal, life estates, private way, private road/homeowner associations (including condominiums and PUD's) or restrictive covenants? ☐ Yes ☒ No ☐ Unknown
~~IF YES: Explain:~~
What is your source of information: Deed

Are there any tax exemption or reduction for this property for any reason including but not limited to: Tree Growth, Open Space and Farmland, Veteran's, Homestead Exemption, Blind, Working Waterfront? ☐ Yes ☒ No ☐ Unknown
IF YES: Explain: Forest Management and Harvest Plan available? ☐ Yes ☒ No ☐ Unknown

- Is this house currently covered by a flood insurance policy? ☐ Yes ☒ No ☐ Unknown
- Equipment leased or not owned (e.g., propane tank, hot water heater, satellite dish): Type: Hot water heater leasedfrom Unitil
- Year Principal Structure Built: 1915 What year did Seller acquire property? 1984
- Roof: Year Shingles/Other Installed: Rubber - 1995
  Water, moisture or leakage: Yes, minor leak in 3rd floor left unit in heavy rain
  Comments: none
- Foundation/Basement: Sump Pump: ☐ Yes ☒ No ☐ Unknown Comments: old foundation
  Water, moisture or leakage since you owned the property: ☒ Yes ☐ No ☐ Unknown Comments: moisture present
  Prior water, moisture or leakage? ☒ Yes ☐ No ☐ Unknown Comments: not standing water
- Mold: Has the property ever been tested for mold? ☐ Yes ☒ No ☐ Unknown ~~If YES, are test results available?~~ ☐ ~~Yes~~ ☐ ~~No~~
- Electrical: ☐ Fuses ☒ Circuit Breaker ☐ Other: ☐ Unknown
- Has all or a portion of the property been surveyed? ☐ Yes ☐ No ☒ Unknown ~~If YES, is the survey available?~~ ☐ ~~Yes~~ ☐ ~~No~~
- Manufactured Housing: Mobile Home - ☐ Yes ☒ No ☐ Unknown Modular - ☐ Yes ☒ No ☐ Unknown
- KNOWN MATERIAL DEFECTS about Physical Condition and/or value of Property, including those that may have an adverse impact on health/safety: none known

Source of SECTION V information: Seller

Seller shall be responsible and liable for any failure to provide known information regarding known material defects to the Buyer.

ATTACHMENTS EXPLAINING CURRENT PROBLEMS, PAST REPAIRS OR ADDITIONAL INFORMATION IN ANY SECTION IN DISCLOSURE: ☐ Yes ☒ No

SECTION VI. ADDITIONAL INFORMATION

As Sellers, we have provided the above information and represent that all information is correct. To the best of our knowledge, all systems and equipment, unless otherwise noted on this form, are in operational condition.

Neither Seller nor any Broker makes any representations as to the applicability of, or compliance with, any codes of any sort, whether state, municipal, federal or any other, including but not limited to fire, life safety, building, electrical or plumbing.

DocuSigned by: Anthony P Russo — SELLER — 12/1/2017 DATE
57 St. Lawrence Street, LLC

DocuSigned by: Susan Baker — SELLER — 12/1/2017 DATE
Hiram Cottage Properties, LLC

I/We have read and received a copy of this disclosure, the arsenic in wood fact sheet, the arsenic in water brochure, and understand that I/we should seek information from qualified professionals if I/we have questions or concerns.

BUYER — DATE

DocuSigned by: — BUYER — 11/29/2017 DATE

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EQUAL HOUSING OPPORTUNITY

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LEAD PAINT DISCLOSURE/ADDENDUM

AGREEMENT BETWEEN 57 St. Lawrence Street, LLC, Hiram Cottage Properties, LLC (hereinafter "Seller")

AND _____ (hereinafter "Buyer")

FOR PROPERTY LOCATED AT 57 St. Lawrence St., Portland, Me 04112

Said contract is further subject to the following terms:

Lead Warning Statement

Every purchaser of any interest in residential real property on which a residential dwelling was built prior to 1978 is notified that such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on lead-based paint hazards from risk assessments or inspections in the seller's possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible lead-based paint hazards is recommended prior to purchase.

Seller's Disclosure (check one)

(a) Presence of lead-based paint and/or lead-based paint hazards **(check one below)**:

_____ Known lead-based paint and/or lead-based paint hazards are present in the housing (explain).

_____

_____

__X__ Seller has no knowledge of lead-based paint and/or lead-based paint hazards in the housing.

(b) Records and reports available to the Seller **(check one below)**:

_____ Seller has provided the Buyer with all available records and reports pertaining to lead-based paint and/or lead-based paint hazards in the housing (list documents below).

_____

_____

__X__ Seller has no reports or records pertaining to lead-based paint and/or lead-based paint hazards in the housing.

Buyer's Acknowledgment

(c) Buyer has received copies of all information listed above.

(d) Buyer has received the pamphlet Protect Your Family from Lead in Your Home.

(e) Buyer has **(check one below)**:

_____ Received a 10-day opportunity (or mutually agreed upon period) to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards; or

_____ Waived the opportunity to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards.

Agent's Acknowledgment

(f) Agent has informed the Seller of the Seller's obligations under 42 U.S.C. 4852(d) and is aware of his/her responsibility to ensure compliance. 12/1/2017

Certification of Accuracy

The following parties have reviewed the information above and certify, to the best of their knowledge, that the information they have provided is true and accurate.

DocuSigned by: Anthony P Russo 12/1/2017
E272966CAC4F427...
Seller Date

57 St. Lawrence Street, LLC

DocuSigned by: Susan Baker 12/1/2017
152F56A562634D6...
Seller Date

Hiram Cottage Properties, LLC

Agent Date

Marie Flaherty

DocuSigned by:
24F1C7014B8A447...
Buyer 11/29/2017
Date

Greg L Shinberg

Buyer Date

Agent Date

Karen J Thompson

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REALTOR®

The Flaherty Group, 386 Bridgton Road Westbrook, ME 04092
Marie Flaherty
Phone: (207)400-3115 Fax:

EQUAL HOUSING OPPORTUNITY

57 St. Lawrence St.

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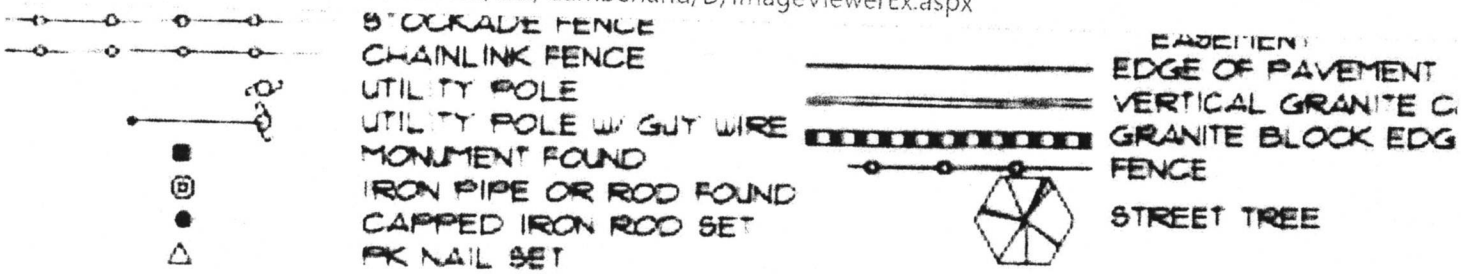
Secure https://i2a.uslandrecords.com/ME/Cumberland/D/ImageViewerEx.aspx



ZONE INFORMATION

EXISTING ZONE: B-1, NEIGHBORHOOD BUSINESS ZONE
PROPOSED USE: COMMERCIAL SPACE AND MULTIFAMILY DWELLINGS

SPACE STANDARDS	REQUIRED	PROVIDED
MINIMUM LOT SIZE	NONE	0.25 AC.
MINIMUM STREET FRONTAGE	50 FEET	121.9 FEET
MINIMUM FRONT YARD	10 FEET MAX.	1.5 FEET
MINIMUM REAR YARD	NONE	5.3 FEET
MINIMUM SIDE YARD	NONE ①	10.1 FEET
MINIMUM SIDE YARD ON A SIDE STREET	10 FEET MAX.	0.5 FEET
MINIMUM LOT WIDTH	NONE	118.5 FEET
MAXIMUM BUILDING HEIGHT	50 FEET	50 FEET
MAXIMUM IMPERVIOUS SURFACE RATIO	90%	89%
FLOOR AREA	10,000 SQ. FT. MAX.	9,122 SQ. FT
MINIMUM AREA PER DWELLING UNIT	435 SQ. FT.	834 SQ. FT.
OFF STREET PARKING	1 SPACE PER UNIT	18 SPACES

① EXCEPT THAT WHERE A SIDE YARD ABUTS A RESIDENTIAL ZONE OR A FIRST FLOOR RESIDENTIAL USE, A MINIMUM OF TEN (10) FEET IS REQUIRED.

State of Maine, Cumberland SS
Registry of Deeds
Received May 13
at 11 h 05 m A M and
Plan Book 214 Page
Attest: Pamela E

435 sf land area per unit.

DS
11/29/2017

DS
APR

DS
SB

DocuSign Envelope ID: 0AFD9874-1B25-41ED-A662-50D47BEBFD63

EXHIBIT A
TO WARRANTY DEED FROM ANTHONY P. RUSSO AND JANE RUSSO
TO
57 ST. LAWRENCE STREET, LLC

Our one-half interest in and to a certain lot or parcel of land with the buildings thereon, situated in the City of Portland, County of Cumberland and State of Maine and being more particularly described as follows:

BEGINNING on the northeasterly side of St. Lawrence Street, and bounded and described as follows, to wit:

COMMENCING on the said side of said Street at the west corner of land formerly of Washington Griffin and thence running on said Street northwesterly fifty-five (55) feet to land conveyed by the St. Lawrence Congregational Parish to Hattie L. B. Howatt, by deed dated April 7, 1898 and recorded in the Cumberland County Registry of Deeds in Book 660, Page 360; thence northeasterly along the line of said Howatt land one hundred twenty (120) feet more or less to land once of Sewall Mitchell afterwards of Hattie N. Brooks; thence southeasterly along line of last named land fifty-five (55) feet to said Griffin land, and thence southwesterly along line of said Griffin land 120 feet more or less, to the corner and point of beginning.

ALSO our one-half interest in and to another certain lot or parcel of land situated on the easterly side of St. Lawrence Street in the Munjoy Hill section of the City of Portland, County of Cumberland and State of Mane, further bounded and described as follows:

BEGINNING at the southwesterly corner of said St. Lawrence Street of land now or formerly of Shaya Zimelman. Thence from said point of beginning and by said St. Lawrence Street southeasterly 45 feet, more or less, to the northerly side of St. Lawrence Place; thence by said St. Lawrence Place northeasterly 113 feet, more or less, to land of Izetta M. Stockbridge; thence by said Stockbridge land and by land of Thomas D. Paolino northwesterly 42 feet, more or less, to a fence post at the southeasterly corner of land of Shaya Zimelman; thence by said Zimelman land southwesterly, 115 feet, more or less, to the point of beginning.

Also all our right, title and interest, if any, in and to all passageways, lanes, streets or alleys adjoining, abutting and /or running with the above described premises.

Said above described lot contains 4,960 square feet, more or less.

DS 11/29/2017

DS APR DS SB

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The above described premises are conveyed subject to all the restrictions, covenants and agreements contained in a deed from the Portland Renewal Authority to Shaya and Bella Zimelman dated September 4, 1974 and recorded in the Cumberland County Registry of Deeds in Book 3596, Page 37.

The aforesaid, as all of the other covenants contained in the aforesaid Indenture to Shaya and Bella Zimelman from Portland Renewal Authority, shall be a covenant running with the land shall be enforceable in the same manner as prescribed in said Indenture for the enforcement of the covenants therein contained.

Being the same premises as described as Parcel II in the Quit Claim Deed from Anthony P. Russo to Anthony P. Russo and Jane Russo dated April 17, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30588, Page 92.

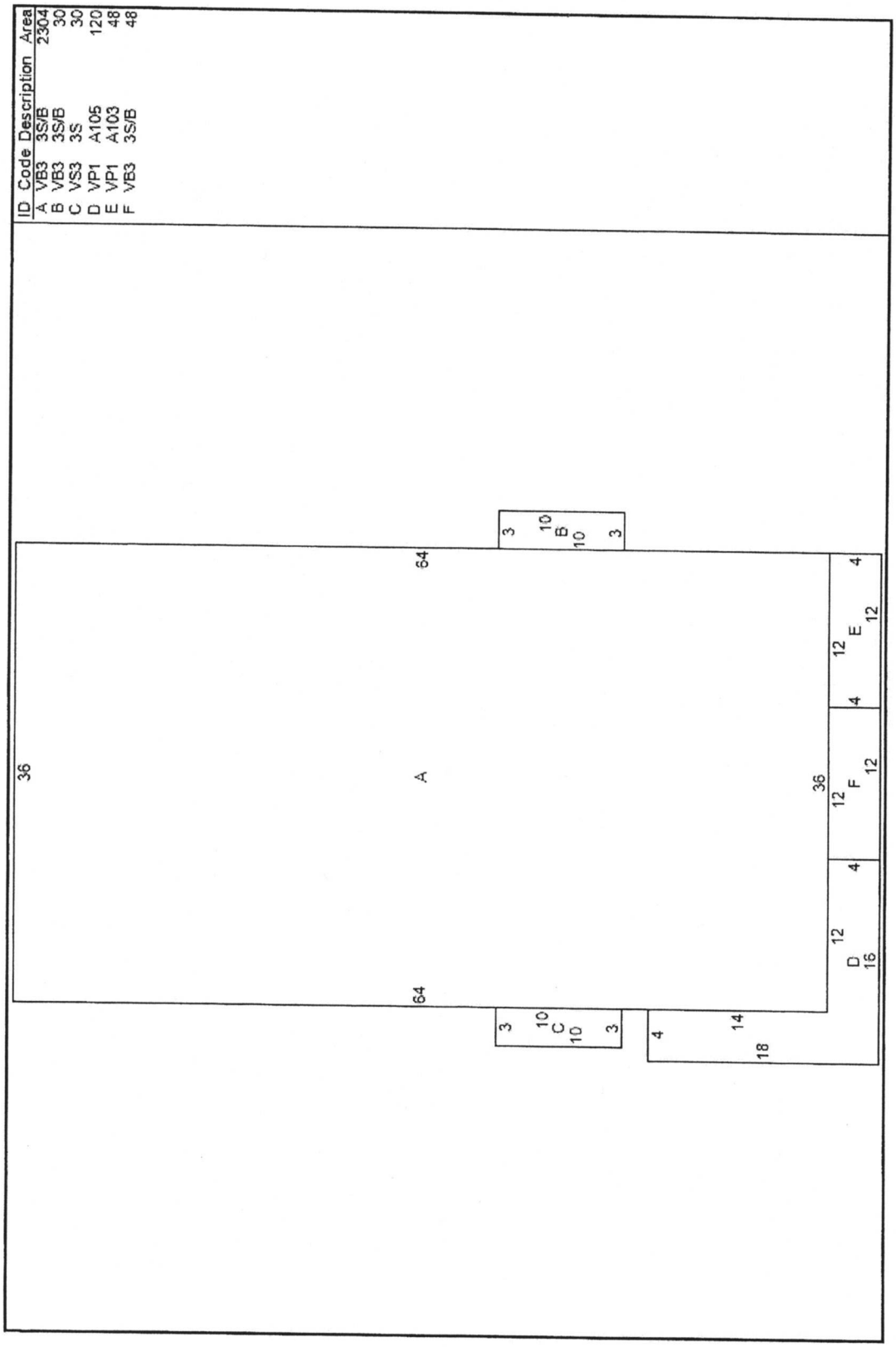
DS 11/29/2017

DS APR

DS SB

Received
Recorded Register of Deeds
Oct 27,2015 08:31:42A
Cumberland County
Nancy A. Lane

DocuSign Envelope ID: 0AFD9874-1B25-41ED-A662-50D47BEBFD63



DS

11/29/2017

DS APR

DS SB

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Doc#: 56863 Bk:32689 Pg: 166

WARRANTY DEED

ANTHONY P. RUSSO and JANE RUSSO, both of Saco, County of York and State of Maine, for consideration paid, hereby GRANT to 57 ST. LAWRENCE STREET, LLC, a Maine Limited Liability Company with a mailing address of P.O. Box 593, Portland, Maine 04112, with WARRANTY COVENANTS, the following described property:

SEE EXHIBIT A ATTACHED HERETO AND MADE A PART HEREOF

This conveyance is made subject to any and all mortgages and encumbrances of record.

WITNESS our hands and seals this 23d day of JUNE, 2015.

Witness — ANTHONY P. RUSSO

Witness — JANE RUSSO

STATE OF MAINE
YORK, SS.

JUNE 23, 2015

Personally appeared the above named ANTHONY P. RUSSO and JANE RUSSO and acknowledged the foregoing instrument to be their free act and deed.

Before me,

Attorney at Law
Print Name: James B. Smith #350
Commission Expires:

RETURN TO:

James B. Smith, Esquire
Woodman Edmands Danylik Austin Smith & Jacques, P.A.
P.O. Box 468
Biddeford, ME 04005-0468

DS 11/29/2017

DS APR DS SB

DocuSign Envelope ID: A72BCA00-7CF2-4A4F-B9B8-091D6BA36B1B

ADDENDUM #4 TO AGREEMENT

Addendum to contract dated **December 1, 2017**

between **57 St. Lawrence Street LLC, Hiram Cottage Properties LLC** (hereinafter "Seller")

and **Greg L.Shinberg** (hereinafter "Buyer")

property **57 St. Lawrence Street, Portland, Me 04101**

All parties agree that the $50,000.00 earnest deposit to be held with escrow agent as referenced in paragraph 1C of the amendment signed 1/7/18 due August 17, 2018 shall be extended to September 28, 2018. In consideration for the extension, there will be an additional nonrefundable $6,000.00 paid for a total due of $56,000.00 on September 28, 2018.

Parties acknowledge Agency's advice to seek legal, tax and other professional advice as necessary in connection with sale/purchase of property.

DocuSigned by:
24F1C7014B8A447...
8/17/2018 11:07:18 AM PDT

Buyer
Greg L.Shinberg

Date

Buyer

Date

DocuSigned by:
57 St. Lawrence Street, LLC
B10446C...
8/21/2018 | 10:09

Seller
57 St. Lawrence Street LLC

Date

DocuSigned by:
8/23/2018 | 7:54 PM

Seller
Hiram Cottage Properties LLC

Date

DocuSign Envelope ID: 8720D972-8B1A-42A6-BCD6-FFC5FC2C1325

Memorandum of Understanding

Re: Purchase and Sale agreement for 57-59 St. Lawrence Street
Between: 57 St. Lawrence Street LLC, Hiram Cottage LLC and Greg Shinberg

All parties acknowledge that the additional $50,000 earnest money deposit referenced in paragraph 1C of the amendment signed 1/17/2018, is due by 8/3/2018. Assuming the zoning is adopted on June 4th by the city council, and no extensions are granted to the moratorium or interim "IPOD zoning", the buyer will proceed to apply for the site plan approval and/or other approvals within 30 days after the zoning contingency period, 8/3/18 as referenced in paragraph 4 of the amendment.

DocuSigned by:
greg shinberg
24F1C7014B8A447...

Greg Shinberg Buyer
Date signed 6/4/2018 | 1:27 PM PDT

Anthony P. Russo

57 St. Lawrence Street LLC Seller
Date signed 6/4/18

Hiram Cottage LLC Seller
Date signed 6/4/18

DrummondWoodsum
ATTORNEYS AT LAW

MEMORANDUM

TO:	Greg Shinberg
FROM:	Gary Vogel
DATE:	June 17, 2019
RE:	57 St. Lawrence Street, Portland, ME 04101 - Report of rights to passageway for 57 St. Lawrence and abutting properties

I have examined the records of the Cumberland County Registry of Deeds (the "CCRD"), and all instruments of record therein as reflected by the indices affecting title to the premises located at or near 57 St. Lawrence Street, Portland, Maine (the "Premises"), shown as Lots E-016 and E-019 on Portland Tax Map 16, including the adjacent passageway known as St. Lawrence Place to determine the rights to the ownership and use of the passageway known as St. Lawrence Place.

Regarding the passageway known as St. Lawrence Place, as to rights thereto of the Premises and of the other 2 properties that abut St. Lawrence Place – namely 49 St. Lawrence Street and 7 Gilbert Lane:

As to the Premises, the current Source Deeds include the following language: "Also, all our right, title and interest, if any, in and to all passageways, lanes, streets or alleys adjoining, abutting and/or running with the above described premises." This language first occurred in the deed out of Portland Renewal Authority ("PRA") dated September 4, 1974 as recorded in the CCRD in Book 3596, Page 37. Prior to that deed, all deeds in the chain of title going back to 1858 uses only the language "…together with a right in common in a sixteen feet passageway leading to St. Lawrence Street… to be kept open forever." Accordingly, we find that the property at 57 St. Lawrence Street includes an easement over the St. Lawrence Place passageway.

As to 49 St. Lawrence Street, I note that the current deed (33590/157) does not contain specific rights to St. Lawrence Place passageway; however, it includes the catch-all phrase "The premises are conveyed together with and subject to any and all easements or appurtenances of record, insofar as the same are in force and applicable." In researching the deeds back, we find that as reported above for the Premises, starting in 1855 all deeds contained the same "together with a right in common in a sixteen feet passageway leading to St. Lawrence Street… to be kept open forever" language. This language was carried forward from the 1855 through the deed to PRA in 1964; however, similarly to the chain for the Premises, the deed out of PRA dated October 15, 1973 as recorded in the CCRD in Book 3476, Page 292 did not include the "together with…" language, but only the "All right, title and interest…" language. After the PRA deed, all subsequent deeds failed to include any language regarding rights or title to the passageway, except

for the catch-all phrase noted above. Based on the research noted above, we find that the 49 St. Lawrence Property is also benefitted by an easement over St. Lawrence Place, as the "any and all easements" language noted above and general principles of Maine law are sufficient to convey the rights in and to the passageway with the property each time that 49 St. Lawrence was conveyed.

As to 7 Gilbert Lane, I note that similar to the Premises, the current deed (33477/122) includes the following language: "Also, all our right, title and interest, if any, in and to all passageways, lanes, streets or alleys adjoining, abutting and/or running with the above described premises." This language first occurred in the deed out of PRA dated October 11, 1973 as recorded in the CCRD in Book 3476, Page 287. Prior to that deed, all deeds in the chain of title going back to 1853 use only the language "…together with a right in common in a sixteen feet passageway leading to St. Lawrence Street… to be kept open forever."

I also researched title to 58 Atlantic Street (Tax Map 16-E-006), since a portion of that property was an exception in one of the chains of title for Tax Map 16-E-019, and therefore shared a common chain of title up to 1973, when PRA conveyed out said portion without any right, title or interest, or any rights to, the passageway. PRA then conveyed its right, title and interest to the passageway with its conveyances for both the Premises and for 7 Gilbert Lane. Those deeds appear clear in their intent to convey rights to the passageway only to the direct abutters.

In analyzing all of the above research, we find that regardless of the type or lack of wording in the current source deeds listed above, the following properties have a right in common in the sixteen foot passageway leading to St. Lawrence Street, now known as St. Lawrence Place:

1. 57 St. Lawrence Street
2. 49 St. Lawrence Street
3. 7 Gilbert Lane

The following appurtenant right should be included and insured with the description of the Premises: Together with a right in common in a passageway leading to St. Lawrence Street, said passageway to be sixteen (16) feet wide, adjoining the southeasterly line of the above described premises, which said passageway shall be kept open forever for the benefit of this and other lots bounded thereby and for no others without the consent of all parties holding similar rights thereto. Said passageway is now known as St. Lawrence Place.

As to your intended use for access as a driveway to get to this property, that use is consistent with the appurtenant rights in the passageway for all three properties. As to rights to park there, I see no mention for or against, other than "…to be kept open forever". Parking in the passageway in a way that would block access would be inconsistent with the easement rights, and therefor each property owner with rights in and to the passageway can preclude the other from using the passageway for parking. As long as your use is to use the property as a driveway and not for parking, you should be able to do so and to base your development plan on the continued use of the property as a driveway.

I also note that in the description of the Premises insured in the prior title insurance policy for this property included the "All right, title and interest…" language for the passageway, without exception. However, there remains the fact that the other abutters definitely have rights to use the passageway.

Let me know if you need anything further.

Gary D. Vogel
Attorney at Law

Att. E

Skowhegan Savings

February 22, 2019

Portland Planning Board
Portland, ME 04101

RE: 57 St. Lawrence Development, LLC

Dear Sir or Madam:

I am currently reviewing a request for financing from Mr. Greg Shinberg for the development of apartments at 57 St. Lawrence.

I have reviewed plans for the proposed development. Based on a review of the plans, along with my knowledge of Mr. Shinberg's work, it appears likely the developer has the technical expertise and financial capacity to complete the project as the development is currently structured.

If you need additional information, do not hesitate to contact me.

Sincerely,

Tim Michalak
Vice President, Commercial Lending

cc: Greg Shinberg

181 State Street, PO Box 4424, Portland, Maine 04101
(207) 772-7070 Office | info@shinbergconsulting.com

Property Location: 57-59 St. Lawrence St.

Subject: Level III Site Plan Application

General Application Documents: Technical Capability

The following are key members of the development team:

1) Shinberg Consulting
2) Mark Mueller Architects
3) Mitchell & Associates Landscape Architects
4) DM Roma Consulting Engineers
5) Northeast Civil Solutions

This team has worked together on other projects in the Portland area.

Shinberg Consulting has provided Owners Representative services to private and public entities since 2004.

We provided both Owners Representative services in addition to part ownership for projects located at 135 Sheridan St. and 645 Congress St.

Some of the notable projects that Shinberg Consulting has provided Owners Representative Services include:

- The Intermed Building
- Hyatt Hotel Old Port
- The Press Hotel
- 63 Marginal Way

- 280 Fore St.
- The Mina Building
- 50 Portland Pier
- 154 Clark St. for Shalom House
- Randall Place for The Opportunity Alliance

Att. G

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.
Art. III Zoning, Div.20 Off-Street Parking (Sections 14-331 to 14-350)and Technical Standards Transportation 1.14 Parking Lot and Parking Space Design	Parking spaces shall meet the following Dimensional Requirements: Standard spaces 9 FT wide x 18 FT long. Compact space: 8 FT wide x 15 FT long... Any parking lot of 10 or fewer spaces shall require standard sized parking spaces.	The applicant is requesting an increase in the allowed number of compact spaces for the proposed residential project. 14 parking spaces are required, (1) 9 FT x 18 FT, (3) 8'-2"- 8'-6" x 18FT and (12) 8' -8'-6" x 16FT for a total of 16 spaces. The increase in compact spaces	The applicant is requesting the waiver in order to provide more off street parking to accommodate tenant demand. Providing additional spaces will reduce demand for on-street parking.
	Parking with greater than 10 spaces may be comprised of up to 20% compact spaces.	The applicant is also requesting a waiver of travel aisle width for a portion of St Lawrence Place to 20'-6" on the north end 20'-8"along the south end of the 3 tandem parking spaces. The travel way at the first single bay increases to	Due to the required grading along St Lawrence Place a slipform concrete curb is proposed along the easterly edge of St Lawrence Place
		Two spaces located at the northerly end of the site have been eliminated to address turning movement requirements and to provide limited snow storage and storage above the retaining wall.	

Att. H

M A R K
MUELLER
ARCHITECTS

55 - 59 St. Lawrence St.

MASSING, VENTILATION and WIND:

Wind: It is our opinion and the design team's opinion the new building addition will not negatively impact the abutting structures with respect to wind.

Height Impact: The intent of the design to limit the impact of the proposed buildings on the abutters. All of the neighbors; but one, have a distance separation working in their favor located between their house and the proposed project. The most adjacent abutter, 61 St. Lawrence Street is the closest in proximity; except for a small clerestory monitor and two recessed private roof decks, the design of the existing building will maintain its original height. The monitor roof will be set down within a 42" high parapet and is dark in color to read recessive and offset its presence.

All new work will be built within the 45'-0" height limit for projects in the Munjoy Hill zone containing more than three living units and the requirement for one workforce housing unit.

Rooftop Equipment: The project at this time has been designed for (3) - 8 ton rooftop units. The mechanical equipment will be located away from roof edges and out of visible site of the public way. Minor venting for the elevator and laundries will be provided.

SHADOWS:

In referencing Section 11 of the Technical Manual, our project height is less than 45'-0" and therefore is not subject to a shadow analysis. There is not a known natural resource within 192' of the project site.

SNOW and ICE LOADING:

All roofs in the project are flat and will not pose a threat of falling snow and ice; however, one small roof plane on the small individual unit will have a pitched roof. In this one location, gutters and a downspout will be provided along the public sidewalk.

100 Commercial St
Suite 205
Portland, Maine 04101
Phone: 207.774.9057
Fax: 207.773.3851
E-Mail:
rfi@muellerarchitects.com
Member AIA

Att. I

M A R K
MUELLER
ARCHITECTS

ZONE RELATED DESIGN STANDARDS: (Revised: 07.01.19)

Munjoy Hill Neighborhood Overlay District:

The project goal for zone related design standards for the Munjoy Hill neighborhood is to provide additional housing in the City of Portland; to design the housing in a fashion that honors and compliments the historic neighborhood by integrating the 'new' addition of architecture that we feel is exemplar of good design. By good design, we think in terms of a thoughtful design that respectfully fits the context of the neighborhood and meets a basic need for functional and good housing.

Neighborhood context: St. Lawrence Street is a combination of older single family homes and multi-family apartment houses. We feel the neighborhood is a good representation of Portland from years ago when Portland families lived on Munjoy Hill.

Dimensional Standards:

Height: The project, as more than 3 units on an 11,644 sf lot will comply with the 45' height limit.

Setbacks: the project meets the requirements as established in Munjoy Hill Overlay zone as outlined on the submitted site plan.

Design Standards:

Roof design: The project including more than three units will include roof design as follows:
Existing roof: flat
Proposed multi-family building: flat
Proposed single family building: 4:12 pitch hip roof

The concept behind our overall design is to reduce the scale of a larger building to smaller more manageable 'building blocks'. The courtyard has several functional purposes, as a void in the building it acts as a means to reduce scale. When considering the existing house, the new addition and the small single-family residence; we have created a hierarchy of building shapes.

In this process we have designed a 16-unit apartment house. The existing building will contain six living units, the new building will include 10 units. The bedroom counts and the varying size of units can see found in the architectural plans.

The existing house is an identifiable building type in Portland, a two-bay wide 'triple decker'. The new building is a derivation of the existing with reinterpretative modern elements to let it read on its own. Use of a clerestory element, tension

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MUELLER
ARCHITECTS

cable decks and covered parking provide an element of modernity that we hope will make the project marketable today.

The small individual living unit provides several amenities to the design. One, it provides a foreground to the remainder of the building in the background. The other being the courtyard created with the existing building allows utilizing more wall space for egress windows. From there, the living rooms in the existing building are offered a principal location with solar access on the street side. The same courtyard provides relief for the views down the street to the city and waterfront. The general feeling about the courtyard provides an overall impression of openness and airiness.

57 St. Lawrence Street meets the zoning requirement of a maximum lot coverage of 60% and a minimum of 20% open landscape space.

Per the ordinance, the design makes all efforts to comply with the 'active zone' on the street. Within the existing building, one circulation stair has been removed to increase its active zone. The other existing stair based on internal programming will remain. Another design feature respecting the ordinance is the use of the small single-family unit at the grade level as a visual separation of the covered parking from the public way.

Another amenity in the design, the neighbors will not be subject to a large overhead door onto St. Lawrence Street. All vehicular access will be from the side street with parking being located under the existing building and directly off the St. Lawrence Place under the building, not the main street.

Exterior Materials:

The building materials for the project are by design simple in nature. The existing building as part of the exterior fire protection encapsulation will be re-sided with a siding material as a modified in-kind replacement with 4" horizontal cementitious clapboards.

The proposed main building will utilize a similar exterior finish material with variations of complimentary siding in a 8" horizontal cementitious clapboards with the upper clerestory band and bay windows being a 12" wide vertical board siding. While the freestanding building will be 8" horizontal cementitious clapboards in its entirety. The composition of the materials and color can be on the architectural drawings.

100 Commercial St
Suite 205
Portland, Maine 04101
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rfi@muellerarchitects.com
Member AIA

Att. J

DM ROMA **Dated June 17, 2019**
Consulting Engineers

The following is a response to the Peer Review Preliminary Comments that were presented by Lauren Swett from Woodard and Curran. The comments are written in *italics* and our response is **bold underlined text**:

1. *The City of Portland's Section 5 stormwater standards require compliance with the General Standard when 1,000 square feet or more of new impervious surface is created. 95% of this new impervious surface must be treated. The standards also require treatment if 5,000 square feet or more of non-roof, redeveloped, impervious surface is created. 50% treatment is required for this case. The Applicant has completed a different analysis of the redevelopment area to size their proposed treatment system, and the sizing may be adequate, but the Applicant should verify that the system will provide treatment in accordance with the City's standards.*

   We have performed calculations to show the project is in compliance with both of the performance standards outlined in the comment. The total new impervious surface is approximately 3,145 square feet and 95% of this area is tributary to the subsurface sand filter. The redeveloped non-roof impervious surface associated with the project is approximately 6,300 square feet, if you consider the paved areas below the building as non-roof impervious surface. Approximately 5,920 sf of non-roof impervious surface drains to the subsurface sand filter, which represents 94% of the new non-roof redeveloped impervious surface. We have included exhibits which show the areas receiving stormwater treatment under these scenarios for your review and consideration.

2. *The Applicant should provide pre-development and post-development stormwater figures to support the provided HydroCAD model to clarify the areas that are being modeled.*

   See enclosed Stormwater Maps.

3. *Additional clarification is needed on the grading and drainage near the northern corner of the building. It appears that the intent is to create a small infiltration area. It is unclear from the plan and elevations if the retaining wall will be constructed prevent flow from outside the walled area. The Applicant should clarify the drainage to this space to ensure that there is no ponding of stormwater at the building.*

   The grading on the north corner of the building has been modified to show that drainage will not be directed toward the building. We have modified the retaining wall grades to show that drainage is intended to flow around the retaining wall on the northwest corner. We have incorporated a stone drainage course behind the retaining wall on the northeast side of the building that will capture surface runoff and pass it through weep holes at the base of the wall, which will drain into the field inlet at the bottom of the stair well.

4. *Drainage from covered parking areas is typically required to be collected separately and sent through an oil/water separator to the sewer. The catch basins appear to be located outside of the roofed areas, but drainage from within the covered parking isn't be separated. Please clarify.*

The catch basins are located in open paved driveways, so we did not consider them to be regulated as floor drains. We understand the concern with providing oil/water separation and have added an oil/water separation structure just below the catch basin that collects stormwater runoff from the paved courtyard area.

5. *Grading is proposed within the St. Lawrence Place Drive, and excavation for the stormwater system will also likely impact the driveway. Additional information on proposed surface conditions within the driveway should be provided.*

   Some portions of St. Lawrence Place Drive are designated as being surfaced with pavement as part of the project. All areas that are not indicated to be paved are intended to be reconstructed as a gravel surface roadway similar to what exists currently.

6. *Plans should account for snow storage or snow management.*

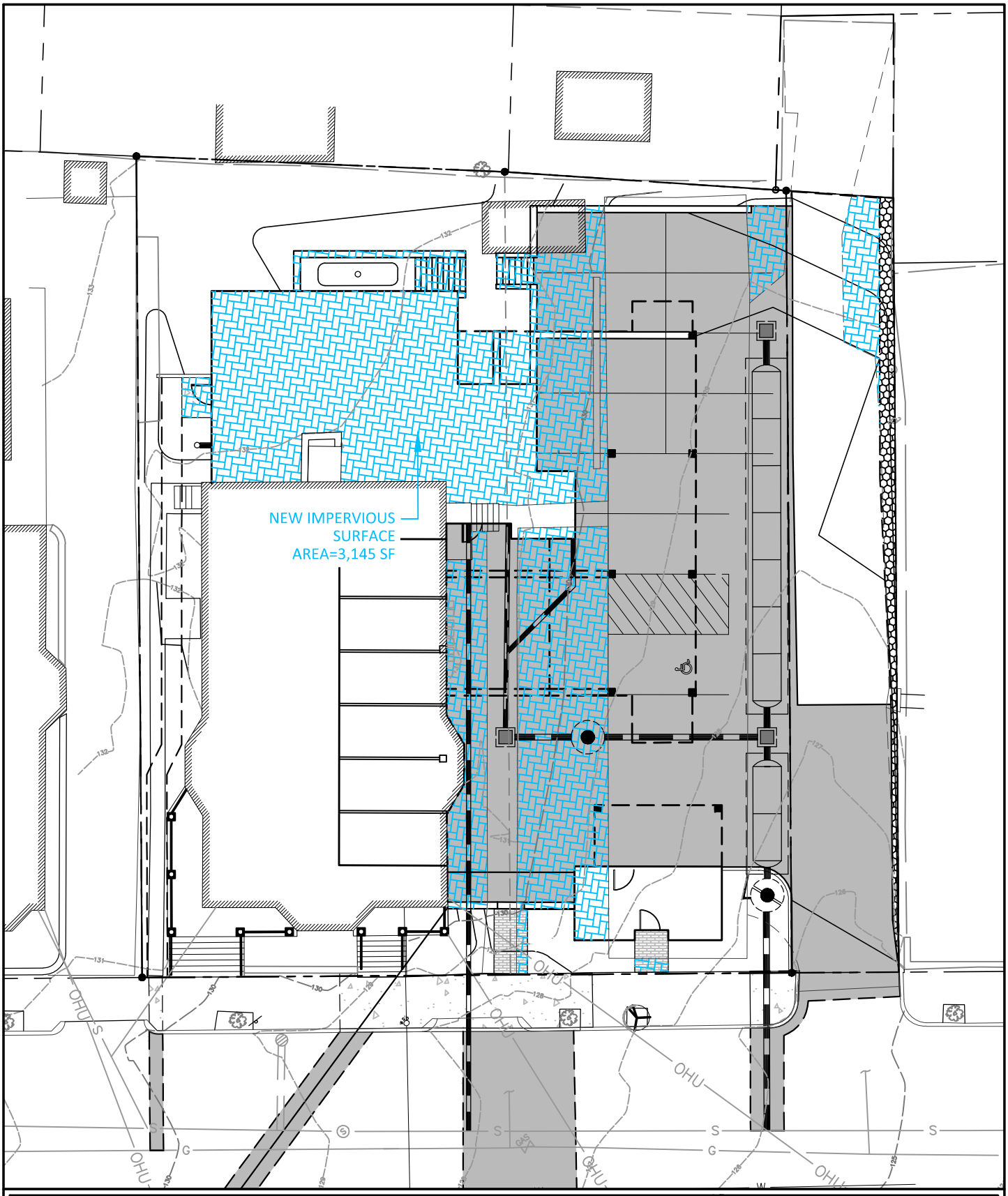
   Minimal amount of snow storage is available on site, so it will be necessary to remove snow from the premises periodically.

7. *Verification of sewer ability to serve will be required.*

   We understand that the City is currently reviewing the project's sewer connection and that an ability-to-serve letter will be issued once they have completed their review.

8. *Details for pavement and sidewalk repair should be provided in accordance with the City of Portland Technical Manual.*

   We understand that the City's standard details for sidewalk and pavement construction and repair are applicable to this project, and we intend to comply with all standards. We will continue to work with the City on approval of sidewalk materials, given that sidewalks in the project vicinity are concrete and the project is located within a brick district.



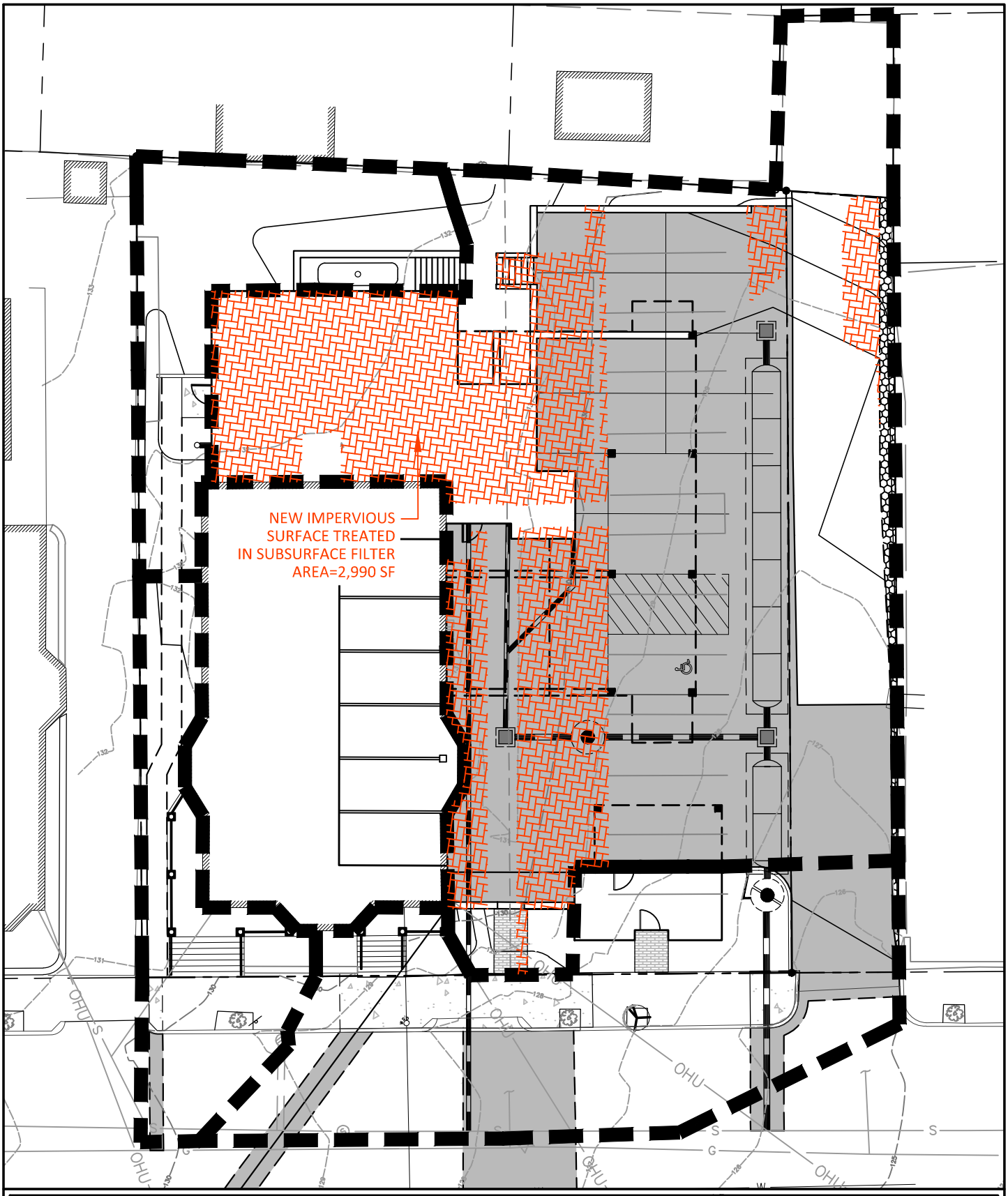
NEW IMPERVIOUS SURFACE CREATED

57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC

SCALE: 1"=20'
DATE: 6-17-2019
JOB NUMBER: 18076

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 310 - 0506



NEW IMPERVIOUS SURFACE TREATED

57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC

SCALE: 1"=20'
DATE: 6-17-2019
JOB NUMBER: 18076

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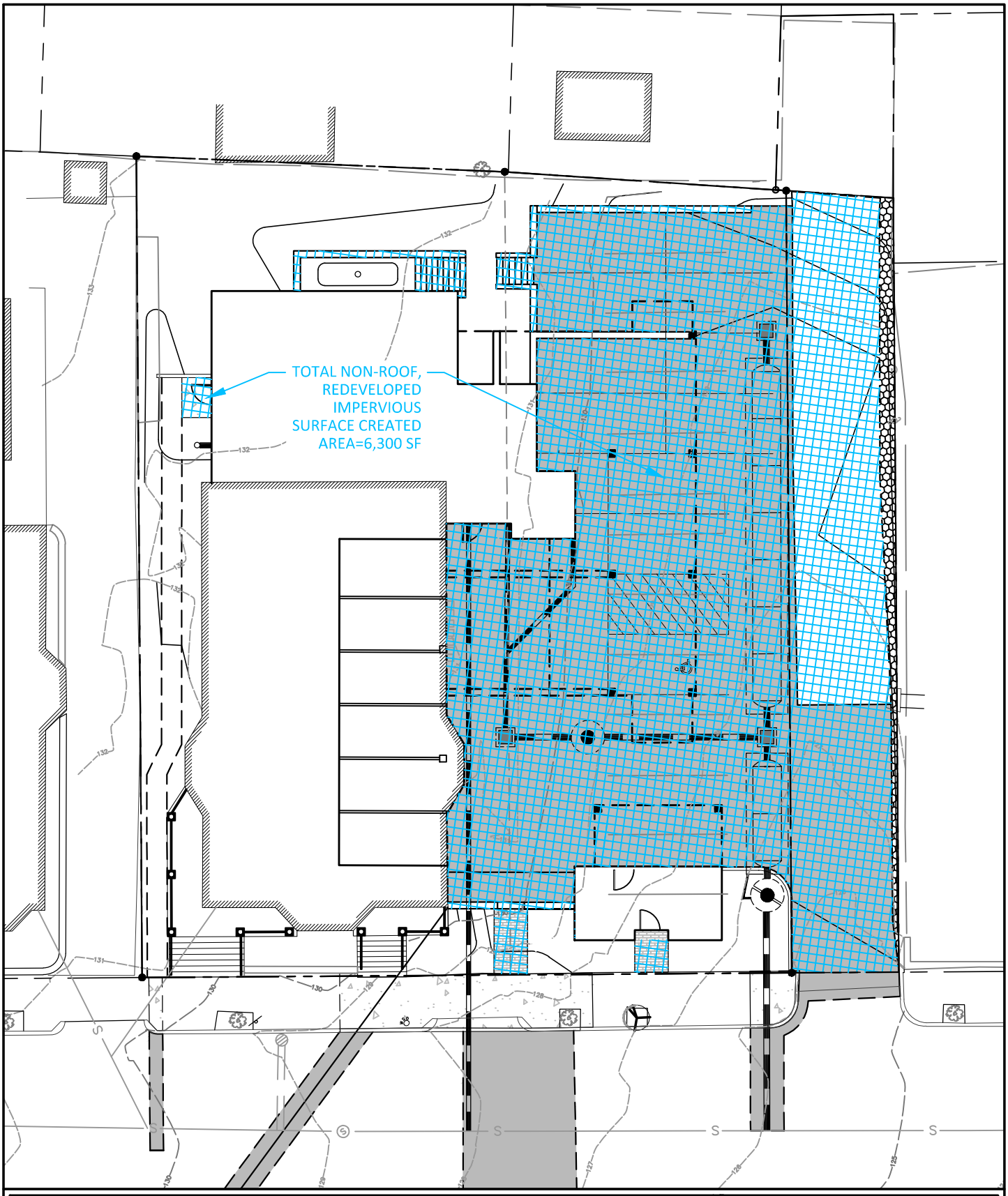

NON-ROOF, REDEVELOPED IMPERVIOUS SURFACE CREATED

57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC

SCALE: 1"=20'
DATE: 6-17-2019
JOB NUMBER: 18076

DM ROMA
CONSULTING ENGINEERS
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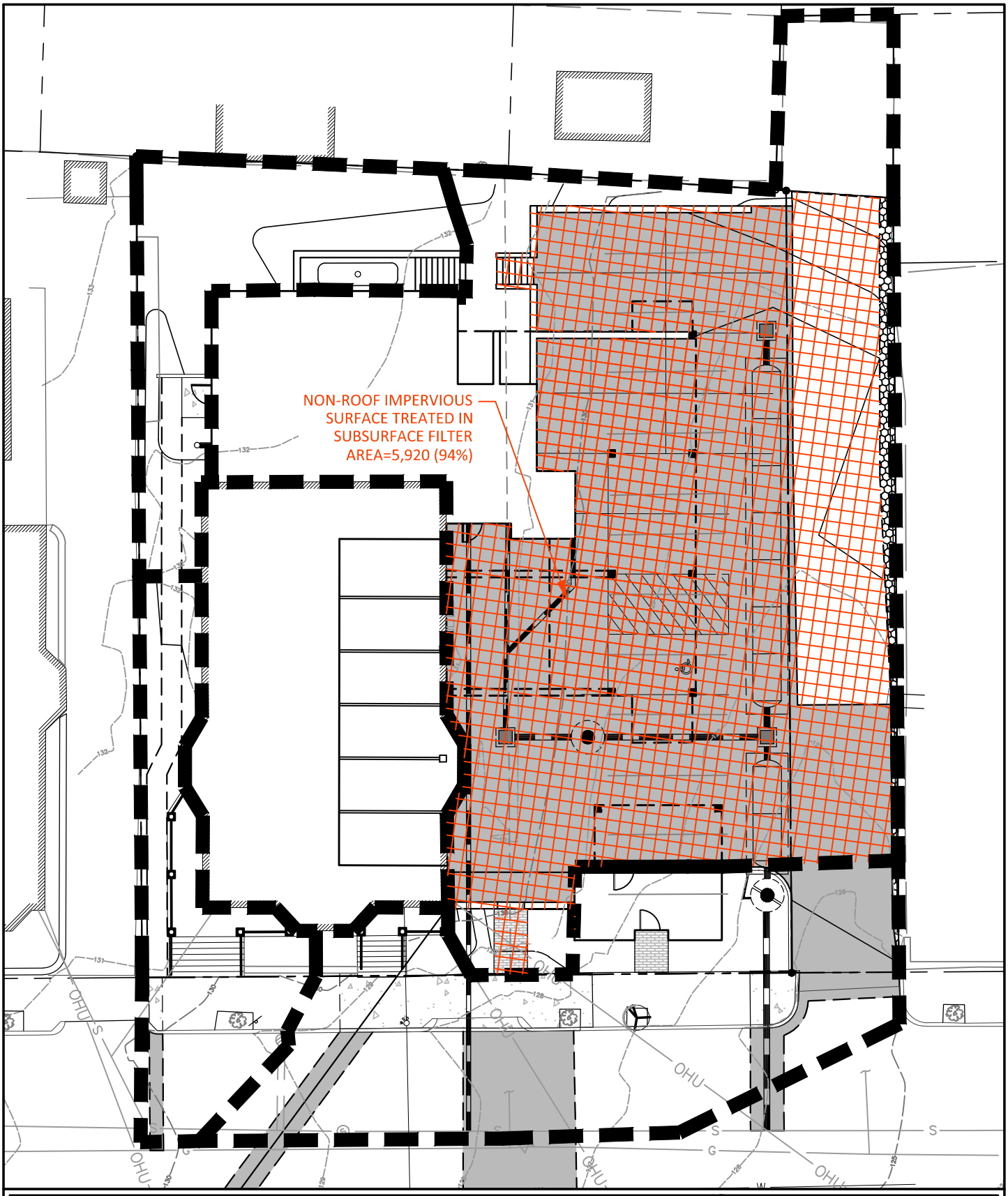
WINDHAM, ME 04062
(207) 310 - 0506



NON-ROOF, REDEVELOPED IMPERVIOUS SURFACE TREATED

57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC

SCALE: 1"=20'
DATE: 6-17-2019
JOB NUMBER: 18076

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 310 - 0506

CITY OF PORTLAND TREATMENT REQUIREMENTS

If greater than 1,000 square feet of new impervious surface is created, 95% of the the new impervious surface must be treated.

Total New Impervious Surface =	3,145	sf
Impervious Area Requiring Treatment =	2,988	sf
Impervious Area Treated =	2,990	sf > Required
	95%	Treated

If more than 5,000 square feet of non-roof, redeveloped, impervious surface is created, 50% of this area must be treated.

Total non-roof, redeveloped impervious surface* =	6,300	sf
Non-roof, redeveloped Impervious Area Requiring Treatment =	3,150	sf
Non-roof, redeveloped Impervious Area Treated =	5,920	sf > Required
	94%	Treated

*Includes areas of pavement below building.

DM ROMA
CONSULTING ENGINEERS

ENVIRONMENTAL AND STORMWATER

The following outlines how the proposed project at 57 St. Lawrence Street has been designed to meet the applicable standards of the City of Portland associated with Level III: Residential Site Plan and Subdivision review.

Section 14-526 (b)(3) Water Quality, Stormwater Management and Erosion Control Standards

Watershed – The project site drains to the subsurface collection system in St. Lawrence Street. To our knowledge this is a combined sewer and storm drain system. The project site is not tributary to an Urban Impaired Stream as defined by Maine DEP Chapter 502.

Sewage Disposal – The building will be connected to the public sewer in St. Lawrence Street.

Soil Conditions – A Medium Intensity Soils Map is included as Attachment C. The soils are classified by the US Department of Agriculture Natural Resources Conservation Service as a Hinckley Loamy Sand, which has a Hydrologic Soil Rating of "A". Due to the high concentration of development activity and the age of historic development in the area, the soils also contain characteristics that are consistent with an "Urban Land" classification, which is further evidenced in the geotechnical investigation contained in Attachment B.

Flooding Standards - The project has been designed to incorporate a formal catch basin and storm drain collection system for stormwater management, which will flow through a Stormtech Chamber System to provide attenuation of stormwater to mitigate the potential for increased rates of runoff leaving the property. The stormwater collection system will be connected into the City's combined drainage collection infrastructure in St. Lawrence Street. As such, there are no anticipated increases in peak stormwater flows to adjacent properties for the design flows analyzed up to the 25-year storm event.

Basic Standards – The plan set includes erosion control measures to be implemented temporarily during construction and permanently upon completion of the project. The erosion control plan was prepared based on the methodology outlined in the Maine Department of Environmental Protection publication titled "Maine Erosion and Sediment Control Best Management Practices Manual for Designers and Engineers" dated October 2016.

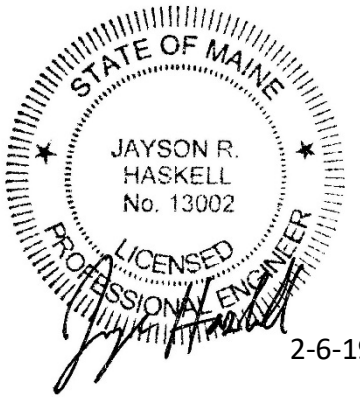
General Standards- The stormwater management plan includes the construction of an underground stormwater storage and treatment system that consists of a Stormtech Chamber System installed over a sand filtration layer. The system has been designed to

effectively collect, temporarily store and provide treatment of approximately 60% of the total developed area as required under the "Redevelopment Project" standards outlined in section (C)(2)(D) of MDEP Chapter 500. Calculations for the sizing of the stormwater components are included as Attachment A. Test pit analysis of the subsurface soils in the vicinity of the proposed Stormtech Chamber System is included as Attachment B. An Inspection, Mainetenance and Housekeeping Plan has also been prepared for the project and has been included in this report as Attachment D.

Prepared by:

DM Roma Consulting Engineers

Jayson R. Haskell, P.E.
Southern Maine Regional Manager



2-6-19

ATTACHMENT A

STORMWATER DESIGN CALCULATIONS

REDEVELOPMENT AND STORMWATER TREATMENT CALCULATIONS

57 St. Lawrence Street, Portland, Maine

Existing Conditions

Land Use	Area (SF)	Area (Ac.)	Pollutant Rank	Existing Impact
High Use Parking Lots and Roads	0	0.00	5	0.00
Other Road and Medium Use Parking Lots	4,851	0.11	4	0.45
Other parking lots & driveways/Flat Roof	2,417	0.06	3	0.17
Other roof, bikeways, grass, walkways	6,694	0.15	2	0.31
Non-grass landscape/stormwater system	0	0.00	1	0.00
Undeveloped Area	0	0.00	0	0.00
Totals	**13,962**	**0.32**		**0.92**

Existing Impact Rating / Redevelopment Area = 2.87

Proposed Conditions

Land Use	Area (SF)		Pollutant Rank	Proposed Impact
High Use Parking Lots and Roads	0	0.00	5	0.00
Other Road and Medium Use Parking Lots	4,678	0.11	4	0.43
Other parking lots & driveways/Flat Roof	5,337	0.12	3	0.37
Other roof, bikeways, grass, walkways	3,947	0.09	2	0.18
Non-grass landscape/stormwater system	0	0.00	1	0.00
Forest/Meadow	0	0.00	0	0.00
Totals	**13,962**	**0.32**		**0.98**

Proposed Impact Rating / Redevelopment Area = 3.05

Treatment Requirements

Ranked Impact Change Due to Redevelopment = 0.18
Percentage of Developed Area to be treated (Table 3) = 60%

Total Site Developed Area = 13,962 sf
Required Developed Area to be treated (60%) = 8,377 sf

Treatment Provided

Watershed Treated	Impervious Area Treated (SF)	Landscaped Area Treated (SF)	Treatment Device
WS-30	7,655	1,048	Subsurface Filter
Total	**7,655**	**1,048**	

Total Site Developed Area Treated = 8,703 sf
Percentage of Total Developed Area Treated = 62.3%

Subsurface Storage - 1

Tributary Impervious Area=	7,655 sf	(WS-30 Impervious Area)
Tributary Landscaped Area=	1,048 sf	(WS-30 Landscaped Area)

Water Quality Volume (WQV) Calculation

WQV (Required) = 1.0"xImpervious Area + 0.4"xLandscaped Area

WQV (Required) = 673 cf

Chamber Size = SC-740

WQV (Provided)= 713 cf >Required

(See HydroCAD Stage Storage Calculation)

Filter Bottom Calculation

Filter Area (Required) = 5%xImpervious Area + 2%xLandscaped Area

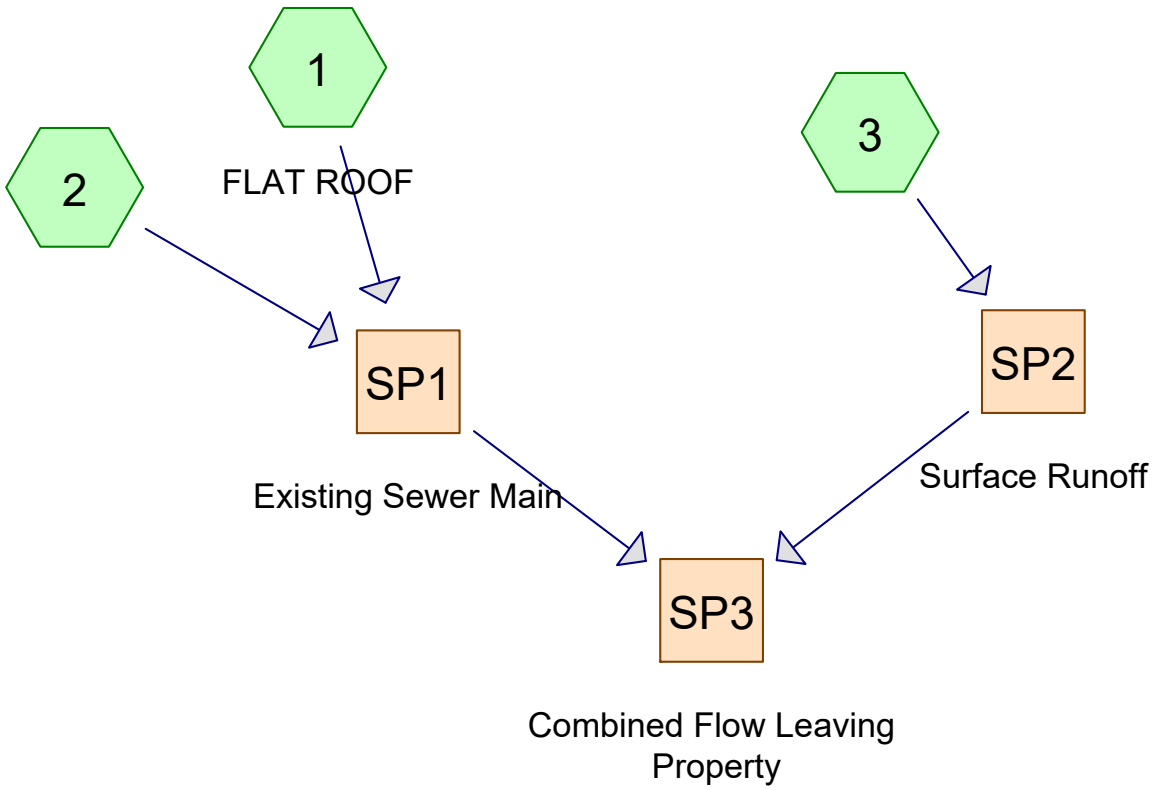
Filter Area Required = 404 sf

Filter Area Provided = 445 sf > Required

Stage-Area-Storage for Pond 1P: Subsurface Filter (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
123.52	445	579
123.53	445	582
123.54	445	585
123.55	445	587
123.56	445	590
123.57	445	593
123.58	445	595
123.59	445	598
123.60	445	601
123.61	445	604
123.62	445	606
123.63	445	609
123.64	445	611
123.65	445	614
123.66	445	617
123.67	445	619
123.68	445	622
123.69	445	625
123.70	445	627
123.71	445	630
123.72	445	632
123.73	445	635
123.74	445	637
123.75	445	640
123.76	445	643
123.77	445	645
123.78	445	648
123.79	445	650
123.80	445	653
123.81	445	655
123.82	445	658
123.83	445	660
123.84	445	663
123.85	445	665
123.86	445	668
123.87	445	670
123.88	445	673
123.89	445	675
123.90	445	678
123.91	445	680
123.92	445	682
123.93	445	685
123.94	445	687
123.95	445	690
123.96	445	692
123.97	445	694
123.98	445	697
123.99	445	699
124.00	445	701
124.01	445	704
124.02	445	706
124.03	445	708
124.04	445	711
124.05	445	713
124.06	445	715
124.07	445	717
124.08	445	720
124.09	445	722
124.10	445	724
124.11	445	726
124.12	445	728
124.13	445	730
124.14	445	732
124.15	445	735
124.16	445	737
124.17	445	739
124.18	445	741
124.19	445	743
124.20	445	745
124.21	445	747
124.22	445	749
124.23	445	751
124.24	445	752
124.25	445	754
124.26	445	756
124.27	445	758
124.28	445	760
124.29	445	762
124.30	445	764
124.31	445	766
124.32	445	768
124.33	445	769
124.34	445	771
124.35	445	773
124.36	445	775
124.37	445	777
124.38	445	778
124.39	445	780
124.40	445	782
124.41	445	784
124.42	445	786
124.43	445	787
124.44	445	789
124.45	445	791
124.46	445	793
124.47	445	795
124.48	445	796
124.49	445	798
124.50	445	800
124.51	445	802
124.52	445	803
124.53	445	805
124.54	445	807
124.55	445	809
124.56	445	811
124.57	445	812

Water Quality Storage



Subcat Reach Pond Link

Routing Diagram for 18076-PRE
Prepared by DM Roma Consulting Engineers, Printed 2/6/2019
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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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 1: FLAT ROOF Runoff Area=2,418 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.32 cfs 1,121 cf

Subcatchment 2: Runoff Area=1,145 sf 83.41% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=88 Runoff=0.13 cfs 423 cf

Subcatchment 3: Runoff Area=12,875 sf 39.88% Impervious Runoff Depth=3.02"
Flow Length=215' Tc=6.8 min CN=74 Runoff=1.02 cfs 3,237 cf

Reach SP1: Existing Sewer Main Inflow=0.45 cfs 1,544 cf
Outflow=0.45 cfs 1,544 cf

Reach SP2: Surface Runoff Inflow=1.02 cfs 3,237 cf
Outflow=1.02 cfs 3,237 cf

Reach SP3: Combined Flow Leaving Property Inflow=1.46 cfs 4,781 cf
Outflow=1.46 cfs 4,781 cf

Summary for Subcatchment 1: FLAT ROOF

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 1,121 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,418	98	Building
	2,418		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Subcatchment 2:

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 423 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	230	98	Building
*	725	98	Pavement-Concrete
	190	39	>75% Grass cover, Good, HSG A
	1,145	88	Weighted Average
	190		16.59% Pervious Area
	955		83.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Subcatchment 3:

Runoff = 1.02 cfs @ 12.10 hrs, Volume= 3,237 cf, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	295	98	Building
*	4,840	98	Pavement-Concrete
*	2,501	96	Gravel Driveway
	5,239	39	>75% Grass cover, Good, HSG A
	12,875	74	Weighted Average
	7,740		60.12% Pervious Area
	5,135		39.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	75	0.0370	0.20		**Sheet Flow, A TO B** Grass: Short n= 0.150 P2= 3.10"
0.6	140	0.0340	3.74		**Shallow Concentrated Flow, B TO C** Paved Kv= 20.3 fps
6.8	215	Total			

Summary for Reach SP1: Existing Sewer Main

Inflow Area = 3,563 sf, 94.67% Impervious, Inflow Depth = 5.20" for 25-Year event
Inflow = 0.45 cfs @ 12.08 hrs, Volume= 1,544 cf
Outflow = 0.45 cfs @ 12.08 hrs, Volume= 1,544 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach SP2: Surface Runoff

Inflow Area = 12,875 sf, 39.88% Impervious, Inflow Depth = 3.02" for 25-Year event
Inflow = 1.02 cfs @ 12.10 hrs, Volume= 3,237 cf
Outflow = 1.02 cfs @ 12.10 hrs, Volume= 3,237 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach SP3: Combined Flow Leaving Property

Inflow Area = 16,438 sf, 51.76% Impervious, Inflow Depth = 3.49" for 25-Year event
Inflow = 1.46 cfs @ 12.10 hrs, Volume= 4,781 cf
Outflow = 1.46 cfs @ 12.10 hrs, Volume= 4,781 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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 1: FLAT ROOF Runoff Area=2,418 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.17 cfs 578 cf

Subcatchment 2: Runoff Area=1,145 sf 83.41% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=88 Runoff=0.06 cfs 182 cf

Subcatchment 3: Runoff Area=12,875 sf 39.88% Impervious Runoff Depth=0.97"
Flow Length=215' Tc=6.8 min CN=74 Runoff=0.31 cfs 1,043 cf

Reach SP1: Existing Sewer Main Inflow=0.23 cfs 760 cf
Outflow=0.23 cfs 760 cf

Reach SP2: Surface Runoff Inflow=0.31 cfs 1,043 cf
Outflow=0.31 cfs 1,043 cf

Reach SP3: Combined Flow Leaving Property Inflow=0.53 cfs 1,803 cf
Outflow=0.53 cfs 1,803 cf

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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 1: FLAT ROOF Runoff Area=2,418 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.25 cfs 879 cf

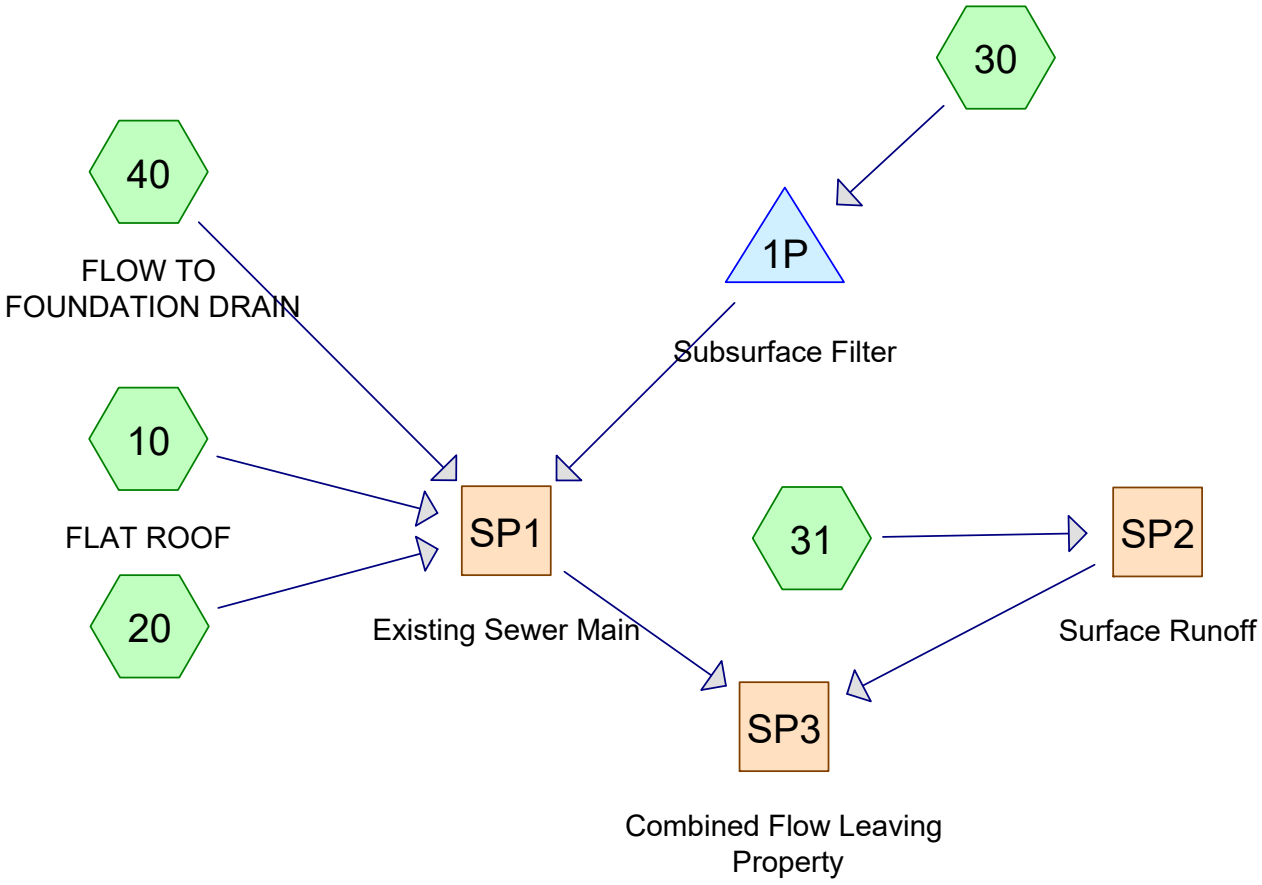
Subcatchment 2: Runoff Area=1,145 sf 83.41% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=88 Runoff=0.10 cfs 314 cf

Subcatchment 3: Runoff Area=12,875 sf 39.88% Impervious Runoff Depth=2.05"
Flow Length=215' Tc=6.8 min CN=74 Runoff=0.68 cfs 2,199 cf

Reach SP1: Existing Sewer Main Inflow=0.35 cfs 1,193 cf
Outflow=0.35 cfs 1,193 cf

Reach SP2: Surface Runoff Inflow=0.68 cfs 2,199 cf
Outflow=0.68 cfs 2,199 cf

Reach SP3: Combined Flow Leaving Property Inflow=1.03 cfs 3,392 cf
Outflow=1.03 cfs 3,392 cf



Subcat Reach Pond Link

Routing Diagram for 18076-POST
Prepared by DM Roma Consulting Engineers, Printed 2/8/2019
HydroCAD® 10.00-20 s/n 09237 © 2017 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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 10: FLAT ROOF Runoff Area=2,418 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.32 cfs 1,121 cf

Subcatchment 20: Runoff Area=1,145 sf 83.41% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=88 Runoff=0.13 cfs 423 cf

Subcatchment 30: Runoff Area=8,703 sf 87.96% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=91 Runoff=1.06 cfs 3,453 cf

Subcatchment 31: Runoff Area=3,263 sf 84.13% Impervious Runoff Depth=4.54"
Tc=6.0 min CN=89 Runoff=0.38 cfs 1,235 cf

Subcatchment 40: FLOW TO FOUNDATION Runoff Area=909 sf 2.64% Impervious Runoff Depth=0.49"
Tc=6.0 min CN=41 Runoff=0.00 cfs 37 cf

Reach SP1: Existing Sewer Main Inflow=1.15 cfs 5,034 cf
Outflow=1.15 cfs 5,034 cf

Reach SP2: Surface Runoff Inflow=0.38 cfs 1,235 cf
Outflow=0.38 cfs 1,235 cf

Reach SP3: Combined Flow Leaving Property Inflow=1.44 cfs 6,269 cf
Outflow=1.44 cfs 6,269 cf

Pond 1P: Subsurface Filter Peak Elev=124.61' Storage=820 cf Inflow=1.06 cfs 3,453 cf
Outflow=0.80 cfs 3,453 cf

Summary for Subcatchment 10: FLAT ROOF

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 1,121 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,418	98	Building
	2,418		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Subcatchment 20:

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 423 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	230	98	Building
*	725	98	Pavement-Concrete
	190	39	>75% Grass cover, Good, HSG A
	1,145	88	Weighted Average
	190		16.59% Pervious Area
	955		83.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Subcatchment 30:

Runoff = 1.06 cfs @ 12.08 hrs, Volume= 3,453 cf, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	7,655	98	Building and Parking
	1,048	39	>75% Grass cover, Good, HSG A
	8,703	91	Weighted Average
	1,048		12.04% Pervious Area
	7,655		87.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Subcatchment 31:

Runoff = 0.38 cfs @ 12.08 hrs, Volume= 1,235 cf, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	2,745	98	Building and Pavement
	518	39	>75% Grass cover, Good, HSG A
	3,263	89	Weighted Average
	518		15.87% Pervious Area
	2,745		84.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Subcatchment 40: FLOW TO FOUNDATION DRAIN

Runoff = 0.00 cfs @ 12.31 hrs, Volume= 37 cf, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	24	98	Concrete Pad
*	150	39	Crushed Stone
	735	39	>75% Grass cover, Good, HSG A
	909	41	Weighted Average
	885		97.36% Pervious Area
	24		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, 6 MINUTE MIN. TC**

Summary for Reach SP1: Existing Sewer Main

Inflow Area = 13,175 sf, 83.89% Impervious, Inflow Depth = 4.59" for 25-Year event
Inflow = 1.15 cfs @ 12.15 hrs, Volume= 5,034 cf
Outflow = 1.15 cfs @ 12.15 hrs, Volume= 5,034 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach SP2: Surface Runoff

Inflow Area = 3,263 sf, 84.13% Impervious, Inflow Depth = 4.54" for 25-Year event
Inflow = 0.38 cfs @ 12.08 hrs, Volume= 1,235 cf
Outflow = 0.38 cfs @ 12.08 hrs, Volume= 1,235 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach SP3: Combined Flow Leaving Property

Inflow Area = 16,438 sf, 83.93% Impervious, Inflow Depth = 4.58" for 25-Year event
Inflow = 1.44 cfs @ 12.14 hrs, Volume= 6,269 cf
Outflow = 1.44 cfs @ 12.14 hrs, Volume= 6,269 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: Subsurface Filter

Inflow Area = 8,703 sf, 87.96% Impervious, Inflow Depth = 4.76" for 25-Year event
Inflow = 1.06 cfs @ 12.08 hrs, Volume= 3,453 cf
Outflow = 0.80 cfs @ 12.15 hrs, Volume= 3,453 cf, Atten= 24%, Lag= 4.1 min
Primary = 0.80 cfs @ 12.15 hrs, Volume= 3,453 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 124.61' @ 12.15 hrs Surf.Area= 445 sf Storage= 820 cf

Plug-Flow detention time= 57.1 min calculated for 3,453 cf (100% of inflow)
Center-of-Mass det. time= 57.1 min (839.2 - 782.1)

Volume	Invert	Avail.Storage	Storage Description
#1	121.40'	458 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 1,558 cf Overall - 413 cf Embedded = 1,144 cf x 40.0% Voids
#2	121.90'	413 cf	**ADS_StormTech SC-740 +Cap** x 9 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		871 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
121.40	445	0	0
124.90	445	1,558	1,558

Device	Routing	Invert	Outlet Devices
#1	Primary	118.63'	**10.0" Round Culvert** L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 118.63' / 117.55' S= 0.0309 '/' Cc= 0.900 n= 0.013, Flow Area= 0.55 sf
#2	Device 1	118.73'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 2	121.40'	**5.000 in/hr Exfiltration over Surface area**

			Conductivity to Groundwater Elevation = 117.50'
#4	Device 1	124.05'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)**
			Head (feet) 0.00 0.55 0.55 1.90
			Width (feet) 0.50 0.50 4.00 4.00

Primary OutFlow Max=0.79 cfs @ 12.15 hrs HW=124.61' (Free Discharge)
- **1=Culvert** (Passes 0.79 cfs of 6.19 cfs potential flow)
- **2=Orifice/Grate** (Passes 0.09 cfs of 1.00 cfs potential flow)
  - **3=Exfiltration** (Controls 0.09 cfs)
- **4=Custom Weir/Orifice** (Weir Controls 0.70 cfs @ 2.22 fps)

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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 10: FLAT ROOF Runoff Area=2,418 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.17 cfs 578 cf

Subcatchment 20: Runoff Area=1,145 sf 83.41% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=88 Runoff=0.06 cfs 182 cf

Subcatchment 30: Runoff Area=8,703 sf 87.96% Impervious Runoff Depth=2.16"
Tc=6.0 min CN=91 Runoff=0.50 cfs 1,570 cf

Subcatchment 31: Runoff Area=3,263 sf 84.13% Impervious Runoff Depth=1.99"
Tc=6.0 min CN=89 Runoff=0.17 cfs 541 cf

Subcatchment 40: FLOW TO FOUNDATION Runoff Area=909 sf 2.64% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=41 Runoff=0.00 cfs 0 cf

Reach SP1: Existing Sewer Main Inflow=0.29 cfs 2,330 cf
Outflow=0.29 cfs 2,330 cf

Reach SP2: Surface Runoff Inflow=0.17 cfs 541 cf
Outflow=0.17 cfs 541 cf

Reach SP3: Combined Flow Leaving Property Inflow=0.46 cfs 2,871 cf
Outflow=0.46 cfs 2,871 cf

Pond 1P: Subsurface Filter Peak Elev=123.26' Storage=507 cf Inflow=0.50 cfs 1,570 cf
Outflow=0.08 cfs 1,570 cf

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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 10: FLAT ROOF Runoff Area=2,418 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.25 cfs 879 cf

Subcatchment 20: Runoff Area=1,145 sf 83.41% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=88 Runoff=0.10 cfs 314 cf

Subcatchment 30: Runoff Area=8,703 sf 87.96% Impervious Runoff Depth=3.59"
Tc=6.0 min CN=91 Runoff=0.81 cfs 2,607 cf

Subcatchment 31: Runoff Area=3,263 sf 84.13% Impervious Runoff Depth=3.39"
Tc=6.0 min CN=89 Runoff=0.29 cfs 922 cf

Subcatchment 40: FLOW TO FOUNDATION Runoff Area=909 sf 2.64% Impervious Runoff Depth=0.18"
Tc=6.0 min CN=41 Runoff=0.00 cfs 14 cf

Reach SP1: Existing Sewer Main Inflow=0.47 cfs 3,814 cf
Outflow=0.47 cfs 3,814 cf

Reach SP2: Surface Runoff Inflow=0.29 cfs 922 cf
Outflow=0.29 cfs 922 cf

Reach SP3: Combined Flow Leaving Property Inflow=0.71 cfs 4,736 cf
Outflow=0.71 cfs 4,736 cf

Pond 1P: Subsurface Filter Peak Elev=124.33' Storage=769 cf Inflow=0.81 cfs 2,607 cf
Outflow=0.33 cfs 2,607 cf

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Environmental Consulting • Materials Testing Services

18 January 2019

Greg Shinberg
St. Lawrence Development, LLC
PO Box 4424
Portland, ME 04101

Subject: Subsurface Explorations
Apartment Building Addition
57-59 St. Lawrence Street
Portland, Maine
RWG&A Project No. 1711-001

Dear Mr. Shinberg:

R. W. Gillespie & Associates, Inc. (RWG&A) is pleased to present the results of test pits dug in the area of the planned building addition. The services were performed in general accordance with RWG&A Proposal No. P-10072GO dated 03 January 2019. The purpose of RWG&A's services was to observe and log subsurface conditions exposed in test pit excavations and to prepare this letter report with exploration logs and exploration location plan. The site is located at the northeast side of St. Lawrence Street, and its approximate location is shown on Figure 1, *Locus Map*.

Subsurface Explorations

The exploration program consisted of four test pits with soil sampling. Figure 2, *Exploration Location Plan*, shows the final exploration locations. The proposed boring locations were selected by St. Lawrence Development, LLC. The test pits were dug on 10 January 2019 by GLB Construction of Westbrook, Maine using a Caterpillar 312D tracked excavation. Exploration activities were monitored by RWG&A personnel who prepared the test pit logs. The soils were described in general accordance with *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).* Samples were collected and transported to RWG&A's soil testing laboratory on Biddeford, Maine and will be retained for 60 days from the date of this report.

Logs of the borings are included in Attachment A. Stratification lines shown on the boring logs represent the estimated boundaries between the different soil types encountered; the actual transitions will be more gradual and vary over short distances. Subsurface information should only be considered representative of subsurface conditions encountered within the vertical reach of the explorations on the date the explorations were made.

Subsurface Conditions

Generally, four soil units were observed in the explorations: fill, sand with various amounts of silt, and sand silty sand with gravel. Fill ranged from about 1 to 3 feet thick was generally composed of sand with gravel; ash and brick were within fill at TP-3. Test pit TP-2 was terminated on an apparent large boulder; refusal surfaces were not encountered at any of other three test pits.

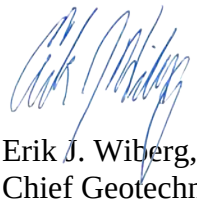
Free water was not observed in the test pit excavation. Groundwater levels at the site will fluctuate due to season, temperature, rainfall, nearby underground utilities, and construction activity in the area. The absence of free water data on the logs does not necessarily mean that groundwater will not be encountered at these locations or within the vertical reaches of the test pits.

Closure

This report has been prepared for St. Lawrence Development, LLC for specific application to the Apartment Building Addition, 57-59 St. Lawrence Street in Portland, Maine. This work has 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 or location of the project, the information in this report should be reviewed by RWG&A.

It has been a pleasure to assist St. Lawrence Development, LLC, and please do not hesitate to contact the undersigned if there are any questions or if RWG&A can be of further service.

Sincerely,
R. W. GILLESPIE & ASSOCIATES, INC.

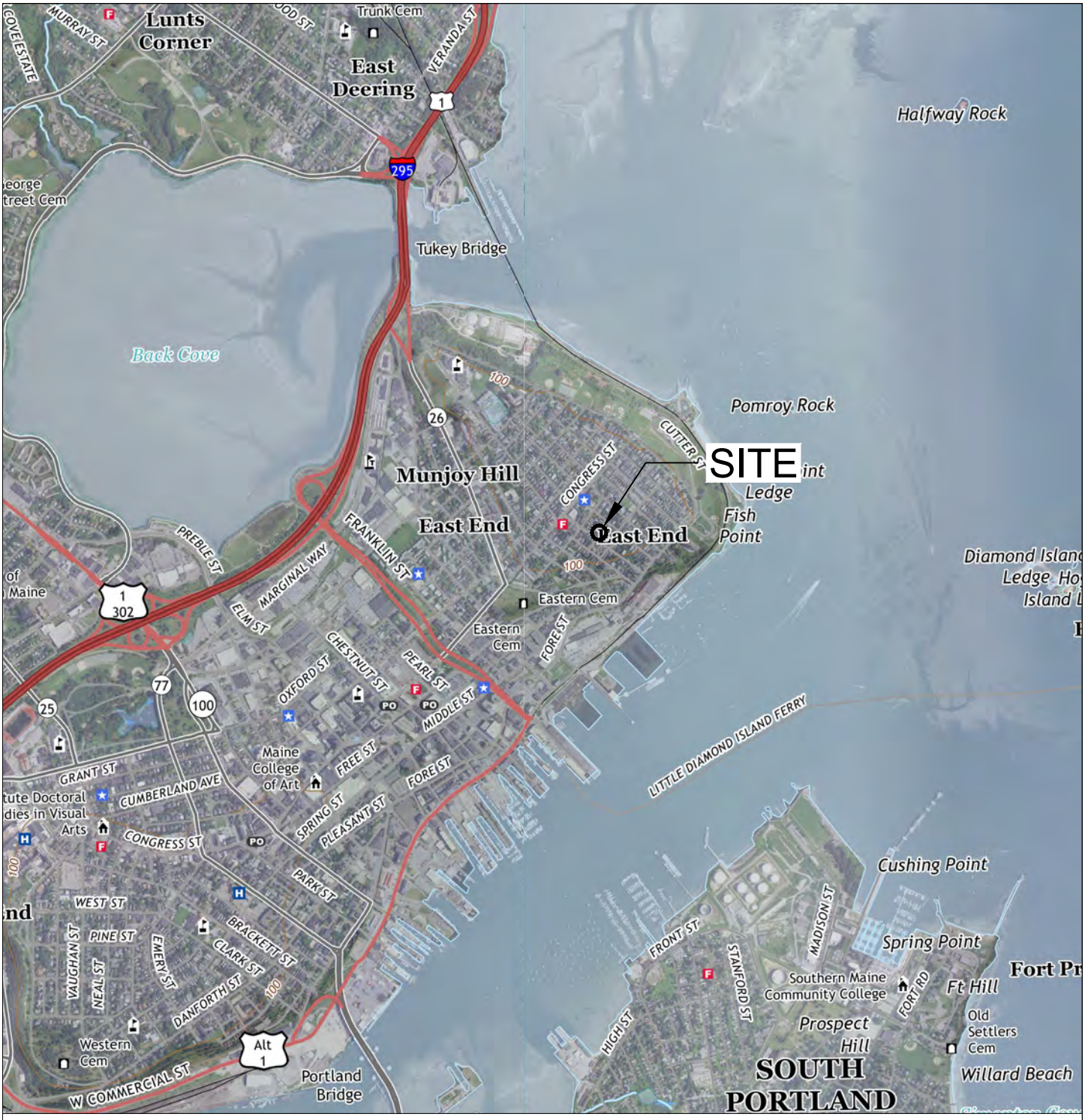


Erik J. Wiberg, P.E.
Chief Geotechnical Engineer

EJW:ks

Attachments:
Figure 1. Site Locus
Figure 2. Exploration Location Plan
Attachment A. Boring Logs

G:\PROJECTS\1700\1711\1711-001\2019-01-18 Subsurface Explorations 1711-001.docx



N

0 2000 3000 4000

SCALE, FEET

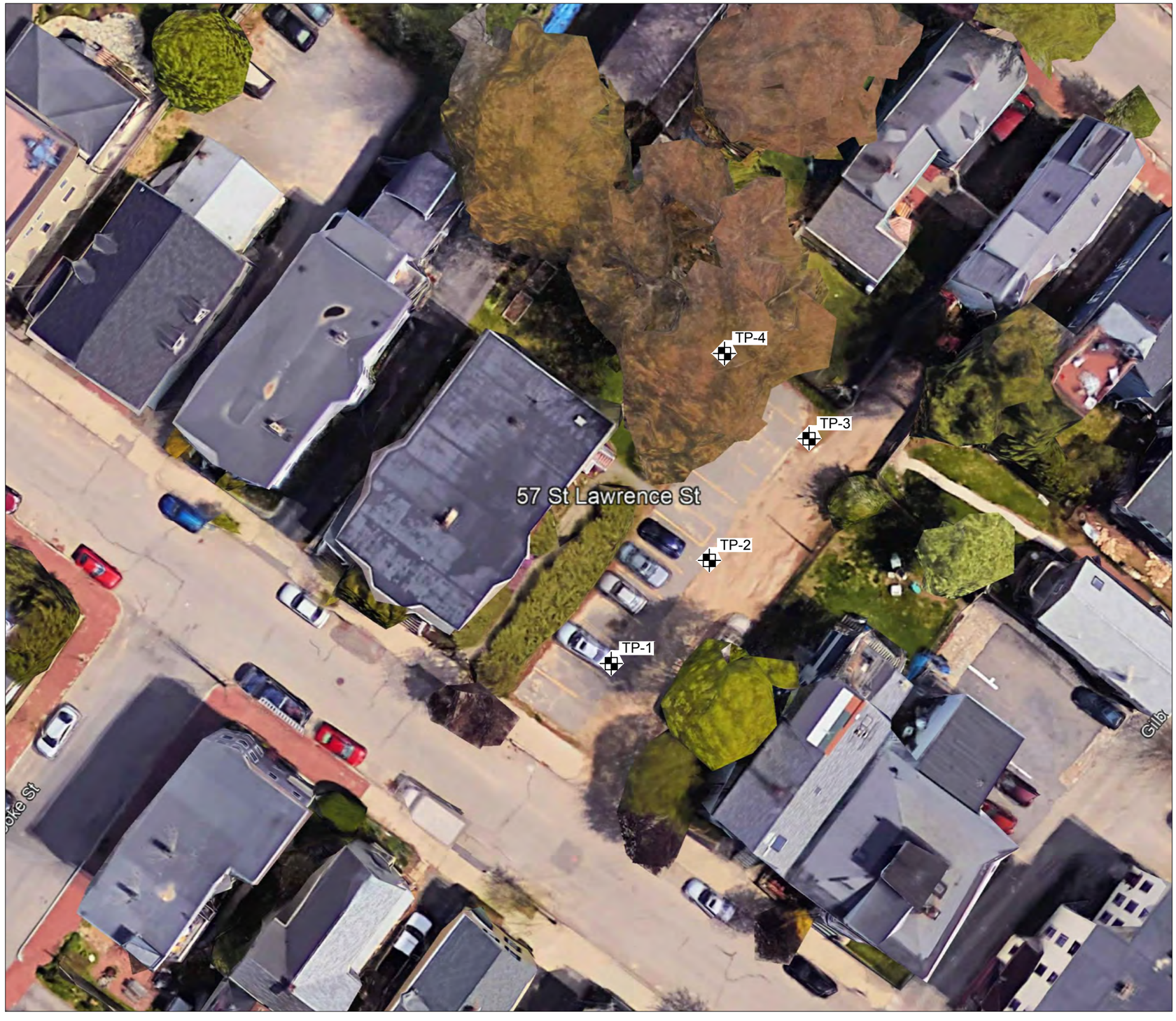
SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE OF PORTLAND WEST, ME, DATED 2018 AND PORTLAND EAST, ME, DATED 2018.

FIGURE 1
LOCUS MAP
SUBSURFACE EXPLORATIONS
APARTMENT BUILDING ADDITION
PORTLAND, MAINE

JANUARY 2019 PROJECT NO. 1711-001

R.W. Gillespie & Associates
Geotechnical Engineering ● Materials Testing Servies
Environmental Consulting ● www.rwgillespie.com

G:\Autocad\1700\1711-001\FIG 1, LOCUS MAP 1711-001.dwg, 1/14/2019 11:52:55 AM



LEGEND:

TP-1 APPROXIMATE LOCATION OF TEST PIT EXCAVATED JANUARY 2019.

SOURCE:
© GOOGLE EARTH 2018 IMAGE.

N

0 30 45 60

SCALE, FEET

FIGURE 2
EXPLORATION LOCATION PLAN
SUBSURFACE EXPLORATIONS
APARTMENT BUILDING ADDITION
PORTLAND, MAINE

JANUARY 2019 PROJECT NO. 1711-011

R.W. Gillespie & Associates
Geotechnical Engineering ● Materials Testing Servies
Environmental Consulting ● www.rwgillespie.com

G:\Autocad\1700\1711-001\FIG 2, ELP 1711-001.dwg, 1/18/2019 11:02:48 AM

APPENDIX A

BORING LOGS

Subsurface Explorations
Apartment Building Addition
57-59 St. Lawrence Street
Portland, Maine

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

TEST PIT LOG

Test Pit No. TP-1

PROJECT	Apartment Building Addition	PROJECT NO.	1711-001
CLIENT	St. Lawrence Development, LLC	DATE	01/11/2019
LOCATION	Portland, ME	ELEV.	N/A
EXCAVATION METHOD	CAT 312D (GLB Construction)	LOGGER	Dan Burgess
EXCAVATION LOCATION			
DEPTH TO - Water: None Observed	When checked: During digging	Caving:	

DEPTH, FT	SYMBOL	SAMPLES SAMPLE NUMBER	DESCRIPTION	MOISTURE %	LAB TESTS
0		S-1	FILL; Sand with gravel, moist, coarse to fine sand, angular gravel, few silt, dark brown.		
1		S-2	SAND WITH SILT (SM); Moist, coarse to fine sand, few to little silt, brown.		
2			SAND WITH GRAVEL (SP-SM); Moist, coarse to fine sand, subround to subangular gravel, few silt, brown.		
3		S-3	SILTY SAND (SM); Moist, medium to fine sand, few subround gravel, little to some silt, gray/brown. Wood fragment at 3.5'		
4					
5					
6			Bottom of Exploration at 5.5'; Not refusal.		

Notes:

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

TEST PIT LOG

Test Pit No. TP-2

PROJECT	Apartment Building Addition	PROJECT NO.	1711-001
CLIENT	St. Lawrence Development, LLC	DATE	01/11/2019
LOCATION	Portland, ME	ELEV.	N/A
EXCAVATION METHOD	CAT 312D (GLB Construction)	LOGGER	Dan Burgess
EXCAVATION LOCATION			
DEPTH TO - Water: None Observed	When checked: During digging	Caving:	

DEPTH, FT	SYMBOL	SAMPLES SAMPLE NUMBER	DESCRIPTION	MOISTURE %	LAB TESTS
0		S-1	FILL; Sand with gravel, moist, coarse to fine sand, angular gravel, few silt, dark brown.		
1		S-2	SAND WITH SILT (SM); Moist, medium to fine sand, few to little silt, dark brown.		
		S-3	SAND (SP-SM); Moist, coarse to fine sand, trace to few silt, brown.		
2			Bottom of Exploration at 2'; Large subrounded boulder.		
3					
4					
5					
6					

Notes:

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

TEST PIT LOG

Test Pit No. TP-3

PROJECT	Apartment Building Addition	PROJECT NO.	1711-001
CLIENT	St. Lawrence Development, LLC	DATE	01/10/2019
LOCATION	Portland, ME	ELEV.	N/A
EXCAVATION METHOD	CAT 312D (GLB Construction)	LOGGER	Dan Burgess
EXCAVATION LOCATION			
DEPTH TO - Water: None Observed	When checked: During digging	Caving:	

DEPTH, FT	SYMBOL	SAMPLES SAMPLE NUMBER	DESCRIPTION	MOISTURE %	LAB TESTS
0		S-1	FILL; Sand with gravel, moist, coarse to fine sand, angular gravel, few silt, bricks, ash, dark brown.		
3		S-2	SAND (SP-SM); Moist, coarse to fine sand, few subround gravel, trace to few, silt, brown.		
5		S-3	SILTY SAND (SM); Moist, medium to fine sand, some silt, gray.		
6			Bottom of Exploration at 5.5'; Not refusal.		

Notes:

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

TEST PIT LOG

Test Pit No. TP-4

PROJECT	Apartment Building Addition	PROJECT NO.	1711-001
CLIENT	St. Lawrence Development, LLC	DATE	01/10/2019
LOCATION	Portland, ME	ELEV.	N/A
EXCAVATION METHOD	CAT 312D (GLB Construction)	LOGGER	Dan Burgess
EXCAVATION LOCATION			
DEPTH TO - Water: None Observed	When checked: During digging	Caving:	

DEPTH, FT	SYMBOL	SAMPLES SAMPLE NUMBER	DESCRIPTION	MOISTURE %	LAB TESTS
0			TOPSOIL AND ORGANIC MATERIAL (3 inches).		
		S-1	SAND WITH SILT (SM); Moist, medium to fine sand, few roots, few subround fine gravel, little silt, brown.		
1		S-2	SAND (SP-SM); Moist, coarse to fine sand, trace to few silt, subround to subangular gravel, brown.		
2					
		S-3	SAND WITH SILT (SM); Moist, medium to fine sand, little silt, little subround gravel, dark brown.		
3					
		S-4	SAND WITH SILT AND GRAVEL (SM); Moist, medium to fine sand, some subround to subangular gravel, few to little silt, brown.		
4					
5					
			Bottom of Exploration at 5.5'; Not refusal.		
6					

Notes:

ATTACHMENT C

MEDIUM INTENSITY SOILS MAP

Soil Map—Cumberland County and Part of Oxford County, Maine
(AOI)

Map Scale: 1:447 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

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 15, Sep 6, 2018

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	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**

ATTACHMENT D

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN

DM ROMA
CONSULTING ENGINEERS

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

57 ST. LAWRENCE STREET DEVELOPMENT
PORTLAND, MAINE

Responsible Party

Owner: St. Lawrence Development, LLC
181 State Street, Suite 303
Portland, Maine 04101

The owner is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records. Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the City upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP* and *Stormwater Management for Maine: Best Management Practices* Manuals published by the Maine Department of Environmental Protection (MDEP) should be referenced for additional information.

During Construction

1. **Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as 24 hours before and after a storm event and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. 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 BMPs need to be maintained or modified, additional

BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Documentation:** A report summarizing the inspections and any corrective action taken must be maintained on site. The log must include the name(s) and qualifications of the person making the inspections; the date(s) of the inspections; and the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle 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 City Staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials 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.

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:** Approval from the City does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the City'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.

Post construction

1. **Inspection and Corrective Action:** All measures must be maintained by the owner in effective operating condition. A qualified third-party inspector hired by the owner shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control including the standards and conditions of the site's approvals. The inspector shall be certified through the City to inspect the stormwater infrastructure. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

   A. **Vegetated Areas:** Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. **Culverts:** Inspect culverts in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.

   C. **Catch Basins/Outlet Control Structure:** Inspect and, if required, clean out catch basins at least once a year, preferably in early spring. Clean out must include the removal and legal disposal of any accumulated sediments and debris at the bottom of the basin, at any inlet grates, at any inflow channels to the basin, and at any pipes between basins. If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).

   D. **Subsurface Chamber System:** The manufacturer recommends that at a minimum the that an annual inspection is conducted. Initially the system shall be inspected every 6 months for the first year of operation. If inspection indicates that sediment has accumulated, a measurement to determine the depth of sediment shall be performed. When an average depth of 3 inches is exceeded then clean-out shall be performed. The system should drain within 48 hours following a one-inch storm and if a larger storm fills the system to overflow, it shall drain within 36 to 60 hours. If the system drains too fast, an orifice may need to be added on the underdrain outlet.

E. **Regular Maintenance:** Clear accumulations of winter sand along roadway once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

F. **Documentation:** Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to City staff upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization. Attached is a sample log.

Re-certification

In order to receive Stormwater Credit toward the City of Portland Stormwater Service Charge, the owner must submit an annual inspection report by June 30 of each year in accordance with Chapter 32, Article III and Chapter 24, Article V of the City of Portland's Code of Ordinances. A qualified 3rd party post-construction inspector must conduct an inspection of the stormwater control system, including all BMPs and associated features, and complete Form 4. If the credit holder does not submit a completed annual inspection report by June 30, or submits a failing inspection report, credits will be suspended.

Duration of Maintenance

Perform maintenance as described.

STORMWATER MAINTENANCE LOG

57 ST. LAWRENCE STREET DEVELOPMENT
PORTLAND, MAINE

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the City upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Culverts	Inspect semiannually and after major rainfall.			
	Repair erosion at inlet or outlet of pipe.			
	Repair displaced riprap.			
	Clean accumulated sediment in culverts when >20% full.			
Catch Basins and Outlet Structure	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			
StormTech SC-740 Chambers	Inspect every six months and after major rain events to ensure that pond drains within 60 hours			
	Inspect annually for erosion or sediment accumulation and repair as needed.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

FORM 4

Non-Residential Stormwater Credits: Annual Inspection of BMPs and structural stormwater controls

Site Information

Address: _____

Street Address Zip Code

Parcel ID (Chart, Block, Lot # + 3-digit ID): _____

Contact Information

Owner (must be owner, lessee or buyer)

Name: _____

Last First M.I.

Business Name (if Applicable): _____

Mailing Address: _____

Street Address Apartment/Unit #

_____

City State Zip Code

Phone #: (___)____-_____ E-mail Address: _____

Agent/Representative

Name: _____

Last First M.I.

Mailing Address: _____

Street Address Apartment/Unit #

_____

City State Zip Code

Phone #: (___)____-_____ E-mail Address: _____

Inspector

Name: _____

Last First M.I.

Business Name (if Applicable): _____

Mailing Address: _____

Street Address Apartment/Unit #

_____

City State Zip Code

Phone #: (___)____-_____ E-mail Address: _____

Certifying Statements (to be completed by credit holder or representative)

By checking the boxes below, the owner (or the applicant on behalf of the owner) certifies that the following statements regarding the maintenance of the property's stormwater management system, as well as the adherence to the approved maintenance and inspection plan, are true.

☐ Stormwater facilities and the features of the site that contribute to their efficacy (such as drainage swales, culverts, site grade, etc.) have not been altered since approval of the most recent credit application.

☐ Stormwater facilities have been maintained in accordance with the approved maintenance and inspection plan (if applicable)

Applicant Signature

I hereby certify that I am the owner of record of the named property, or that the owner of record has authorized me to submit this application on his or her behalf. I agree to conform to all applicable laws of the City of Portland. In addition, I understand that the City of Portland Department of Public Services has the authority to enter and inspect all areas that pertain to this application at any reasonable hour to verify that the information contained in this form is accurate.

Signature: _____ Date: _____

Inspection Results (to be completed by the Inspector)

☐ **FAIL** (Select if any one item on the attached Inspection Report is coded "No")

Note: if a failing inspection is submitted by June 30, the owner will have until the following July 31 to submit a passing inspection report in order to continue credits. If a subsequent failing inspection report or no inspection report is submitted by July 31, credits will be discontinued.

☐ **PASS**

Professional Certification and Signature (to be completed by Inspector)

As a duly qualified third party inspector, I attest that a thorough inspection has been completed for all applicable BMPs and structural stormwater controls associated with this site. I further certify that all of the information contained in this inspection report has been completed truthfully.

Signature: _____Date: _____

Professional Identification (License #, if applicable): _____

INSPECTION REPORT

General Information

Inspection Date: _____ Days since last precipitation: _____

Inspection duration: _____ Quantity of last precipitation (in): _____

Weather: _____ Storm event: _____

Nearby natural resources	☐ Yes	☐ No	☐ NA
Copy of ESC plan	☐ Yes	☐ No	☐ NA

MEDEP Permit # (*if applicable*)

Notes:

BMP's/Structural Controls

Type	# On Site	Type	# On Site
Vegetated Area	_____	Detention & Retention Facility	_____
Stormwater Channel	_____	Runoff Infiltration Facility	_____
Culvert	_____	Other: _____	_____
Catch Basin System	_____	Other: _____	_____
Roadway/Surface Parking	_____	Other: _____	_____
Buffer	_____	Other: _____	_____

Notes:

Vegetated Areas

Condition of slopes and embankment is good	☐Yes	☐No	☐NA
No bare areas (< 90% covered) with sparse growth	☐Yes	☐No	☐NA
Armored areas have no rill erosion or the flow diverted to onsite areas can withstand concentrated flows	☐Yes	☐No	☐NA

Notes:

Stormwater Channels			
Condition of ditches, swales, & other stormwater channels good	☐Yes	☐No	☐NA
No obstructions, accumulated sediments or debris	☐Yes	☐No	☐NA
Vegetated growth and woody vegetation controlled	☐Yes	☐No	☐NA
Erosion of any ditch lining repaired	☐Yes	☐No	☐NA
Vegetated ditches have been mowed	☐Yes	☐No	☐NA
Woody vegetation growing through riprap has been removed	☐Yes	☐No	☐NA
Riprap has been replaced where underlying filter fabric or underdrain gravel is showing or where stones have dislodged	☐Yes	☐No	☐NA
Notes:			

Culverts			
Accumulated sediments and debris at the inlet, outlet, and within the conduit have been removed	☐Yes	☐No	☐NA
Erosion damage at the inlet and outlet have been repaired	☐Yes	☐No	☐NA
Notes:			

Catch Basin Systems			
Accumulated sediments from inflow channels and pipes between basins have been removed and legally disposed of	☐Yes	☐No	☐NA
Debris and/or oils have been removed from any baffle or grease trap	☐Yes	☐No	☐NA
Notes:			

Roadway and Parking Surfaces			
Accumulated sand in parking lots and along roadways has been cleared	☐Yes	☐No	☐NA
Pavement is swept to help remove sediment	☐Yes	☐No	☐NA
Road shoulders and excess sand have been graded	☐Yes	☐No	☐NA
Gravel roads and road shoulders have been graded	☐Yes	☐No	☐NA
Stormwater is not impeded by accumulations of material or false ditches	☐Yes	☐No	☐NA
Notes:			

Buffers	
Treatment buffers have been inspected for evidence of erosion, concentrated flow, or encroachment by development	☐Yes ☐No ☐NA
Buffer vegetation has been managed per requirements of all deed restrictions and/or maintenance agreements	☐Yes ☐No ☐NA
Vegetation in all non-wooded buffers has been mowed no shorter than 6 inches and less than three times per year	☐Yes ☐No ☐NA
The sown-slope of all spreaders and turn-outs for erosion have been inspected and repaired	☐Yes ☐No ☐NA
Sediment has been cleaned from all spreader bays or turnout pools	☐Yes ☐No ☐NA
Notes:	

Stormwater Detention and Retention Facilities	
Embankments have been inspected for settlement, slope erosion, internal piping, and downstream swamping	☐Yes ☐No ☐NA
Embankments have been mowed to control woody vegetation	☐Yes ☐No ☐NA
The outlet control structure has been inspected for broken seals, obstructed orifices, and plugged trash racks	☐Yes ☐No ☐NA
Sediment and debris within the control structure have been removed and legally disposed of	☐Yes ☐No ☐NA
Any damage to the trash racks or debris guards has been repaired	☐Yes ☐No ☐NA
Vegetated spillways have been mowed to control woody vegetation and replace any dislodged stone in riprap spillways	☐Yes ☐No ☐NA
Accumulated sediments within the impoundment and forebay have been removed and legally disposed of	☐Yes ☐No ☐NA
Notes:	

Proprietary Treatment Devices	
A third party has been contracted with for the removal of accumulated sediments, oils, and debris within the device and replacement of any absorptive filters, or work is scheduled to be performed in-house	☐Yes ☐No ☐NA
Maintenance has been performed in accordance with manufacturer's specifications and guidelines	☐Yes ☐No ☐NA
Notes:	

Runoff Infiltration Facilities	
Any pretreatment measures that collected sediment and hydrocarbons entering an infiltration system have been inspected and cleaned out	☐Yes ☐No ☐NA
Accumulated sediments within the infiltration area have been removed and legally disposed of	☐Yes ☐No ☐NA
The infiltration system has been renewed if it fails to drain within 72 hours after a rainfall of one-half inch or more	☐Yes ☐No ☐NA
The soil of vegetated infiltration basins has been tilled and replanted	☐Yes ☐No ☐NA
Rock-lined basins or stone-filled trenches have been reconstructed by removing stones, replacing underlying filter fabric, and tiling or removing the underlying wall	☐Yes ☐No ☐NA

Notes:

Photos

Comprehensive photos with captions, as applicable, must be submitted in conjunction with this form.

Other Inspection Notes

Corrective action needed not specified above	☐Yes ☐No ☐NA
Follow up required	☐Yes ☐No ☐NA
Verbal notification provided to responsible party	☐Yes ☐No ☐NA

Verbal notification contact: _____

Notes:

Att. K

shinberg CONSULTING, LLC

Greg Shinberg <gls@shinbergconsulting.com>

CMP Three Phase Ability to Serve Request and Three Phase Service Process for Proposed St Lawrence Development

1 message

Cough, Jamie <Jamie.Cough@cmpco.com> Fri, Feb 15, 2019 at 7:48 AM
To: Greg Shinberg <gls@shinbergconsulting.com>

2/15/2019

Greg Shinberg

St. Lawrence Development LLC

PO Box 4424 Portland ME 04101

Sent via email to: Greg Shinberg <gls@shinbergconsulting.com>

RE: **Proposed St. Lawrence Street Development Project**

Request for Ability to Serve Letter

Project Description:

The proposed development includes 16 apartments plus House metering for existing Apartment Building upgrade with elevator on St. Lawrence Street.

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 Handbook of Standard Requirements. If you have any questions on the process, or need help in completion of the documents, **please contact me at 207-629-1489.**

Here is our typical process for getting your three phase or CT rated single phase service installed. If you have any questions, please let me know. The underlined links will redirect you to the appropriate site for additional information.

Service Milestones for Three Phase Services and CT Rated Single Phase Services. Please refer to CMP Installation Checklists for other installations.

- 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 the attached EDET (excel file) using load information. . Please complete this and email back to me.
- Submit the easement information worksheet. Please complete this form and either email or fax back to me.
- 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. The invoice is typically generated 5-6 weeks after the design appointment. This expires after 90 days from the invoice date.
- CMP submits invoice to the customer for payment (typically via email). Payment received from customer.
- Easements (based on easement information worksheet) sent out, signed and originals returned to CMP.
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer or materials 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 (the 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

You will be responsible for installing the customer connections, conduits, and metering in accordance with the CMP Handbook of Standard Requirements. The transformer will be sized based on your submitted load sheets.

Your deposit amount will be typically based on an estimated two month bill, calculated from your completed load sheet unless otherwise determined by CMP.

Metering:

All metering (including locations) must be preapproved by CMP.

Chapter 324 Interconnections:

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 Chapter 324 Interconnection Standards 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 Customer Net Energy Billing can be accessed thru the Chapter 324 website or by clicking here: Net Energy Billing

Reallocation/Line Extensions:

Recently, changes were made to the three-phase construction policy, which require CMP to reallocate construction costs paid by customers. If applicable, those projects identified as “developments” do not qualify for reallocation of funds. Please see this document at our website for details about the reallocation conditions. Any reallocation charges will be specifically denoted on your invoice. The website address for this is: PolyphaseLineExtension .

This line extension will be part of Central Maine Power’s distribution system. In the event the property served under this Agreement is sold or otherwise conveyed, all rights and obligations of the Agreement shall stay with the property. Please note that if you rent or lease this property to another and you want to receive the reimbursement payments, you must make special arrangements with the Central Maine Power Company. Otherwise, any reimbursement payments will be sent to the “Customer” taking service at the service location.

Electricity Supplier Information:

Central Maine Power Company (CMP) will provide your facility with electric delivery service. If you don’t already have a provider, you will need to make arrangements with a competitive electricity provider in order to receive electricity supply for your facility. In the event you fail to choose a competitive electricity provider, you will receive Standard Offer service arranged by the Maine Public Utilities Commission. If you wish to be served by a competitive electricity provider immediately upon establishment of delivery service, you must arrange for this service directly through your chosen competitive electricity provider, who must enroll your account no later than 5 PM on the business day prior initiation of delivery service by CMP. An up-to-date list of competitive suppliers can be found at the:

1) Maine Public Utilities Commission (MPUC) web site- **Maine PUC**
2) By calling the MPUC at (207) 287-3831

Attachments:

Excel Load Sheet (EDET)

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

CENTRAL MAINE POWER

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Please consider the environment before printing this email.

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3 attachments

Easement_Information_Worksheet.doc
44K

Standard Easement Sample.pdf
72K

2July 2018 EDET.XLSX
773K

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

February 14, 2019

Jayson Haskell, P.E.
DM ROMA
P.O. Box 1116
Windham, ME 04062

Re: 57 St. Lawrence Street, PO
Ability to Serve with PWD Water

Dear Mr. Haskell:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on February 13, 2019. Based on the information provided per plans dated February 13, 2019, 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 1-inch service with a 5/8-inch meter may be installed from the water main in St. Lawrence Street to the standalone townhouse style building. The service should enter through the properties frontage on St. Lawrence Street at least 10-feet from any side property lines. An approved backflow prevention device must be installed on the service line directly after the meter prior to service activation.

- A new 6-inch fire service (parent) and 2-inch domestic service (child) with a 1.5-inch meter may be installed from the water main in St. Lawrence Street. The services should enter through the properties frontage on St. Lawrence Street at least 10-feet from any side property lines. An approved backflow prevention device must be installed on each service line directly after the meter/entrance to the building prior to service activation. 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.

- The existing 3/4-inch domestic water service must be terminated by shutting the corporation valve and cutting the pipe from the water main.

- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.

225 DOUGLASS STREET P.O. BOX 3553 PORTLAND, MAINE 04104-3553
PHONE: 207.774.5961 FAX: 207.761.8307 WEB: WWW.PWD.ORG

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 St. Lawrence Street and a public fire hydrant located approximately 150 feet from the site. The most recent static pressure reading was 57 psi on June 7, 2018.

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 City of 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

Unitil
ME GAS OPERATIONS

January 3, 2019

Shinberg Consulting, LLC
PO Box 4424
Portland, ME 04101

Re: 57-59 St Lawrence St., Portland, Maine

Dear Greg:

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 that are 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) 541-2571 or fitzgeraldd@unitil.com

Sincerely,

Danni Fitzgerald
Senior Business Development Associate
Unitil Corporation
(T) 207-541-2571 (F) 207-541-2591

Att. L

M A R K
MUELLER
ARCHITECTS

55 - 59 St. Lawrence St.

PUBLIC SAFETY and FIRE PREVENTION:

Crime Prevention:

One of the overall design intents of the project is to create a cluster of buildings which accentuate the feeling of a safe and secure neighborhood. It is our opinion that neighborhoods in themselves naturally create a sense of community, unity and security for its residents. Evidence of this idea is the creation of neighborhood watch groups in thoughtful communities.

The project goal for security is enhanced by the proximity of the living units to the street. In the design there are living units located near street level giving easy access for awareness. An advantage of the small townhouse building is the 'active zone' on the street, it will provide a visual connection to St. Lawrence Street and the community. The other two units in the front of the project are raised 3 feet above the street, but still offer the same visual observation and connection to the street and neighborhood.

The courtyard is another design feature that we feel creates a sense of safe informal gathering space for the residents and their guests. The natural enclosure will provide an organic sheltered path to the main entrance. The courtyard will include security and wayfinding lighting as part of the site design. Further measures may include security cameras at a later date.

A walkway with a garden structure fence leads from the street and sidewalk, its use will encourage an access point to the site for residents who walk to work and downtown. The opening will conversely provide visibility into the courtyard, allowing neighbors a visual connection from a neighborhood surveillance perspective.

Emergency Vehicle Access:

The city of Portland emergency responders will have access to the site from the adjacent St. Lawrence Place, an existing private access drive. St. Lawrence Place is 16' wide. The length of St. Lawrence Place is approximately 120' and is one-way. When considering accessing the building from the city street and the city use of the private way it will allow emergency access to the property from two directions. It is anticipated that city emergency vehicles will not access the entrance auto-courtyard.

The length of the private drive to the main entrance of the building is 50'-0". Within the renovated existing building, two living units are directly off the street and are no more than 20'-0" from St. Lawrence Street.

100 Commercial St
Suite 205
Portland, Maine 04101
Phone: 207.774.9057
Fax: 207.773.3851
E-Mail:
rfi@muellerarchitects.com
Member AIA

MARK MUELLER ARCHITECTS

55 - 59 St. Lawrence St.

Building Code Review:

The project has been designed to meet the standards of NFPA 1, NFPA 101 and the IBC building codes. All building codes are based on the 2015 editions.

Project Use Groups: R-2 and 'New Apartments' in the Life Safety code.

When designing large multi-family projects our first concern when considering the health safety and welfare of the residents is to provide adequate exit stairs. These stairs are on opposite sides of the building for remoteness, and they lead residents to a safe location outside the building. The stairs are fire rated based on the number of stories.

The second major element we consider is the construction type of the building, again base on the number of stories, the use group, the size of the floor plans and the proposed building height. The construction types for the two buildings are as follows:

Existing Building: three stories of living with covered parking below: Type 5A
Proposed Building: four stories of living over covered parking below: Type 5A over Type 1 (3) hour fire rated podium construction.
Note: the clerestory space over the existing building meets the definition of a mezzanine is not classified as a story.

Fire separation distances with the small individual dwelling have been considered as part of the design, thus certain exterior walls will have additional fire rating associated with them.

Sprinkler systems: the multi-family living buildings and their covered parking will be sprinklered per the NFPA 13 systems. The small separate structure as a single-family living unit will be sprinklered with the NFPA 13D system.

The building will contain a fire alarm system to meet the requirements of NFPA 72 and the Portland fire alarm ordinance.

100 Commercial St
Suite 205
Portland, Maine 04101
Phone: 207.774.9057
Fax: 207.773.3851
E-Mail:
rfi@muellerarchitects.com
Member AIA

Att. M

Dated: June 17, 2019

RESPONSES TO STAFF REVIEW

Mitchell & Associates
Landscape Architects

The following is a response to the peer review comments that were presented by Jeff Tarling, City of Portland Arborist.

Mr. Tarling raised the following (paraphrased points):

1. There are two large trees located along the northerly side of the site situated on the abutting parcel. One tree is in poor condition, the second is in fair to good condition. Size of tree (canopy) arches over property line and potential impact to crown root zone would occur from site construction and the height of building addition.

   The condition of the large tree closest to St. Lawrence Place leans significantly over the project property and is of questionable health. We concur with Jeff Tarling's assessment of the tree and proximity of site work. Excavation for new water services and for a retaining wall will occur within 10 feet of trunk and will potentially impact root system. The applicant intends to coordinate with the abutter to discuss limbing of branches over-hanging the property line and potential removal of the less healthy tree. The applicant, at a minimum, will retain the services of an arborist to remove over-hanging limbs that may create a safety hazard and or interfere with use of the property. Care will be taken to avoid impact to the crown root zone as feasibly achieved. There are a clump of trees along the southerly side of St. Lawrence Place abutting the property of Kristen Larson. One of the trees falls within the travel-way and will be removed to accommodate grade changes.

2. Mr. Tarling raised a question about the name of the private lane, based upon the reserved parking sign for 7 Gilbert Lane.

   The private lane is St. Lawrence Place. Gilbert Lane is situated south and 7 Gilbert Lane extends perpendicular to Gilbert Lane and abuts St. Lawrence Place. The owner of 7 Gilbert Lane has access rights over St. Lawrence Place to park in their backyard. The owner of 49 St. Lawrence Street has rights to access over St. Lawrence Place to access their property. No parking privileges are permitted within St. Lawrence Place.

ZONING REVIEW COMMENTS

1. Munjoy Hill Neighborhood Conservation District C Dimensional Standards:

   Based upon discussions with staff, modifications to the building footprint have been made to accommodate for a cumulative side setback of 20 feet. The setback for the existing building along the northwesterly side (closest to St. Lawrence Street) is 6'-5", the setback at the closest point of the addition on the northeasterly corner of the proposed addition is 13'-7". Note the addition is not parallel with the property line. The stand-alone single family unit is set back 10'-5".

2. R6 Zone Ordinance A (14-136 permitted use); Residence 2 multi-family dwellings C. below grade dwelling unit shall be permitted only if access is provided directly to the outside: Reference to Unit 103.

   Based upon discussions with Ann Machado, Zoning Administrator, the exterior grade adjacent to the two bedroom unit (Unit #103), has been lowered to elevation 126.00 – the finish floor elevation for the bedrooms is 126.50. Each bedroom has egress awning windows for emergency exiting. Exterior egress stairs in the recessed exterior court yard area lead away from the building.

3. R6 Dimensional Standards that are not superseded by the MHNCD (14-139)(a) Landscape Open Space: 20% required (does not include parking areas or other impervious surfaces).

   Based upon discussions with staff, we have prepared Exhibit 2, Landscaped Open Space Lot Coverage Percentage. The total lot area is 11,644 SF, 2624 SF of open/green space or 22.35% is provided. Note the turf walk way initially proposed a stabilized turf grid unit on the northwesterly side. We have eliminated the grid until confirmation from the Zoning Administrator that the proposed grid system will meet the green space criteria.

Att. N

Owner:
St Lawrence Development LLC
PO Box 4424, Portland, ME 04101

Owner's Representative:

shinberg
CONSULTING, LLC

June 6, 2019

Dear Neighbor,

Please join us for a neighborhood meeting to discuss our plans to add 9 apartments to an existing 7-unit apartment building located at 57 to 59 St Lawrence Street in Portland, Maine.

Meeting Location: East End School, North Street Portland, Maine
Meeting Date: Wednesday, June 19
Meeting Time: 5:30 to 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 207 772-7070.

Sincerely,

Greg Shinberg, Owner & Owner's Representative

1 OF 15

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 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 Department 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

EAST END SCHOOL, PORTLAND 6-19-19.

55-59 St. LAWRENCE

shinberg
CONSULTING, LLC

PLEASE Sign IN:

NAME	EMAIL
1. Don Head	donhead66@gmail.com
2. Susan Bilker	suegdi@earthlink.net
3. DAVID KENNEDY	DAVKENNEDY2@GMAIL.COM
4. Judith Lambert	~~[illegible]~~ davkennedy2@gmail.c
5. Paul Hayes	paulh@lowryhilltax.c
*6. Mark Mueller	mark@muellerarchitects.co
7. PETER BASS	peterbass54@gmail.com
8. JAMIE ISAACSON	JakeIsaac1@AOL.com
*9. EVAN DEMERS	EVAN@MUELLERARCHITECTS.COM
10. Tori Lambert	torited@gwi.net

Enabling Your Vision
Real Estate Development Consulting
207-772-7070 • info@shinbergconsulting.com • www.shinbergconsulting.com

EAST END SCHOOL
56-59 ST. LAWRENCE

6-19-19

shinberg CONSULTING, LLC

PAGE #2

	NAME	EMAIL
11.	Johnnna Henry	
12.	Chip Henry	
*13.	ROB METCALF	rmetcalf@mitchellassociates.biz
*14.	GREG SHINBERG	gls@shinbergconsulting.com
*15.	Helena Nash	helena@helenanash.com
16.	KATHY PALMER	KATHY@THEFISHANDBONE.COM
17.	Kristin Lawson 772	Klaws18@gmail.com
18.		
19.		

PLEASE NOTE

20. NUMBERS 6, 9, 13, 14 & 15 ARE PART OF THE DEVELOPMENT TEAM
21. ANOTHER SEPARATE SHEET IS ATTACHED WITH ONLY THE DEVELOPMENT TEAM
22.
23.

4 OF 15

PLEASE SIGN IN.

6-19-19

shinberg CONSULTING, LLC

EAST END SCHOOL

67-59 St. LAWRENCE

	NAME	EMAIL
24.	TED ARNOLD	ted@tedjulianarnold.com
25.	ROB WHITTEN	ROBG WHITTENARCHITECTS.COM
26.		
27.		
28.		
29.		
30.		
31.		
32.		
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36.		

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Real Estate Development Consulting
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shinberg
CONSULTING, LLC

6.19.19

EAST END SCHOOL
55-59 ST LAWRENCE
DEVELOPMENT TEAM SIGN IN

	NAME	EMAIL
1.	GREG SHINBERG	gs@shinbergconsulting.com
2.	MARK MUELLER	Mark@muellerarchitects.com
3.	ERIN DEMERS	erin@muellerarchitects.com
4.	BOB METCALF	rmetcalf@mitchellassociates.biz
5.	Helena Nash	helena@helenanash.com

shinberg
CONSULTING, LLC

Neighborhood Meeting Minutes
Proposed 55-59 St. Lawrence Building

6/19/2019
Organizer: Greg Shinberg, Shinberg Consulting ("GS")
Bob Metcalf, Mitchell Associates Landscape Architects ("BM") & Mark Mueller ("MM") & Evan Demers ("ED") of Mark Mueller Architects
Location of Meeting: East End Community School, 195 North St., Portland
Attendance: 20 including organizers
Start: 5:35pm
End: 6:50pm

Greg Shinberg:
Welcomes attendees.

Notes there's a possibility of this project being heard at the July 9 Planning Board meeting.

I've worked in the Portland area for 30 years, part of that time as a custom builder.

I've worked with the current development team several times. Designed and built 135 Sheridan Street project, Intermed and others.

Development Team:
Bob Metcalf (will talk more about current site)
Mark Mueller (will talk more about plans)
Evan Demers (will talk more about plans)

GS: We are required to put in deed restricted unit to build the addition to 45'. There will be a one bedroom to meet this requirement. There will also be a two-bedroom income-restricted unit on second floor to meet the IZ requirements.

GS: There is a formula that they come up with regarding rents/affordability established by HUD. I must follow this formula.

GS: This will be an apartment building, not condos. There are 7 apartments now, there will be 16 total after the renovations and additions.

GS: There are 12 parking spaces now, there will be 16 after the project is complete.

Bob Metcalf:

Gives description of building & plantings.
Services will be updated.

Q – John Carter: Are there existing utilities?

A – Bob Metcalf: Electricity is overhead. There's gas.

Q – John Carter: So the sewer and water lines will stay there?

A – Bob Metcalf: Yes.

Q – John Carter?: Will it be accessible in the future?

A: Yes.

Bob Metcalf:

Shows landscape plan.
Existing footprint and addition shown on projected image of plans.
Open courtyard. Parking underneath building. 6 spaces.
Emergency egress.
Maintenance.
Landscaping will be completely refreshed.
Open lawn area in back.
Lighting on site underneath for lower level parking. Notes emergency light location.
Entryway lighting.
Lighting level meets city requirements. Safety level lighting; won't be shining off property.

Any questions, Bob asked. No one had a question.

Mark Mueller:

We have a small office in Portland. The drawings give good credit to the vision here.

Sixteen units. Design something that had airy, open feeling, rather than a big block. Becomes a U shape. Helps to open in middle.

Q: Where is St. Lawrence?

A: Showed where St. Lawrence Road and St. Lawrence Place are.

GS:

There will be a stand-alone single unit home on lot in front on right. We can build a building of same size for a lot less if we just put big block in the middle. We didn't think that was a good idea, so we placed a little house toward the front of the property.

Q – Kathy Palman?: How many feet from St. Lawrence drive do I have?

MM - A: The large building is 13'9" from the sideline of the private driveway (St Lawrence Place). The stand-alone Town House is 10'2" from St Lawrence Place.

Elevator was lowered one story so it doesn't go over top of building.

Unit designs got better, not the cost.

Trying to make good housing in city of Portland.

Under original building will be lawn maintenance equipment, bicycles and storage.

Q – Tori Lambert: Will you be blasting under the building?

MM - A: It's not underground. It's on ground level where bikes, recycling, etc. will be stored.

GS –

Everything has to be done carefully to meet code for sprinklers, etc.

Key part of project was to get the correct number of parking spaces built.

Q – Peter?: So parking will arrive on ground level?

GS - A: Yes that's correct.

GS - We also have to handle stormwater so that they're not washing down into storm drains. Checked to see if there's any ledge. Went down 5-6 feet.

ED:

Our goal here is to keep historic look of current building. We want to break up streetscape. The courtyard area breaks up the size of the streetscape. Looks like three story standalone house. Tried to elevate windows on that portion.

Showing private driveway elevation... Stand-alone house has its own parking. Different styles of siding. Each has own identity. Dark material on higher elevation to cut down on sense of size.

Secondary access on side.
Back elevation—mostly new building.
Windows larger for egress.

Within Courtyard... access driving through.

Main entry point for 14 of 16 units is on side.

Shows Inner Courtyard West Elevation
Shows Inner Courtyard East Elevation
4th floor
Building is well below maximum height.

Different types of income, people, family sizes. Allow variety of people to be in neighborhood.

Q – Ted Arnold: How does it work having the mechanicals on the rooftop?

ED - A: City overlay zone allows you to go up to a maximum of 5' above the 45' height. What we've shown is approximate size. Installed in two locations. Idea is to make them smaller.

Q – Jamie Isaacson: What is the average rental fee?

GS – A : Don't know at this time. It depends upon when we would start construction. They will be compatible with other 2-3 bedroom units on the Hill. $1,500 to $2,000 to $2,500. They have parking.

GS – note

We are not building condos like on Sheridan street.

I plan to own this property for a long time. Not going to manage it. It will be a good property—well-maintained with variety of rents.

Q – John Carter Q: How far back from Atlantic Street property line is the building?

GS - A: Setback is 15 feet and we're a few feet beyond that. (NOTE: GS misunderstood the question and gave the answer to how far the building is to the back property line – Atlantic Street is much further away).

Q – John Carter Q: Will tenants be able to get on roof?

GS- A Roof will be mechanical only, no rooftop deck or access.

Q – John Carter Q: Will you be adding to existing building?

GS: _A: Yes.

Bob Metcalf:

Main building side entry will just have the entrance to the elevator. The townhouse will be accessed from first floor and will have a street side and parking side entrance.

ED: Description of different units:

102 Workforce housing – 1BR
Single
204 Townhouse
104

202
203-2BR inclusionary (IZ Unit)
204
205

303 Townhouse –living space and go upward
301 & 302 one back deck and one front deck on roof

3rd and 4th floor addition - all units are flats or townhouses.

The original building had four sets of stairs. Units themselves were smaller.

What we did was create more living space by removing those stairs and creating access to original building.

GS: It's important to point out that either 15 or 16 have decks or Juliette Balconies to give access to the street. Folks always said they liked being able to have access to outdoor space. We made units a little smaller to accommodate. I was at the historic meeting. This will potentially be a historic district. When we designed this project we thought about and talked

about the historic feel of the neighborhood. We tried to make it fit in with the other buildings in the neighborhood.

We talked with Deb Andrews at the City. Then spent time talking about design issues including bays, entries, parking, etc. I want this to have great curb appeal.

Q – Tori Lambert: Are you going to live here?

GS - A: No, I'm not.

Tori Lambert Comment: You're talking a lot about the front of the building. From the back it's huge on the Atlantic side. My comment and my personal opinion.

GS Response: In looking at materials and colors, we are looking at ways to make the building look smaller in scale. The yellow won't be the same color but we are using the current building color as a starting point and working with another color to affect the sense of space.

GS:

(Asks ED to show the 1924 pictures.) This is what we're emulating with the porches and other features of the front of the building. Does anyone know when this building came down? I've been looking all over for that info and haven't been able to find it yet.

John Carter Comments: Munjoy South urban renewal 1954 .... (said how many houses were taken down then. John Carter then showed and described where the houses used to be, using a pointer on the image projected overhead.)

GS:

When we started the project,I hired Mark and Bob as a team. The building needed to look good and function well. And it has to work financially, or it's not worth doing.

This is a trellis, and it's open to the sky, which creates a sense of space. Mark convinced me that it's better to make a smaller house in the front so that when you look up and down the street it's a better fit.

(Describes various buildings on street.)

John Carter Comment: That building is the American Legion.

GS:

Karen, who is here, works with Flaherty Realty. I heard that the current owners were selling. I've never planned to tear it down. It has good structure. It's a little butterflied in the middle. We'll be gutting the apartments, though, to reinsulate, re-wire, install new heating, etc.

Everything here that you're seeing today is on the City's website, so you can go there.

I welcome questions.

These neighborhood meetings are interesting. We go through a process of making changes to the design to fit what the City asks before asking the neighbors. I have been asked during the approval process for other projects that "what's the point of the neighborhood meeting if we're at 100% design and there's no opportunity for the neighbors to have input?" But its important to note that we have not had the first Planning Board Meeting for a Workshop and the neighbors will have the opportunity to express their concerns.

It's a two-step process next. There first be a Workshop and then will be a public hearing and a final vote.

Q – Tori Lambert: If you're going back 15 feet from property line, how are you going to address those big trees?

BM – A : The trees are actually on the lot behind. One is in poor health and condition. The other one is in pretty good condition. The tree closest to the property line isn't worth keeping. The one with the trunk leaning over into this property is really pretty diminished.

GS add a comment: Also the property line back here is actually on the other side of the fence line. We want to work with the neighbors to have a good understanding and work through all of these issues. An arborist will be able to tell us what we can plant that will grow well in this location with this mix of sun and shade.

BM adds: We'd like to save one tree but not the other.

(Additional comments about finding out where the root zone is and what pruning can be done to keep the other tree.)

GS:

Two units have spiral staircases going up to fourth floor. Cathedral ceilings. This is a bold architectural statement. Talked with Deb Andrews and Rob in the Historic Department of the Planning Department about the elements of historic buildings. Some historic advocates want each piece to stand alone, because they want to look at a building to say that's 120 years old, that one's new. If you follow the National Park Rules when you do historic rehabs, they want you to have distinct style differences. A good example is Commercial Street in the Old Port.

Modern is appealing to some people; it's not to others. We're looking to blend and complement, but not trying to make a Picasso statement. Exterior has a nice feel—nice inside too. I did the old USM dorms and created the box bays on the front of the building.

Sometimes I ask an architect to do something and the architect doesn't like that idea. I'm not architect. I think of spaces and uses of space. I try to defer to their expertise.

We added this Juliette balcony to enhance the side of the building and make outside of building more appealing.

Q – Jamie Isaacson: What is total of SF of the buildings?

GS – A : About triple the size. 7,300 now, and the new building will be 21,590.
Trying to make bigger apartments.

Q – Carl/Chip?: What will the phases and overall length of time be?

A – Greg Shinberg: This is a great question. There will be communication to get through and any changes with the Planning Board. With Planning Board approval, I hope to start construction approximately March of next year. Construction will take about a year.

Currently in one apartment is a resident named Danny, a crossing guard, he is income eligible I hope that he will move into the deed-restricted unit. We would likely plan to move him out during construction and give him a temporary place to live.

Residents are aware that I am in this process.
The building is being maintained by current owner until I start construction.
During construction I will work to make sure we won't block the shared driveway.

Want to make sure Nancy doesn't have a terrible time pulling into her spaces. In winter, there's snow removal accommodation.

Q – Carl/Chip?: How will we see a planning board meeting notification?

GS- A : There will be notices in the paper, I believe. I can send emails to everyone on list that signed in if necessary.

I live in Freeport. I didn't mean to be glib about your question, Tori. I've lived there since 1985. I like the space in the country. I raised my kids there, etc. My office is at State and Congress. I've done 100's of projects in this area. I'm not going to be an absentee owner.

Everyone here is going to be kept in mind during construction. We won't be starting work before 7:00am. I'm hardcore about that. We don't have to do really loud stuff before 9:00am. I will ask them (subcontractors) not to leave trucks idling, etc.

Some folks here may be in construction. Sheet rockers will start yelling at each other at 7:00am. I take that seriously.

The rooftop mechanicals have strict ordinances. There's a certain max amount of sound and ways to minimize sound. That's why they're located well away from property lines.

Greg Shinberg Asks: Questions, folks?

The City requires me to put out a sign-in sheet.

The minutes will be published on City web site and will be part of Planning Board records.

They then write a report that's available to Planning Board and public. Info goes to planning board and the public before the meeting.

John Carter Comment: You don't have the houses, etc., on the drawing on the back side of the building.

GS Response: We should be able to add that. We can do that for the second Planning Board meeting, maybe not for the first one. We'd like to be part of the July 9 meeting. They ask to not submit new changes after three weeks before a meeting so they can prepare.

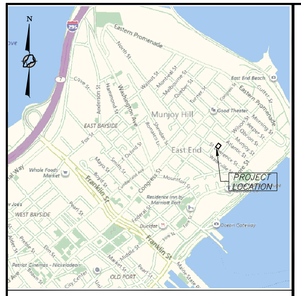
Greg Shinberg Continues:

I believe in the Hill. I've invested in the Hill and would like to invest again.

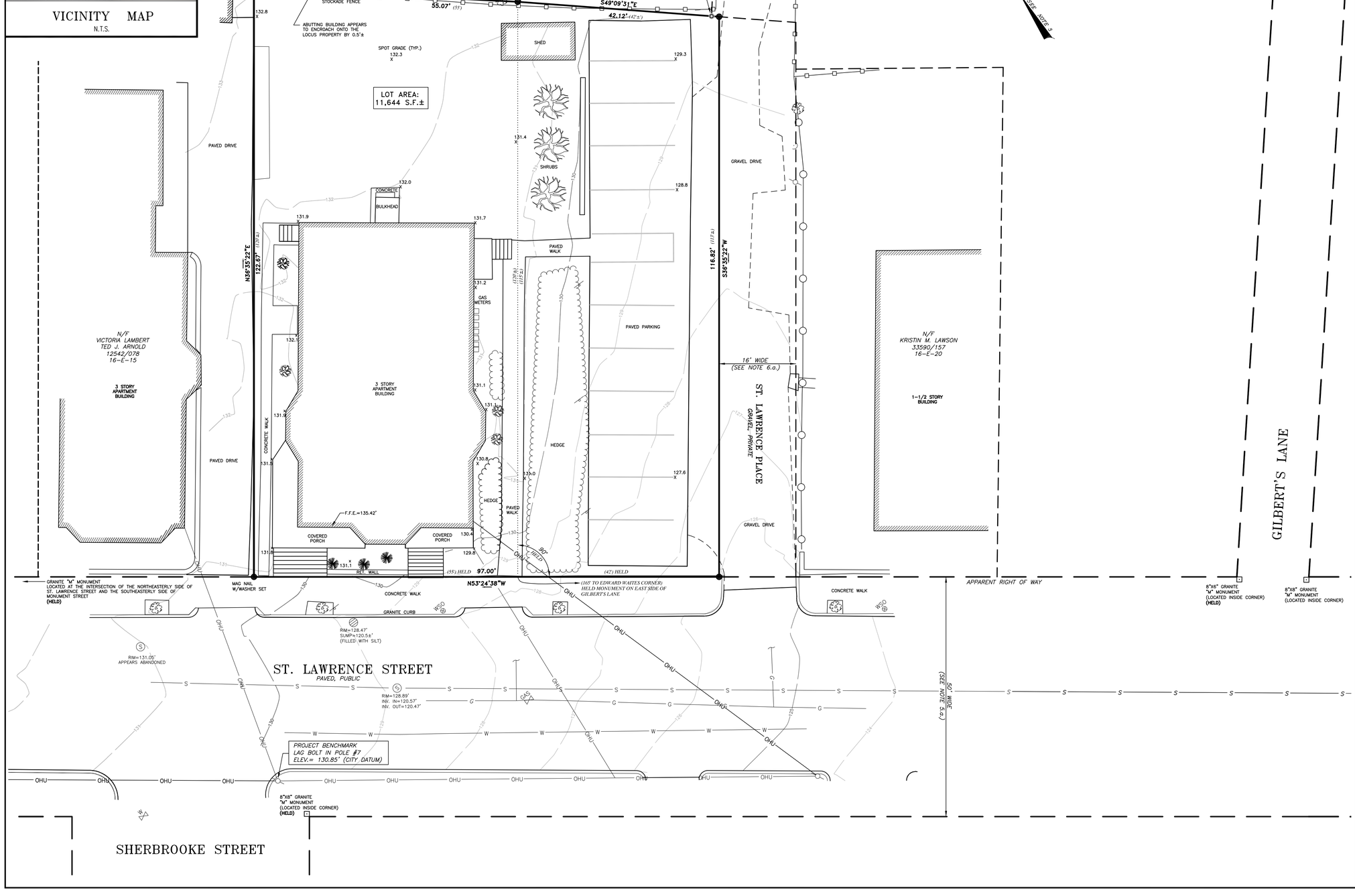
While there was a moratorium I pulled back because we didn't know if they would change heights and rules and such. The changes made this more difficult, but we adjusted. It's a location that I believe in. It looks like neighbors are fixing up houses along the street as well.

Any other questions?
(No questions.)

Thank you, etc.



VICINITY MAP
N.T.S.



LEGEND

●	#5 REBAR WITH PLASTIC CAP (UNLESS NOTED OTHERWISE) SET ON SEPTEMBER 10, 2018
◎	FOUND IRON (SIZE & TYPE AS NOTED)
⊡	FOUND MONUMENT (SIZE & TYPE AS NOTED)
⊙	FOUND DRILL HOLE
	UTILITY POLE (NUMBER AS NOTED)
	GUY WIRE ANCHOR
	HEDGE (APPROXIMATE)
	STONEWALL
	BOUNDARY LINE
	EASEMENT LINE
	EDGE OF GRAVEL
	EDGE OF PAVEMENT
	RIGHT-OF-WAY LINE
	ABUTTER LINE
	BUILDING SETBACK
OHU	OVERHEAD UTILITY
	FORMER DEED LINES
N/F	NOW OR FORMERLY OWNED BY
1234/567	DEED BOOK AND PAGE
12-34	TAX MAP-LOT
(123.45')	PARENTHESIS DENOTE RECORD DATA

NOTES

1. RECORD OWNERS OF THE PARCEL SURVEYED ARE: 57 ST. LAWRENCE STREET, LLC AS DESCRIBED IN BOOK 32689, PAGE 166 (1/2 INTEREST) AND HIRAM COTTAGE PROPERTIES, LLC AS DESRIBED IN BOOK 32341, PAGE 090 (1/2 INTEREST), RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
2. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 16, BLOCK E, PARCELS 16 AND 19.
3. THE BEARINGS SHOWN ON THIS PLAN ARE BASED ON MAINE COORDINATE SYSTEM OF 1983, WEST ZONE, GRID NORTH.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
   a. WORKING DRAWINGS FROM PORTLAND CITY ENGINEERING DEPARTMENT SHOWING STREET LINES FOR ST. LAWRENCE STREET, ATLANTIC STREET, FORE STREET AND MONUMENT STREET.
5. THE WIDTH OF ST. LAWRENCE STREET IS 50' BASED ON STREET LINE PLANS ON FILE WITH THE CITY OF PORTLAND ENGINEERING DEPARTMENT. THE LAYOUT OF THE RIGHT-OF-WAY LIMITS IS BASED ON THOSE PLANS AND STREET MONUMENTS FOUND.
6. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   a. THE LOCUS PARCEL HAS RIGHTS, IN COMMON WITH OTHERS, TO THE 16' WIDE PASSAGEWAY (ST. LAWRENCE PLACE, SO-CALLED) ADJOINING THE SOUTHEASTERLY LINE OF THE LOCUS PARCEL AS DESCRIBED IN BOOK 244, PAGE 359.
7. AS OF THE ORIGINAL DATE OF THIS PLAN, THE PARCEL SURVEYED IS LOCATED IN THE R-6 RESIDENTIAL ZONE.
   OTHER MUNICIPAL AND STATE OVERLAY ZONES MAY EXIST AND APPLY. BEFORE PROCEEDING ON ANY PROJECT WE RECOMMEND VERIFYING CURRENT ZONE AND ALL APPLICABLE SETBACKS AND RESTRICTIONS WITH THE APPROPRIATE AGENCIES.
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9. THE UTILITIES SHOWN ON THIS PLAN WERE FROM FIELD OBSERVATION ONLY. THERE MAY BE OTHER UTILITIES EXISTING THAT ARE NOT SHOWN. CONTACT DIG-SAFE (888)DIG-SAFE PRIOR TO ANY EXCAVATION WORK.

Revision:	By:	Date:	Change:

PROJECT: 41588.1		DRAWING NAME: 41588.1.dwg	
ISSUED: SEPTEMBER 10, 2018	SCALE: 1"=10'	FB # 449B	DRAWN BY: DRB
FIELDED BY: DPH/ASF	FIELD DATE: 08/24/18		CHECKED BY: TFM, DMM

Drawing Name and Location:

BOUNDARY AND TOPOGRAPHIC SURVEY

57 ST. LAWRENCE STREET, PORTLAND, MAINE

Owners:
57 ST. LAWRENCE STREET, LLC
P.O. BOX 593, PORTLAND, MAINE
HIRAM COTTAGE PROPERTIES, LLC
P.O. BOX 7308, PORTLAND, MAINE

Prepared For:
SHINBERG CONSULTING

SURVEYING ● ENGINEERING ● LAND PLANNING
Northeast Civil Solutions
INCORPORATED
381 PAYNE ROAD, SCARBOROUGH, MAINE 04074
tel 207.883.1000 fax 207.883.1001 e-mail / website info@northeastcivilsolutions.com www.northeastcivilsolutions.com

0 10' 20' 40'

STAMP AND SIGNATURE

STATE OF MAINE DANNY R. BOLENDER #2244 PROFESSIONAL LAND SURVEYOR

9/10/2018
DANNY R. BOLENDER — DATE
MAINE PROFESSIONAL LAND SURVEYOR No. 2244

E:\Land Projects\41000\41588.1 Shinberg\dwg\41588.1.dwg

55-57 St. Lawrence Street

55-57 St. Lawrence St., Portland, Maine

February 13, 2019

PREPARED BY:

LANDSCAPE ARCHITECT AND SITE PLANNER:

MITCHELL & ASSOCIATES
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PORTLAND, MAINE 04101
PHONE: 207.774.4427
FAX: 207.874.2460
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PORTLAND, MAINE 04101
PHONE: 207.774.9057
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E-MAIL: MARK@MUELLERARCHITECTS.COM

CIVIL ENGINEER:

DM ROMA CONSULTING ENGINEER
59 HARVEST HILL RD.
WINDHAM, ME 04062
PHONE: 207.310.0506
CONTACT: DUSTIN ROMA
E-MAIL: DUSTIN@DMROMA.COM

LAND SURVEYOR

NORTHEAST CIVIL SOLUTIONS
381 PAYNE RD.
SCARBOROUGH, ME 04074
PHONE: 207883.1000
CONTACT: JOHN PERRON
E-MAIL: JOHN.PERRON@NORTHEASTCIVILSOLUTIONS.COM

UTILITIES:

ELECTRIC:

CENTRAL MAINE POWER
ELECTRICAL DISTRIBUTION ENGINEERING
162 CANCO ROAD
PORTLAND, MAINE 04103
PHONE: 207.842.2367
CONTACT: JAMIE COUGH
E-MAIL: JAMES.COUGH@CMPCO.COM

TELEPHONE:

FAIRPOINT COMMUNICATIONS
45 FOREST AVENUE
PORTLAND, MAINE 04101
PHONE: 866.984.2001

WATER:

PORTLAND WATER DISTRICT
225 DOUGLASS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104-3553
PHONE: 207.774.5961 x.3199
FAX: 207.761.8307
CONTACT: ROB BARTEL

SANITARY SEWER:

CITY OF PORTLAND
PUBLIC SERVICES DEPARTMENT
55 PORTLAND STREET
PORTLAND, MAINE 04101
PHONE: 207.874.8832
FAX: 207.874.8816
CONTACT: E-MAIL:

CABLE:

SPECTRUM
118 JOHNSON ROAD
PORTLAND, MAINE 04102
PHONE: 207.253.2324
CONTACT:
E-MAIL:

NATURAL GAS:

UNITIL
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
PHONE: 207.541.2505
CONTACT: KELLEY FOWLER, BUSINESS DEVELOPMENT EXECUTIVE
FOWLER@UNITIL.COM

OWNER/APPLICANT:

ST. LAWRENCE DEVELOPMENT LLC
181 STATE STREET, SUITE 303
PORTLAND, ME 04101
PHONE: 207-772-7070

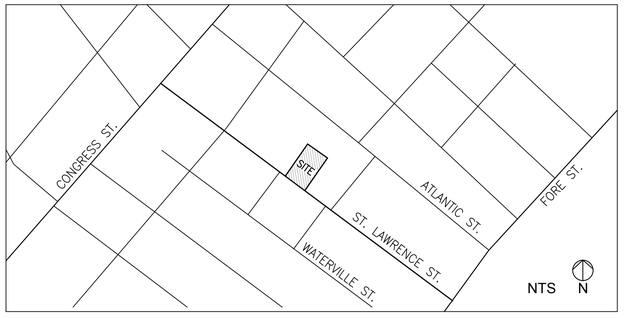
PERMITS:

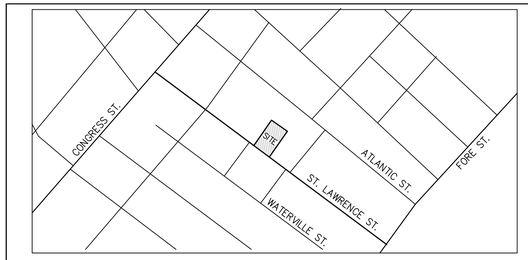
TYPE OF PERMIT:	GOVERNING BODY:	STATUS:
SITE PLAN & SUBDIVISION PLAN REVIEW:	CITY OF PORTLAND 389 CONGRESS STREET 4TH FLOOR PORTLAND, MAINE 04101 TEL: 207.874.8728 CONTACT: BARBARA BARHYDT E-MAIL: BAB@PORTLANDMAINE.GOV	SUBMITTED: FEBRUARY 13, 2019

SHEET INDEX:

SHEET	TITLE
	COVER PAGE
	SURVEY
L1.0	EXISTING CONDITIONS PLAN
L2.0	LAYOUT PLAN
L3.0	LIGHTING AND PLANTING PLAN
L4.0	SITE DETAILS
C1.0	GRADING & UTILITY PLAN
C2.0	EROSION CONTROL PLAN & DETAILS
C3.0	CONSTRUCTION DETAILS
C4.0	STORMWATER DETAILS
	PHOTOMETRIC PLAN

SITE LOCATION MAP:





CONTEXT MAP
N.T.S.

NOTES

1. SURVEY PREPARED BY NORTHEAST CIVIL SOLUTIONS, INC. DATED DECEMBER 04, 2018

PLAN RERENCES

1. RECORD OWNERS OF THE PARCEL SURVEYED ARE: 57 ST. LAWRENCE STREET, LLC AS DESCRIBED IN BOOK 32689, PAGE 166 (1/2 INTEREST) AND HIRAM COTTAGE PROPERTIES, LLC AS DESRIBED IN BOOK 32341, PAGE 090 (1/2 INTEREST), RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
2. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 16, BLOCK E, PARCELS 16 AND 19.
3. THE BEARINGS SHOWN ON THIS PLAN ARE BASED ON MAINE COORDINATE SYSTEM OF 1983, WEST ZONE, GRID NORTH.
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6. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   THE LOCUS PARCEL HAS RIGHTS, IN COMMON WITH OTHERS, TO THE 16' WIDE PASSAGEWAY (ST. LAWRENCE PLACE, SO-CALLED) ADJOINING THE SOUTHEASTERLY LINE OF THE LOCUS PARCEL AS DESCRIBED IN BOOK 244, PAGE 359.
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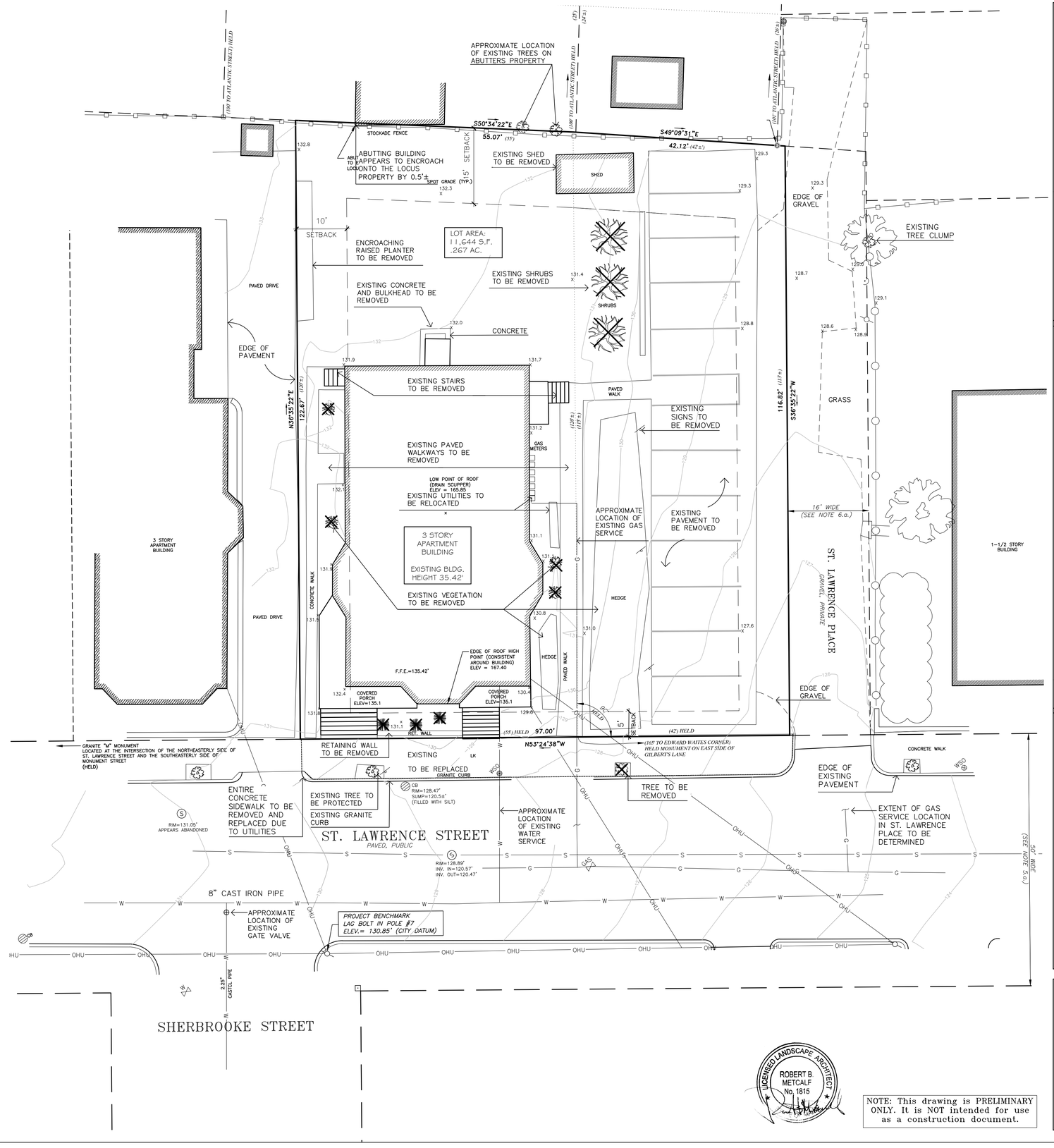
LEGEND

EXISTING

- PROPERTY LINE
- SETBACK
- RIGHT-OF-WAY
- EASEMENT
- VEGETATION
- SPOT ELEVATION (X 132)
- CONTOUR (132)
- FENCE
- UTILITY
- UTILITY POLE
- CAPPED IRON ROD
- MANHOLE
- VALVE
- WATER SHUT OFF (WSO)
- SEWER (S)
- CATCH BASIN (CB)
- OVERHEAD WIRES (OHU)
- SIGN
- CURB
- GRAVEL SURFACE



Prepared For Owner/Applicant:
ST. LAWRENCE DEVELOPMENT LLC
181 State Street, Suite 303
Portland, ME 04101
207-772-7070

Owner's Rep.:
shinberg CONSULTING, LLC

Prepared By:
Mitchell & Associates LANDSCAPE ARCHITECTS
The Staples School 70 Center Street Portland, Maine 04101
Phone: 207.774.4427 Fax: 207.874.2460

MARK MUELLER ARCHITECTS
100 Commercial St #205
Portland, ME 04101
207-774-9057

DM ROMA CONSULTING ENGINEERS
59 Harvest Hill Rd,
Windham, ME 04062
207-310-0506

55-59 ST. LAWRENCE ST.

57 SAINT LAWRENCE ST. Portland, Maine

Date:
FEBRUARY 13, 2019

Issued For:
PERMITTING

Revisions:
REVISED JUNE 17, 2019
PER STAFF COMMENTS

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Title:
EXISTING CONDITIONS & DEMOLITION PLAN

Scale:

North:

Sheet No.:
L1

LICENSED LANDSCAPE ARCHITECT
ROBERT B. METCALF
No. 1815

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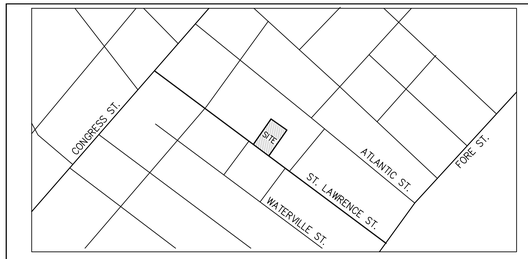

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GENERAL NOTES

1. RECORD OWNER: ST. LAWRENCE STREET DEVELOPMENT, LLC
2. PARCEL DEED REFERENCE: CUMBERLAND COUNTY REGISTER OF DEEDS BOOK 32341, PAGE 090.
3. TAX MAP REFERENCE: CITY OF PORTLAND, MAP – G10NE, LOT 016 E016 AND 016 E019
4. AREA OF PARCEL = 11,644 SQ. FT. 0.267 ACRES
5. ZONING: RESIDENTIAL 6 (R6) AND MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY.
6. PLAN REFERENCE: PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 57 ST. LAWRENCE ST, PORTLAND, MAINE" PREPARED BY NORTHEAST CIVIL SOLUTIONS, INC. DATED JANUARY 04, 2019
7. SPACE AND BULK REGULATIONS
   (PER CITY OF PORTLAND CODE ORDINANCES SEC. 14-139 AND OVERLAY 14-140.5.a.

	REQUIRED	EXISTING/PROPOSED
MINIMUM LOT SIZE	2,000 SQ. FT.	11,644 SQ. FT.
MINIMUM LOT AREA/DWELLING UNIT	725 SQ. FT.	11,600 SQ. FT. (16 UNITS) 1 WORKFORCE UNIT.
MAXIMUM LOT COVERAGE	60 %	48 %
MINIMUM LOT WIDTH/FRONTAGE	45 FEET	97 FEET
MAXIMUM BUILDING HEIGHT	45 FEET	45 FEET EXISTING STRUCTURE 35' PROPOSED ADDITION INCLUDING ADDED FLOOR TO EXISTING 45' PROPOSED STANDALONE 28'
	10 FEET	10 FEET (EX. BLDG. 6'5")
MINIMUM SIDE YARD	15 FEET	15 FEET
MINIMUM REAR YARD	5 FEET	5'4"
MINIMUM FRONT YARD	20 %	22 %
LANDSCAPED OPEN SPACE		

AVERAGE GRADE EXISTING BUILDING AND PROPOSED ADDITION 128.86 FT BASED UPON ELEVATIONS AT CORNERS OF EXISTING AND PROPOSED BUILDINGS-AS SHOWN EQUALS BUILDING HEIGHT OF 173.86 FT *.

AVERAGE GRADE FOR PROPOSED STANDALONE BUILDING IS 126.79 FT AS SHOWN ON PLAN, PLUS 28 FT BUILDING HEIGHT EQUALS ELEVATION OF 154.79 FT *.
* SEE BUILDING HEIGHT EXHIBIT REV. DATE JUNE 17, 2019.

8. PARKING REQUIREMENTS

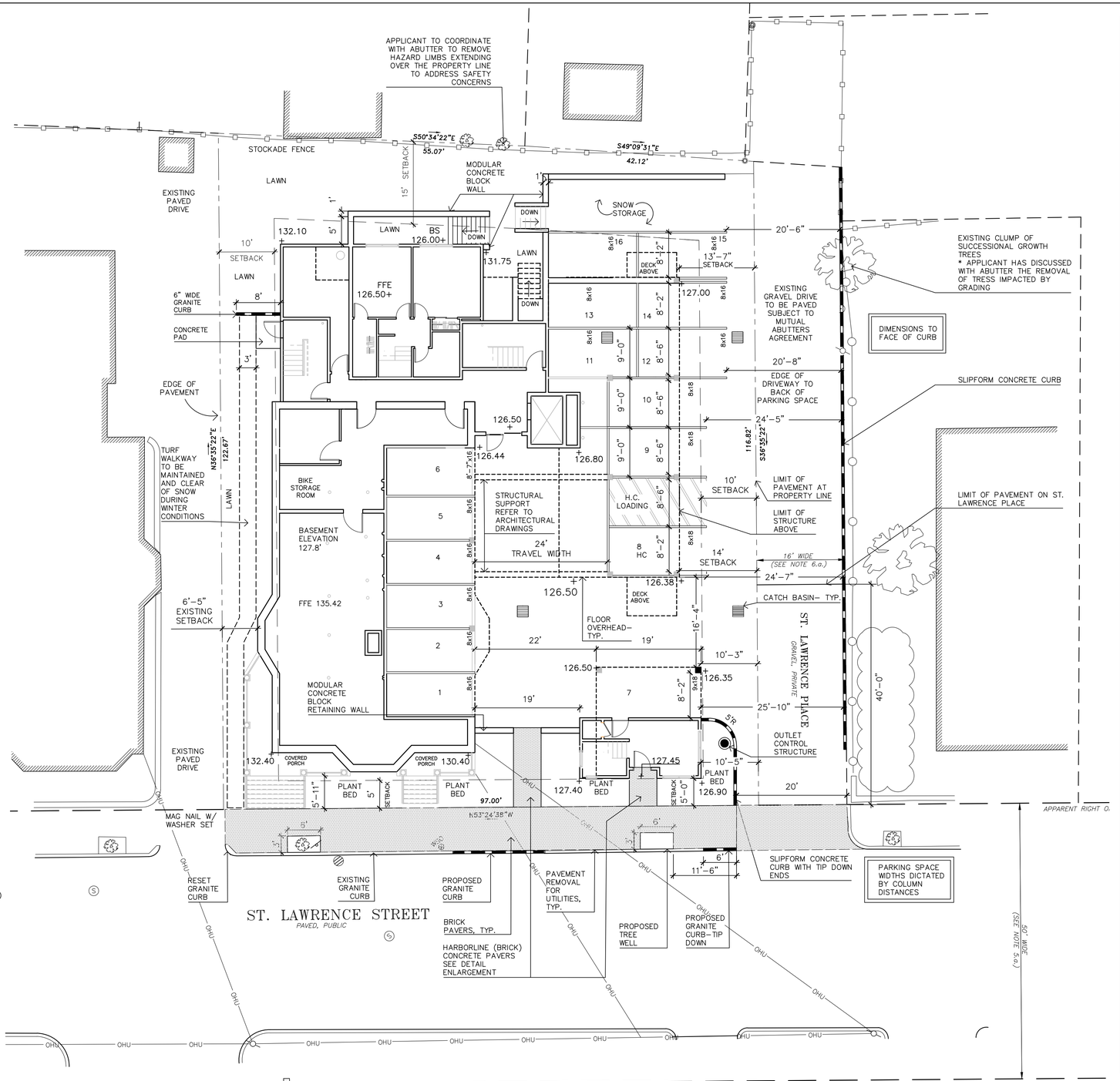
VEHICLE:	REQUIRED	PROPOSED
EXISTING 6 UNIT BUILDING (1 SPACE/UNIT)	6	16 (15 COMPACT SPACES OF WHICH 6 ARE TANDEM SPACES)
ADDITION 9 UNITS (1 SPACE/UNIT)	9	–
SINGLE FAMILY (2 SPACES/UNIT)	2	–
	(17)	16*
EXEMPTION FIRST 3 UNITS	14	1 SPACES 9X18 3* SPACES 8X18 (1 ADA SPACE) 12 SPACES 8X16
BICYCLE: 2 SPACES PER 5 UNITS	7	7

9. PROJECT BENCHMARK: LAG BOLT IN POLE #7 ELEV.= 130.85' (CITY DATUM)
10. SITE LIGHTING SHALL MEET THE CITY OF PORTLAND STANDARDS AS OUTLINED IN SECTION 12 OF THE CITY OF PORTLAND TECHNICAL DESIGN STANDARDS. SITE LIGHTING SHALL ADHERE TO SECTION 12.2.5 LIGHT TRESPASSING- LIGHTING SHALL NOT BE GREATER THAN 0.1 FOOTCANDLES AT THE PROPERTY LINE.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
SETBACK		
RIGHT-OF-WAY		
EASEMENT		
VEGETATION		
FENCE		
UTILITY		
LIGHTING		
UTILITY POLE		
CAPPED IRON ROD		

	EXISTING	PROPOSED
MANHOLE		
VALVE		
WATER SHUT OFF	WSO	
SEWER	S	
CATCH BASIN		
OUTLET CONTROL STRUCTURE		
OVERHEAD WIRES	OHU	
SIGN		
CURB		
GRAVEL SURFACE		



Approved: Portland Planning Board

Date: _____

Chair, _____

Board Members, _____

LICENSED LANDSCAPE ARCHITECT ROBERT B. METCALF No. 1815

NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.

Prepared For Owner/Applicant:
ST. LAWRENCE DEVELOPMENT LLC
181 State Street, Suite 303
Portland, ME 04101
207-772-7070

Owner's Rep.:
shinberg CONSULTING, LLC

Prepared By:
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55-59 ST. LAWRENCE ST.

57 SAINT LAWRENCE ST. Portland, Maine

Date: FEBRUARY 13, 2019

Issued For: PERMITTING

Revisions:
REVISED JUNE 17, 2019
PER STAFF COMMENTS

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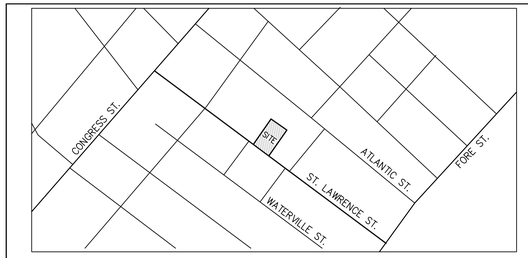
Title: SITE PLAN

Scale: 1"=10'

North:

Sheet No.: L2

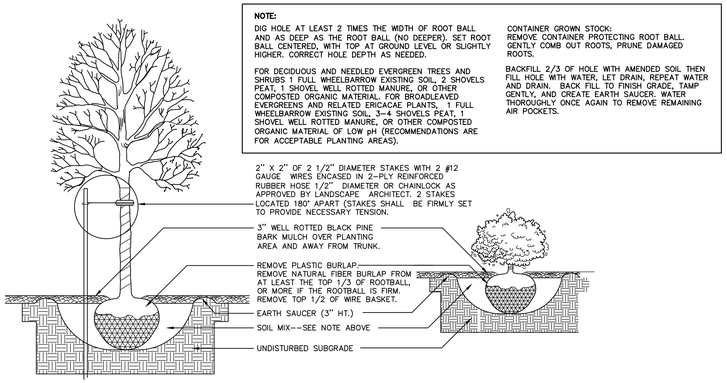


CONTEXT MAP

N.T.S.

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, 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 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. ALL SHRUB BEDS AND TREE PITS SHALL BE MULCHED WITH 3" CLEAN SHREDDED BLACK MULCH.
12. 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.
13. 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.
14. DAMAGE TO EXISTING SITE IMPROVEMENTS DURING INSTALLATION OF LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
15. SITE LIGHTING SHALL MEET THE CITY OF PORTLAND STANDARDS AS OUTLINED IN SECTION 12 OF THE CITY OF PORTLAND TECHNICAL DESIGN STANDARDS. SITE LIGHTING SHALL ADHERE TO SECTION 12.2.5 LIGHT TRESPASSING– LIGHTING SHALL NOT BE GREATER THAN 0.1 FOOTCANDLES AT THE PROPERTY LINE.



NOTE:
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 TOP AT GROUND LEVEL OR SLIGHTLY HIGHER. CORRECT HOLE DEPTH AS NEEDED.

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 BROADLEAVED 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 CONTAINER PROTECTING ROOT BALL. GENTLY COMB OUT ROOTS, PRUNE DAMAGED ROOTS.

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.

1/3 TREE AND SHRUB INSTALLATION

NOT TO SCALE

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
SETBACK		
RIGHT–OF–WAY		
EASEMENT		
VEGETATION		
FENCE		
TURF WALKWAY		
UTILITY		
LIGHTING		

	EXISTING	PROPOSED
UTILITY POLE		
CAPPED IRON ROD		
MANHOLE		
SEWER		
CATCH BASIN		
OUTLET CONTROL STRUCTURE		
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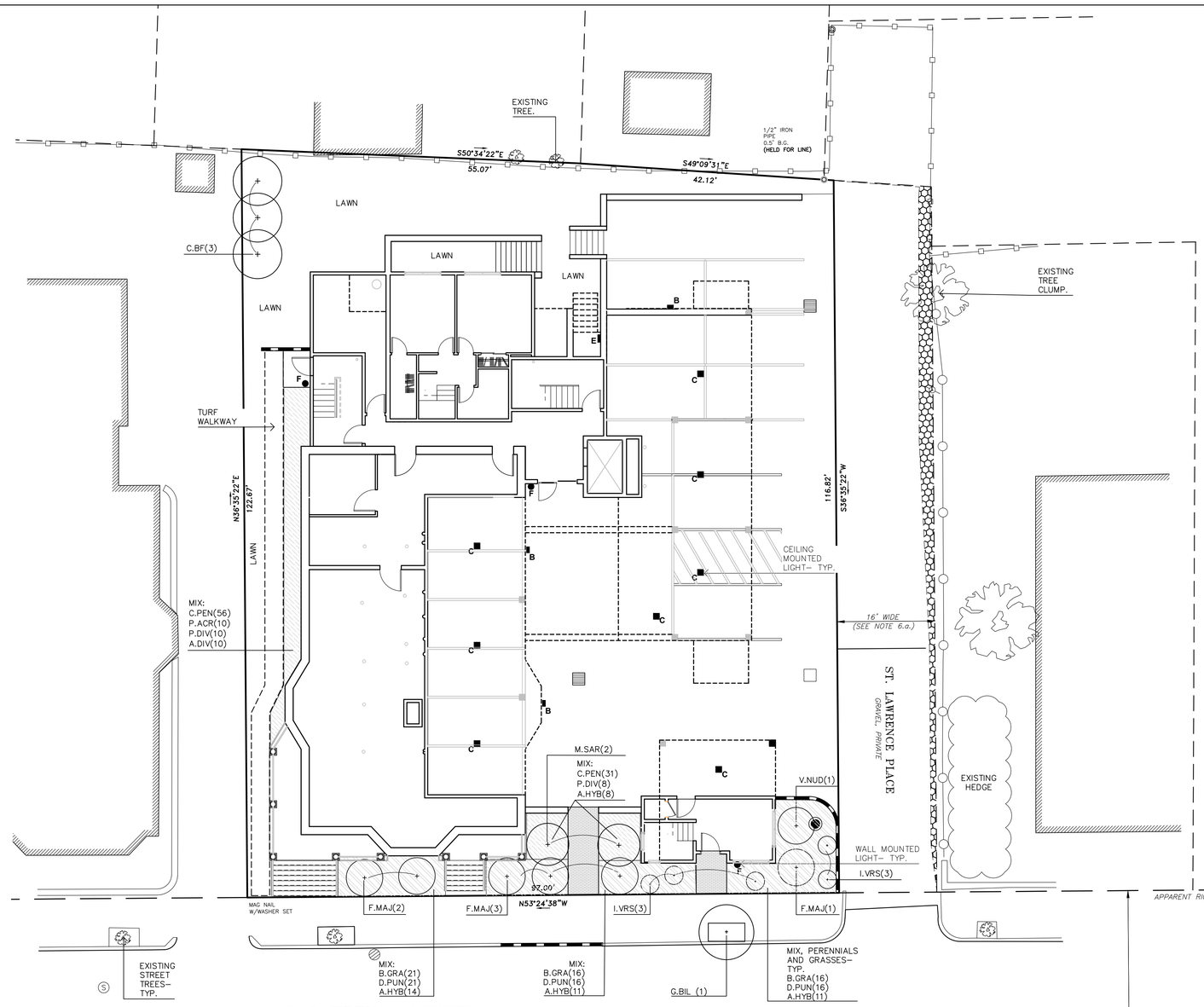
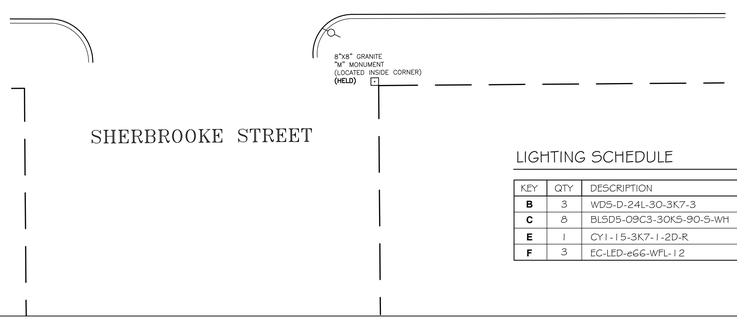


ST. LAWRENCE STREET

PAVED, PUBLIC



SHERBROOKE STREET

PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
TREES					
C.BF	3	CARPINUS BETULUS 'FASTIGIATA'	FASTIGIATE EUROPEAN HORBEAM	1.75" CAL.	B & B
G.BIL	1	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY GINKGO	2.5" CAL.	B & B
M.SAR	2	MALUS SARGENTII	SARGENT CRABAPPLE	1.75" CAL.	B & B
SHRUBS					
F.MAJ	6	FOTHERGILLA MAJOR	BOTTLE BRUSH BUSH	#3	CONT.
I.VRS	6	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	#3	CONT.
V.NUD	1	VIBURNUM NUDUM	SMOOTH WITHEROD	#3	CONT.
GRASSES & FLOWERING PERENNIALS					
A.DIV		ASTER DIVARICATUS	WHITE WOOD ASTER	1 GAL	CONT.
A.HYB		ANEMONE X HYBRIDA	JAPANESE ANEMONE	1 GAL	CONT.
B.GRA		BOUTELOUA GRACILIS	MOSQUITO GRASS	1 GAL	CONT.
C.PEN		CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	1 GAL	CONT.
D.PUN		DENNSTAEDTIA PUNCTILOBULA	HAY-SCENTED FERN	1 GAL	CONT.
P.DIV		PHLOX DIVARICATA	WOODLAND PHLOX	1 GAL	CONT.

LIGHTING SCHEDULE

KEY	QTY	DESCRIPTION
B	3	WD5-D-24L-30-3K7-3
C	8	BLSD5-09C3-30K5-90-5-WH
E	1	CY1-15-3K7-1-2D-R
F	3	EC-LED-e66-WFL-12

LICENSED LANDSCAPE ARCHITECT
ROBERT B. METCALF
No. 1815

NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.

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DM ROMA CONSULTING ENGINEERS
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55–59 ST. LAWRENCE ST.
57 SAINT LAWRENCE ST. Portland, Maine

Date:
FEBRUARY 13, 2019

Issued For:
PERMITTING

Revisions:
REVISED JUNE 17, 2019
PER STAFF COMMENTS

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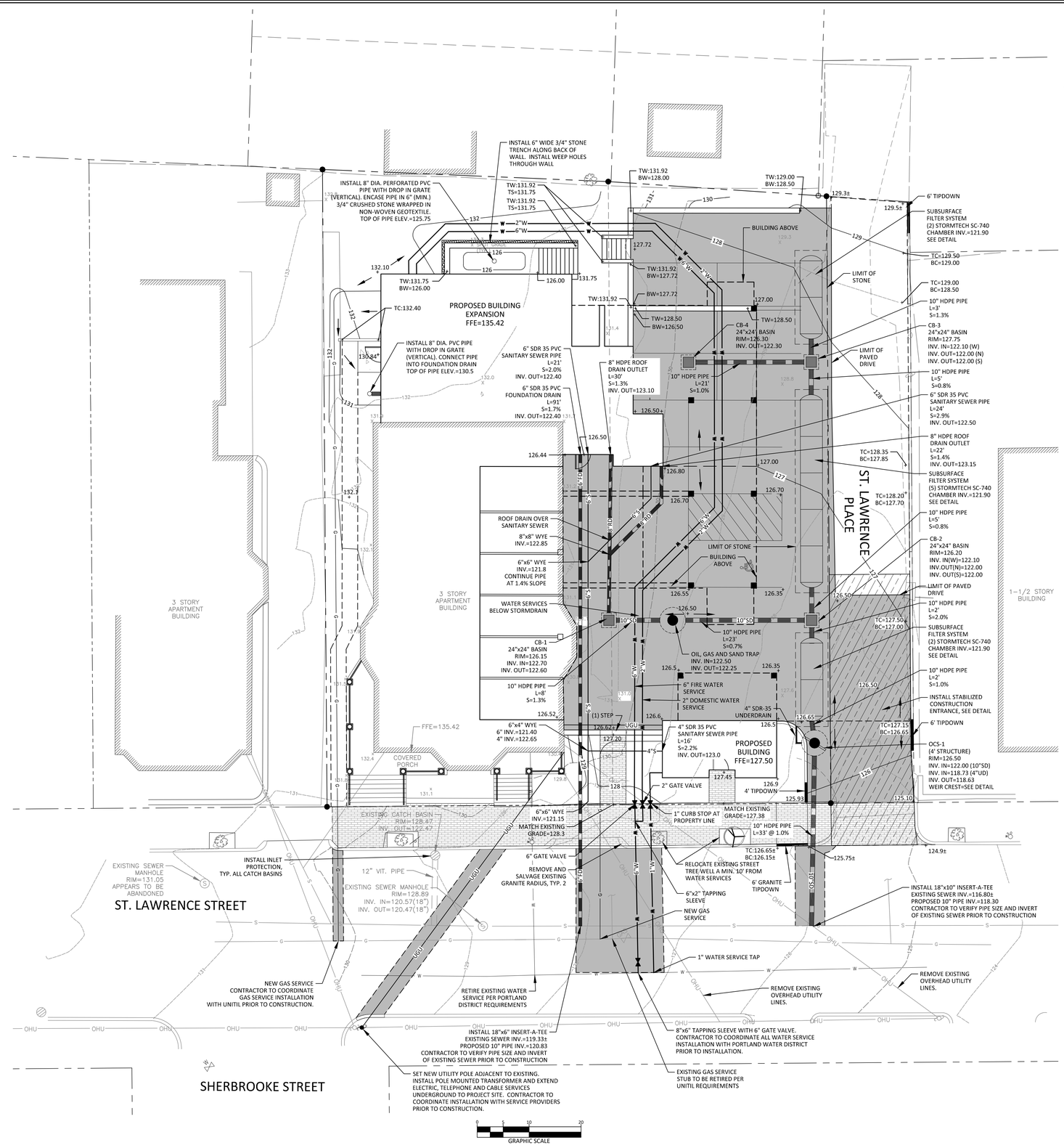
Title:
LIGHTING & PLANTING PLAN

Scale:

North:

Sheet No.:
L3



LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER PROPERTY LINE	
	GRANITE MONUMENT	
	IRON PIN/DRILL HOLE	
	CENTERLINE	
	BUILDING	
	EDGE OF PAVEMENT/CURB	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
200	CONTOUR LINE	200
	TREELINE	
	CATCHBASIN	
	CULVERT/STORMDRAIN	
UD	UNDERDRAIN	UD
S	SEWER MANHOLE	
S	SANITARY SEWER PIPE	S
W	WATER MAIN	W
	WATER VALVE	
	HYDRANT	
	UTILITY POLE	
OHU	OVERHEAD UTILITIES	OHU
UGU	UNDERGROUND UTILITIES	UGU
T	TRANSFORMER PAD	T
G	GAS MAIN	G
	GAS VALVE	
	RIPRAP	
SF	SILT FENCE	SF

GENERAL NOTES:

1. EXISTING UTILITY LOCATION SHOWN HEREON IS BASED SOLELY ON FIELD OBSERVATION OF PAINTED UTILITY MARKINGS ON THE GROUND SURFACE BY NORTHEAST CIVIL SOLUTIONS INC. NO SUBSURFACE EXPLORATION OR DETAILED FIELD SURVEY OF UTILITY LOCATIONS WERE PERFORMED.

2. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR NOTIFYING DIG SAFE AND COORDINATING ALL EXISTING UTILITY RELOCATION AND REPAIR THAT MAY BE NECESSARY.

3. THE ROADWAY AND SIDEWALK REPAIRS SHALL BE DONE IN ACCORDANCE WITH ALL CITY OF PORTLAND REQUIREMENTS AND SPECIFICATIONS.

4. THE WATER SERVICE SIZE WAS NOT DESIGNED OR ANALYZED BY DM ROMA CONSULTING ENGINEERS. THE OWNER IS RESPONSIBLE FOR COORDINATING WITH PORTLAND WATER DISTRICT AND OTHER DESIGN PROFESSIONALS TO DETERMINE THE DESIRED WATER SERVICE SIZE TO SERVE THE SPECIFIC NEEDS OF THE PROJECT.

5. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR COORDINATING THE SHUTDOWN OF WATER SERVICE TO THE BUILDING WITH OCCUPANTS. THE PORTLAND WATER DISTRICT WILL NOT GUARANTEE SAME-DAY SWITCH-OVER OF WATER SERVICE. SERVICES WILL NEED TO BE SAMPLED, WHICH REQUIRES A MINIMUM 3 DAYS BEYOND THE INSTALLATION OF THE SERVICE.

6. DOMESTIC SERVICE WILL REQUIRE NON-TESTABLE DUAL CHECK BACKFLOW PREVENTION AFTER THE METER. FIRE SERVICE WILL REQUIRE TESTABLE DOUBLE CHECK VALVE ASSEMBLY FOR BACKFLOW PREVENTION PRIOR TO FIRE SPRINKLER RISER.

OWNER'S REPRESENTATIVE:

shinberg CONSULTING, LLC

PREPARED BY:

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(207) 310 - 0506

STATE OF MAINE DUSTIN M. ROMA No. 12131 LICENSED PROFESSIONAL ENGINEER
7-2-19

REV	DATE	BY	DESCRIPTION
A	2-13-19	DMR	ISSUED FOR PERMITTING
B	6-18-19	DMR	REVISED PER CITY REVIEW
C	7-2-19	DMR	REVISED PER CITY REVIEW

GRADING AND UTILITY PLAN

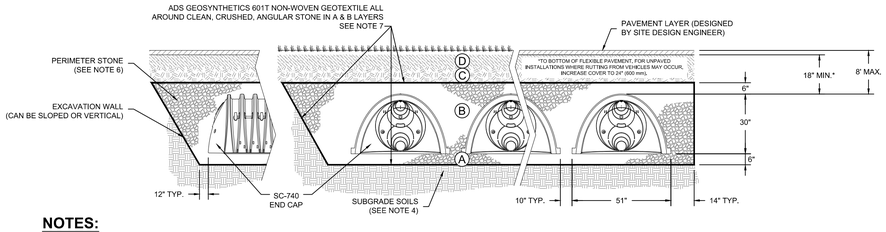
57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR: ST. LAWRENCE DEVELOPMENT, LLC
181 STATE STREET, SUITE 303
PORTLAND, MAINE 04101

18076	JOB NUMBER:
1" = 10'	SCALE:
7-2-2019	DATE:
--	
C-1	

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[3] A-1, A-2-4, A-3 OR AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2 3]

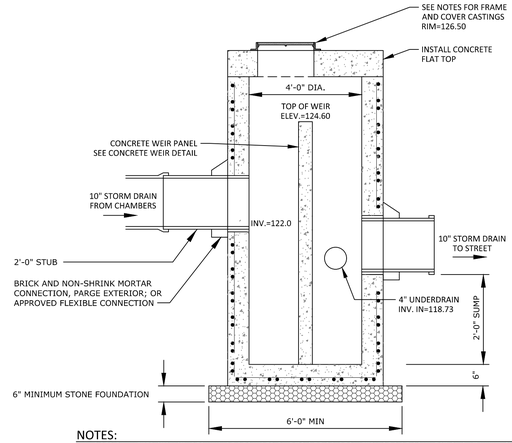
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
7. IF DURING CONSTRUCTION, LEDGE OR HIGH GROUNDWATER TABLE IS ENCOUNTERED, CONTRACTOR TO REPLACE NON-WOVEN GEOSYNTHETIC WITH A 30mil PVC LINER.

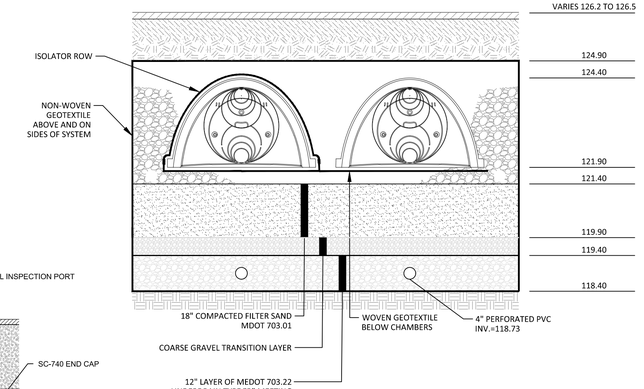
STORMTECH SC-740 CROSS SECTION
NOT TO SCALE



NOTES:

1. LARGER DIAMETER STRUCTURES MAY BE REQUIRED DUE TO SIZE OR GEOMETRY OF PIPE CONNECTIONS AT MANHOLE. WALL THICKNESS TO INCREASE BY 1" FOR EACH 1'-0" DIA. INCREASE. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. CAST IRON SOLID COVER AND FRAME SHALL BE EQUAL TO NEENAH FOUNDARY PRODUCT NO. R-1556-A - MANHOLE FRAME, SOLID LID - HEAVY DUTY OR EQUAL. SUBMIT CATALOG SHEETS TO ENGINEER FOR APPROVAL.

OUTLET CONTROL STRUCTURE DETAIL
NOT TO SCALE

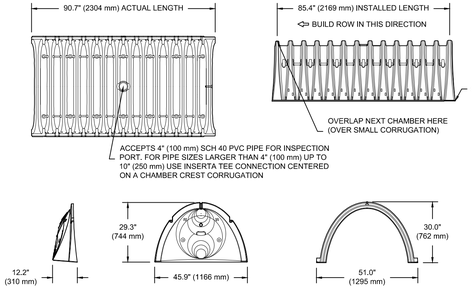


FILTER NOTES:

1. COMPACTION OF SAND FILTER: SAND FILTER MEDIA MUST BE COMPACTED BETWEEN 92% AND 95% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS TO PREVENT POCKETS OF LOOSE MEDIA.
2. CLAY CONTENT: THE FILTER MATERIAL SHOULD HAVE VERY LITTLE OR NO CLAY CONTENT (2% MAX.)
3. CONSTRUCTION SEQUENCE: THE SAND FILTER MEDIA MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
4. CONSTRUCTION OVERSIGHT: THE CHAMBER SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION. INSPECTION DURING AND AFTER CONSTRUCTION AND UNTIL THE SITE IS STABILIZED MUST BE PERFORMED BY THE MANUFACTURER'S REPRESENTATIVE.

POST CONSTRUCTION INSPECTION NOTES:

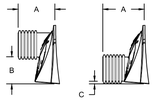
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

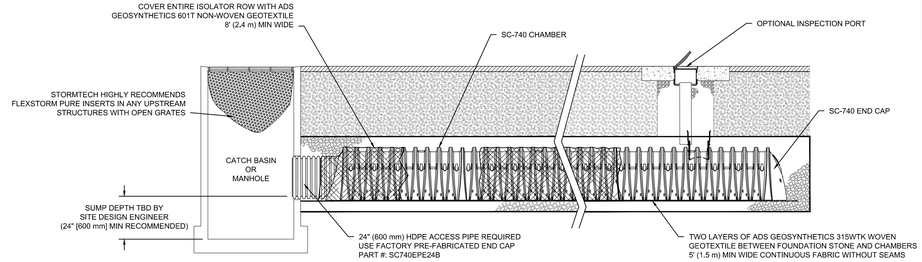
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

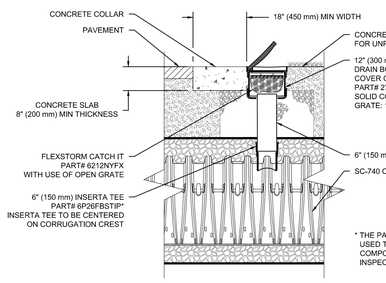
* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

STORMTECH SC-740 TECHNICAL SPECIFICATION
NOT TO SCALE



SC-740 ISOLATOR ROW DETAIL
NTS



SC-740 6" INSPECTION PORT DETAIL
NOT TO SCALE

MANUFACTURER'S GENERAL NOTES

1. STORMTECH REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL **1-888-892-2694** TO SPEAK TO A TECHNICAL SERVICES REPRESENTATIVE OR VISIT **WWW. STORMTECH.COM** TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.):MINIMUM COVER IS 18" [457 mm] NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96" [2438 mm] INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24" [610 mm], MAXIMUM COVER IS 96" [2.438 m].
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
8. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: **WWW.STORMTECH.COM**. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT **1-888-892-2694** OR VISIT **WWW.STORMTECH.COM**

STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS TESTED USING ASTM STANDARDS.
3. CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.
6. ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2922 MUST BE USED AS A PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
7. CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
8. ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
9. THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.

MAINTENANCE NOTES:

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. 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 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 MANHOLE
  - 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 THE JETVAC PROCESS
- A. 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 AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

OWNER'S REPRESENTATIVE:
shinberg CONSULTING, LLC

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STATE OF MAINE
DUSTIN M. ROMA
No. 12131
LICENSED
PROFESSIONAL ENGINEER
7-2-19

REV	DATE	BY	DESCRIPTION
A	2-13-19	DMR	ISSUED FOR PERMITTING
B	6-18-19	DMR	REVISED PER CITY REVIEW
C	7-2-19	DMR	REVISED PER CITY REVIEW

DETAILS
57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC
181 STATE STREET, SUITE 303
PORTLAND, MAINE 04101

18076
JOB NUMBER:

AS NOTED
SCALE:

7-2-2019
DATE:

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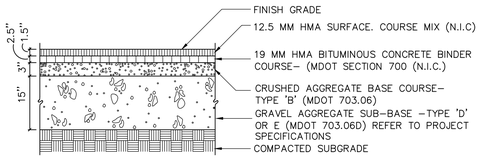
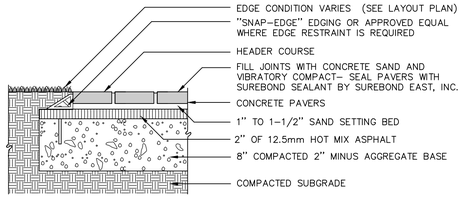
C-4

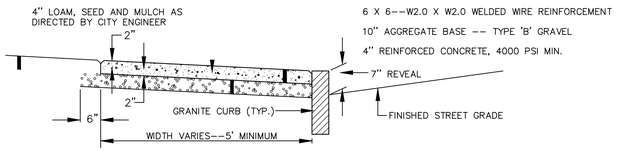


1/4 BITUMINOUS PAVEMENT – DRIVE & PARKING LOT
NOT TO SCALE



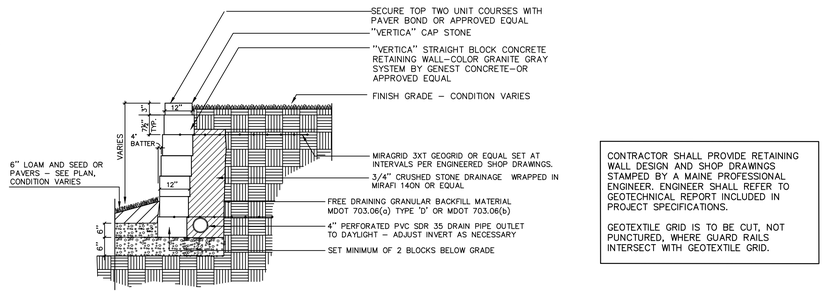
NOTES:
1. PAVERS SHALL BE SEALED WITH SUREBOND SB–1370 JOINT STABILIZING SEALER OR APPROVED EQUAL
2. MANUFACTURER: GENEST CONCRETE WORKS, INC. OR APPROVED EQUAL

5/4 CONCRETE PAVERS
NOT TO SCALE



CONCRETE: 4" THICK SIDEWALK, 4,000 PSI AT 28 DAYS, ¾" MAX. AGGREGATE
REINFORCEMENT: WELDED WIRE MESH, 6X6, ⅝ EPOXY COATED.
FINISH: SCREED AND BULL FLOAT, BROOM FINISH, PERPENDICULAR TO TRAVEL DIRECTION
JOINTS: SAWCUT TO ¼ DEPTH AT 5' O.C. WITHIN 24 HOURS AT 25–FOOT INTERVALS OR APPROPRIATE CONNECTIONS.
SEALING: APPLY POLY SULFIDE LIQUID SEALANT, GRAY COLOR, INSTALL PER MANUFACTURER'S SPECIFICATIONS.

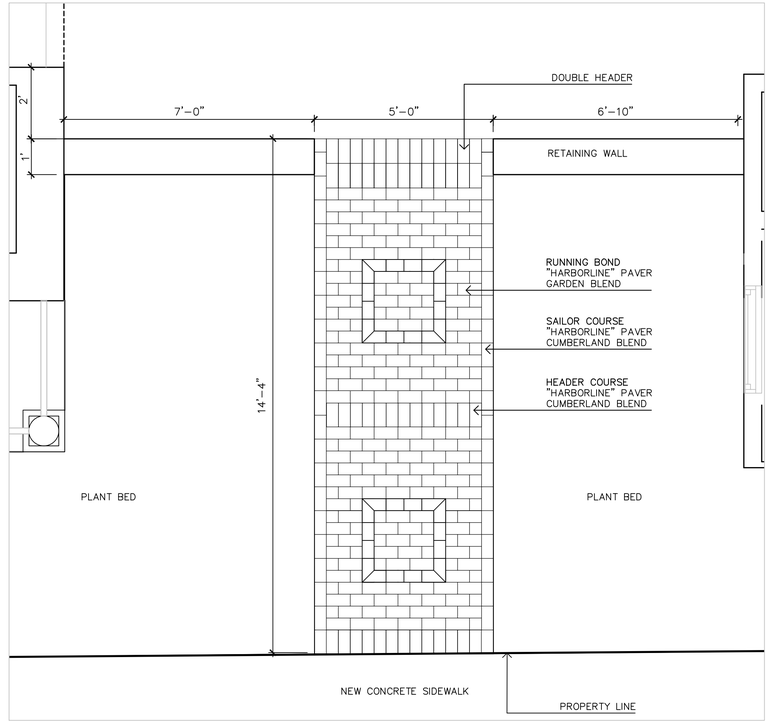
4/2 CITY OF PORTLAND STANDARD DETAIL: REINFORCED CONCRETE SIDEWALK
NOT TO SCALE



CONTRACTOR SHALL PROVIDE RETAINING WALL DESIGN AND SHOP DRAWINGS STAMPED BY A MAINE PROFESSIONAL ENGINEER. ENGINEER SHALL REFER TO GEOTECHNICAL REPORT INCLUDED IN PROJECT SPECIFICATIONS.

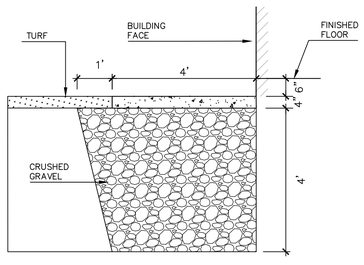
GEOTEXTILE GRID IS TO BE CUT, NOT PUNCTURED, WHERE GUARD RAILS INTERSECT WITH GEOTEXTILE GRID.

6/4 CONCRETE VERTICA SEGMENTAL RETAINING WALL
NOT TO SCALE

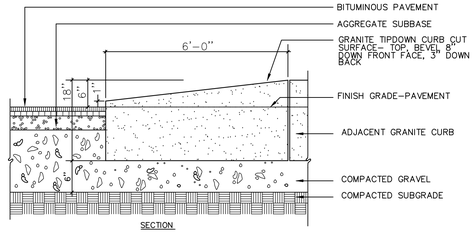


9/4 COURTYARD ENTRANCE
1/2" = 1'

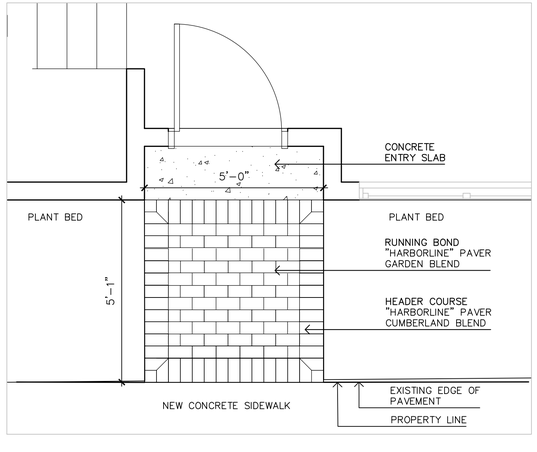
3/4 VERTICAL GRANITE CURB
NOT TO SCALE



7/4 CONCRETE LANDING
1/2" = 1'



4/4 GRANITE TIP–DOWN CURB
NOT TO SCALE



8/4 55 LAWRENCE STREET ENTRANCE
1/2" = 1'

Prepared For Owner/Applicant:
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207–772–7070

Owner's Rep.:
shinberg CONSULTING, LLC

Prepared By:
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55–59 ST. LAWRENCE ST.
57 SAINT LAWRENCE ST. Portland, Maine

Date: FEBRUARY 13, 2019

Issued For: PERMITTING

Revisions:
REVISED JUNE 17, 2019
PER STAFF COMMENTS

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Title: DETAILS

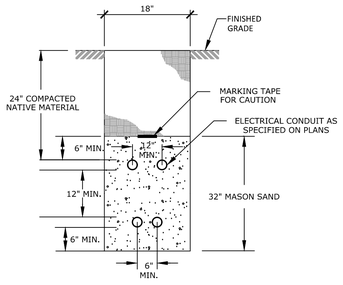
Scale: AS NOTED

North:

Sheet No.: L4

LICENSED LANDSCAPE ARCHITECT ROBERT B. METCALF No. 1815

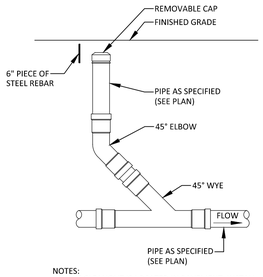
NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.



TRENCH DETAIL - ELECTRICAL CONDUIT

NOT TO SCALE

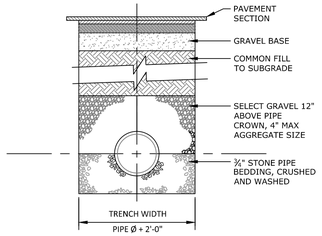
NOTES:
1. ALL CONDUITS SHALL BE 4" DIA. PVC SCH 40 EXCEPT FOR ROAD CROSSINGS SHALL BE PVC SCH 80
2. INSTALLATION SHOULD NOT ALLOW THE INTER-TWINING OF CABLES.
3. BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS AND OTHER DEBRIS.
4. COMMUNICATION CABLE AND POWER CABLE SHALL HAVE NO LESS THAN 12 INCHES OF RADIAL SEPARATION.



NOTES:
1. IF CLEANOUT IS LOCATED IN PAVEMENT, INSTALL CLEANOUT BOX ASSEMBLY OVER CLEANOUT AND SET AT FINISHED PAVEMENT GRADE. BOX ASSEMBLY TO BE PRODUCT NO. 00156452W01 AS MANUFACTURED BY EAST JORDAN IRON WORKS, INC. OR APPROVED EQUAL.

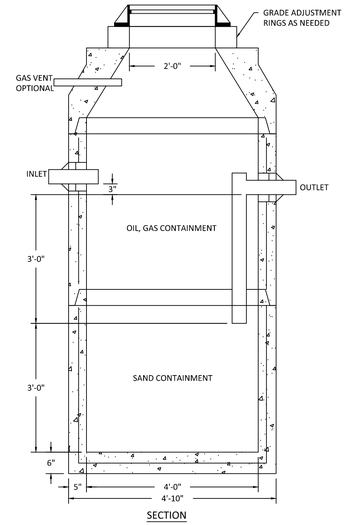
SANITARY/UNDERDRAIN CLEANOUT DETAIL

NOT TO SCALE



TYPICAL TRENCH SECTION

NOT TO SCALE

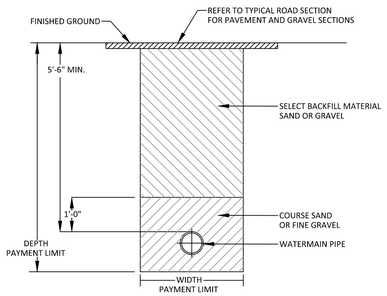


SECTION

NOTES:
1. TRAP TO BE OIL, GAS AND SAND TRAP AS MANUFACTURED BY PRECAST CONCRETE PRODUCTS OF MAINE, INC. OR APPROVED EQUAL.

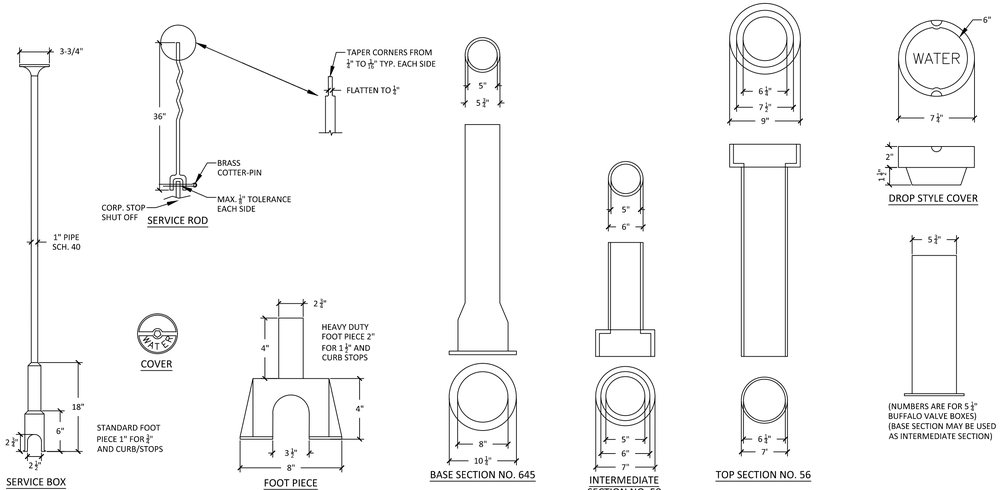
OIL, GAS AND SAND TRAP

NOT TO SCALE



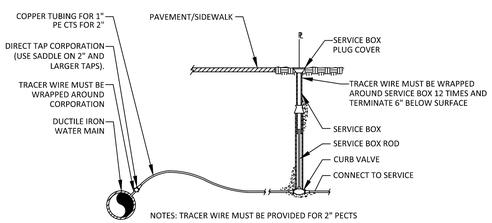
WATERMAIN TYPICAL TRENCH CROSS-SECTION

NOT TO SCALE



VALVE BOX & COVER

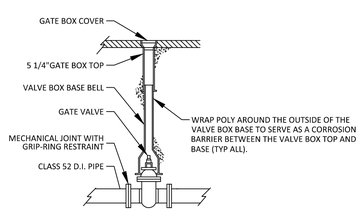
NOT TO SCALE



NOTES: TRACER WIRE MUST BE PROVIDED FOR 2" PECTS

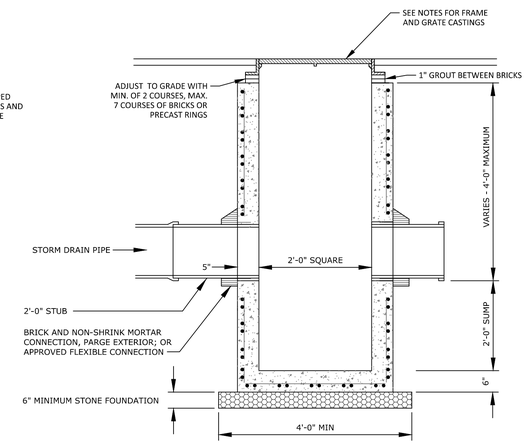
SERVICE DETAIL

NOT TO SCALE



GATE VALVE

NOT TO SCALE



NOTES:
1. CAST IRON FRAME SHALL BE EQUAL TO EAST JORDAN IRON WORKS, PRODUCT NO. 45622011, REVERSIBLE FRAME AND GRATE SHALL BE EQUAL TO EAST JORDAN IRON WORKS, PRODUCT NO. 45622531, HEAVY DUTY GRATE.
2. SUBMIT SHOP DRAWINGS AND CASTING SPECIFICATIONS TO ENGINEER FOR APPROVAL.

PRECAST CONCRETE CATCH BASIN STRUCTURE - TYPE F

NOT TO SCALE

OWNER'S REPRESENTATIVE:

shinberg CONSULTING, LLC

PREPARED BY:

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STATE OF MAINE
DUSTIN M. ROMA
No. 12121
LICENSED
PROFESSIONAL ENGINEER
7-2-19

REV	DATE	BY	DESCRIPTION
A	2-13-19	DMR	ISSUED FOR PERMITTING
B	6-18-19	DMR	REVISED PER CITY REVIEW
C	7-2-19	DMR	REVISED PER CITY REVIEW

DETAILS

57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC
181 STATE STREET, SUITE 303
PORTLAND, MAINE 04101

18076
JOB NUMBER:

AS NOTED
SCALE:

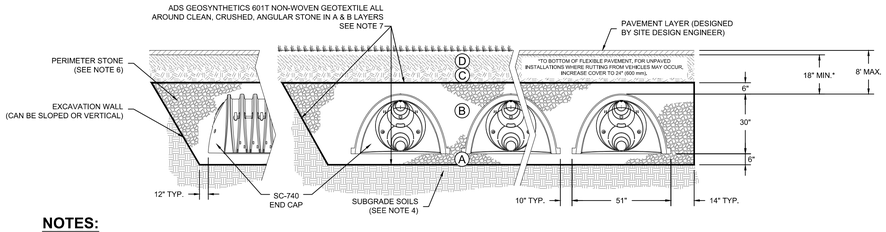
7-2-2019
DATE:

--

C-3

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[3] A-1, A-2-4, A-3 OR AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2 3]

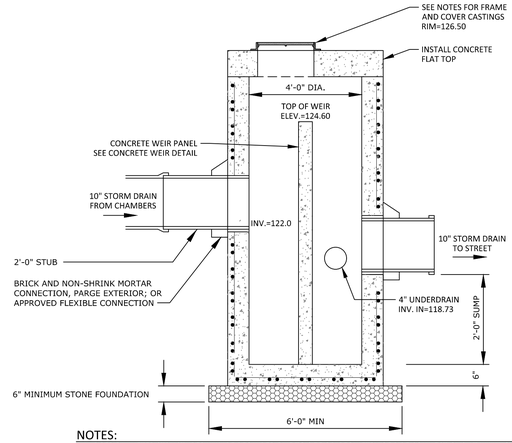
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
7. IF DURING CONSTRUCTION, LEDGE OR HIGH GROUNDWATER TABLE IS ENCOUNTERED, CONTRACTOR TO REPLACE NON-WOVEN GEOSYNTHETIC WITH A 30mil PVC LINER.

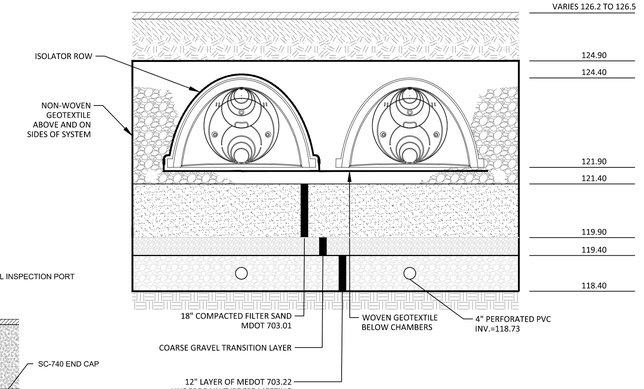
STORMTECH SC-740 CROSS SECTION
NOT TO SCALE



NOTES:

1. LARGER DIAMETER STRUCTURES MAY BE REQUIRED DUE TO SIZE OR GEOMETRY OF PIPE CONNECTIONS AT MANHOLE. WALL THICKNESS TO INCREASE BY 1" FOR EACH 1'-0" DIA. INCREASE. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. CAST IRON SOLID COVER AND FRAME SHALL BE EQUAL TO NEENAH FOUNDARY PRODUCT NO. R-1556-A - MANHOLE FRAME, SOLID LID - HEAVY DUTY OR EQUAL. SUBMIT CATALOG SHEETS TO ENGINEER FOR APPROVAL.

OUTLET CONTROL STRUCTURE DETAIL
NOT TO SCALE

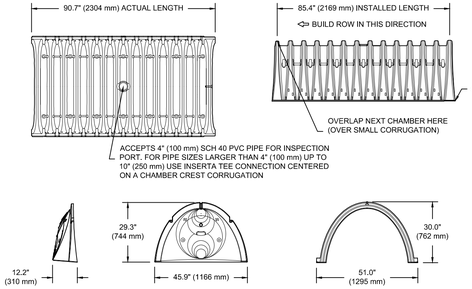


FILTER NOTES:

1. COMPACTION OF SAND FILTER: SAND FILTER MEDIA MUST BE COMPACTED BETWEEN 92% AND 95% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST TWO LIFTS TO PREVENT POCKETS OF LOOSE MEDIA.
2. CLAY CONTENT: THE FILTER MATERIAL SHOULD HAVE VERY LITTLE OR NO CLAY CONTENT (2% MAX.)
3. CONSTRUCTION SEQUENCE: THE SAND FILTER MEDIA MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
4. CONSTRUCTION OVERSIGHT: THE CHAMBER SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION. INSPECTION DURING AND AFTER CONSTRUCTION AND UNTIL THE SITE IS STABILIZED MUST BE PERFORMED BY THE MANUFACTURER'S REPRESENTATIVE.

POST CONSTRUCTION INSPECTION NOTES:

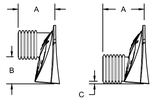
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

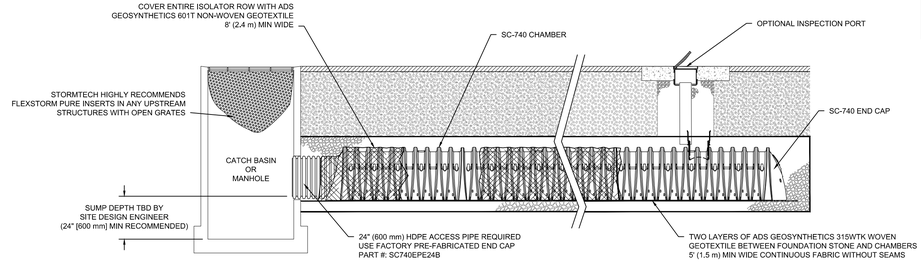
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

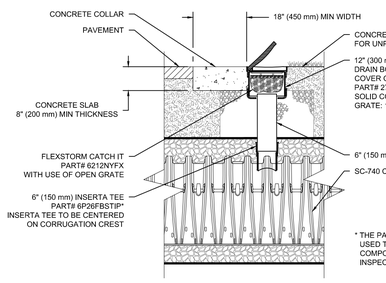
* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

STORMTECH SC-740 TECHNICAL SPECIFICATION
NOT TO SCALE



SC-740 ISOLATOR ROW DETAIL
NTS



SC-740 6" INSPECTION PORT DETAIL
NOT TO SCALE

MANUFACTURER'S GENERAL NOTES

1. STORMTECH REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL **1-888-892-2694** TO SPEAK TO A TECHNICAL SERVICES REPRESENTATIVE OR VISIT **WWW. STORMTECH.COM** TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
3. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.):MINIMUM COVER IS 18" [457 mm] NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96" [2438 mm] INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24" [610 mm], MAXIMUM COVER IS 96" [2.438 m].
4. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
5. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
6. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
7. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
8. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: **WWW.STORMTECH.COM**. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
9. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
10. STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT **1-888-892-2694** OR VISIT **WWW.STORMTECH.COM**

STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS TESTED USING ASTM STANDARDS.
3. CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.
6. ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2922 MUST BE USED AS A PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
7. CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
8. ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
9. THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.

MAINTENANCE NOTES:

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. 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 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 MANHOLE
  - 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 THE JETVAC PROCESS
- A. 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 AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

OWNER'S REPRESENTATIVE:
shinberg CONSULTING, LLC

PREPARED BY:
Mitchell & Associates LANDSCAPE ARCHITECTS
THE STAPLES SCHOOL 70 CENTER STREET PORTLAND, MAINE 04101
PHONE: 207.774.4427 FAX: 207.874.2460

MARK MUELLER ARCHITECTS
100 COMMERCIAL ST #205
PORTLAND, MAINE 04101
207-774-9057

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 310 - 0506

STATE OF MAINE
DUSTIN M. ROMA
No. 12131
LICENSED
PROFESSIONAL ENGINEER
7-2-19

REV	DATE	BY	DESCRIPTION
A	2-13-19	DMR	ISSUED FOR PERMITTING
B	6-18-19	DMR	REVISED PER CITY REVIEW
C	7-2-19	DMR	REVISED PER CITY REVIEW

DETAILS
57 ST. LAWRENCE STREET
PORTLAND, MAINE

FOR:
ST. LAWRENCE DEVELOPMENT, LLC
181 STATE STREET, SUITE 303
PORTLAND, MAINE 04101

18076
JOB NUMBER:

AS NOTED
SCALE:

7-2-2019
DATE:

--

C-4

PLAN VIEW

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.

Calculation Summary

Label	Avg	Max	Min	Avg/Min	Max/Min
site	0.71	5.9	0.0	N.A.	N.A.

Luminaire Schedule (note fixture catalogue numbers are not complete)

Type	Symbol	Qty	Lum. Lumens	LLF	Lum. Watts	Description
B		3	3340	0.900	28.79	WDS-D-24L-30-3K7-3
C		8	723	0.900	8.422	BLSD5-09C3-30KS-90-S-WH
E		1	1129	0.900	17.3	CY1-15-3K7-1-2D-R
F		3	462	0.900	6.8	EC-LED-e66-WFL-12

TITLE
57 ST LAWRENCE STREET
PORTLAND, ME
SITE LIGHTING LAYOUT

Site 2-11-19 rev 1.AGI

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

GENERATED FOR:
MITCHELL ASSOCIATES

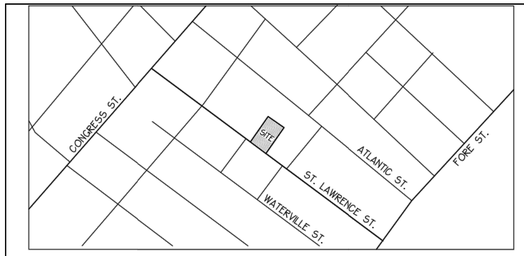
SCALE NOT TO SCALE

Page 1 of 1

Date:2/11/2019

SWANEY LIGHTING ASSOCIATES, INC.

NOTICE: THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SWANEY LIGHTING ASSOCIATES. ITS ACCEPTANCE CONSTITUTES AN AGREEMENT THAT THE DRAWING WILL BE TREATED AS CONFIDENTIAL. THIS DRAWING IS TO BE USED FOR NO PURPOSE OTHER THAN AS DETAILED IN WRITING BY SWANEY LIGHTING ASSOCIATES AND IS NOT TO BE LOANED, COPIED OR REPRODUCED. RETURNED UPON REQUEST AND IS NOT TO BE COMMUNICATED, DISCLOSED OR COPIED; EXCEPT AS EXPRESSLY AUTHORIZED IN WRITING BY SWANEY LIGHTING ASSOCIATES.
ACCEPTANCE BY THE USE OF THIS DRAWING A LAYOUT IS TO SUGGEST THE BEST UTILIZATION OF LIGHTING FIXTURES INCLUDED IN THIS DRAWING. IT IS PROVIDED USING FIXTURE PHOTOMETRICS SUPPLIED BY THE MANUFACTURER. ALTHOUGH THE LAYOUT HAS BEEN PREPARED WITH CARE FROM PERFORMANCE SHOWN IN IES FILE IS NOT THE RESPONSIBILITY OF THE MANUFACTURER, IT'S USE FOR ANY OTHER PURPOSE IS NOT AUTHORIZED BY SWANEY LIGHTING ASSOCIATES.



CONTEXT MAP
N.T.S.

PLAN REFERENCES

1. RECORD OWNERS OF THE PARCEL SURVEYED ARE: ST. LAWRENCE STREET DEVELOPMENT, LLC AS DESCRIBED IN BOOK 32689, PAGE 166 (1/2 INTEREST) AND HIRAM COTTAGE PROPERTIES, LLC AS DESCRIBED IN BOOK 32341, PAGE 090 (1/2 INTEREST), RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
2. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 16, BLOCK E, PARCELS 16 AND 19.
3. THE BEARINGS SHOWN ON THIS PLAN ARE BASED ON MAINE COORDINATE SYSTEM OF 1983, WEST ZONE, GRID NORTH.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
   WORKING DRAWINGS FROM PORTLAND CITY ENGINEERING DEPARTMENT SHOWING STREET LINES FOR ST. LAWRENCE STREET, ATLANTIC STREET, FORE STREET AND MONUMENT STREET.
5. THE WIDTH OF ST. LAWRENCE STREET IS 50' BASED ON STREET LINE PLANS ON FILE WITH THE CITY OF PORTLAND ENGINEERING DEPARTMENT. THE LAYOUT OF THE RIGHT-OF-WAY LIMITS IS BASED ON THOSE PLANS AND STREET MONUMENTS FOUND.
6. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   A. THE LOCUS PARCEL HAS RIGHTS, IN COMMON WITH OTHERS, TO THE 16' WIDE PASSAGEWAY (ST. LAWRENCE PLACE, SO-CALLED) ADJOINING THE SOUTHEASTERLY LINE OF THE LOCUS PARCEL AS DESCRIBED IN BOOK 244, PAGE 359.
7. AS OF THE ORIGINAL DATE OF THIS PLAN, THE PARCEL SURVEYED IS LOCATED IN THE R-6 RESIDENTIAL ZONE.
   OTHER MUNICIPAL AND STATE OVERLAY ZONES MAY EXIST AND APPLY. BEFORE PROCEEDING ON ANY PROJECT WE RECOMMEND VERIFYING CURRENT ZONE AND ALL APPLICABLE SETBACKS AND RESTRICTIONS WITH THE APPROPRIATE AGENCIES.
8. ELEVATIONS AND CONTOURS ARE BASED ON PORTLAND CITY DATUM USING THE MONUMENT FOUND AT THE INTERSECTION OF THE NORTHWESTERLY SIDELINE OF MOODY STREET AND THE NORTHEASTERLY SIDELINE OF MUNJOY STREET, ELEVATION 131.16' CITY DATUM. SEE PLAN FOR TBM DESCRIPTION.
9. THE UTILITIES SHOWN ON THIS PLAN WERE FROM FIELD OBSERVATION ONLY. THERE MAY BE OTHER UTILITIES EXISTING THAT ARE NOT SHOWN. CONTACT DIG-SAFE (888)DIG-SAFE PRIOR TO ANY EXCAVATION WORK.

GENERAL NOTES

1. RECORD OWNER: ST. LAWRENCE STREET DEVELOPMENT, LLC
2. PARCEL DEED REFERENCE: CUMBERLAND COUNTY REGISTER OF DEEDS BOOK 32341, PAGE 090.
3. TAX MAP REFERENCE: CITY OF PORTLAND, MAP – G1ONE, LOT 016 E016 AND 016 E019
4. AREA OF PARCEL = 11,644 SQ. FT. 0.267 ACRES
5. ZONING: RESIDENTIAL 6 (R6) AND MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY.
6. PLAN REFERENCE: PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 57 ST. LAWRENCE ST, PORTLAND, MAINE" PREPARED BY NORTHEAST CIVIL SOLUTIONS, INC. DATED JANUARY 04, 2019
7. SPACE AND BULK REGULATIONS
   (PER CITY OF PORTLAND CODE ORDINANCES SEC. 14-139 AND OVERLAY 14-140.5.a.

	REQUIRED	EXISTING/PROPOSED
MINIMUM LOT SIZE	2,000 SQ. FT.	11,644 SQ. FT.
MINIMUM LOT AREA/DWELLING UNIT	725 SQ. FT.	11,600 SQ. FT. (16 UNITS) 1 WORKFORCE UNIT.
MAXIMUM LOT COVERAGE	60 %	48 %
MINIMUM LOT WIDTH/FRONTAGE	45 FEET	97 FEET
MAXIMUM BUILDING HEIGHT	45 FEET	45 FEET EXISTING STRUCTURE 35' PROPOSED ADDITION INCLUDING ADDED FLOOR TO EXISTING 45' PROPOSED STANDALONE 28'
MINIMUM SIDE YARD	10 FEET	10 FEET (EX. BLDG. 6'5")
MINIMUM REAR YARD	15 FEET	15 FEET
MINIMUM FRONT YARD	5 FEET	5'4"
LANDSCAPED OPEN SPACE	20 %	22 %

   AVERAGE GRADE EXISTING BUILDING AND PROPOSED ADDITION 128.85 FT BASED UPON ELEVATIONS AT CORNERS OF EXISTING AND PROPOSED BUILDINGS-AS SHOWN EQUALS BUILDING HEIGHT OF 173.85 FT *.

   AVERAGE GRADE FOR PROPOSED STANDALONE BUILDING IS 126.79 FT AS SHOWN ON PLAN, PLUS 28 FT BUILDING HEIGHT EQUALS ELEVATION OF 154.79 FT *.
   * SEE BUILDING HEIGHT EXHIBIT REV. DATE JUNE 17, 2019.
8. PARKING REQUIREMENTS

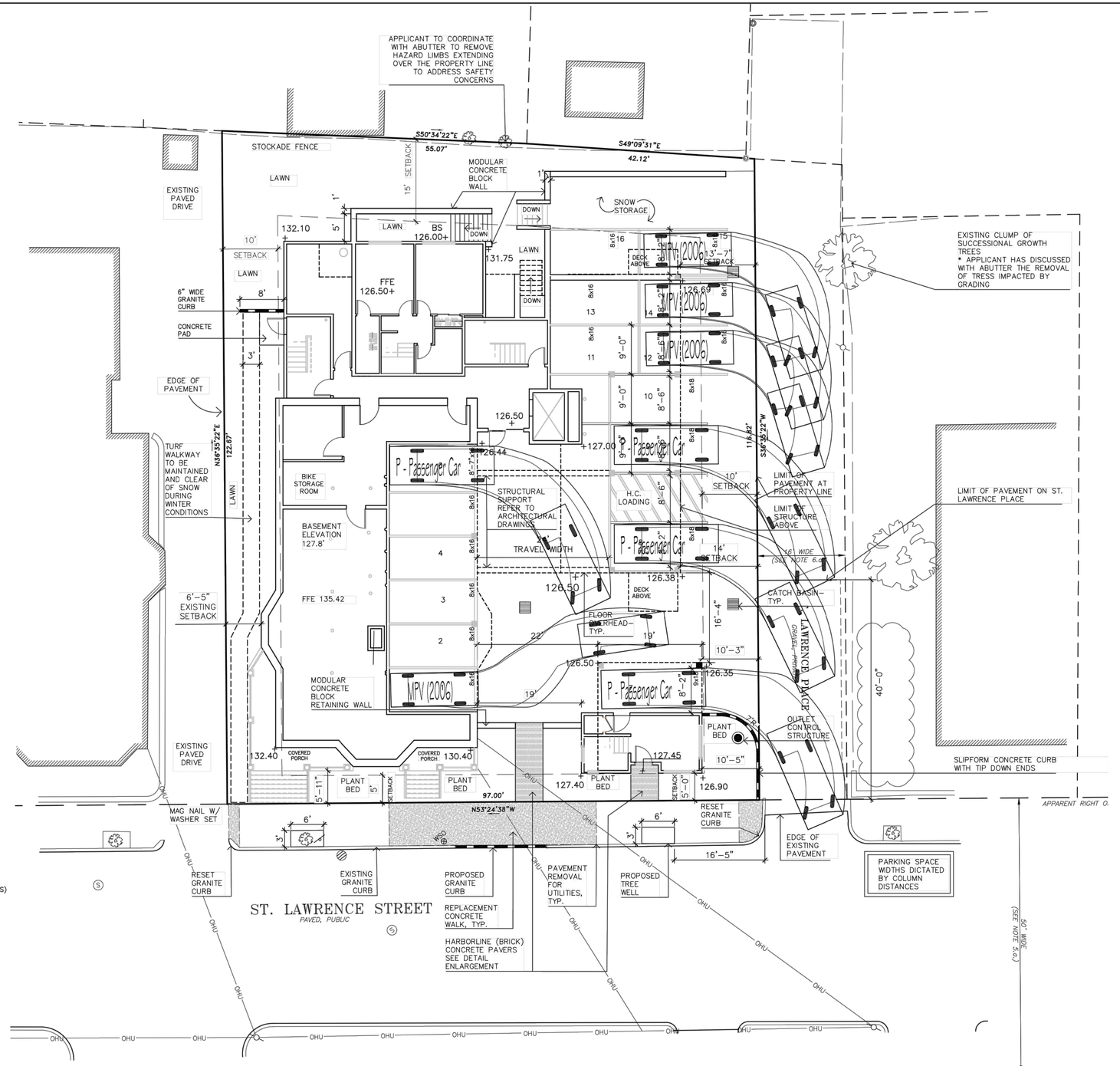
VEHICLE:	REQUIRED	PROPOSED
EXISTING 6 UNIT BUILDING (1 SPACE/UNIT)	6	16 (15 COMPACT SPACES OF WHICH 6 ARE TANDEM SPACES)
ADDITION 9 UNITS (1 SPACE/UNIT)	9	–
SINGLE FAMILY (2 SPACES/UNIT)	2	–
	(17)	16*
		1 SPACES 9X18
EXEMPTION FIRST 3 UNITS	14	3* SPACES 8X18 (1 ADA SPACE)
		12 SPACES 8X16
BICYCLE: 2 SPACES PER 5 UNITS	7	7

9. PROJECT BENCHMARK: LAG BOLT IN POLE #7 ELEV.= 130.85' (CITY DATUM)
10. SITE LIGHTING SHALL MEET THE CITY OF PORTLAND STANDARDS AS OUTLINED IN SECTION 12 OF THE CITY OF PORTLAND TECHNICAL DESIGN STANDARDS. SITE LIGHTING SHALL ADHERE TO SECTION 12.2.5 LIGHT TRESPASSING– LIGHTING SHALL NOT BE GREATER THAN 0.1 FOOTCANDLES AT THE PROPERTY LINE.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
SETBACK		
RIGHT-OF-WAY		
EASEMENT		
VEGETATION		
FENCE		
UTILITY		
LIGHTING		
UTILITY POLE		
CAPPED IRON ROD		

	EXISTING	PROPOSED
MANHOLE		
VALVE		
WATER SHUT OFF		
SEWER		
CATCH BASIN		
OUTLET CONTROL STRUCTURE		
OVERHEAD WIRES	OHU	
SIGN		
CURB		
GRAVEL SURFACE		



SHERBROOKE STREET

Approved: Portland Planning Board

Date:_____

Chair,

Board Members,

LICENSED LANDSCAPE ARCHITECT ROBERT B. METCALF No. 1815

NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.

Prepared For Owner/Applicant:
ST. LAWRENCE DEVELOPMENT LLC
181 State Street, Suite 303
Portland, ME 04101
207-772-7070

Owner's Rep.:
shinberg CONSULTING, LLC

Prepared By:
Mitchell & Associates LANDSCAPE ARCHITECTS
The Staples School 70 Center Street Portland, Maine 04101
Phone: 207.774.4427 Fax: 207.874.2660

MARK MUELLER ARCHITECTS
100 Commercial St #205
Portland, ME 04101
207-774-9057

DM ROMA CONSULTING ENGINEERS
59 Harvest Hill Rd,
Windham, ME 04062
207-310-0506

55-59 ST. LAWRENCE ST.
57 SAINT LAWRENCE ST. Portland, Maine

Date: JUNE 27, 2019

Issued For: PERMITTING

Revisions:

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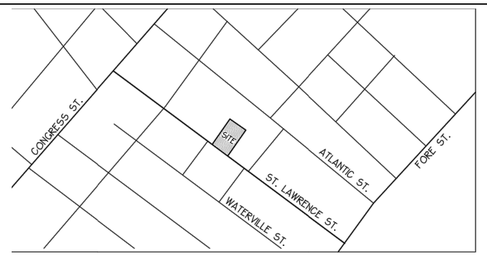
Title: VEHICLE TURNING MOVEMENT EXHIBIT

Scale: 1"=10'

North:

EXHIBIT 3



ONTEXT MAP

.T.S.

LAN REFERENCES

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ERENCE IS MADE TO THE FOLLOWING PLANS:
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ENERAL NOTES

CORD OWNER: ST. LAWRENCE STREET DEVELOPMENT, LLC

RCEL DEED REFERENCE: CUMBERLAND COUNTY REGISTER OF DEEDS BOOK 32341, PAGE 090.

X MAP REFERENCE: CITY OF PORTLAND, MAP - G10NE, LOT 016 E016 AND 016 E019

EA OF PARCEL = 11,644 SQ. FT. 0.267 ACRES

NING: RESIDENTIAL 6 (R6) AND MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY.

AN REFERENCE: PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 57 ST. LAWRENCE ST, PORTLAND, MAINE" PREPARED NORTHEAST CIVIL SOLUTIONS, INC. DATED JANUARY 04, 2019

ACE AND BULK REGULATIONS
ER CITY OF PORTLAND CODE ORDINANCES SEC. 14-139 AND OVERLAY 14-140.5.a.

	REQUIRED	EXISTING/PROPOSED
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IMUM LOT AREA/DWELLING UNIT	725 SQ. FT.	11,600 SQ. FT. (16 UNITS) 1 WORKFORCE UNIT.
XIMUM LOT COVERAGE	60 %	48 %
IMUM LOT WIDTH/FRONTAGE	45 FEET	97 FEET
XIMUM BUILDING HEIGHT	45 FEET	45 FEET EXISTING STRUCTURE 35' PROPOSED ADDITION INCLUDING ADDED FLOOR TO EXISTING 45' PROPOSED STANDALONE 28'
	10 FEET	10 FEET (EX. BLDG. 6'5")
IMUM SIDE YARD	15 FEET	15 FEET
IMUM REAR YARD	5 FEET	5'4"
IMUM FRONT YARD	20 %	22 %
NDSCAPED OPEN SPACE		

ERAGE GRADE EXISTING BUILDING AND PROPOSED ADDITION 128.86 FT BASED UPON ELEVATIONS AT CORNERS EXISTING AND PROPOSED BUILDINGS-AS SHOWN EQUALS BUILDING HEIGHT OF 173.86 FT *.

ERAGE GRADE FOR PROPOSED STANDALONE BUILDING IS 126.79 FT AS SHOWN ON PLAN, PLUS 28 FT BUILDING HEIGHT UALS ELEVATION OF 154.79 FT *.
SEE BUILDING HEIGHT EXHIBIT REV. DATE JUNE 17, 2019.

RKING REQUIREMENTS

HICLE:	REQUIRED	PROPOSED
STING 6 UNIT BUILDING (1 SPACE/UNIT)	6	16 (15 COMPACT SPACES OF WHICH 6 ARE TANDEM SPACES)
DITION 9 UNITS (1 SPACE/UNIT)	9	–
IGLE FAMILY (2 SPACES/UNIT)	2	–
	(17)	16*
EMPTION FIRST 3 UNITS	14	
YCLE: 2 SPACES PER 5 UNITS	7	7

1 SPACES 9X18
3* SPACES 8X18 (1 ADA SPACE)
12 SPACES 8X16

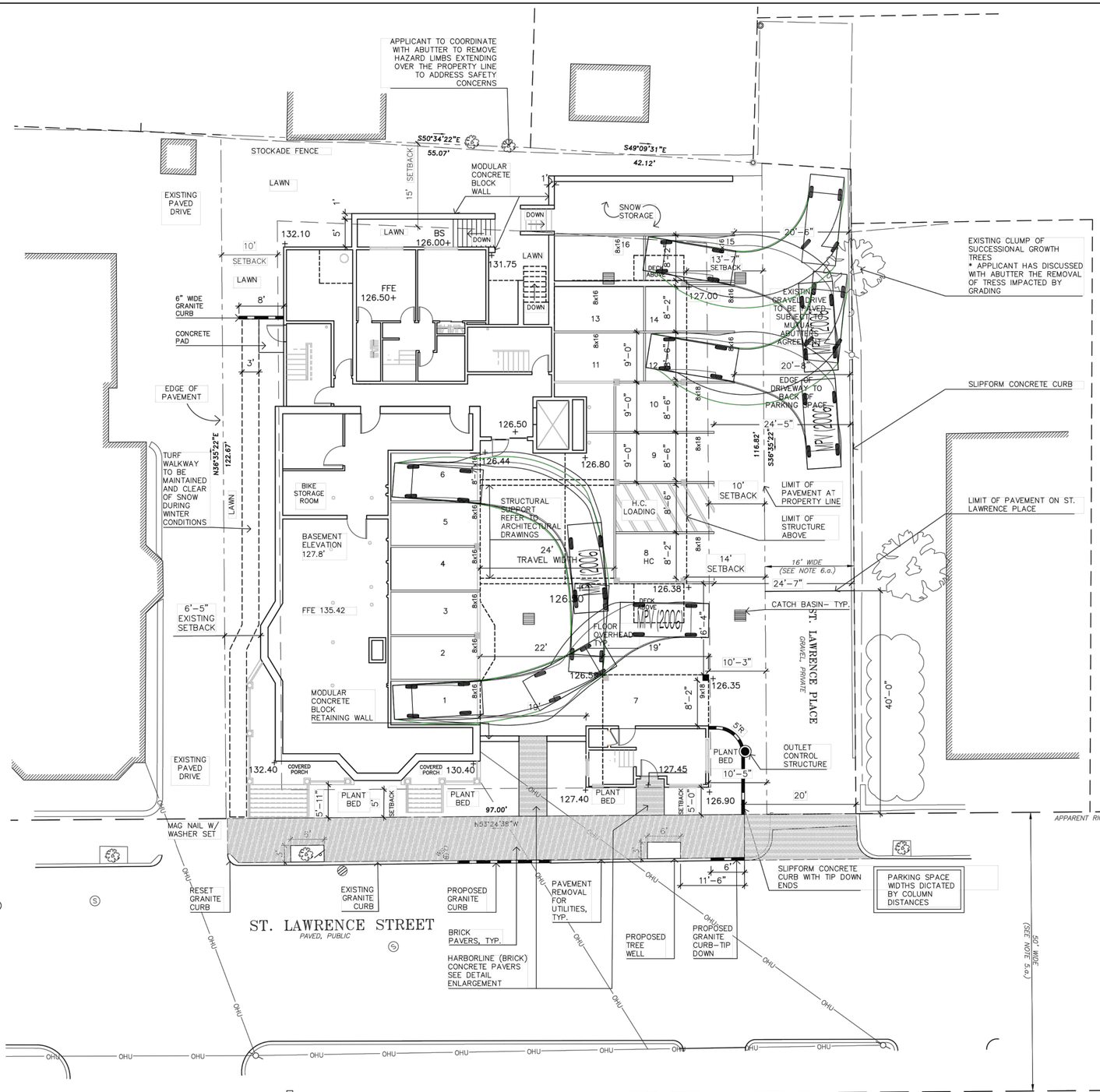
OJECT BENCHMARK: LAG BOLT IN POLE #7 ELEV.= 130.85' (CITY DATUM)

E LIGHTING SHALL MEET THE CITY OF PORTLAND STANDARDS AS OUTLINED IN SECTION 12 OF THE CITY OF PORTLAND CHNICAL DESIGN STANDARDS. SITE LIGHTING SHALL ADHERE TO SECTION 12.2.5 LIGHT TRESPASSING- LIGHTING SHALL NOT BE EATER THAN 0.1 FOOTCANDLES AT THE PROPERTY LINE.

EGEND

	EXISTING	PROPOSED
ROPERTY LINE		
ETBACK		
GHT-OF-WAY		
ASEMENT		
EGETATION		
ENCE		
TILITY		
GHTING		
TILITY POLE		
APPED IRON ROD		

	EXISTING	PROPOSED
MANHOLE		
VALVE		
WATER SHUT OFF	WSO	
SEWER	S	
CATCH BASIN		
OUTLET CONTROL STRUCTURE		
OVERHEAD WIRES	OHU	
SIGN		
CURB		
GRAVEL SURFACE		



Approved: Portland Planning Board

Date:

Chair,

Board Members,

LICENSED LANDSCAPE ARCHITECT
ROBERT B. METCALF
No. 1815

NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.

Prepared For Owner/Applicant:
ST. LAWRENCE DEVELOPMENT LLC
181 State Street, Suite 303
Portland, ME 04101
207-772-7070

Owner's Rep.:
shinberg CONSULTING, LLC

Prepared By:
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55-59 ST. LAWRENCE ST.

57 SAINT LAWRENCE STREET Portland, Maine

Date:
JULY 1, 2019

Issued For:
PERMITTING

Revisions:

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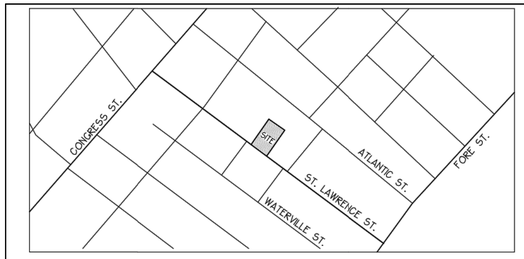
Title:
COMPACT VEHICLE TURNING MOVEMENT EXHIBIT

Scale:
1"=10'

North:

EXHIBIT
3



CONTEXT MAP
N.T.S.

PLAN REFERENCES

. RECORD OWNERS OF THE PARCEL SURVEYED ARE: ST. LAWRENCE STREET DEVELOPMENT, LLC AS DESCRIBED IN BOOK 32689, PAGE 166 (1/2 INTEREST) AND HIRAM COTTAGE PROPERTIES, LLC AS DESCRIBED IN BOOK 32341, PAGE 090 (1/2 INTEREST), RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.

!. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 16, BLOCK E, PARCELS 16 AND 19.

i. THE BEARINGS SHOWN ON THIS PLAN ARE BASED ON MAINE COORDINATE SYSTEM OF 1983, WEST ZONE, GRID NORTH.

i. REFERENCE IS MADE TO THE FOLLOWING PLANS:
WORKING DRAWINGS FROM PORTLAND CITY ENGINEERING DEPARTMENT SHOWING STREET LINES FOR ST. LAWRENCE STREET, ATLANTIC STREET, FORE STREET AND MONUMENT STREET.

i. THE WIDTH OF ST. LAWRENCE STREET IS 50' BASED ON STREET LINE PLANS ON FILE WITH THE CITY OF PORTLAND ENGINEERING DEPARTMENT. THE LAYOUT OF THE RIGHT-OF-WAY LIMITS IS BASED ON THOSE PLANS AND STREET MONUMENTS FOUND.

i. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
A. THE LOCUS PARCEL HAS RIGHTS, IN COMMON WITH OTHERS, TO THE 16' WIDE PASSAGEWAY (ST. LAWRENCE PLACE, SO-CALLED) ADJOINING THE SOUTHEASTERLY LINE OF THE LOCUS PARCEL AS DESCRIBED IN BOOK 244, PAGE 359.

'. AS OF THE ORIGINAL DATE OF THIS PLAN, THE PARCEL SURVEYED IS LOCATED IN THE R-6 RESIDENTIAL ZONE.
OTHER MUNICIPAL AND STATE OVERLAY ZONES MAY EXIST AND APPLY. BEFORE PROCEEDING ON ANY PROJECT WE RECOMMEND VERIFYING CURRENT ZONE AND ALL APPLICABLE SETBACKS AND RESTRICTIONS WITH THE APPROPRIATE AGENCIES.

i. ELEVATIONS AND CONTOURS ARE BASED ON PORTLAND CITY DATUM USING THE MONUMENT FOUND AT THE INTERSECTION OF THE NORTHWESTERLY SIDELINE OF MOODY STREET AND THE NORTHEASTERLY SIDELINE OF MUNJOY STREET, ELEVATION 131.16' CITY DATUM. SEE PLAN FOR TBM DESCRIPTION.

i. THE UTILITIES SHOWN ON THIS PLAN WERE FROM FIELD OBSERVATION ONLY. THERE MAY BE OTHER UTILITIES EXISTING THAT ARE NOT SHOWN. CONTACT DIG-SAFE (888)DIG-SAFE PRIOR TO ANY EXCAVATION WORK.

GENERAL NOTES

. RECORD OWNER: ST. LAWRENCE STREET DEVELOPMENT, LLC

!. PARCEL DEED REFERENCE: CUMBERLAND COUNTY REGISTER OF DEEDS BOOK 32341, PAGE 090.

i. TAX MAP REFERENCE: CITY OF PORTLAND, MAP – G10NE, LOT 016 E016 AND 016 E019

i. AREA OF PARCEL = 11,644 SQ. FT. 0.267 ACRES

i. ZONING: RESIDENTIAL 6 (R6) AND MUNJOY HILL NEIGHBORHOOD CONSERVATION OVERLAY.

i. PLAN REFERENCE: PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 57 ST. LAWRENCE ST, PORTLAND, MAINE" PREPARED BY NORTHEAST CIVIL SOLUTIONS, INC. DATED JANUARY 04, 2019

'. SPACE AND BULK REGULATIONS
(PER CITY OF PORTLAND CODE ORDINANCES SEC. 14-139 AND OVERLAY 14-140.5.a.

	REQUIRED	EXISTING/PROPOSED
MINIMUM LOT SIZE	2,000 SQ. FT.	11,644 SQ. FT.
MINIMUM LOT AREA/DWELLING UNIT	725 SQ. FT.	11,600 SQ. FT. (16 UNITS) 1 WORKFORCE UNIT.
MAXIMUM LOT COVERAGE	60 %	48 %
MINIMUM LOT WIDTH/FRONTAGE	45 FEET	97 FEET
MAXIMUM BUILDING HEIGHT	45 FEET	45 FEET EXISTING STRUCTURE 35' PROPOSED ADDITION INCLUDING ADDED FLOOR TO EXISTING 45'
	10 FEET	PROPOSED STANDALONE 28'
MINIMUM SIDE YARD	15 FEET	10 FEET (EX. BLDG. 6'5")
MINIMUM REAR YARD	5 FEET	15 FEET
MINIMUM FRONT YARD	20 %	5'4"
LANDSCAPED OPEN SPACE		22 %

AVERAGE GRADE EXISTING BUILDING AND PROPOSED ADDITION 128.86 FT BASED UPON ELEVATIONS AT CORNERS OF EXISTING AND PROPOSED BUILDINGS-AS SHOWN EQUALS BUILDING HEIGHT OF 173.86 FT *.

AVERAGE GRADE FOR PROPOSED STANDALONE BUILDING IS 126.79 FT AS SHOWN ON PLAN, PLUS 28 FT BUILDING HEIGHT EQUALS ELEVATION OF 154.79 FT *.
* SEE BUILDING HEIGHT EXHIBIT REV. DATE JUNE 17, 2019.

8. PARKING REQUIREMENTS

VEHICLE:	REQUIRED	PROPOSED
EXISTING 6 UNIT BUILDING (1 SPACE/UNIT)	6	16 (15 COMPACT SPACES OF WHICH 6 ARE TANDEM SPACES)
ADDITION 9 UNITS (1 SPACE/UNIT)	9	–
SINGLE FAMILY (2 SPACES/UNIT)	2	–
	(17)	16*
		1 SPACES 9X18
EXEMPTION FIRST 3 UNITS	14	3* SPACES 8X18 (1 ADA SPACE)
		12 SPACES 8X16
BICYCLE: 2 SPACES PER 5 UNITS	7	7

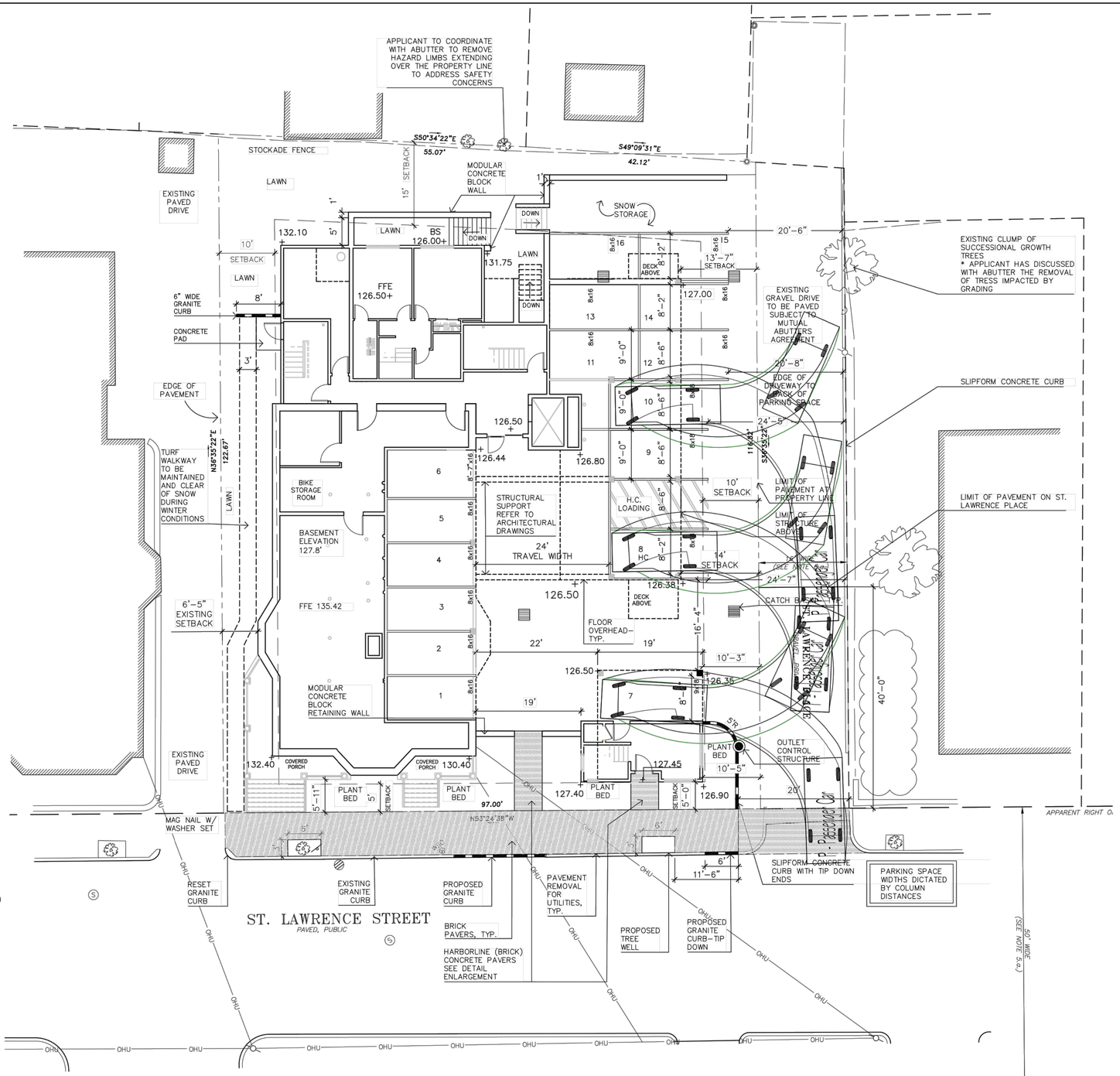
9. PROJECT BENCHMARK: LAG BOLT IN POLE #7 ELEV.= 130.85' (CITY DATUM)

0. SITE LIGHTING SHALL MEET THE CITY OF PORTLAND STANDARDS AS OUTLINED IN SECTION 12 OF THE CITY OF PORTLAND TECHNICAL DESIGN STANDARDS. SITE LIGHTING SHALL ADHERE TO SECTION 12.2.5 LIGHT TRESPASSING– LIGHTING SHALL NOT BE GREATER THAN 0.1 FOOTCANDLES AT THE PROPERTY LINE.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
SETBACK		
RIGHT-OF-WAY		
EASEMENT		
VEGETATION		
FENCE		
UTILITY		
LIGHTING		
UTILITY POLE		
CAPPED IRON ROD		

	EXISTING	PROPOSED
MANHOLE		
VALVE		
WATER SHUT OFF		
SEWER		
CATCH BASIN		
OUTLET CONTROL STRUCTURE		
OVERHEAD WIRES	OHU	
SIGN		
CURB		
GRAVEL SURFACE		



Approved: Portland Planning Board

Date:_____

Chair,

Board Members,

LICENSED LANDSCAPE ARCHITECT
ROBERT B. METCALF
No. 1815

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Prepared By:
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55-59 ST. LAWRENCE ST.
57 SAINT LAWRENCE ST. Portland, Maine

Date:
JULY 1, 2019

Issued For:
PERMITTING

Revisions:

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Title:
PASSENGER VEHICLE TURNING MOVEMENT EXHIBIT

Scale:
1"=10'

North:

EXHIBIT
3.1

GREEN SPACE SQUARE FOOTAGE

GREEN SPACE CALCULATIONS:

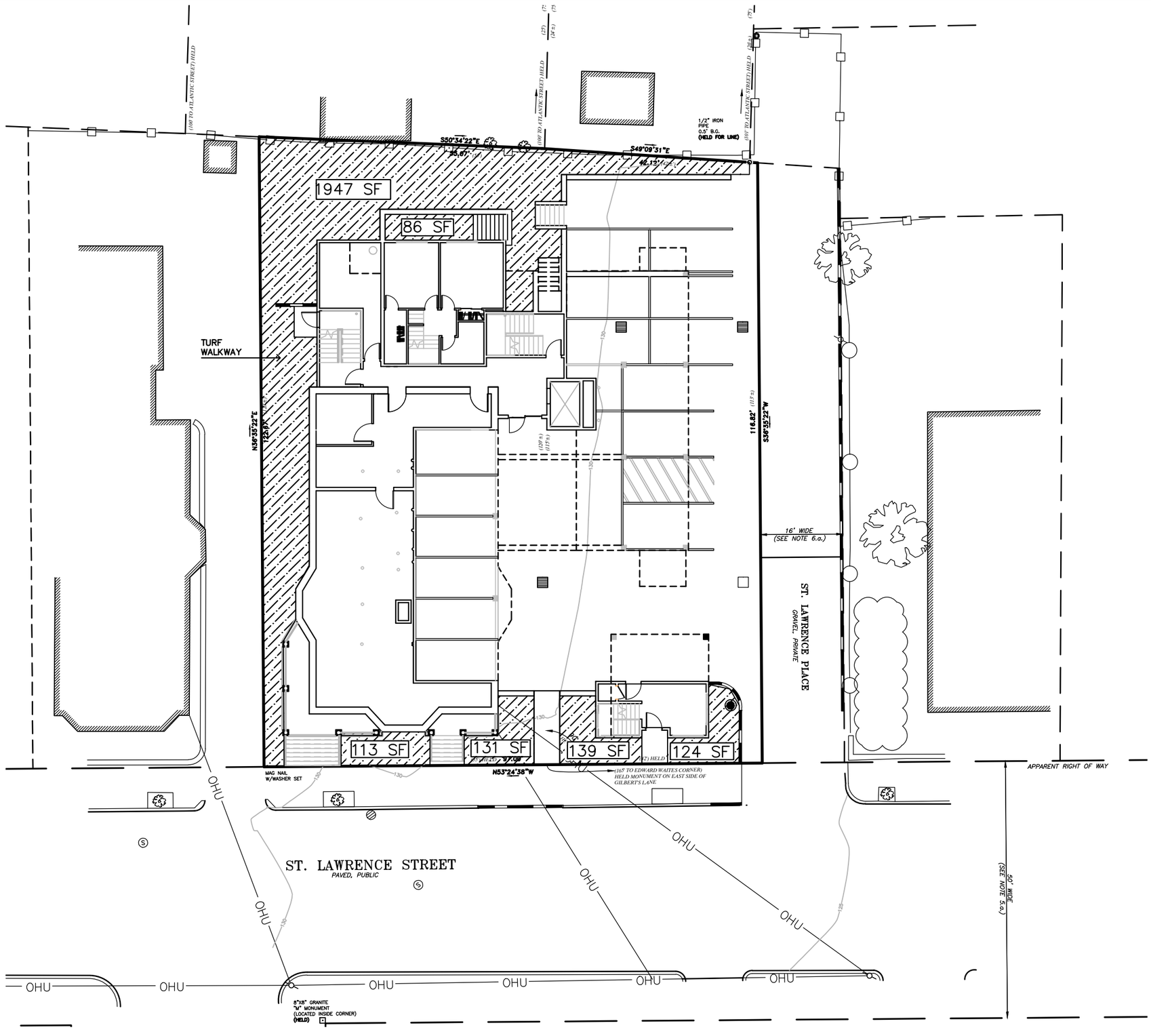
1947
86
131
139
124
113
2,540 SQUARE FEET

11644 TOTAL LOT SQUARE FOOTAGE

21.81% GREEN SPACE LOT COVERAGE

LEGEND

GREEN SPACE



2

Title: LANDSCAPED OPEN SPACE LOT COVERAGE PERCENTAGE

Date: FEBRUARY 13, 2019 / REVISED JULY 1, 2019 Scale: 1" = 20'

Project: 55-59 SAINT LAWRENCE ST.
55-59 ST. LAWRENCE ST. PORTLAND, MAINE

Mitchell & Associates
LANDSCAPE ARCHITECTS
70 Center Street
Portland, Maine 04101
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BUILDING HEIGHT EXHIBIT

① EXISTING BUILDING CORNER ELEVATIONS
132.40
130.40

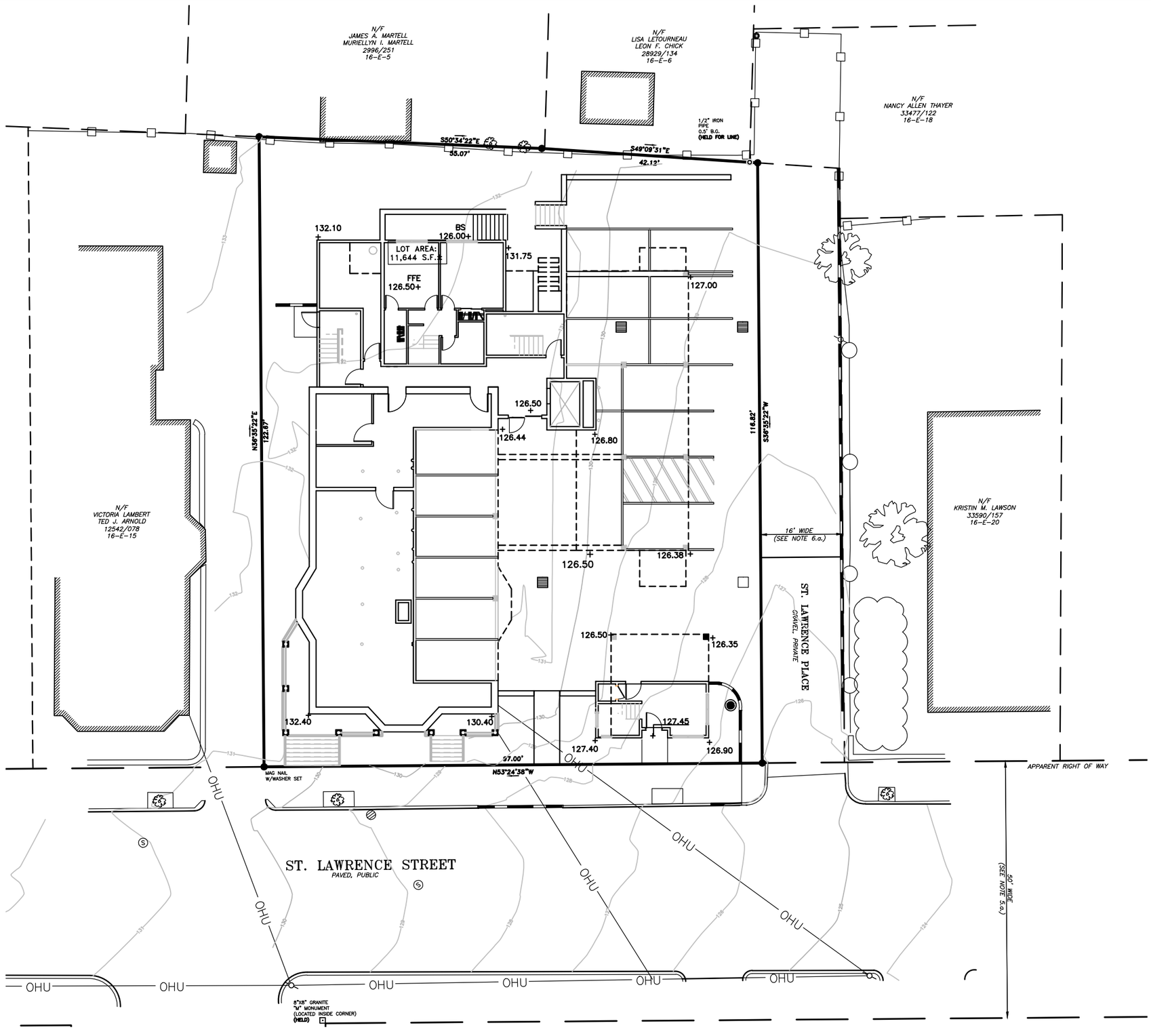
BUILDING ADDITION ELEVATIONS
132.10
131.75
127.00
126.44
126.38
126.50
126.80 896.86 = 1159.77 ÷ 9 = 128.86

128.86 AVERAGE ELEVATION
ALLOWED BUILDING HEIGHT 45'

MAXIMUM BUILDING HEIGHT ADDITION 173.86'

② TWO-STORY SINGLE FAMILY ELEVATIONS
126.50
126.35
126.90
127.40
507.15 ÷ 4 =
126.79 AVERAGE ELEVATION
ALLOWED BUILDING HEIGHT 35'

MAXIMUM BUILDING HEIGHT SINGLE FAMILY
161.79'



Title: BUILDING HEIGHT EXHIBIT
Date: FEBRUARY 13, 2019 / REVISED JULY 1, 2019
Scale: 1" = 20'
Project: 55-59 SAINT LAWRENCE ST.
55-59 ST. LAWRENCE ST. PORTLAND, MAINE

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57 St. Lawrence

EXISTING UNIT TABULATION:

FIRST FLOOR:

UNIT 1A	1 BR	1 BA	661 SF
UNIT 1B	2 BR	1 BA	910 SF
UNIT 1C	1 BR	1 BA	514 SF

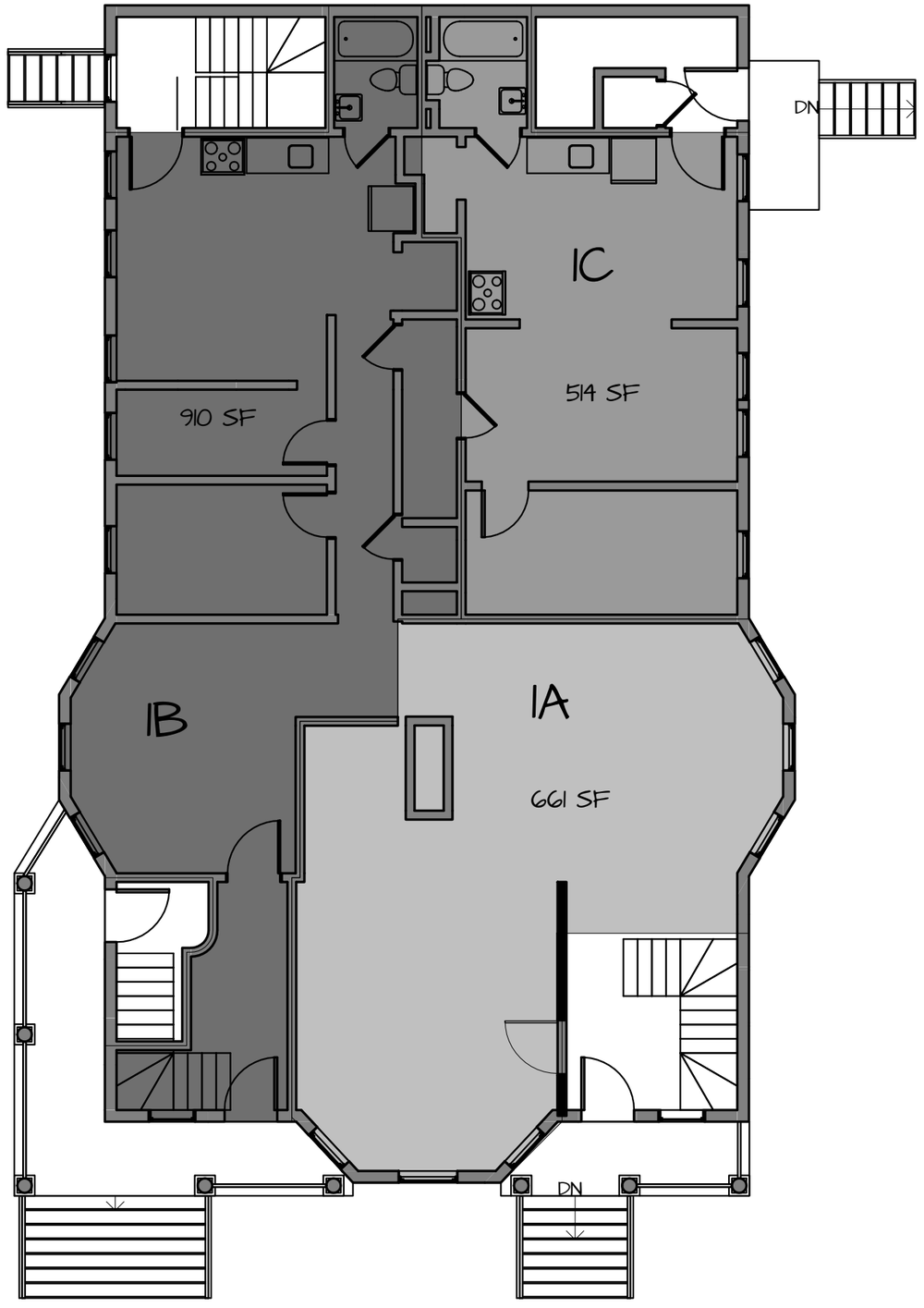
SECOND FLOOR

UNIT 2A	2 BR	1 BA	1178 SF
UNIT 2B	2 BR	1 BA	773 SF

THIRD FLOOR

UNIT 3A	2 BR	1 BA	1,205 SF
UNIT 3B	2 BR	1 BA	909 SF

Total:
(5) 2 BR
(2) 1 BR



1st Floor - Existing Building
1/8" = 1'-0"

MARK MUELLER ARCHITECTS
100 Commercial Street
Suite 205
Portland, Maine 04101
Phon: 207.774.9057
email:
rfi@muellerarchitects.com

Preliminary

Site Plan Review

Revised and Resubmitted 6/18/19

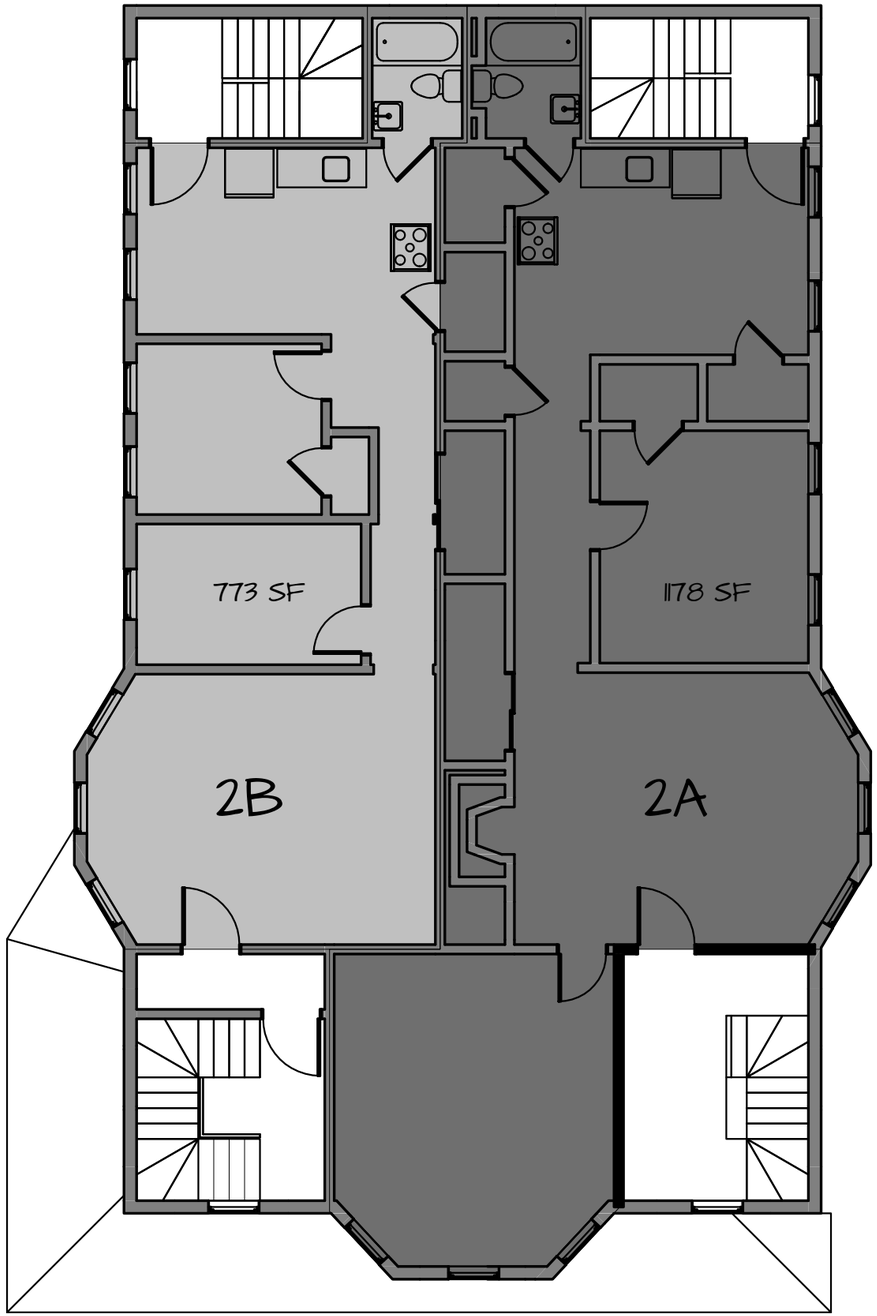
shinberg CONSULTING, LLC

ST. LAWRENCE DEVELOPMENT, LLC
OWNER

55-59 St. Lawrence Street
Portland, Maine 04112

EX-1.1

57
St.
Lawrence



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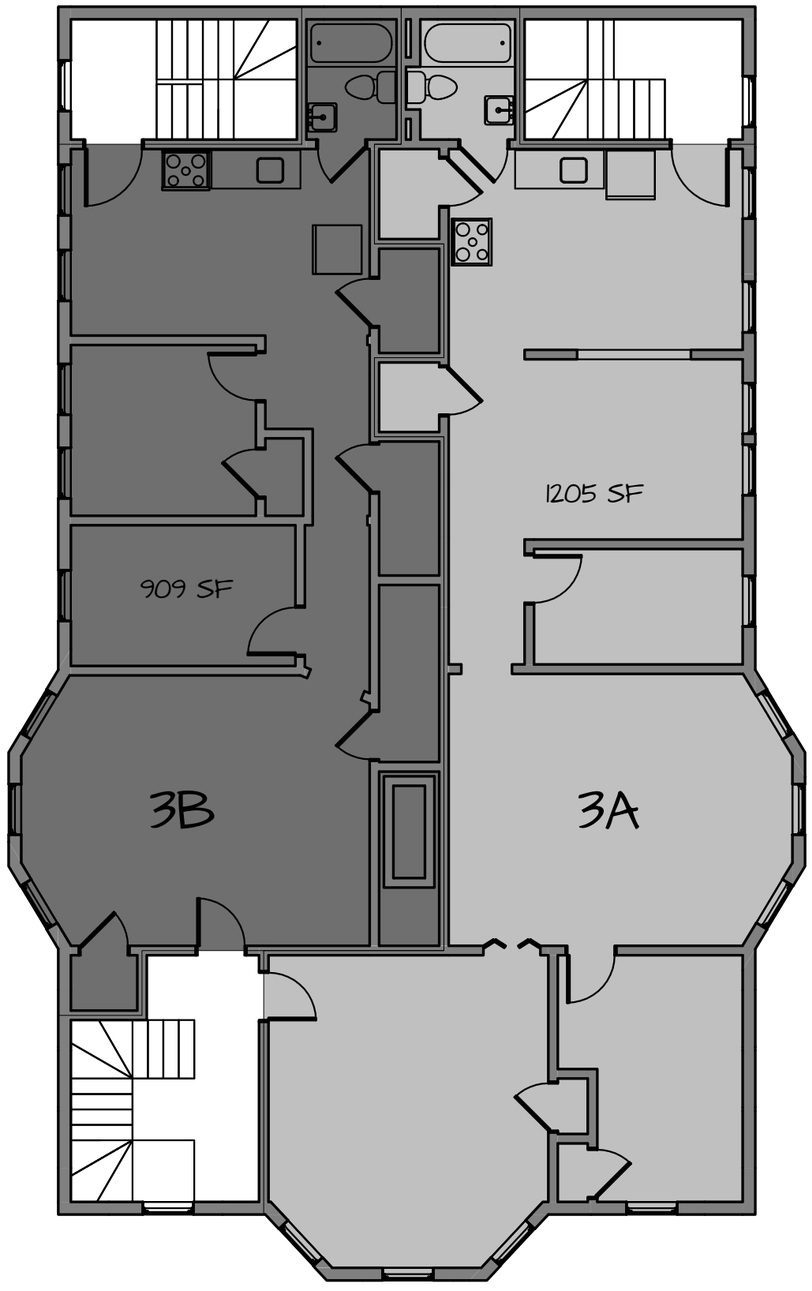
2nd Floor - Existing Building
1/8" = 1'-0"

EX-1.2

57
St.
Lawrence



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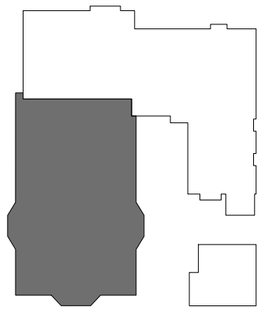
Revised and Resubmitted 6/18/19

3rd Floor - Existing Building
1/8" = 1'-0"

EX-1.3

57 St. Lawrence

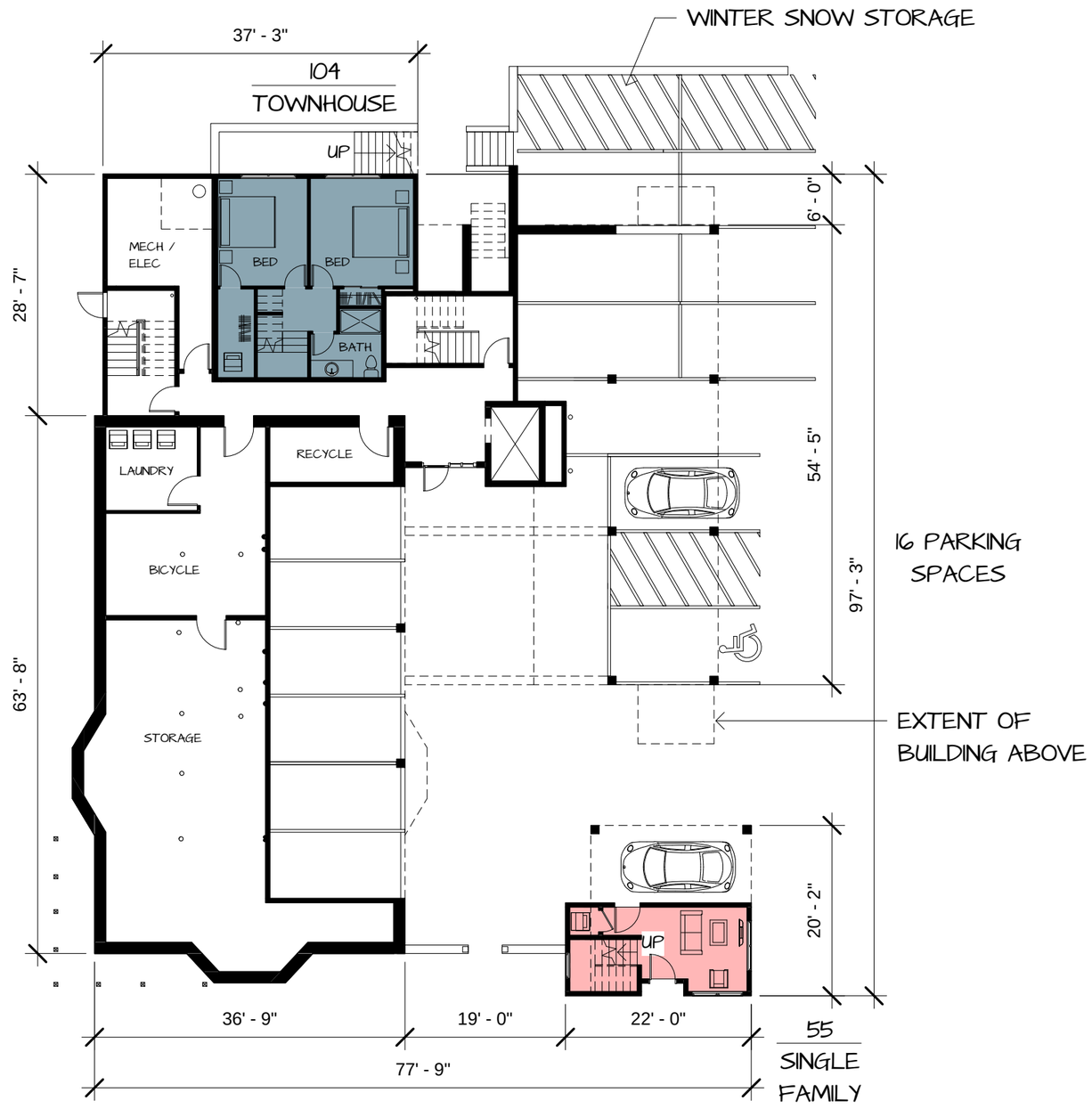


NEW BUILDING
EXISTING BUILDING

BUILDING AREA TABULATION:

EXISTING BUILDING TOTAL:	7303 SF
NEW BUILDING TOTAL:	14,287 SF
TOTAL AREA:	21,590 SF

COVERED PARKING TOTAL: 2088 SF



PROPOSED GARDEN LEVEL
1/16" = 1'-0"

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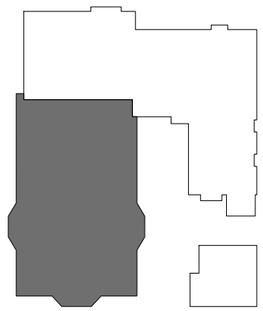
A-1.0

57 St. Lawrence



NEW BUILDING ☐
EXISTING BUILDING ■

UNIT TABULATION:

FIRST FLOOR:

UNIT 101	2 BR	1 BA	1,023 SF	
UNIT 102	1 BR	1 BA	665 SF	
UNIT 103✱✱	1 BR	1 BA	610 SF	
UNIT 104	3 BR	2 BA	1,229 SF	(2A)
UNIT 105	1 BR	1 BA	628 SF	(1C)

SECOND FLOOR

UNIT 201	2 BR	1 BA	1,163 SF	(2B)
UNIT 202	2 BR	1 BA	1,149 SF	(3B)
UNIT 203✱	2 BR	1 BA	704 SF	(1A)
UNIT 204	2 BR	1.5 BA	936 SF	(1B)
UNIT 205	1 BR	1 BA	628 SF	

THIRD FLOOR

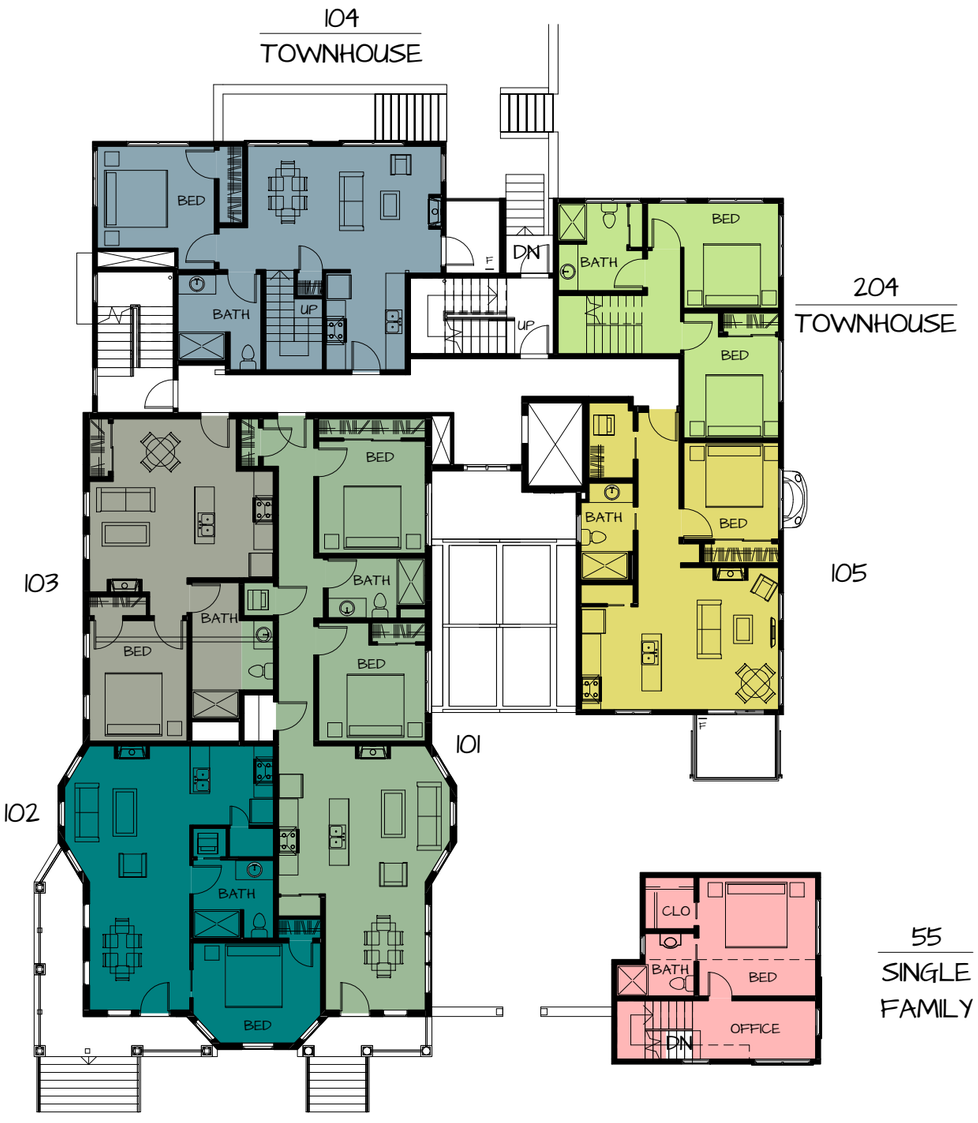
UNIT 301	2 BR	1 BA	1,442 SF	
UNIT 302	2 BR	1 BA	1,247 SF	(3A)
UNIT 303	3 BR	2 BA	1,447 SF	
UNIT 304	2 BR	2.5 BA	1,038 SF	
UNIT 305	2 BR	2 BA	1,191 SF	

SINGLE FAMILY

UNIT 55	1 BR	1.5 BA	905 SF

AVERAGE UNIT SIZE: 1007 SF

NOTES INCLUSIONARY HOUSING ✱
NOTES WORKFORCE HOUSING ✱✱
ALL EXISTING RENOVATED UNITS ARE INCREASED IN SIZE.
ALL UNIT AREAS ARE BASED ON BOMA STANDARDS.
OWNER TO PAY FEE IN LIEU OF CONSTRUCTING 2ND INCLUSIONARY UNIT.



PROPOSED FIRST FLOOR
1/16" = 1'-0"

EXISTING UNIT COUNT:

EXISTING BUILDING: 7 UNITS

PROPOSED UNIT COUNT:

EXISTING BUILDING RENOVATED: 7 UNITS
NEW BUILDING: 8 UNITS
STAND ALONE: 1 UNIT

TOTAL: 28 BEDROOMS
(2) 3 BEDROOMS
(9) 2 BEDROOMS
(4) 1 BEDROOMS

ALL UNITS ARE GREATER THAN 600 SF AND NO EXISTING UNITS OVER 1000 SF ARE REDUCED BELOW 1000 SF.

shinberg CONSULTING, LLC

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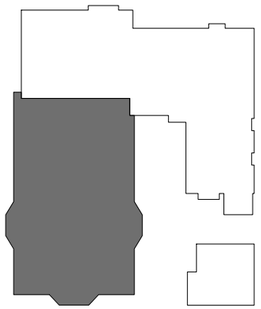
A-1.1

57 St. Lawrence



NEW BUILDING

EXISTING BUILDING

PROPOSED SECOND FLOOR

1/16" = 1'-0"

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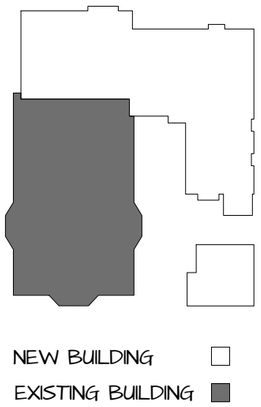
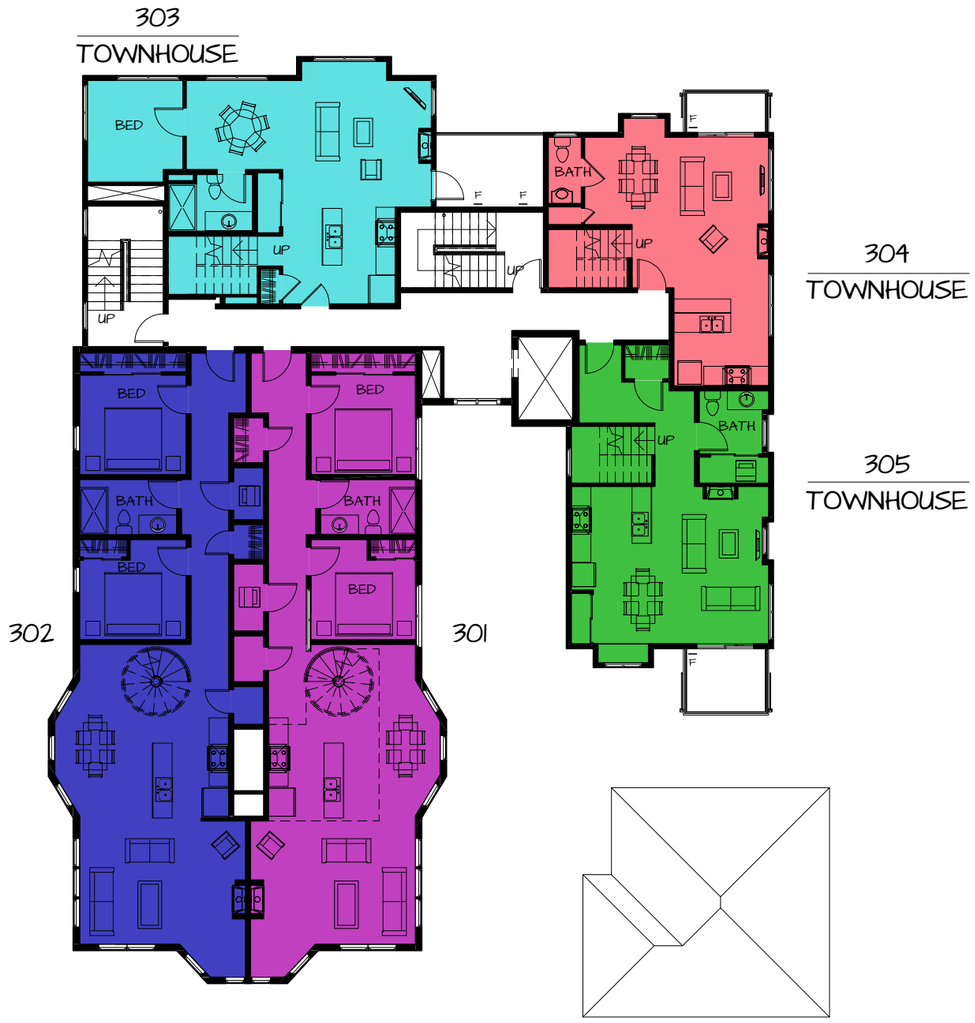
A-1.2

57 St. Lawrence





PROPOSED THIRD FLOOR

1/16" = 1'-0"

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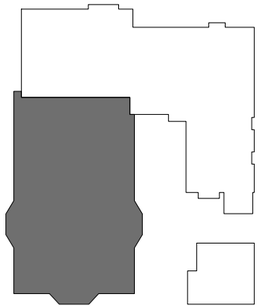
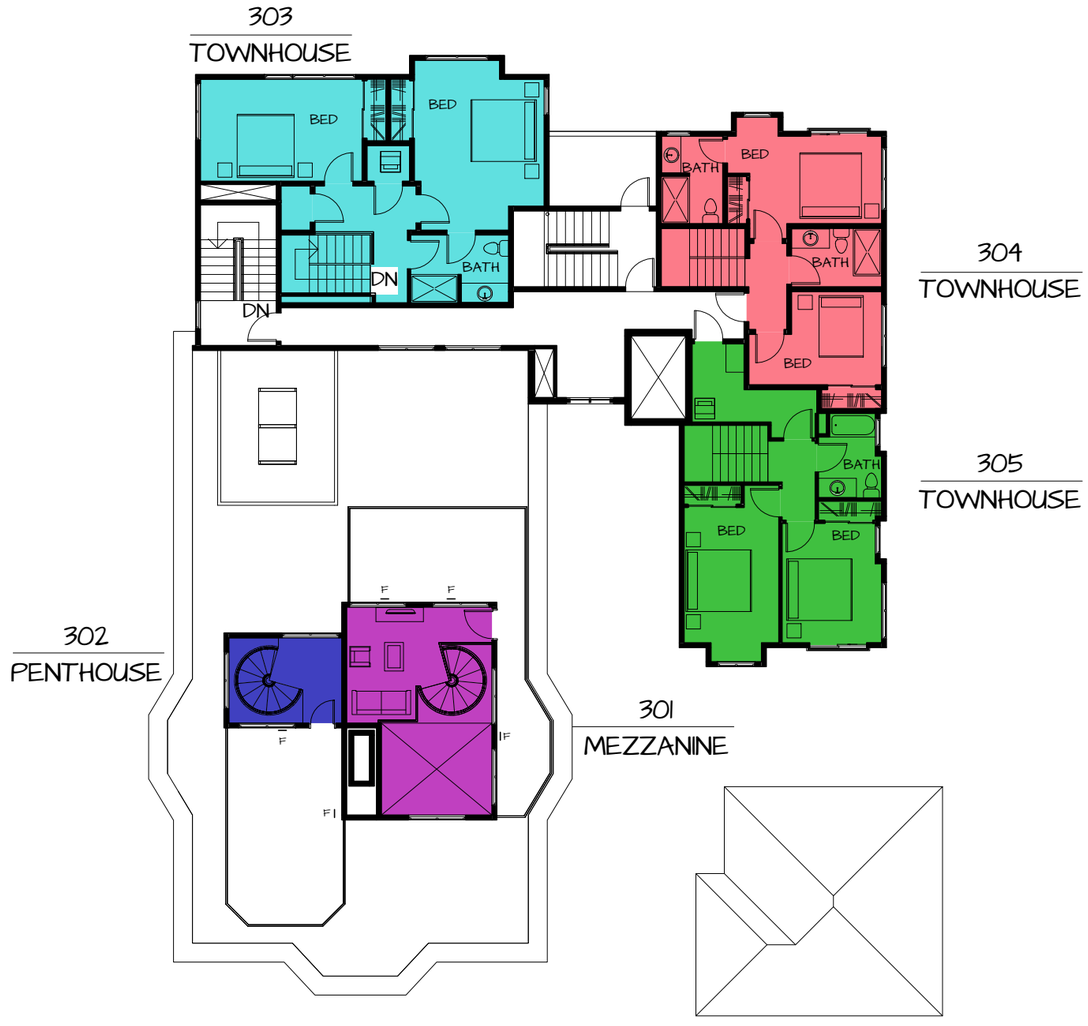
A-1.3

57 St. Lawrence





PROPOSED FOURTH FLOOR

1/16" = 1'-0"

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email:
rfi@muellerarchitects.com

Preliminary

Site Plan Review

Revised and Resubmitted 6/18/19

shinberg CONSULTING, LLC

ST. LAWRENCE DEVELOPMENT, LLC
OWNER

55-59 St. Lawrence Street
Portland, Maine 04112

A-1.4

57
St.
Lawrence

shinberg
CONSULTING, LLC

ST. LAWRENCE
DEVELOPMENT, LLC
OWNER

St. Lawrence St. Elevation
3/32" = 1'-0"

55-59 St. Lawrence Street
Portland, Maine 04112

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A-2.0

57 St. Lawrence

ST. LAWRENCE STREET EXTERIOR MATERIAL NOTES:

EXISTING BUILDING:
SIDING: 4" HORIZONTAL CEMENTITIOUS CLAPBOARDS - SW 2833 ROYCROFT VELLUM
TRIM: 6" WIDE CORNER BOARDS, MINIMAL PROFILE AT THE EXISTING BAY WINDOWS
STEPBACK ADDITION: 4" CLAPBOARD TO MATCH THE MAIN FIELD MATERIAL
ROOF: FLAT

PROPOSED BUILDING:
FIELD SIDING: 8" HORIZONTAL CEMENTITIOUS CLAPBOARD - SW2720 IRONSTONE
UPPER CLERESTORY BAND/ BAY WINDOWS: 12" WIDE VERTICAL BOARD SIDING - SW 2034 HOMESTEAD BROWN
TRIM: PAINTED METAL WOVEN CORNER
ROOF: FLAT

FREESTANDING BUILDING:
SIDING: 8" HORIZONTAL CEMENTITIOUS CLAPBOARD - SW 2272 BAR HARBOR
TRIM: PAINTED METAL WOVEN CORNER
ROOF: ARCHITECTURAL ASPHALT SHINGLE

WINDOWS: FIBERGLASS DOUBLE-HUNG WITH MUNTINS AS SHOWN
DECK DOORS: TO MATCH WINDOWS IN SERIES AND STYLE

shinberg CONSULTING, LLC

ST. LAWRENCE DEVELOPMENT, LLC
OWNER

St. Lawrence Place Elevation
3/32" = 1'-0"

NEW BUILDING
EXISTING BUILDING

55-59 St. Lawrence Street
Portland, Maine 04112

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A-2.1

57 St. Lawrence

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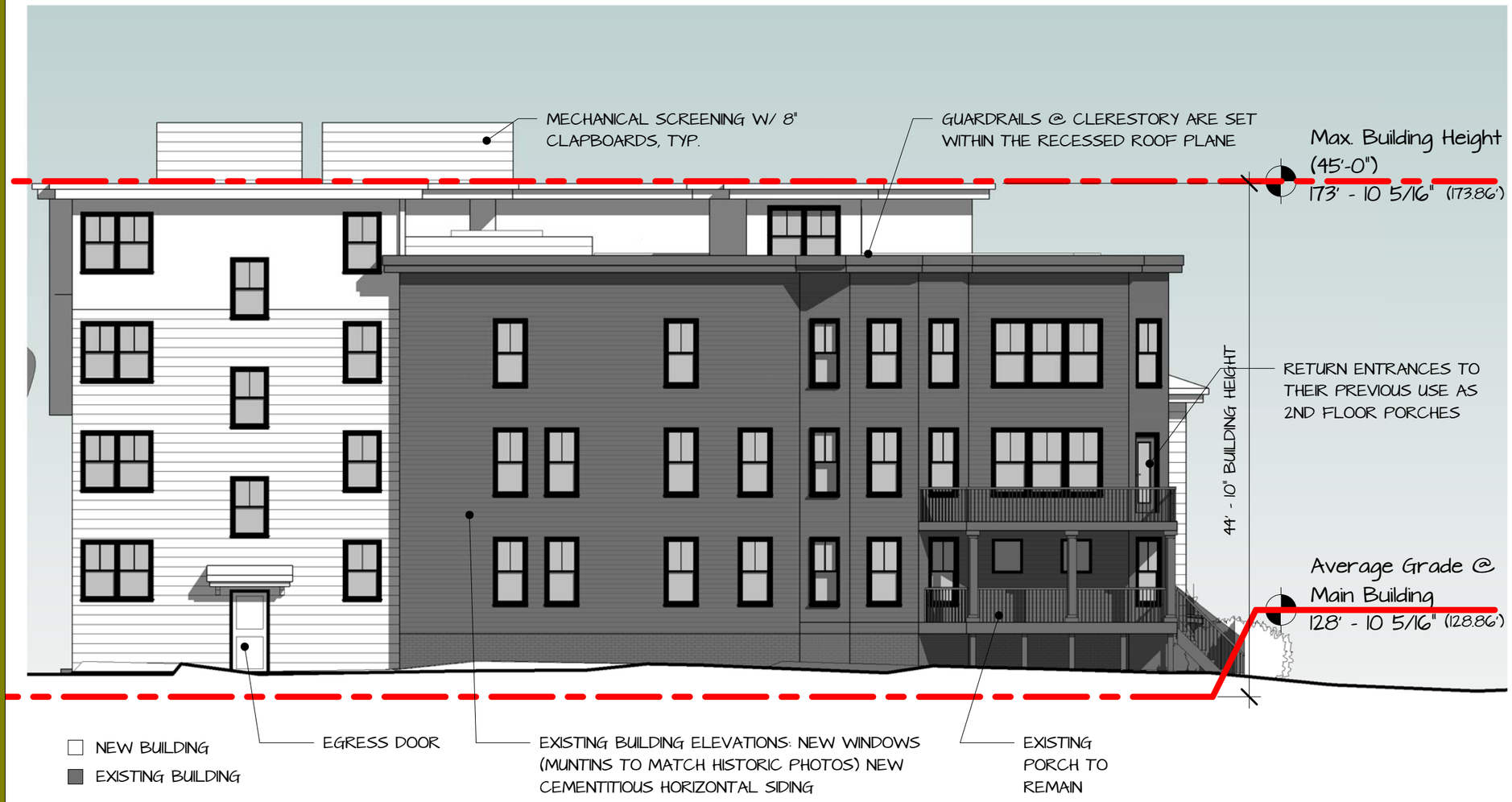
OWNER



West Elevation
3/32" = 1'-0"

Preliminary

Site Plan Review

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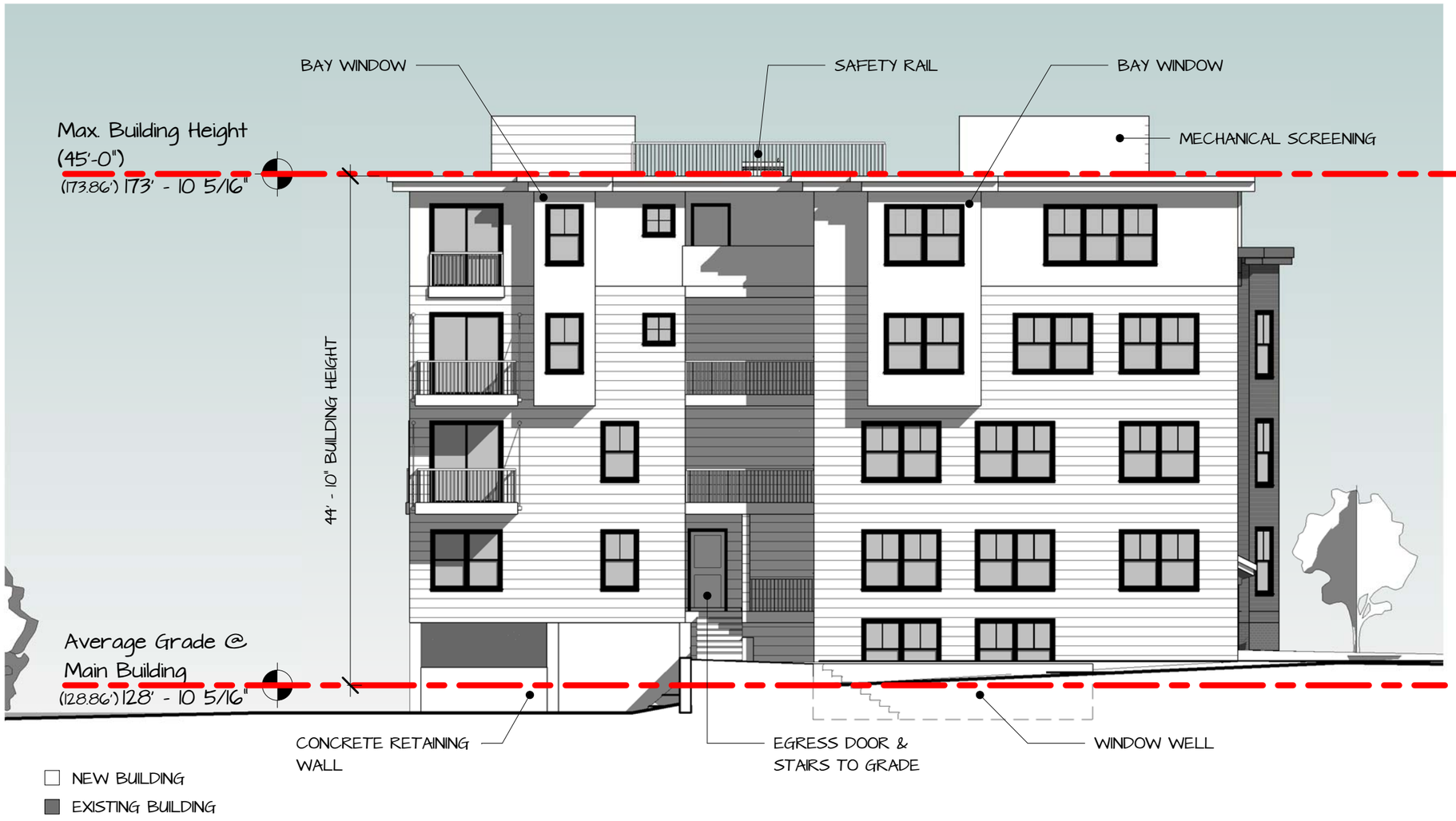
Portland, Maine 04112

A-2.2

57 St. Lawrence

MECHANICAL NOTES:

1. THE FULL MECHANICAL ROOF TOP SYSTEM SHALL BE DESIGNED AT A LATER PHASE.
2. THE SOUND RATING ROOF TOP UNITS AS SHOWN SHALL NOT EXCEED 55DB AT THE PROPERTY LINES.
3. THE UNITS SHALL NOT EXCEED A HEIGHT OF 5' ABOVE THE ROOF PLANE.
4. THE COVERED GARAGES AT NEW EDITION ARE DEEMED 'OPEN', AND WILL NOT BE MECHANICALLY VENTED THRU THE ROOFS; COVERED PARKING AT EXISTING BUILDING WILL REQUIRE VENTING THROUGH ROOF.



Rear Elevation
3/32" = 1'-0"

Preliminary

Site Plan Review

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ST. LAWRENCE DEVELOPMENT, LLC
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55-59 St. Lawrence Street
Portland, Maine 04112

A-2.3

57 St. Lawrence

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ST. LAWRENCE DEVELOPMENT, LLC
OWNER

St. Lawrence St. Inner
Courtyard Elevation
3/32" = 1'-0"

Preliminary

Site Plan Review

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55-59 St. Lawrence Street
Portland, Maine 04112

A-2.4

57 St. Lawrence

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ST. LAWRENCE
DEVELOPMENT, LLC
OWNER

Inner Courtyard West
Elevation
3/32" = 1'-0"

55-59 St. Lawrence Street
Portland, Maine 04112

Preliminary

Site Plan Review

Revised and Resubmitted 6/18/19

A-2.5

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57
St.
Lawrence

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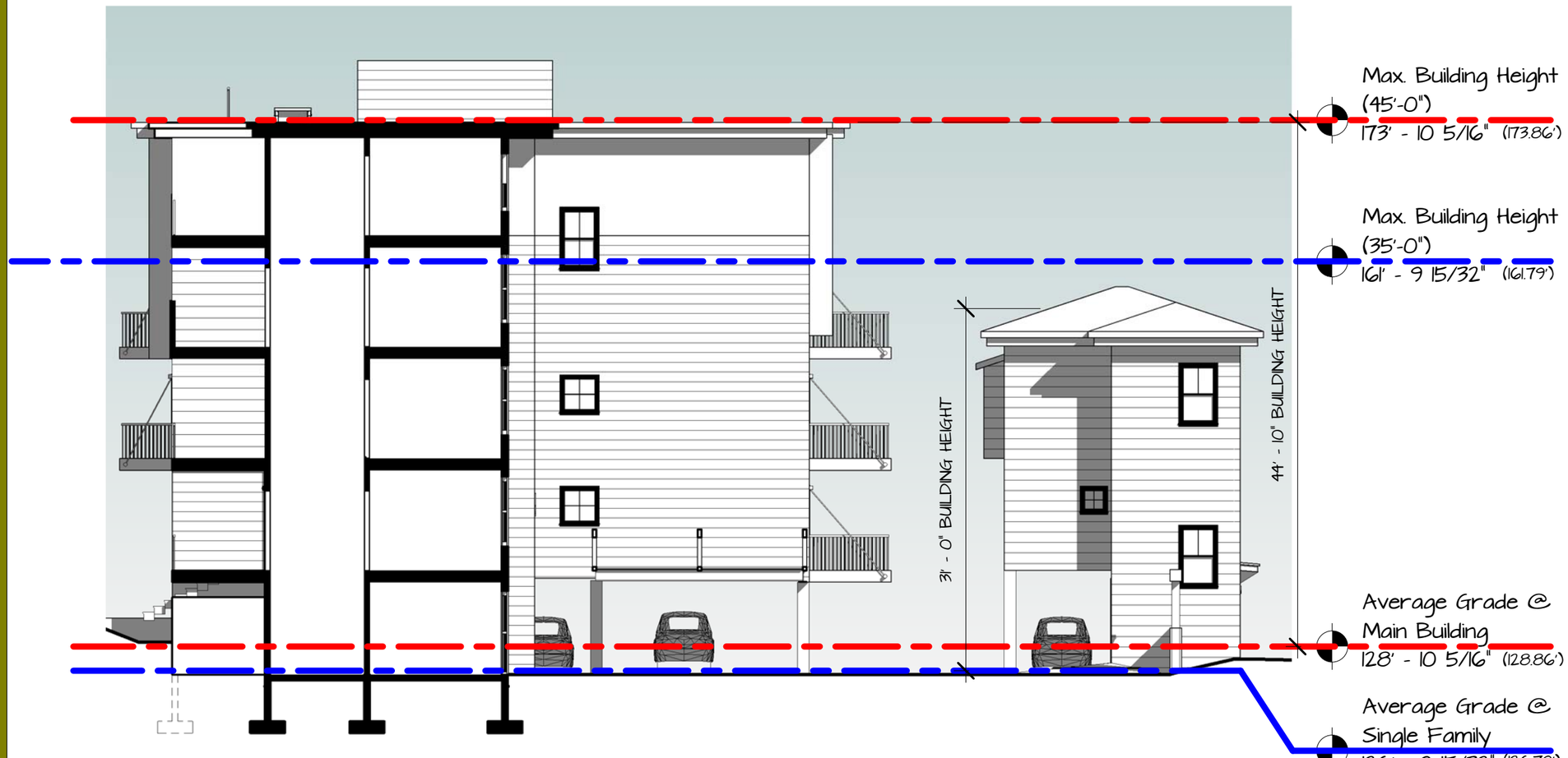
ST. LAWRENCE
DEVELOPMENT, LLC
OWNER



Inner Courtyard East Elevation
3/32" = 1'-0"

55-59 St. Lawrence Street
Portland, Maine 04112

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Preliminary

Site Plan Review

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A-2.6

57 St. Lawrence

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ST. LAWRENCE DEVELOPMENT, LLC
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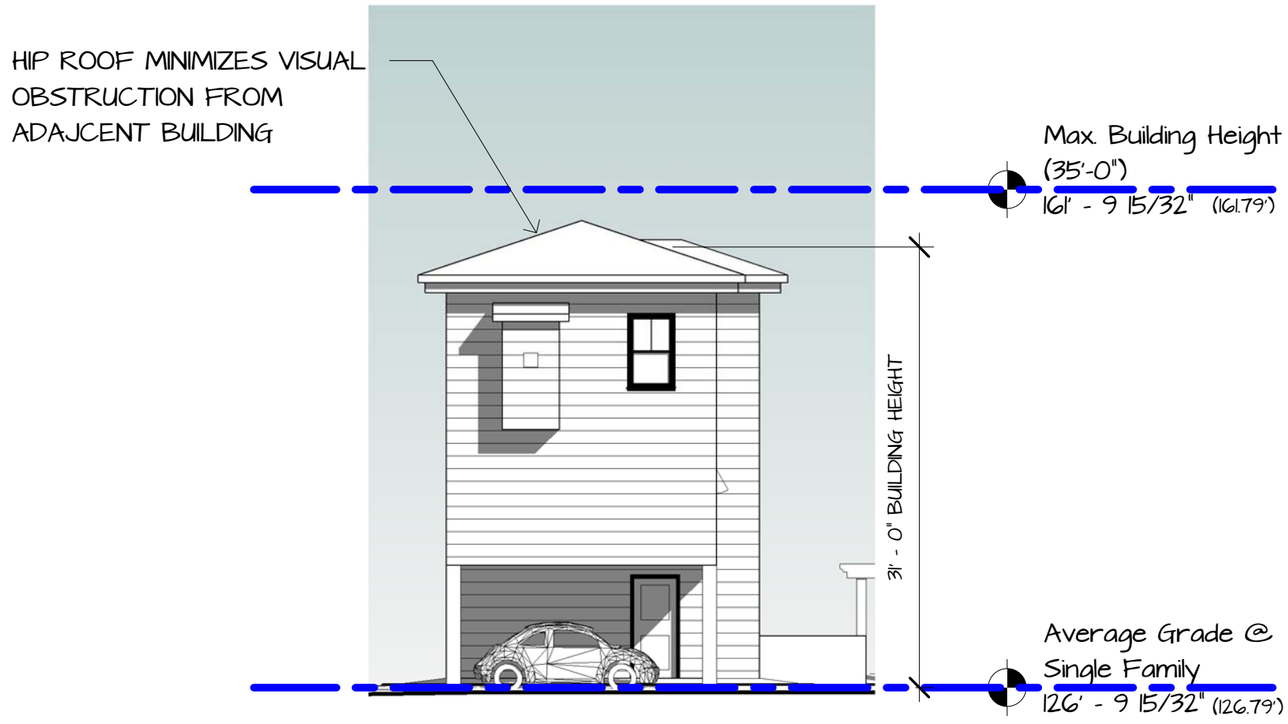

Inner Coutyard South Elevation
3/32" = 1'-0"

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Site Plan Review

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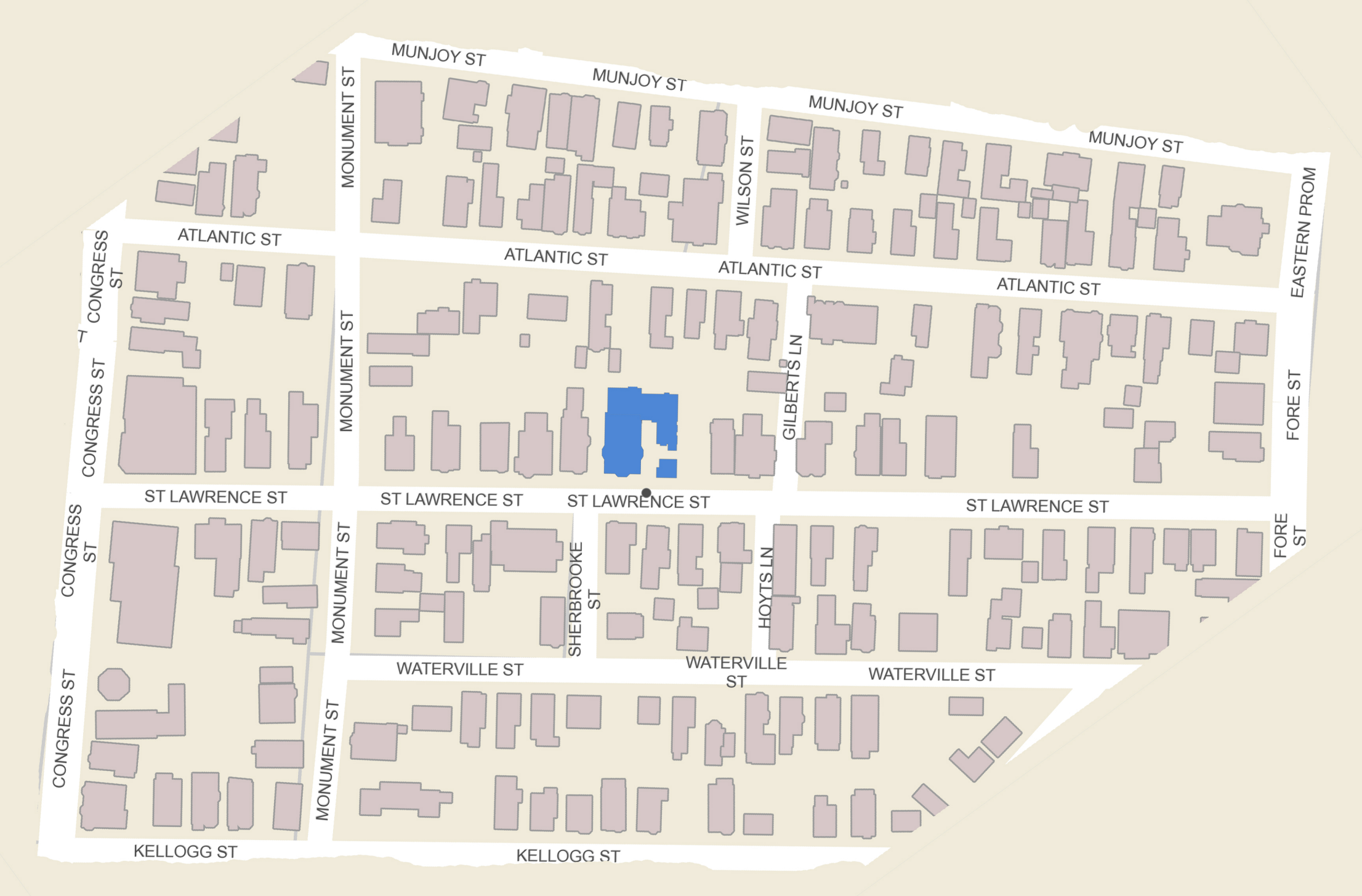
55-59 St. Lawrence Street
Portland, Maine 04112

A-2.7


MUNJOY ST
MUNJOY ST
MUNJOY ST
MUNJOY ST
MONUMENT ST
WILSON ST
EASTERN PROM
ATLANTIC ST
ATLANTIC ST
ATLANTIC ST
ATLANTIC ST
CONGRESS ST
CONGRESS ST
MONUMENT ST
GILBERTS LN
FORE ST
ST LAWRENCE ST
ST LAWRENCE ST
ST LAWRENCE ST
ST LAWRENCE ST
CONGRESS ST
MONUMENT ST
SHERBROOKE ST
HOYTS LN
FORE ST
WATERVILLE ST
WATERVILLE ST
WATERVILLE ST
CONGRESS ST
MONUMENT ST
KELLOGG ST
KELLOGG ST

57 St. Lawrence

HISTORIC PORCHES TO BE RECREATED FOR SECOND FLOOR UNITS

NEW HOUSE IN EXISTING HISTORICAL LOCATION

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ST. LAWRENCE DEVELOPMENT, LLC
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Preliminary

Site Plan Review

Revised and Resubmitted 6/18/19

55-59 St. Lawrence Street
Portland, Maine 04112

NS-1.0

57 St. Lawrence

EXISTING ST. LAWRENCE ST. APARTMENTS

EXISTING PARKING LOT AND PRIVATE DRIVE

LOCATION OF NEW BUILDING ADDITION

NEIGHBORING BULDINGS ACROSS ST. LAWRENCE ST.

NEIGHBORING BUILDING MASSING

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55-59 St. Lawrence Street
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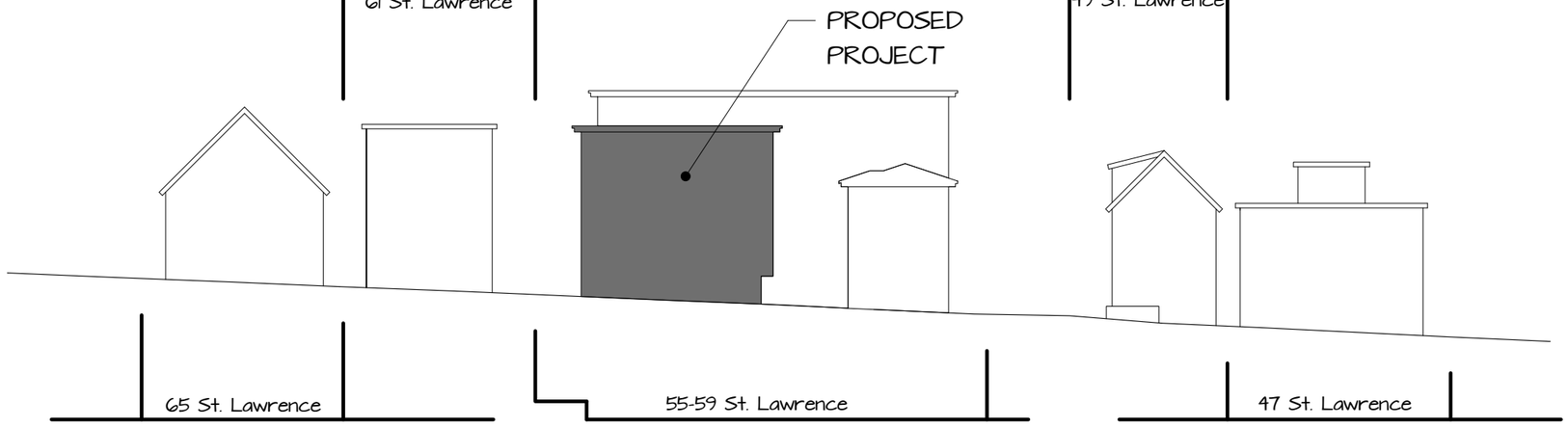
NS-1.1

57 St. Lawrence

61 St. Lawrence

49 St. Lawrence



NEIGHBORHOOD STREET ELEVATION

Preliminary

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NS-1.2

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St.
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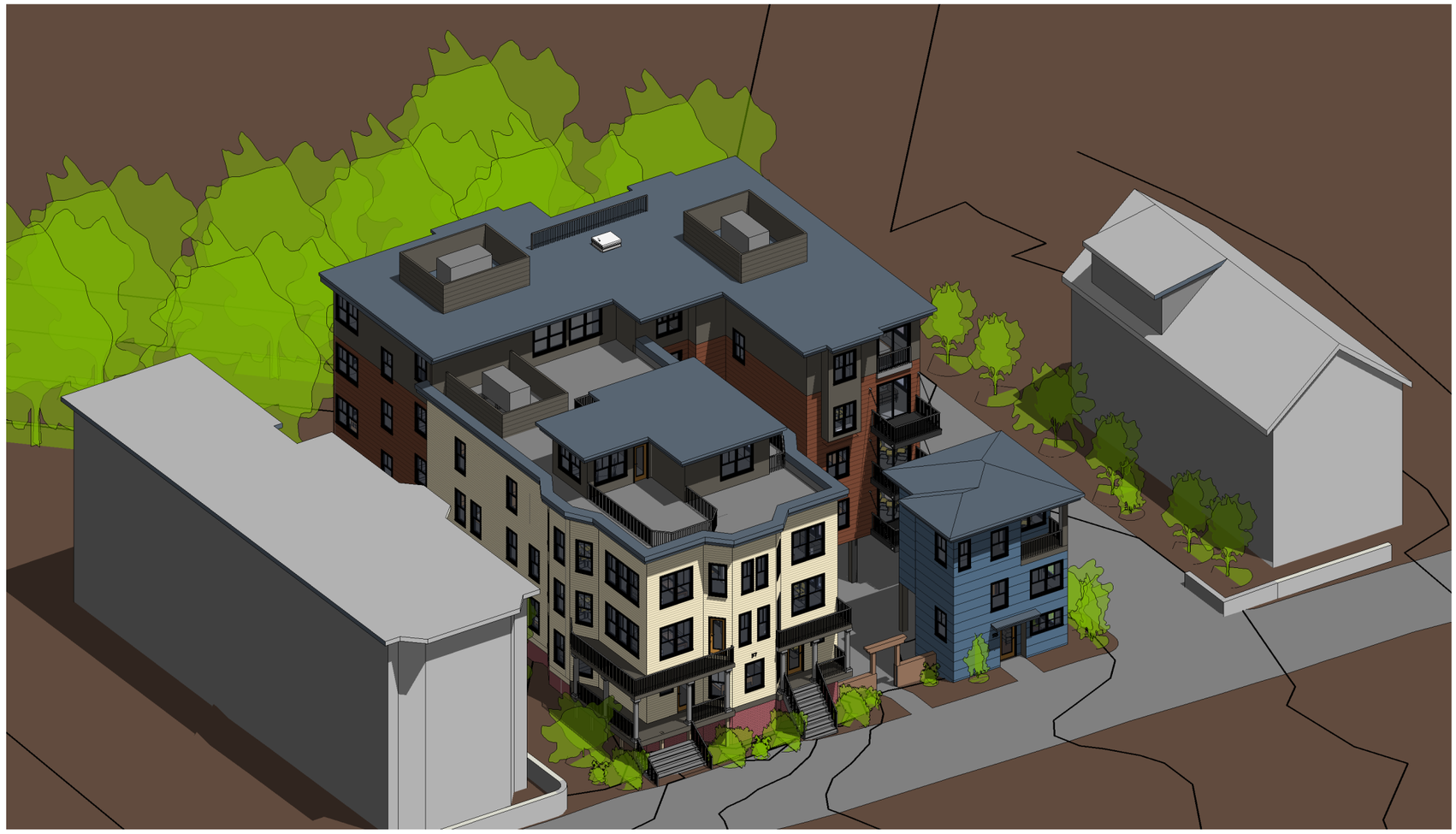

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55-59 St. Lawrence Street
Portland, Maine 04112

A-3.0

57 St. Lawrence

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Revised 6/18/19

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57 St. Lawrence

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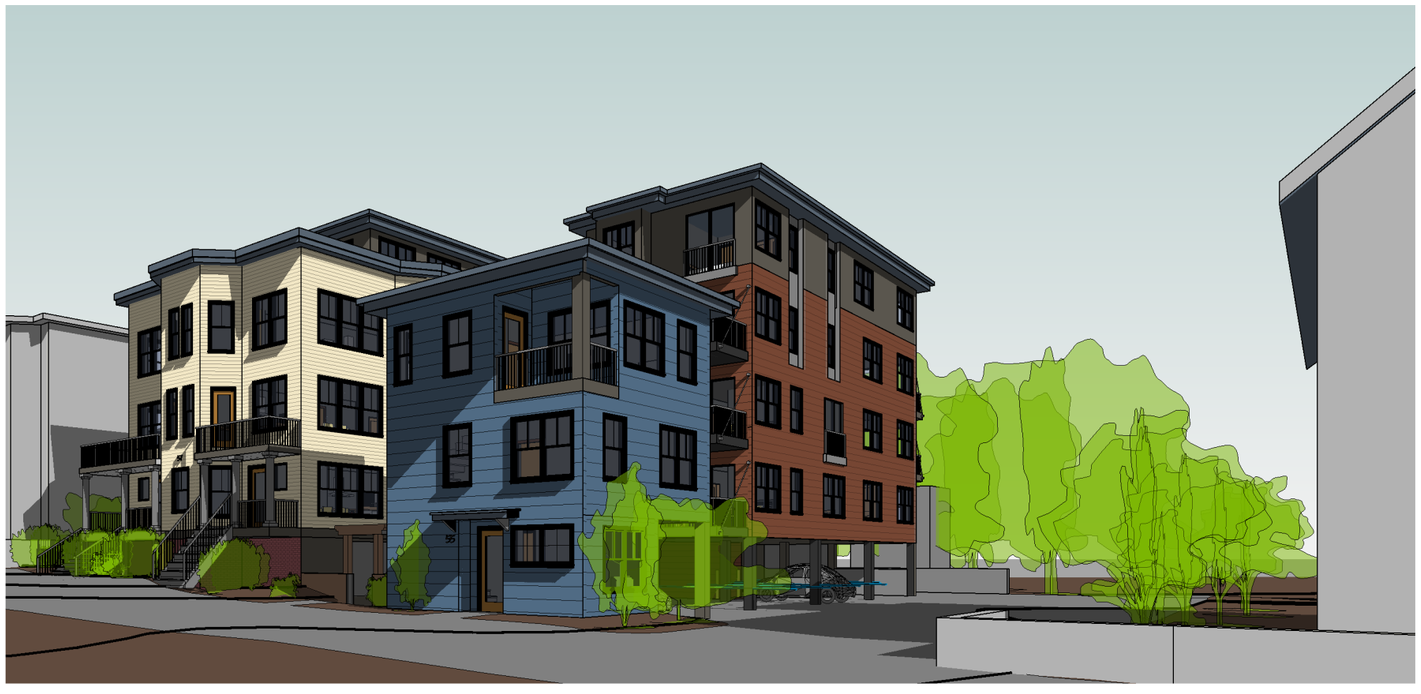


Preliminary

Site Plan Review

Revised 6/18/19

55-59 St. Lawrence Street
Portland, Maine 04112

A-3.2

181 State Street, PO Box 4424, Portland, Maine 04101
(207) 772-7070 Office | info@shinbergconsulting.com

Property Location: 57-59 St. Lawrence St.

Subject: Level III Site Plan Application

General Application Documents: Construction Management Plan

Shinberg Consulting has provided Owners Representative services to private and public entities since 2004. This has also included Construction Management on many projects.

Some of the notable projects that Shinberg Consulting has provided Construction Management for include:

- 50 Portland Pier
- 154 Clark St. for Shalom House
- Randall Place for The Opportunity Alliance
- 959 Congress St.
- 84 Marginal Way
- 68 Marginal Way
- 643 Congress St.
- 202 Kennebec St.
- 645 Congress St.
- 191 Pine St.
- 202 Kennebec St.
- 100 Foden Road (South Portland)
- Five Points Shopping Center (Biddeford)

Construction Management Document

1) The general contractor will be required to install a construction fence around the perimeter of the areas affected within the lot. Signage will be affixed to the fencing to assure that all safety measures are met.

2) Dig Safe will be contacted prior to any work commencing on the site.

3) Temporary erosion control measures will be installed prior to construction as per the notations on the plans by DM Roma Consulting Engineers.

4) Temporary erosion control measures will be installed in the catch basin in front of the building as per the notations on the plans by DM Roma Consulting Engineers.

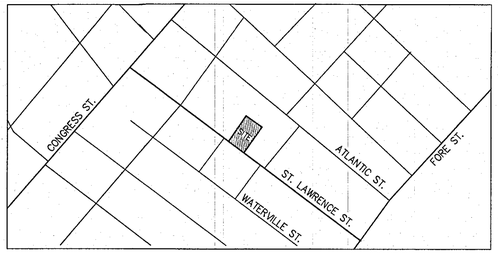
5) Any other site-related temporary measures as noted on the plans by DM Roma Consulting Engineers will be implemented.

6) It will be necessary to temporarily close the sidewalk from St. Lawrence Place to the Southeast corner of the property to a location across from Sherbrooke St. This will require signage and directions. It is anticipated that this sidewalk closure will last 3-4 months.

7) Temporary street closings will be required to install the underground power, sewer, water and gas.

8) Existing overhead wires will be covered by CMP.

9) All work will be performed during the hours of operation outlined in the city of Portland's guidelines.



CONTEXT MAP
N.T.S.

NOTES

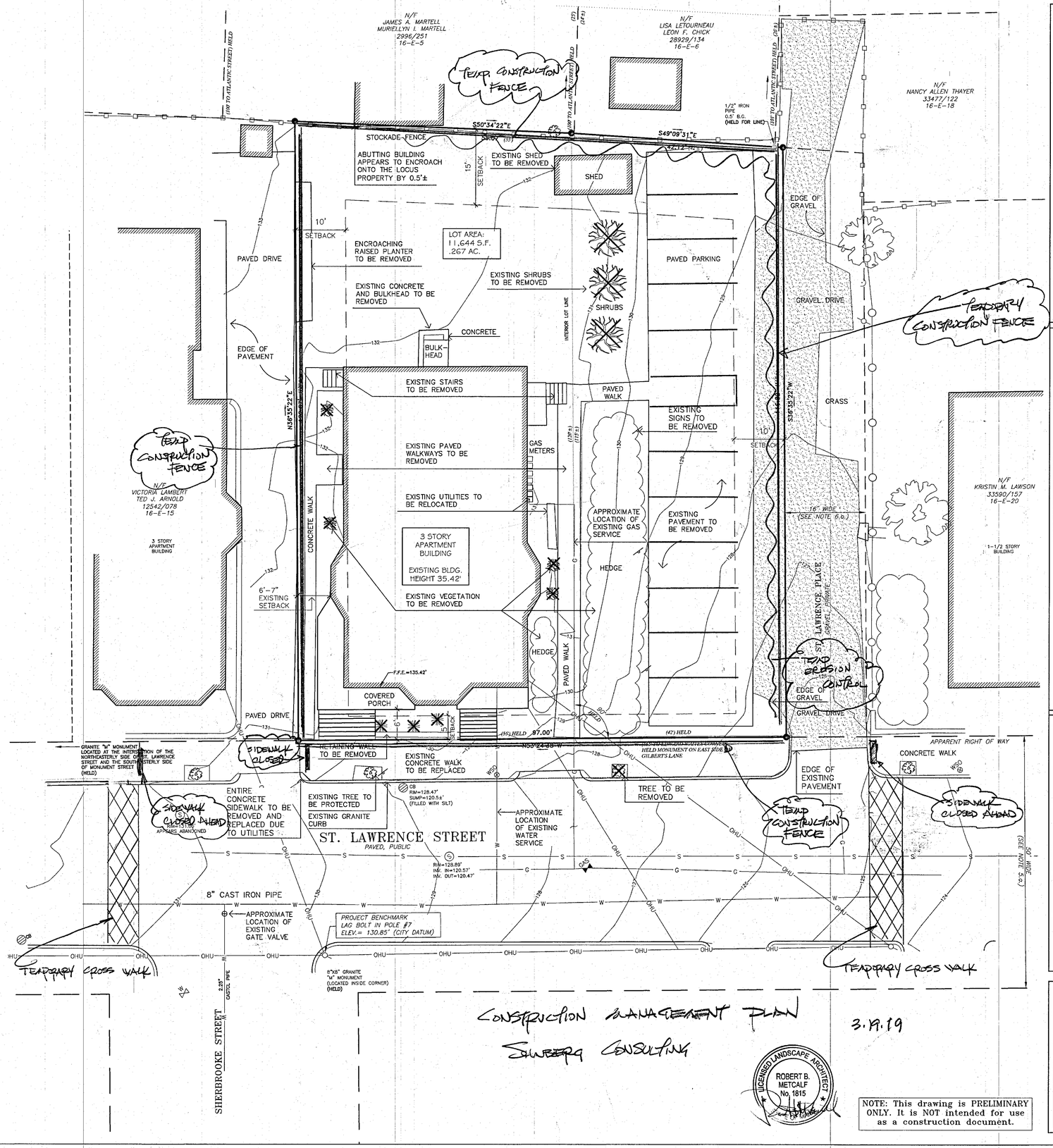
1. SURVEY PREPARED BY NORTHEAST CIVIL SOLUTIONS, INC. DATED DECEMBER 04, 2018

PLAN RERENCES

1. RECORD OWNERS OF THE PARCEL SURVEYED ARE: 57 ST. LAWRENCE STREET, LLC AS DESCRIBED IN BOOK 32689, PAGE 166 (1/2 INTEREST) AND HIRAM COTTAGE PROPERTIES, LLC AS DESRIBED IN BOOK 32341, PAGE 090 (1/2 INTEREST), RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
2. THE PARCEL SURVEYED IS IDENTIFIED ON THE CITY OF PORTLAND TAX ASSESSOR'S MAP 16, BLOCK E, PARCELS 16 AND 19.
3. THE BEARINGS SHOWN ON THIS PLAN ARE BASED ON MAINE COORDINATE SYSTEM OF 1983, WEST ZONE, GRID NORTH.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
   WORKING DRAWINGS FROM PORTLAND CITY ENGINEERING DEPARTMENT SHOWING STREET LINES FOR ST. LAWRENCE STREET, ATLANTIC STREET, FORE STREET AND MONUMENT STREET.
5. THE WIDTH OF ST. LAWRENCE STREET IS 50' BASED ON STREET LINE PLANS ON FILE WITH THE CITY OF PORTLAND ENGINEERING DEPARTMENT. THE LAYOUT OF THE RIGHT-OF-WAY LIMITS IS BASED ON THOSE PLANS AND STREET MONUMENTS FOUND.
6. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   THE LOCUS PARCEL HAS RIGHTS, IN COMMON WITH OTHERS, TO THE 16' WIDE PASSAGEWAY (ST. LAWRENCE PLACE, SO-CALLED) ADJOINING THE SOUTHEASTERLY LINE OF THE LOCUS PARCEL AS DESCRIBED IN BOOK 244, PAGE 359.
7. AS OF THE ORIGINAL DATE OF THIS PLAN, THE PARCEL SURVEYED IS LOCATED IN THE R-6 RESIDENTIAL ZONE.
   OTHER MUNICIPAL AND STATE OVERLAY ZONES MAY EXIST AND APPLY. BEFORE PROCEEDING ON ANY PROJECT WE RECOMMEND VERIFYING CURRENT ZONE AND ALL APPLICABLE SETBACKS AND RESTRICTIONS WITH THE APPROPRIATE AGENCIES.
8. ELEVATIONS AND CONTOURS ARE BASED ON PORTLAND CITY DATUM USING THE MONUMENT FOUND AT THE INTERSECTION OF THE NORTHWESTERLY SIDELINE OF MOODY STREET AND THE NORTHEASTERLY SIDELINE OF MUNJOY STREET, ELEVATION 131.16' CITY DATUM. SEE PLAN FOR TBM DESCRIPTION.
9. THE UTILITIES SHOWN ON THIS PLAN WERE FROM FIELD OBSERVATION ONLY. THERE MAY BE OTHER UTILITIES EXISTING THAT ARE NOT SHOWN. CONTACT DIG-SAFE (888)DIG-SAFE PRIOR TO ANY EXCAVATION WORK.

LEGEND

	EXISTING
PROPERTY LINE	
SETBACK	
RIGHT-OF-WAY	
EASEMENT	
VEGETATION	
SPOT ELEVATION	X 132
CONTOUR	132
FENCE	
UTILITY	
UTILITY POLE	
CAPPED IRON ROD	
MANHOLE	
VALVE	
WATER SHUT OFF	WSO
SEWER	S
CATCH BASIN	
OVERHEAD WIRES	OHU
SIGN	
CURB	
GRAVEL SURFACE	



CONSTRUCTION MANAGEMENT PLAN
SHINBERG CONSULTING
3.19.19

LICENSED LANDSCAPE ARCHITECT
ROBERT B. METCALF
No. 1815

NOTE: This drawing is PRELIMINARY ONLY. It is NOT intended for use as a construction document.

Prepared For Owner/Applicant:
ST. LAWRENCE DEVELOPMENT LLC
181 State Street, Suite 303
Portland, ME 04101
207-772-7070

Owner's Rep.:
shinberg CONSULTING, LLC

Prepared By:
Mitchell & Associates
LANDSCAPE ARCHITECTS
The Staples School, 70 Center Street Portland, Maine 04101
Phone: 207.774.4427 Fax: 207.874.2660

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100 Commercial St #205
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207-774-9057

DM ROMA CONSULTING ENGINEERS
59 Harvest Hill Rd.
Windham, ME 04062
207-310-0506

55-57 ST. LAWRENCE ST.

57 SAINT LAWRENCE ST. Portland, Maine

Date: FEBRUARY 13, 2019

Issued For: PERMITTING

Revisions:

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Title: EXISTING CONDITIONS & DEMOLITION PLAN

Scale: 1"=10'

0 5 10 20 ft.

North:

Sheet No.: L1

PLANNING BOARD REPORT
PORTLAND, MAINE

Center Street Hotel; 1 Center Street
Level III Site Plan, IZ Conditional Use and SLODA
PL-000448-2018
Fathom Company, Applicant

Submitted to: Portland Planning Board Public Hearing Date: July 9, 2019	Prepared by: Matthew Grooms, Senior Planner Date: July 3, 2019

I. INTRODUCTION

Fathom Companies, LLC has submitted a Level III site plan application for redevelopment of an existing surface parking lot to a new six-story, 135-room hotel with ground floor restaurant space and a rooftop bar. The proposed development is located at 1 Center Street in the B-3 Downtown Business Zone, Downtown Entertainment Overlay Zone and Pedestrian Activity District (PAD) and is further subject to Site Location of Development review standards. The hotel is considered Phase I of the 'Portland Square' Master Development Plan, a separate pending application. A preliminary Planning Board workshop focused on site layout and zoning compatibility was held on February 12, 2019.

Figure 1: Rendering of Hotel from Commercial Street

The project site is located within the Old Port Historic District, and received a Certificate of Appropriateness from the Historic Preservation Board on April 17, 2019. As the project is located within a historic district, no design review was completed, and design of the building is not being considered by the Board.

This Public Hearing workshop was noticed to 134 property owners within 500 feet of the site and interested parties, and a legal ad was published in the Portland Press Herald on June 28 & 29, 2019. The required neighborhood meeting was held on January 17, 2019 in the Editorial Room at the Press Hotel.

Applicant: Jim Brady, Fathom CC, LLC
Consultants: Lauren Swett, P.E., Woodard and Curran; Megan McDevitt, Woodard and Curran; Baskerville Architects; Pat Carroll, Carroll & Associates; Owen Haskell, Owen Haskell, Inc.; Reece Bettina, Fathom CC, LLC

II. REQUIRED REVIEWS

Review	Applicable Standards
Site Plan	Section 14-526
Conditional Use (IZ)	Section 14-474, Section 14-487
Waivers	**Applicable Standards**
The applicant requests a waiver from the site lighting standard 12.3.4 which requires that light trespass not exceed 1.0-foot candles at the property boundary. Proposed maximum is 7.3 foot-candles, however light levels drop below 1.0-foot candle before edge of sidewalk. **Staff Recommendation:** Given the 5-foot build to line requirements of the B-3, site/building lighting necessarily encroaches upon the ROW. Proposed site lighting is full cut-off and compliant with City Standards other than light trespass, which is not anticipated to affect neighboring properties as shown on the photometric plan. For this reason, staff recommends approval of this waiver request.	Technical Manual Section 1.7.2.7, states that Commercial properties, where abutting ROW, commercial properties or industrial properties, shall not exceed 1.0-feet of light trespass at the property boundary.

III. PROJECT DATA

Existing Zoning	B-3 Downtown Business, DE Overlay, PAD, Old Port Historic		
Existing Use	Surface Parking Lot (90 spaces)		
Proposed Use	135 Room Hotel with 2,620 SF Restaurant and 1,725 SF Rooftop Bar		
Property Size	0.55 acres (23,791 SF)		
	Existing	*Proposed*	*Net Change*
Building Footprint	0 SF	22,758 SF	22,758 SF
Building Floor Area	0	112,046 SF	112,046 SF
Impervious Surface Area	21,100 SF	19,100 SF	-2,000 SF
Parking Spaces	90 spaces	75 (Parking Lease)	-15
Bicycle Parking Spaces	0	4	4

IV. PROJECT SITE AND CONTEXT

Figure 2: Project site today

The proposed development would occupy 0.55 acres of existing surface parking area situated to the north and east of the Center Street and Commercial Street intersection, with principal frontage along Commercial Street between the Richardson Wharf Company Building and Baxter Davis Block Building. This location is considered part of the City's Old Port District, characterized by its stock of 19th and early 20th century commercial architecture, a high concentration of restaurant and retail establishments, and close proximity to the city's working waterfront. The Old Port is considered a major draw for Portland's tourism industry and a hotel in this location would provide easy access to the amenities just described.

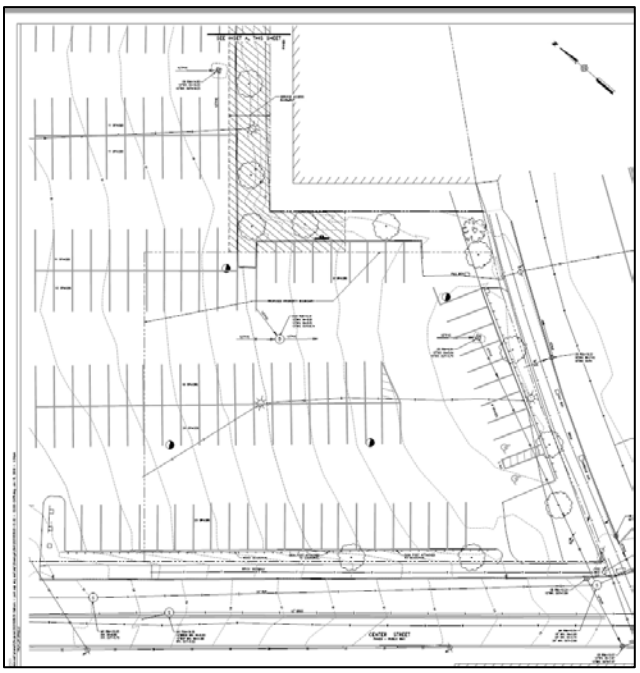

Figure 3: Existing Conditions Plan

One Center Street is almost entirely impervious, consisting of approximately eighty (80) parking spaces. Vegetated buffer areas, consisting of shrubs and street trees, run along the westerly, southerly and a portion of the easterly property line. Along Commercial Street, the existing streetscape consists of a brick sidewalk measuring no less than eleven (11) feet in width, with front-in angled on-street parking, and lighting provided via pole mounted cobra head fixtures. The Center street frontage features a narrower five (5) foot sidewalk with parallel parking spaces and pole mounted cobra head light fixtures on the opposite side of the street.

The site itself generally slopes down from north to south with a maximum elevation of just over 19' feet at the northwesterly edge of the property, and a minimum elevation of 11' feet along Commercial Street. At present, runoff sheet flows towards a storm drain that is situated in a low spot near the property's Commercial Street frontage, that is then directed to a storm sewer located in Center Street, that outfalls from there into the harbor.

As mentioned in the introduction, the hotel is considered Phase I of the Portland Square Master Planned Development, which would occupy a substantial area of existing surface parking, stretching between Commercial Street in the south and Spring Street in the north. For more information, please see the link for the first Planning Board workshop (https://portlandme.civicclerk.com/Web/Player.aspx?id=564&key=-1&mod=-1&mk=-1&nov=0).

V. PROJECT DESCRIPTION

A. Overview

Fathom CC, LLC proposes to construct a new, six-story, 135-room boutique hotel that would feature two ground floor retail or restaurant spaces (identified as a café and bar) totaling 2,620 square feet of floor area, a roof level bar totaling 1,703 square feet and separate rooftop terrace, to be accessible to guests. The principle entrance to the hotel will be located on Center Street and in order to accommodate the additional pedestrian traffic, vehicle loading/unloading and valet services, two curb extensions are being proposed that would widen the sidewalk and provide vehicle refuge. At present, this sidewalk measures just five (5) feet in width, and would be widened up to sixteen (16) feet in width, with a portion of the sidewalk to be located on the applicant's property. Other improvements include relocation of traffic signal infrastructure and utility poles and addition of street trees along both Commercial and Center Street, and street lights along Center Street. The building's footprint occupies almost the entire site, and is set back no more than five (5) feet from the property boundaries in order to maximize the pedestrian zone along Center and Commercial Streets.

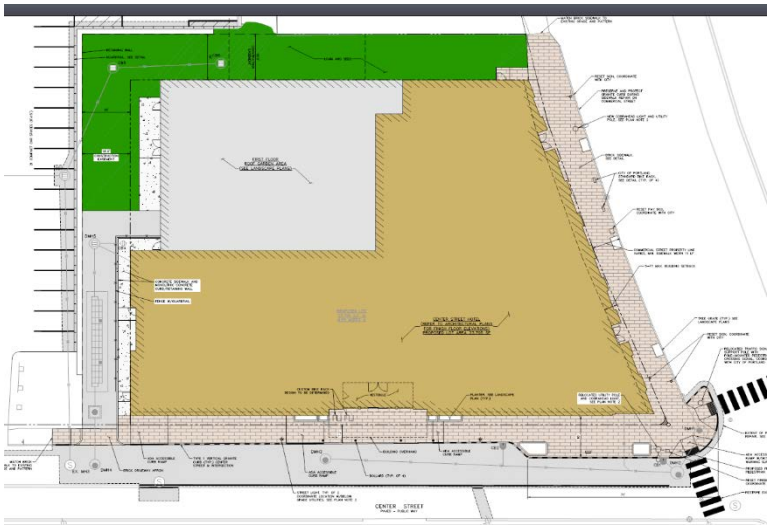

Figure 4: Proposed site plan. Note, area in gray is building at ground level, though does not extend above floor two. Site plan also shows large construction easement (green) and service alley.

B. Off-Street Parking and Loading/Unloading

While no parking is proposed on-site, it is understood that the applicant is negotiating a lease for seventy-five (75) parking spaces, to be located on the adjacent Portland Square property. Eventually, parking for the hotel would be relocated to a parking structure, proposed under the Portland Square Master Development Plan. In regards to loading, a sixteen (16) foot access-way is being developed just north of the proposed building on Center Street, which would eventually be widened to thirty-two (32) feet as part of a future phase of the master development plan. This access way would operate with trucks or other vehicles infrequently backing into the site towards loading bays located along the northerly façade of the building, and then driving forward to exit the site.

C. Mid-Block Permeability

A key element of the project is mid-block permeability, which ultimately would be achieved through a shared access corridor between Fore Street and Commercial Street. The ground level of the proposed building occupies almost the entire site, however the footprint of floors two through six is reduced, forming a large open area at the northeast corner of the site (located on top of a portion of the first-floor roof), accessible via exterior stairway off of Commercial Street. This open area would feature landscaping, a meandering walkway and areas for seating. While a landscape plan for this area has been provided, and preliminary renderings show how this corridor would function, it should be noted that this feature is contingent upon later development stages of the Portland Square Master Plan. The interim condition provides an access-way in place of the stairway, and a retaining wall to account for changes in grade.

D. Building Design

In regards to architecture, the building draws significant influence from the Richardson Wharf Company Building (1860), located immediately east of the proposed hotel, and the Baxter Davis Block Building (1902), located to the west across Center Street along with other buildings situated along Commercial Street. While these context buildings are of a different style, scale and era, the design of the building seeks to strike a harmonious balance between the two, providing complementary proportions, scale, heights and rhythms.

The building features a continuous brick base (first two floors) along the two principal frontages, with a varied façade across upper floors consisting of brick wall with window and metal panel surround. A prominent canopy is provided along Center Street to identify the hotel entrance, whereas entrances along Commercial Street are specifically downplayed. The upper floor bar is situated on the sixth floor at the corner of Center and Commercial Street. The bar itself is recessed away from the edge of the building, providing outdoor space for seating. From the bar, patrons can access an exterior stairwell to a rooftop terrace, unassociated with the bar.

Figure 5: Commercial Street Elevation

Figure 6: Center Street Elevation

E. Stormwater Management and Utilities

The project results in a net decrease in impervious area, thereby exempting the project from meeting Maine DEP Ch. 500 General and Flooding Standards. However, as this application amends a prior SLOD permit, the stormwater management must follow Maine DEP Site Law regulations, which requires that 50% of all redeveloped area be treated. Treatment will be provided via a Kraken subsurface, high flow, cartridge-based stormwater filter, which will be installed with upstream storage via subsurface R-Tanks. This system is not currently approved as a proprietary stormwater treatment Best Management Practice by Maine DEP, though the system is currently being reviewed by Maine DEP as an "Innovative Treatment Measure" in accordance with Chapter 500 regulations.

Water and sanitary sewer service connect into existing infrastructure located beneath Center Street, with a 4" domestic service line, 6" fire line and 6" sanitary sewer pipe. Given the presence of a commercial kitchen, the project also features a separate sewer line with grease trap. Electrical service is provided underground to the property from Center Street and a new gas line is also being installed within Center Street.

VI. PUBLIC COMMENT and NEIGHBORHOOD MEETING

As of the writing of this report, two written public comments were received by the Planning Office regarding this project. Both comments refer to the anticipated traffic impacts of the project, and review process as it relates to the Portland Square MDP and TMP. At the Planning Board workshop, members of the public voiced many of the same concerns, that there was insufficient data on traffic impacts and proposed parking, that the project should wait for the Portland Square MDP and TMP to be approved before commencing, and that the Commercial Street Operations and Master Plan should be completed so as to inform area improvements.

The required neighborhood meeting (Attachment Y) was held on January 17, 2019 at the Press Hotel and was attended by twelve (12) members of the public. General concerns raised at the meeting included maintenance of the service driveway, lighting levels and their impact on condo owners at Richardson Wharf Building, location of required parking as well as displacement of existing parking.

In response to these questions, staff the applicant's team stated that the service driveway would be regularly maintained, and that lighting, when selected, would conform with City standards, being full cutoff with no light trespass beyond the property line. Regarding displacement of parking spaces, the applicant indicated that they are continuing to resolve this issue, and may be coming forward to the City in the near future with a proposal to use parking relief tools such as Transportation Demand Management planning.

A. Planning Board Workshop (2.12.2019)

The Planning Board held a preliminary workshop focusing mainly on site-layout design and compliance of the project with zoning requirements. From this perspective, the Planning Board were generally favorable to the overall concept, coordination with Portland Square and in particular, the replacement of existing surface parking, which fills a significant gap in the Commercial Street street-scape. Members of the Board were most concerned with the traffic impacts of the project, and the lack of clarity on where associated parking, required under zoning, would be located. The concern over traffic and parking were similarly shared by members of the public during this workshop as well.

Following the Planning Board Workshop, the Master Development Plan and a separate Level III site plan amendment for Portland Square One and Two were submitted, which (while separate applications) address both traffic and parking for the hotel. Traffic is being assessed as part of the Traffic Movement Permit for the Master Development Plan, whereas a full parking study that includes the hotel, was submitted as justification for reducing the parking requirement for Portland Square One and Two, which was approved on June 25, 2019. The TMP meanwhile has not yet been approved, and is still under review. For this reason, a separate traffic study has been submitted for the hotel, which has been reviewed by the City's Traffic Engineer, whose comments can be found under the Site Plan Review section of this report.

VII. RIGHT, TITLE & INTEREST

A Purchase and Sale Agreement (Attachment E) between North River IV, LLC and Fathom CC, LLC has been provided which demonstrates right, title & interest in the property.

VIII. FINANCIAL & TECHNICAL CAPACITY

A letter from Mascoma Bank (Attachment I), based out of Hanover, New Hampshire, was provided stating that the applicant has the financial capacity to complete the project. The applicant has also compiled information on consultants, which includes Woodard and Curran, Carroll & Associates and Wright-Ryan, demonstrating technical capacity to complete the project.

IX. ZONING ANALYSIS

The proposed use, a hotel with restaurant and bar, is a permitted use within the B-3 Downtown Business Zone, the Downtown Entertainment Overlay District and the Pedestrian Activity District.

A. B-3 Downtown Business Zone

As described in the 'Purpose' section of the B-3 zone (Sec. 14-216), the intent of the B-3 framework is to:

- *Maintain and enhance the role of the downtown as the business and commercial center of the region*

- *Enhance and promote the orderly expansion of retail and service businesses downtown, satisfying the related needs of the city's resident, working and visitor populations*

- *Enhance the pedestrian environment through the encouragement of intensive mixed-use activities, through the enhancement and maintenance of public and private open space, and through the enlivenment and increased attractiveness of the street environment.*

- *Encourage excellence in urban design.*

- *Reinforce the role of the downtown as a meeting place for community residents and visitors alike from all walks of life and all socio-economic groups.*

- *In the pedestrian activities district (PAD) overlay zone, create continuity of pedestrian-oriented uses along streets where such uses predominate and along streets which, over time, will establish and maintain a strong retail and pedestrian-oriented use pattern.*

The development as proposed achieves each of these goals as found in the Purpose section for the B-3 zone. This infill project activates a currently inactive space that is one of the few such properties remaining along the northerly side of Commercial Street within the Old Port. A hotel with restaurant and bar provides valuable meeting space for both residents and visitors alike, provides increased opportunity for visitors to stay downtown, improves upon the existing streetscape and establishes new ground-level pedestrian-oriented uses.

As shown in the table below, the proposed building meets the dimensional requirements for the B-3 Downtown Business zone.

	Required	Provided
Minimum Frontage	15 feet	140 feet (Commercial St) 200 feet (Center St)
Street Wall Build-to-Line	5 feet to property line	< 5 feet to property line
Maximum Lot Coverage	100%	96%
Building Height	35-foot min – 65-foot max	65 feet
Maximum length of undifferentiated blank wall in PAD Overlay Zone	15 feet	15 feet

B. Downtown Entertainment Overlay Zone

The Downtown Entertainment Overlay District is intended to regulate the location of businesses with entertainment licenses in order to maintain and improve public safety. The overlay zone requires that a business with an entertainment license be located further than one-hundred (100) feet from other businesses with entertainment licenses. It is unclear whether or not an entertainment license will be sought by this applicant, however no establishment with an entertainment license is located within one-hundred (100) feet of this property.

C. Pedestrian Activity District Overlay Zone

The site borders Center Street and Commercial Street, both of which are listed as streets within the Pedestrian Activity District (PAD) overlay zone. Per ground floor use restrictions for hotels within the PAD overlay zone, at least seventy-five (75) percent of the street level frontage of the building must be utilized; and at a minimum, the floor area to be occupied shall be seventy-five (75) percent of the street level frontage multiplied by a twenty (20) foot depth. Buildings with frontage on more than one street in the PAD overlay zone may reduce required retail area to one street to fifty percent of the frontage, which in this case, applies to the Center Street frontage at the hotel entrance. The project as designed meets these standards.

The design manual features additional architectural and site design requirements for properties in the PAD Overlay zone. Given that this property is located within the Old Port Historic District, review of these standards is being completed by the Historic Preservation Board. The latest memo from the third workshop is included as an attachment for the Board's reference. (Attachment 7).

X. STAFF REVIEW – SITE PLAN & INCLUSIONARY ZONING

A. Site Plan Standards

1. Traffic – Access, Circulation, Servicing and Loading

As part of the Portland Square Master Development Plan, traffic impacts are to be fully accounted for under the Traffic Movement Permit (TMP) currently under review for the entire master development plan area. A separate traffic analysis has been provided as part of this application, which demonstrates fewer than 100 peak hour trips, thereby precluding the hotel from requiring its own TMP. This analysis does provide some general insight into anticipated traffic impacts, which the City's traffic engineer concludes to be minimal.

The project features no on-site parking (though the interim condition would require that vehicles park on the lower Portland Square site), and hotel guest drop-off will be located on Center Street, where curb extensions provide vehicle refuge. A sixteen (16) foot access and utility easement off of Center Street (along north side of hotel) would provide access for small delivery and other service vehicles to the site.

The proposal has been reviewed by Tom Errico, P.E., traffic engineer with T.Y. Lin, who has offered the following comments (Attachment 2):

- The project is seeking a Traffic Movement Permit in conjunction with the Portland Square Master Development Plan. I find this approach to be acceptable and I have no further comment.

- The applicant has noted that large trucks may be generated to the site and the loading dock will be unable to accommodate them. The applicant is suggesting that large vehicle loadings occur om Center Street north of the site along the easterly curb line where parking is currently prohibited. I find this plan to be reasonable.

- The applicant shall replace the existing traffic signal support on their corner from a steel span wire support to a mast arm support (The City requires mast arm supports and thus this change will bring it up to current standards). A pedestal pole for pedestrian heads and push buttons may also be required to meet accessibility standards. This change will not have an impact on intersection capacity and is related to traffic signal support equipment only. The applicant shall submit design plans (both interim conditions during construction and final conditions) for review and approval.

- The applicant has not provided sufficient documentation for estimating parking demand conditions during evening or peak time periods. Given the availability of spaces during off-peak time periods at the Portland Square surface lots (as documented in a demand analysis for Portland Square), I would suggest the actual number of parking spaces (above those already secured) to be provided by the hotel be determined from actual demand when the hotel opens. The determination of the actual parking spaces needed shall be performed in conjunction with the required TDM Plan and annual monitoring.

2. Sidewalks

As part of this project, the applicant intends to maintain the existing brick sidewalk along Commercial Street and substantially widen the brick sidewalk along Center Street from just over five (5) feet to between ten (10) and sixteen (16) feet, through the construction of a curb extension. The expansion of sidewalks would provide a more comfortable pedestrian experience, account for necessary ADA ramp improvements, and provide adequate space for new street lights and street tree planters. In order to achieve this width, the proposed plan shows the sidewalk being located partially on private property, for which easements shall be required.

Bruce Hyman, the Transportation Program Services Manager, has reviewed the proposed pedestrian improvements, and offers the following comments (Attachment 3):

- The driveway detail is to be updated to show a pedestrian access route across the driveway of 5' in width minimum with a maximum cross-slope of 2%.

3. Public Transit Access

Standards for public transit access are not applicable to this project.

4. Parking

Per Division 20, Off-Street Parking Standards, the proposed project is required to provide a total of sixty-four (64) parking spaces, calculated at a rate of one (1) space per four (4) hotel rooms (thirty-four (34) spaces) and one (1) space per one-hundred fifty (150) square feet of restaurant space, thirty (30) spaces based upon 2,620 square feet of ground floor restaurant space and 1,725 square feet for the rooftop bar. As part of the purchase and sale agreement between Fathom CC, LLC and North River IV, LLC, the seller has agreed to provide up to seventy-five (75) spaces for use by the development.

The Planning Board may establish a different parking requirement based upon a parking analysis for new development with greater than 50,000 square feet of floor area. A recently approved application to amend the Portland Square One and Two development, indicated that during peak

demand periods (10:00 a.m. - 2:00 p.m.) the hotel would generate a parking demand of approximately sixty-five (65) parking spaces. Overnight parking demand would increase to approximately ninety (90) spaces.

The applicant has stated that they do not anticipate a need for more than the seventy-five (75) spaces being leased, and that if additional need does arise, they have the ability to secure additional space on the Portland Square property, since the period of highest demand (overnight) coincides with the period of lowest demand for the lots as a whole. Additionally, staff have drafted a condition of approval that a Transportation Demand Management (TDM) plan be submitted. Through demand management strategies, additional demand may be reduced, and the TDM itself would provide an opportunity to monitor conditions under a site build-out.

5. Bicycle Parking

A total of twelve (12) bicycle parking spaces are provided at principle hotel entrance on Cross Street. The site plan ordinance requires that two (2) bicycle parking spaces be provided for every ten (10) required vehicle parking spaces for non-residential uses, for a total requirement of twelve (12) spaces. Bruce Hyman, Transportation Program Manager, has reviewed the plans provided and offers the following comment (Attachment 3):

- The bike rack detail shall add that the final height of the racks is to be 33"-35" above finished grade.

- The site plan references "bike rakcs (typ. of 4)" but I only see 3 (2 on Commercial St. and 1 on Center St.) please clarify.

6. Snow Storage

In the submittal material, the applicant states that given the 96% building coverage, there is no need for snow storage on-site. Accordingly, snow removal will be managed around the hotel by staff or a contracted third party.

7. Transportation Demand Management

The hotel, in accordance with the City's site plan ordinance as commercial development exceeding 50,000 square feet, is required to submit a TDM plan which has been drafted as a condition of approval. Once complete, the TDM will serve as the basis for monitoring and determining exact parking demand, which may require future modification to required parking for the site. The traffic analysis submitted for the hotel highlights some demand management strategies including the use of a valet system to reduce demand.

8. Construction Management Plan

City staff met with the development team, including the construction manager, on Tuesday July 2nd to discuss a framework for construction management. While a formal construction management plan has not yet been submitted, a general framework is being developed in time for the public hearing. As discussed at the July 2nd meeting, the principal concerns held by the city are closure of streets and sidewalks and the elimination of on-street parking. In response, the applicant has stated that they do not anticipate needing to close any streets for the duration of construction, though temporary closures may be required for installation of utilities. City staff raised the

possibility of providing a temporary sidewalk along Commercial Street using jersey barriers and maintaining some on-street parking as either angled front-in parking or parallel parking. This same concept has been successfully implemented at the former Rufus Deering site which features similar roadway dimensions. Completion of the construction management plan has been drafted as a condition of approval.

Mike Tremblay, Senior Engineer with the Department of Public Works, has provided a description of the general framework that was discussed with the development team (Attachment 1):

- Pedestrian traffic shall be maintained along the west side of Commercial Street via a temporary walkway; this walkway should be wider than the 4-foot minimum if at all possible, ideally as wide as the existing sidewalk.
- Pedestrian traffic along the north side of Center Street will be diverted to the south side. Appropriate detour signage will be provided.
- Parking will be restricted on Center Street in the vicinity of the project
- Parking will be maintained, in some form, on Commercial Street if at all possible. The City will consider whether the existing right-turn lane can be utilized for parking as the right-turn lane is not necessary.
- Construction vehicles will enter the site via Commercial Street and exit via Center Street. Some larger vehicles may need to back into the site via Commercial Street. Such maneuvers will be facilitated by flaggers. Flaggers will also assist in vehicles turning out onto Center Street as they may need the entire width of the street to do so.
- The two eastern quadrants of the site will be constructed first. This will help to reduce the project's impact on Commercial Street.
- Materials will be stored on-site to some extent. Cianbro has a larger property off Cassidy Point Drive, where materials will be stored en masse and delivered to the site.
- Construction parking will be provided at Cianbro's property off Cassidy Point Drive and workers will be shuttled from there. No contractor parking will be permitted on-street near the project site.

9. Landscape Preservation/Site Landscaping and Screening/Street Trees

Due to zoning setback requirements, preservation of existing perimeter landscaping is not possible. To compensate for removal of this landscaping, the applicant is proposing regularly spaced street trees along the property frontage in accordance with the site plan and Technical Manual standards, and a large landscaped roof garden over a portion of the ground floor of the hotel.

Jeff Tarling, City Arborist, has reviewed the landscape plan provided and finds the plans as shown acceptable, noting that the tree wells should be increased in size from 3' x 5' to 4' x 6', and that a proportional fee in-lieu for the three required street trees not being provided should be made a condition of approval.

10. Water Quality, Stormwater Management and Erosion Control

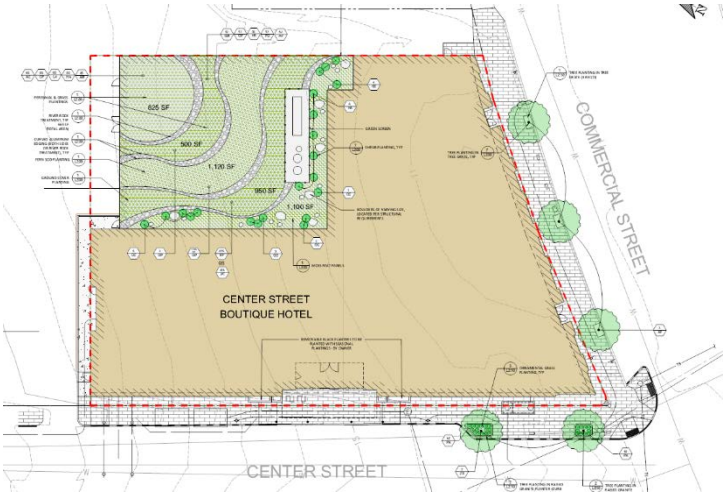

Figure 6: Proposed Landscape Plan with Roof Garden and 5 street trees

The proposed development constitutes a 2,000 square foot reduction in impervious surface in comparison with the existing condition, with the impervious surface changing from parking lot to roof area. It is well understood that runoff from roof area is cleaner than that from parking area, and as such, this change will result in improvements to water quality. Given the net reduction in overall impervious surface, the project is exempt from meeting Maine DEP Chapter 500 General and Flooding Standards, though is required to meet the Redevelopment Standards, as the project amends a previously approved Site Location of Development approval. The applicant has also provided an erosion and sedimentation control plan which includes recognized best management practices as identified by Maine DEP.

Michael Guelthe, P.E. with Wright Pierce, reviewed the plans and documents provided for compliance with City standards and related stormwater management and erosion control and offers the following comments (Attachment 4):

- Erosion and sedimentation control best practices were observed on the Erosion and Sedimentation Control Plan. Updated plans include anticipated siting of erosion control measures, as well as clarification on the erosion control notes regarding the timeframe of application. No further action required.

- The Kraken System has not yet been approved by the Maine DEP as a proprietary treatment system. However, under Chapter 500's Innovative Treatment Measures protocol outlined in 4(C)(3)(e), on a case by case basis, approval may be allowed for "alternative treatment measures to those described in Subsections 4(C)(3)(a) through 4(C)(3)(d).

    - Use of the Kraken system as an approved measure for this site is conditional to Maine DEP's additional review of the Kraken manufacturer's test data for the project site.

11. 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.

The proposals do not raise any particular concerns, though future evaluation will be required once the mid-block pedestrian corridor is constructed.

12. Fire Prevention

The Fire Department has reviewed the plans provided, and has asked that the street address be clearly marked on the front of the building and building sign. Otherwise, the Fire Department has no concerns with the proposal.

13. Public Utilities

A utility plan was provided that shows new 4" water service, 6" fire service and 6" sanitary sewer connecting into existing infrastructure in Center Street. A separate sewer line with grease trap is provided to serve on-site food preparation. Underground electrical service is provided from Cross Street, which will be located beneath the shared access driveway. The staff have asked that the applicant, as part of the Master Plan process, to pursue the undergrounding of utility lines within the vicinity of Portland Square.

Michael Guethle, P.E. with Wright Pierce, has reviewed the utility plan and provides the following comments (Attachment 4):

- Ability to serve letters have not been provided for utilities impacted by the proposed project, but have been requested by the applicant for applicable utilities. The applicant has indicated that ability to serve letters will be submitted to Planning upon receipt.

- It is understood that grease trap sizing is being reviewed by Department of Public Works. Applicant shall defer to comments from Department of Public Works on this item.

- Connection to Existing Stormwater Systems: E-mail, or otherwise written, confirmation from the Department of Public Works accepting this connection is requested to confirm that this connection is appropriate under Land Use section 14-526(b) 3 a. (iv); and 14-526 (c) 3 a.

- Details and siting for the electrical transformer vaults and electrical trenching and conduits was not provided.

14. Massing, Ventilation, Wind Impacts and Shadows

No adverse impacts are anticipated as it relates to these standards.

15. Historic Resources

The Historic Preservation Board approved the building design at their April 17, 2019 meeting. Given that the project is located within a historic district, design review is completed by the Historic Preservation Board. For additional information, please see the link for the Historic Preservation Board Public Hearing on the Center Street Hotel.
https://portlandme.civicclerk.com/Web/Player.aspx?id=526&key=-1&mod=-1&mk=-1&nov=0

16. Exterior Lighting/Street Lighting

Two Old Port District Street Lighting Poles are shown along Center Street, with existing cobra head fixtures proposed to remain along Commercial Street. Staff are assessing need to install additional X-8B fixtures to supplement the existing cobrahead lighting. Prior to the Public Hearing, staff will formalize a recommendation.

Light fixtures are proposed at all egress doors, and given the setback requirements of the B-3 zone, necessarily trespass beyond the allowable limit at the property line, though not onto abutting properties. The applicant is requesting a waiver from this requirement, citing the challenge of providing site lighting for a building constructed up to the property line. Staff have drafted a condition of approval that would require that lighting cut sheets be provided that demonstrate proposed lighting to be full cutoff and at appropriate color temperature.

B. SITE LOCATION OF DEVELOPMENT

As the hotel would be developed on a parcel previously reviewed as part of a Site Location of Development approval (1988), the applicant is required to formally amend that application. The application and required material have been submitted to Maine DEP and the City has been granted delegated review authority.

Site Location Law requires a showing that certain standards are being met. The following is a list of standards to be adhered to, outlined under Section 14 of the Technical Manual:

- Financial and Technical capacity to complete a project as proposed
- Traffic Movement
- No adverse effect on the natural environment
- Soil types analysis
- No adverse impact to ground water
- Comprehensive assessment of infrastructure needs
- Flooding accountability
- Stormwater management and erosion/sedimentation control

Under the exhibits file for the SLODA application, included in the applicant's materials, a discussion of each of these points is provided. Development review staff found the proposed plans to be in compliance with the above listed standards, as articulated in the applicant's memo (Attachment V and W) and within this report.

C. INCLUSIONARY ZONING

The City recently adopted amendments to Division 30, Inclusionary Zoning, which require that hotels with ten (10) or more rooms comply with Section 14-448.1, Inclusionary Zoning for Hotel Projects. This standard state that one (1) low-income housing unit shall be created for every twenty-eight (28) hotel rooms, for a total requirement of five (5) low income housing units.

An alternative is to provide a fee in lieu of the required units, which is calculated at $3,806 per hotel guest room in 2019. Based upon one-hundred thirty-five (135) rooms, the total contribution would be $513,810. This fee would need to be paid prior to issuance of a Certificate of Occupancy.

The applicant has agreed to provide the fee in-lieu, which is described in greater detail in the memo from Victoria Volent, Housing Program Manager (Attachment 5).

XI. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board find the Level III Site Plan, IZ Conditional Use Application and Site Location of Development Amendment to be consistent with the applicable standards of Portland's Land Use Code.

XII. PROPOSED MOTIONS FOR THE BOARD TO CONSIDER

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained within the Planning Board Report for the public hearing on July 9, 2019 for application #PL-000448-2018 relevant to the Site Plan Standards of the Land Use Code, Portland's Technical Standards and other regulations, and the testimony presented at the Planning Board hearing:

1. Light Trespass:
   The Planning Board [finds / does not find] based upon the Staff Review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard 12.3.4, requiring that light trespass not exceed 1.0 foot-candles where commercial property abuts right-of-way or other commercial property, that substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [waives / does not waive] the Technical Manual standard Sec 12.3.4 to allow a maximum light trespass of 7.3 foot-candles at the property line and no more than 1.0 foot-candles at the edge of the public sidewalk.

B. CONDITIONAL USE REVIEW – INCLUSIONARY ZONING

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained within the Planning Board Report for the public hearing on June 25, 2019 for application #PL-000606-2019 relevant to the Inclusionary Zoning Conditional Use Standards (Sec. 14-487), other regulations, and the testimony presented at the Planning Board hearing, the Planning Board [finds / does not find] that the plan is in conformance with the Conditional Use Standards for Inclusionary Zoning subject to the following condition of approval, which shall be met prior to issuance of a Certificate of Occupancy:

1. The applicant shall provide a fee in-lieu contribution of $513,810, calculated at $3,806 per hotel room (135 rooms), that shall be paid into the City's Housing Trust Fund. In the event that the number of hotel rooms is amended, the required contribution shall be adjusted accordingly. The Applicant and the City may enter into a written agreement to codify this

requirement, and a Certificate of Compliance may be issued by the Planning Authority at the Applicant's request once the full payment has been received by the City.

C. SITE PLAN 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 June 25, 2019 for application #PL-000448-2018 relevant to the site plan regulations, Site Location of Development Act, Portland's Technical Standards and other regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds / does not find] that the plan is in conformance with the site plan standards of the land use code and Site Location of Development Act requirements, subject to the following conditions of approval, which shall be met in accordance with the following schedule:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. Utility capacity verification for sanitary sewer shall be provided prior to applying for any building permits.
2. Applicant shall provide lighting cut sheet for site lighting, demonstrating fixtures to be full cutoff and in conformance with Section 12 of the Technical Manual. If necessary, the photometric plan shall be revised to reflect any required changes.
3. The proposed traffic signal relocation shall require a traffic signal modification plan to be submitted for review by the Planning Authority that is compliant with MUTCD standards and ADA requirements.
4. Use of the Kraken proprietary stormwater system shall be dependent upon Maine DEP's review of the Kraken manufacturer's test data for the project site. If not accepted by Maine DEP, the applicant shall submit an alternative stormwater design with associated plan for review by the Planning Authority.
5. The applicant shall submit a revised detail sheet and site plan that addresses comments from the Transportation Program Manager dated June 18, 2019, with the following information
    a. Updated details for bicycle racks and driveway apron per comment.
    b. Clarification on number and placement of bicycle racks.
    c. Supplementation of Commercial Street Cobrahead fixtures with recently approved Trail/Waterfront decorative fixture, spec X-8b.
    d. Additional bollard in front of hotel entrance.
    e. Revised dimensions for tree wells with grates.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

6. The applicant shall submit a Transportation Demand Management (TDM) Plan for review and approval by the Planning Authority documenting parking supply and demand in addition to demand management strategies, targets for trip reductions and monitoring provisions. TDM monitoring shall include reporting of off-street parking (75 spaces) usage trends after a period of three (3) years, with the understanding that if parking demand is

either greater or lesser than available supply, that the lease may be amended to reflect the demand trend.

7. A construction management plan shall be submitted for review and approval by the Planning Authority and Department of Public Works.
8. The applicant shall submit a narrative describing frequency of semi-trailer truck deliveries proposed to park on Center Street for the loading and unloading of goods, proposed location for vehicles parking by vehicle type and anticipated traffic impacts that may result from such deliveries.
9. Based upon a frontage of approximately 345 feet, the applicant is required to provide a total of eight (8) street trees, calculated at one tree per 30-45 feet of frontage. A total of five (5) street trees are shown, and the remaining three shall be provided as a fee in-lieu, calculated at $400 per street tree, for a total required contribution of $1,200.
10. A stormwater maintenance agreement shall be provided for review and approval by Corporation Counsel, Department of Public Works and the Planning Authority.

XIII. ATTACHMENTS

Staff Attachments

1. Construction Management Framework
2. Final Review Comments – Traffic
3. Final Review Comments – Pedestrian and ROW Improvements
4. Preliminary Review Comments – Stormwater and Utilities
5. Preliminary Review Comments – Inclusionary Zoning
6. Public Comment:
    a. Karen Snyder (2.13.19)
    b. Sandra Guay (2.25.19)

Applicant's Documents

A. Cover Letter
B. Table of Contents
C. Application Fee & Checklists
D. Project Information & Approach
E. Right, Title & Interest
F. Additional Project Approvals
G. Assessment of Zoning
H. Easements and Other Burdens
I. Financial and Technical Capacity
J. Traffic
K. Significant Natural Features
L. Stormwater Management
M. Consistency with Master Plan
N. Utilities
O. Solid Waste
P. Summary of Fire Codes
Q. Consistency with Design Standards

R. HVAC
S. Boundary Survey
T. Zoning Analysis Table Center Street Hotel
U. Supplementary Traffic Evaluation
V. Complete SLODA Application Report
W. SLODA Stormwater
X. HP Architectural Information
Y. Neighborhood Meeting Information
Z. Center Street Additional Information
AA. Lighting Waiver Request
BB. Response to Comments

Plans

P1. Cover Sheet
P2. Commercial & Center Street Survey
P3. Existing Conditions Plan
P4. First Floor Plan – Level 1
P5. Guestrooms Plan – Level 2
P6. Guestrooms Plan – Level 3
P7. Guestrooms Plan – Level 4
P8. Guestrooms Plan – Level 5
P9. Rooftop Bar and Guest Rooms Plan
P10. Roof Terrace Plan
P11. HP Public Hearing Presentation
P12. North and South Elevations
P13. East and West Elevations
P14. Site Plan
P15. Grading, Drainage ESC Plan
P16. Utility Plan
P17. Interim Conditions Plan
P18. ESC Details
P19. Civil Details 1
P20. Civil Details 2
P21. Civil Details 3
P22. Civil Details 4
P23. Landscape Plan
P24. Landscape Details 1
P25. Landscape Details 2

 Att. 1

Portland Maine Yes. Google's good here.

Matthew Grooms <mgrooms@portlandmaine.gov>

Center Street Hotel - CM Plan considerations

Mike Tremblay <mtremblay@portlandmaine.gov> Wed, Jul 3, 2019 at 11:55 AM
To: Matthew Grooms <mgrooms@portlandmaine.gov>
Cc: Christine Grimando <cdg@portlandmaine.gov>, Jeremiah Bartlett <jbartlett@portlandmaine.gov>, Bruce Hyman <bhyman@portlandmaine.gov>, Tom Errico <thomas.errico@tylin.com>

Matt,

As we discussed yesterday, here are my general thoughts on what we can expect from a CM plan for the Center Street hotel:

- Pedestrian traffic shall be maintained along the west side of Commercial Street via a temporary walkway; this walkway should be wider than the 4-foot minimum if at all possible, ideally as wide as the existing sidewalk

- Pedestrian traffic along the north side of Center Street will be diverted to the south side. Appropriate detour signage will be provided.

- Parking will be restricted on Center Street in the vicinity of the project

- Parking will be maintained, in some form, on Commercial Street if at all possible. The City will consider whether the existing right-turn lane can be utilized for parking as the right-turn lane is not necessary.

- Construction vehicles will enter the site via Commercial Street and exit via Center Street. Some larger vehicles may need to back into the site via Commercial Street. Such maneuvers will be facilitated by flaggers. Flaggers will also assist in vehicles turning out onto Center Street as they may need the entire width of the street to do so.

- The two eastern quadrants of the site will be constructed first. This will help to reduce the project's impact on Commercial Street.

- Materials will be stored on-site to some extent. Cianbro has a larger property off Cassidy Point Drive, where materials will be stored en masse and delivered to the site.

- Construction parking will be provided at Cianbro's property off Cassidy Point Drive and workers will be shuttled from there. No contractor parking will be permitted on-street near the project site.

I think that's the bulk of it. Let me know if I missed anything.

Mike Tremblay, P.E.
Senior Engineer
Engineering Division
Department of Public Works
City of Portland, ME
mtremblay@portlandmaine.gov
P. 207.874.8881 F. 207.874.8852

Portland Maine Yes. Google's good here.

Att. 2

Matthew Grooms <mgrooms@portlandmaine.gov>

Center Street Hotel - Final Traffic Comments

Tom Errico <thomas.errico@tylin.com> Wed, Jul 3, 2019 at 12:03 PM
To: Matthew Grooms <mgrooms@portlandmaine.gov>
Cc: Mike Tremblay <mtremblay@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Bruce Hyman <bhyman@portlandmaine.gov>

Hi Matt – I have reviewed the revised application materials and offer the following final traffic comments as a status update of prior comments.

- The applicant has conducted a trip generation analysis and determined that the Hotel, by itself, does not generate 100 passenger-car equivalents during any peak hour and thus does not require a Traffic Movement Permit. It is my understanding that a Traffic Movement Permit Application will be prepared for the overall Portland Square project. Depending on the timing of the Portland Square TMP, a traffic study may be required for this project. The applicant should suggest how best to proceed on this issue, given their schedule.

Status: The project is seeking a Traffic Movement Permit in conjunction with the Portland Square Master Development Plan. I find this approach to be acceptable and I have no further comment.

- The applicant should provide documentation that only single-unit trucks will service the hotel.

Status: The applicant has noted that large trucks may be generated to the site and the loading dock will not be able to accommodate them. The applicant is suggesting that large vehicle loadings occur on Center Street north of the site along the easterly curb line where parking is currently prohibited. I find this plan to be reasonable.

- The loading dock driveway on Cross Street does not meet driveway separation standards. Given low traffic volumes on Cross Street, the abutting driveway is a service driveway and the proposed driveway allows for off-street vehicle delivery loading/unloading, I support a waiver from City standards.

Status: This is no longer part of the plan and I have no further comment.

- A traffic signal modification plan shall be prepared as it relates to relocation of the traffic signal support at the Commercial Street/Center Street northeast corner. All work shall meet MUTCD standards and be ADA compliant.

Status: The applicant shall replace the existing traffic signal support on their corner from a steel span wire support to a mast arm support (The City requires mast arm supports and thus this change will bring it up to current standards). A pedestal pole for pedestrian heads and push buttons may also be required to meet accessibility standards. This change will not have an impact on intersection capacity and is related to traffic signal support equipment only. The applicant shall submit design plans (both interim conditions during construction and final conditions) for review and approval.

- A parking study shall be prepared that documents supply and demand provisions for the project.

Status: The applicant has not provided sufficient documentation for estimating parking demand conditions during evening or peak time periods. Given the availability of spaces during off-peak time periods at the Portland Square surface parking lots (as documented in a demand analysis for Portland Square), I would suggest the actual number of parking spaces (above those already secured) to be provided by the hotel be determined from actual demand when the hotel opens. The determination of the actual parking spaces needed shall be performed in conjunction with the required TDM Plan and annual monitoring.

- It is my understanding that Bruce Hyman has provided comments as it relates to Center Street with regards to curb extensions, sidewalks and on-street parking.

Status: I have no further comment.

- Significant impacts to traffic, parking and sidewalks are proposed during construction. I do not support the current plan without additional detail/analysis. Given the significance of the impacts, I would suggest a meeting to review project specifics.

Status: The applicant and their construction manager met with City staff to discuss the general principles for managing site construction. It was a very productive meeting and the applicant will be preparing a Construction Management Plan that reflects City requirements. A conditional of approval for review and approval of the Construction Management Plan shall be included.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
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Portland Maine Yes. Google's good here.

Matthew Grooms <mgrooms@portlandmaine.gov>

PL 448-2018 - Center St Hotel: Public ROW Comments

Bruce Hyman <bhyman@portlandmaine.gov> Tue, Jun 18, 2019 at 1:40 PM
To: Matthew Grooms <mgrooms@portlandmaine.gov>
Cc: Michael Tremblay <mtremblay@portlandmaine.gov>, Tom Errico <thomas.errico@tylin.com>, Barbara Barhydt <bab@portlandmaine.gov>, Caitlin Cameron <ccameron@portlandmaine.gov>, Jeff Tarling <jst@portlandmaine.gov>

The following are comments on the public ROW elements in recent submittals (most dated 6/3/19):

Detail C3.05:

- The bike rack detail shall add that the final height of the racks is to be 33"-35" above finished grade
- The driveway detail is to be updated to show a pedestrian access route across the driveway of 5' in width minimum with a maximum cross-slope of 2%

Site Plan C.2.01

- The site plan references "bike racks (typ. of 4)" but I only see 3 (2 on Commercial St, 1 on Center St)
- There is a Waterfront decorative lighting fixture standard to supplement cobrahead lighting - this should be explored *in lieu* of or in addition to a new utility pole with cobra light fixture on Commercial Street - Caitlin should assess this - I do not see a lighting/photometrics plan
- I think we had collective comments last week that maybe the flush area at the hotel entrance could be reduced and didn't need to be a wide as it is currently designed - thoughts should be finalized on this
- The tree wells with grates on Commercial Street appear to be only 3'x5' - a larger size should be considered (min. 4'x6')

I do not see a Bollard Detail for those to be placed along the hotel entrance, but may have missed it.

Bruce
--
Bruce Hyman
Transportation Program Manager

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
http://www.portlandmaine.gov
Yes! Transportation's Good Here ....

WRIGHT-PIERCE
Engineering a Better Environment

MEMORANDUM

TO:	Matthew Grooms, AICP; Planner	**DATE:**	7/3/2019
FROM:	Michael Guethle, PE; Jan Wiegman, PE	**PROJECT NO.:**	14273A
SUBJECT:	1 Center Street Hotel – Level III Site Plan, 000448-2018		

Wright-Pierce has reviewed the updated Level III Site Plan Application information provided for the Center Street Hotel at 1 Center Street. The proposed Center Street Hotel project is located on a 23,795 +/- SF site on the corner of Commercial Street and Center Street. The proposed project includes redevelopment of the existing surface parking lot with a 135-room boutique hotel and includes additional utility and site infrastructure improvements.

Documents Reviewed by Wright-Pierce:

- Level III Site Plan application, dated (most recent) June 3, 2019
- Engineering Permitting Plans, dated (most recent) June 3, 2019
- Construction Management Plan, dated December 21, 2018.

Comments:

1) Level III Site Plan applications with the City of Portland must submit a stormwater plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules. This includes conformance with the Basic, General, and Flooding Standards (Ref: Technical Manual, Section 5. II. Applicability in Portland. C. a.; and Ref: City of Portland Code of Ordinances Sec. 14-526. Site Plan Standards, (b). 3. b.)
    a. Basic Standard: Per the City's Technical Manual *Portland Stormwater Management Standards And Maine Dep Chapter 500 Stormwater Management*, an Erosion & Sediment Control management plan, notes, and details per the Chapter 500 Rules must be provided to meet the Basic Standard.
        i. Erosion and Sedimentation Control best practices were observed on the Erosion and Sedimentation Control Plan. Updated plans include anticipated

siting of erosion control measures, as well as clarification on the erosion control notes regarding the timeframe of application. No further action necessary.

b. General Standard: The applicant has provided information regarding the size and scope of the project indicating the project is subject to the General Standard under the requirements of the Site Location of Development Act (SLODA). The project is being reviewed under the redevelopment guidelines and requirements.
    i. The applicant has provided an impact analysis to compare pre-development and post-development land use pollutant rankings under MaineDEP redevelopment guidelines. This analysis indicated that the proposed development had a lower pollutant ranking than the existing site and is therefore required to treat 50% of the proposed site's disturbed surface area, with priority placed on the highest-ranked pollutant for the site. The applicant is meeting this requirement by conveying 50.2% of the parcel area, mostly consisting of roof area, to a treatment facility.
    ii. The Kraken System has not yet been approved by the MaineDEP as a proprietary treatment system. However, under Chapter 500's Innovative Treatment Measures protocol outlined in 4(C)(3)(e), on a case-by-case basis, approval may be allowed for "alternative treatment measures to those described in Subsections 4(C)(3)(a) through 4(C)(3)(d)".
        1. The Kraken system has been sized to treat slightly more area than the subcatchment area based on a flow rate of 0.019 CFS/filter, as approved by NJCAT.
        2. The R-Tank system is sized to provide a channel protection volume for 1.0" of impervious area and 0.4" of landscaped area for the proposed 11,900 SF subcatchment area.
        3. For the proposed system's subcatchments, the major pollutants of concern are temperature and nutrient pollution from roof drainage; as well as Total Suspended Solids from the drive access.

4. Use of the Kraken system as an approved treatment measure for this site is conditional to MaineDEP's additional review of the Kraken manufacturer's test data for the project site.

iii. An executed maintenance contract for the BMP system is required and may be included as a Condition of Approval.

c. Flooding Standard: The applicant has submitted calculations indicating that the total surface flows to the Commercial Street stormdrain system will be less in the proposed condition than in the existing condition in 24-hour, 2-year, 10-year, and 25-year interval storm events. See comment 3c, below, for additional City requirements for connections to the existing system.

2) Grading and Drainage
   a. Sidewalk grading has been shown at a 2% maximum cross-slope; no further action necessary.
   b. Catch basin inlet details have been provided, and structure elevations have been updated. No further action necessary.
   c. Additional catch basins and pipes have been proposed in the northwest portion of the hotel area to convey up-slope drainage. No further action necessary.
   d. Ex. CB-1 has been modified to outlet to the storm drain in Cross Street. No further action necessary.
   e. Inverts for R-Tank on C2.02 and R-Tank detail for C3.04 have minor vertical discrepancies. Confirm difference prior to construction.
3) Utility Connections
   a. Ability to serve letters have not been provided for utilities impacted by the proposed project, but have been requested by the applicant for applicable utilities. The applicant has indicated that ability to serve letters will be submitted to Planning upon receipt.

b. It is understood that grease trap sizing is being reviewed by Department of Public Works. Applicant shall defer to comments from Department of Public Works on this item.
c. Connection to Existing Stormwater Systems: E-mail, or otherwise written, confirmation from the Department of Public Works accepting this connection is requested to confirm that this connection is appropriate under Land Use section 14-526 (b) 3 a. (iv); and 14-526 (c) 3 a.
d. Details and siting for the electrical transformer vaults and electrical trenching and conduits was not provided.

Att. 5

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

To: Matthew Grooms Planner, Planning & Urban Development Department

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

Date: June 25, 2019

Subject: 1 Center Street – Inclusionary Zoning for Hotel Projects Conditional Use

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All hotel projects consisting of ten (10) or more guest rooms for rent are conditional uses subject to Planning Board review on the condition that they comply with the requirements set forth in Division 30, Sections 14-487 and 14-488.1 of the Zoning Ordinance.

Division 30, Section 14-488.1, Inclusionary Zoning for Hotel Projects, requires the creation of at least one unit of low-income housing for rent in the City of Portland for every 28 rooms in the hotel project. The low-income units must meet the standards outlined in Section 14-487 and in the implementing regulations governing low income units. This number of hotel rooms used to calculate required units shall be rounded up to the nearest increment of 28 rooms.

As an alternative to providing workforce housing units, developers may pay a fee-in-lieu of some or all of the units. The fee for affordable units not provided shall be $3,806 per hotel guest room, adjusted annually in the same way as the fee under Division 29 for Housing Replacement. For example, if a developer prefers to pay a fee-in-lieu on a proposed 135 guest room project, the developer would be required to pay 135 times the adjusted fee. The in-lieu fee must be paid into the Housing Trust Fund before a certificate of occupancy may be issued.

The hotel project located at 1 Center Street proposes the creation of 135 guest rooms for rent. The Applicant has chosen to fulfill the inclusionary zoning requirements by paying a fee-in-lieu. The proposed project would thus be required to pay a total fee of $513,810 into the City's Housing Trust Fund in-lieu of the creation of actual housing units for low-income households. Should at a later date any change in total unit count be considered, a revised proportional fee-in-lieu payment will also be required. The Applicant's payment of the fee-in-lieu will satisfy the requirements set forth in Sec. 14-488.1.

Staff recommends the Board Approve this this hotel project on the condition that the Applicant pay a fee-in-lieu of $513,810 into the City's Housing Trust Fund before a Certificate of Occupancy may be issued. The Applicant and the City may enter into a written agreement to codify this requirement and a Certificate of Compliance may be issued by the Planning Authority at the Applicant's request once the full payment has been received by the City.

Sincerely,

Victoria Volent
Housing Program Manager

Att. 6

PC1

Google Groups

Missing Required Documents from 2/12 Planning Board Workshop on 1 Center Street Hotel

Karen Snyder <karsny@yahoo.com> Feb 13, 2019 5:13 PM
Posted in group: **Planning Board**

Planning Department and Planning Board members,

I am requesting that another Planning Board workshop is needed for 1 Center Street hotel in order to give proper amount of time for the developer, Jim Brady, to include all the required missing documents listed below. Also, to give concerned residents about Commercial street congestion, time to review material and comment rather than pushing this project hurriedly through the process without all of the legally required documents included.

Below is the list of missing required documents from last night Planning Board workshop for 1 Center Street hotel.

1) No traffic study was provided.
2) No parking solution for the required 64 parking spots was provided for the proposal.
3) No construction management plan was provided.
4) No resolution yet to Historic Planning Board recommendations.
5) No solution to how this project will adhere to the Commercial Street Operations & Master Plan when this "plan" is not even complete yet and from Christine Grimando, Sr. Planner, really has no apparent completion date.
6) No official traffic generation analysis report was presented but an unofficial statement from Tom Errico that said the trip generation is 97 which is just below the 100 needed for this specific project to then be required for a traffic permit.
7) Not to mention the additional concerns from last night workshop such as: A) Requested service entrance renderings from Center Street, B) Requested traffic signal modernization, etc.

If I am not mistaken, the Planning Department stated a couple of years ago if the permit package isn't complete, it is not ready to be scheduled for a workshop review.

Therefore, it is recommended that another workshop meeting is needed and to give proper amount of time for developer to supply all legal required documents and for concerned residents to review material and have enough time to comment rather than hurriedly pushing this through the system.

Regards,

Karen Snyder
Waterville St.

PC2

WOODMAN EDMANDS DANYLIK AUSTIN SMITH & JACQUES, P.A.

ATTORNEYS-AT-LAW

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PETER L. EDMANDS
(Retired)

February 25, 2019

Sean Dundon, Chair
Portland Planning Board
City of Portland
389 Congress Street
Portland, ME 04101

Re: Level III Site Plan Review/1 Center Street Hotel

Dear Mr. Dundon and Planning Board Members:

This letter is written on behalf of a broad group of lobstermen, fishermen, other members of the marine trade and Commercial Street business owners; collectively, the Portland Working Waterfront Group (PWWG). As a group, the members have significant concerns about the application that is presently under review by the Planning Board for the construction of a 135-room hotel with ground floor restaurant and a rooftop bar, and the impact that this project will have on the already failing traffic conditions on Commercial Street. Specifically, the PWWG's concerns are as follows:

I. The proposed hotel/restaurant/bar is Phase I of the "Portland Square Master Plan."

There are several statements in the February 8, 2019 Planner's Memo for the Planning Board's February 12 workshop that the proposed hotel/restaurant/bar is only one part of a larger "Portland Square Master Plan", yet the review is proceeding as if this is a stand-alone Level III Site plan.[1] This avoids reviewing the project under

[1] The excuse given for submission of this stand-alone Level III site plan application "([d]ue to delays in submission of the master development plan") is hardly a reason to avoid review of the Portland Square Master Plan under the Master Development Plan (MDP) section of the Ordinance. There are in fact no assurances that a MDP will ever be submitted, in which case the present proposal for the hotel/restaurant/bar may in fact remain a stand-alone project, negating the

the additional and cumulative Master Development Plan (MDP) review criteria which was adopted by the City as a part of Section14-521 (Site Plan Review) in order to provide an opportunity for critical additional oversight and review by the Planning Board for large multistage projects. While the ordinance allows that a MDP may be reviewed and approved in separate phases, all of those phases should be in front of the Planning Board from the outset – if not, what is the point of the section of the ordinance devoted to MDP review, and the additional review criteria that large projects are subject to under this section? It is premature and in error for the Planning Board to be reviewing the hotel/restaurant/bar as a stand-alone project without the Board, as well as members of the public, being able to review the proposed project in the context of the entire Master Development Plan.

II. The Applicant has not provided a parking plan (for new required parking or for the displacement of existing parking), a traffic study or a Traffic Management Plan and the Application is incomplete without them.

Both the Planning Board's own rules and the Ordinance (Sections14-524(A)(1)(b) and 14-524(a)(3)(b)(iv)) require an application to be complete before it is reviewed by staff or the Planning Board.

The location of parking is critical to the review of this application. The Applicant has however not disclosed the location of the proposed 75 parking spaces and the traffic study is incomplete without this. Where will these 75 cars be entering and exiting from? What streets and intersections will be impacted? Is this parking for staff, hotel guests and restaurant/bar customers? What times of day will the traffic be the greatest? How many of these 75 spaces are for required parking and how many are needed for displacement parking? It is impossible to review the traffic-related impact of this hotel/restaurant/bar even if it were a stand-alone project, without this crucial missing information.

In addition, the Applicant proposes to transfer these 75 parking spaces to a garage that will become a part of the Portland Square Master Plan. Again, the entire MDP must be reviewed, as the parking for the hotel/restaurant/bar is a part of that larger, more significant development. Furthermore, without review of the MDP, the Board has no assurance that there will ever be a parking garage located anywhere near this project.

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several assumptions made in the February 8, 2019 Planner's Memo, regarding the Applicant's intention of satisfying traffic and parking requirements for this project as part of a larger MDP.

Further, the February 8, 2019 Memo to the Planning Board from Planner Matthew Grooms indicates that the Applicant has prepared its own traffic analysis and has self-determined that a Traffic Movement Permit is not required. The memo also indicates that City Engineer Tom Errico has reviewed the application. How can Mr. Errico review the traffic impacts of this proposal without knowing the parking location of the 75 cars associated with the project? The answer is – he can't.

Section 14-526(a) of the Ordinance sets forth the transportation standards a project must meet for site plan approval. Section 14-526(a)(1) addresses the project's impact on the surrounding street system; there is no waiver provision for this section. In part, it requires the Planning Board to find that the project as proposed:

(a) Appropriately addresses vehicular access onto adjacent public streets;
(b) That the incremental volume of traffic will not create or aggravate any significant hazard to safety, including at any intersections "in any direction where traffic could be expected to be impacted";
(c) And, the project "will not cause traffic congestions on any street which reduces the level of service below Level "D" … or substantially increase congestion on any street which is already at a level of service below Level "D".

For the reasons provided in Section III below, it is unlikely that the proposed project can meet this standard. Even if the parking is presently located ten blocks away from the hotel/restaurant/bar, the Applicant's ultimate plan is to locate it, together with an unknown amount of additional parking spaces to accommodate the as yet unseen "Portland Square Master Plan" in a garage on or near the site, significantly increasing congestion on the already failing Commercial Street corridor.

In addition, the Applicant is proposing to provide a Transportation Demand Management Plan (TDM) as a part of the non-submitted "Portland Square Master Plan". Section 14-526 (a)(5)(a)(ii) of the Ordinance however requires such a plan for *any* use of 50,000 square feet or more total floor area. The hotel/restaurant/bar has 112,046 square feet of floor space and therefore a TDM must be presented as a part of the present stand-alone Level III site plan application – or the Applicant must submit it together with a complete MDP. Once again, the present Application is incomplete without this submission requirement having been met.

III. While the Commercial Street Operations Plan (CSOP) may not be under the purview of the Planning Board at this time, it does raise important implications for this project, and for any other traffic generating proposal in the Commercial Street area and the Board should therefore be fully aware of its purpose, status and impact.

The need for the CSOP was provided by the City in its May 31, 2018 RFP:

> Commercial Street is the irreplaceable and sole landside support corridor for regionally significant fisheries, freight, and marine passenger industries. Simultaneously, Portland's waterfront has emerged as a destination second only to Acadia National Park in the State of Maine's tourism industry. Furthermore, mixed-use development planned along and nearby Commercial Street is booming. Existing and worsening congestion, anecdotally attributed to tourism vehicle and pedestrian traffic, threatens the function, efficiency, and safety of Commercial Street for all travelers and users. For the marine industry, the potential loss of Commercial Street as a functional industrial corridor is an existential threat.

In fact, and of particular concern to the PWWG, the "loss of Commercial Street as a functional industrial corridor" is not an "existential threat" for the City's marine industry – it is an existing reality.

The City however continues to entertain and approve significant development proposals and zoning amendments in the waterfront area that only increase the existing traffic dysfunctionality. Indeed, in an April 27, 2017 Memorandum addressed to Bill Needelman by traffic engineer Tom Errico, Mr. Errico provides a list of projects that have either already been approved or that are in various stages of being proposed over the following 10 years, and states that these known developments alone would be expected to generate an additional 3,300 weekday PM hour trips. The new WEX project was not even included in Mr. Errico's memo, nor did it contemplate the proposed Center Street hotel/restaurant/bar – or the "Portland Square Master Plan" – as yet an unknown quantity.

The reality is that the marine industry is being brought to a standstill on Commercial Street; it simply cannot continue to operate in Portland with the steady, cumulative increased traffic and any such proposed additional traffic should not be casually

added to an already failing condition without a final, approved and fully functional Commercial Street Operations Plan.

As part of an ongoing effort to protect the viability and future of Portland's fishing industry, the PWWG has been actively involved in efforts to reduce the impact of traffic resulting from new development in the Commercial Street area, including the recent (and publically supported) referendum effort, and an agreement with the City to work collaboratively with the City and other important stakeholders in the Commercial Street area toward zoning amendments and traffic management. Certainly, the City's engagement of a traffic consultant and its collaboration with Maine DOT and PACTS on the Commercial Street Operations and Master Plan is a move toward coming to terms with this very significant issue. It is imperative however that as this plan is only just being developed, any additional incremental traffic from new development projects meet the very strictest standards of the Ordinance. The present Application for the Center Street hotel/restaurant/bar is not only incomplete, but also fails to meet these strict traffic related standards.

Thank you for your thoughtful consideration and attention to this matter.

Very Truly Yours,

SANDRA L. GUAY

SLG/lb
Copy to: PWWG

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Att. A

December 21, 2018

Barbara Barhydt,
Development Review Services Manager
389 Congress Street
Portland, ME 04101

Re: Center Street Hotel Project
Level III Site Plan

Dear Barbara:

On behalf of Fathom CC, LLC, Woodard & Curran is submitting a Level III Site Plan for the proposed Center Street Hotel Project located at the corner of Center Street and Commercial Street in Portland, Maine with an address of 1 Center Street. The Application documents were prepared in accordance with City of Portland's Chapter 14, Land Use Code of Ordinances and meet the applicable sections of the City of Portland Design and Technical Manuals.

The proposed work includes the construction of a 6-story, 135-room hotel, that includes a rooftop bar and ground-floor restaurant that will be positioned along the Commercial Street frontage. The proposed hotel will be situated on 23,795 +/- SF parcel of land in such a way as to maximize the site footprint and set no more than the 5'-0" setback from the property boundaries in order to maximize the pedestrian activities district overlay zone along Center and Commercial Street. The project will also include associated utility and site improvements.

The Application Report and the Design Drawings will be uploaded into the Eplan folder when it is available for the project. If there are any questions on the uploaded materials, please don't hesitate to let me know.

Thank you for coordinating the review of this project. If you have any questions regarding this application, please feel free to contact me at (207) 558-3763 or by email at lswett@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical Manager

cc: Jim Brady, Fathom CC, LLC
Bettina Reece, Fathom CC, LLC

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1. APPLICATION

A Level III Site Plan has been filed through the City of Portland Citizen Self Service online system. The Level III Site Plan Checklist is attached.

1.1 APPLICATION FEES

The Application Fee will be paid by the Applicant online. The Application fee is $2,750, per the CSS Online Application.

Total Fee: $2,750

1.2 ATTACHMENTS

- Level III Checklist

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

LEVEL II and LEVEL III APPLICATION SUBMISSION CHECKLIST

Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes to the left

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.

Please submit each document as a separate PDF file.

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

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

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

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

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
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 as separate pdfs.

☑ **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-3, PAD

All Projects:

	Required	Proposed
Lot Size	N/A	23,975 SF
Area Per Dwelling Unit	N/A	
Minimum Street Frontage	15'	140' & 200'
Front Yard Minimum	N/A	
Front Yard Maximum	5'	<5'
Rear Yard	N/A	
Yard Right	N/A	
Yard Left	N/A	
Side Street Setback	N/A	
Step Back	N/A	
Maximum Lot Coverage	100%	96%
Minimum Lot Coverage	N/A	
Maximum Height	65'	65'
Open Space	N/A	
Maximum Impervious Area	N/A	
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	34	75
Loading Bays	1	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):			

2. PROJECT DESCRIPTION

Woodard & Curran is submitting this Level III Site Plan Application for the Center Street Hotel on behalf of the Applicant, Fathom CC, LLC, and will be acting as their Agent for all project permitting services. An Agent letter is attached.

2.1 INTRODUCTION

The proposed Center Street Hotel project is located on a 23,795 +/- SF site on the corner of Commercial Street and Center Street in Portland, Maine (Site) at 1 Center Street. The attached Location Map and Tax Maps show the project location. The project is located within the City of Portland B-3 zone, Pedestrian Activity District overlay zone, and Historic Preservation District 0 -The Old Port. The site is currently comprised of a paved parking lot surrounded by a landscaped esplanade and sidewalk with street trees. The proposed project includes redevelopment of the existing surface parking lot with a 135-room boutique hotel. The project will also include the relocation of traffic signal infrastructure and utility poles, reconstruction of the sidewalk along the project's frontage with adjustments to the curb alignment on Center Street to accommodate hotel guest pick-up/drop-off and vehicle valet services, and addition of street trees and street lights.

2.2 PROJECT PURPOSE AND NEED

The proposed project is intended to support local businesses and stimulate local economy by providing a place for visitors to stay overnight within the downtown area. The project will also provide additional restaurant and bar space along Commercial Street and at the rooftop. The underutilized and visually unappealing parking lot will be replaced by an attractive structure that fills a void along the frontage on Commercial Street. Additionally, the project is designed to work in concert with surrounding development to enhance pedestrian circulation, and to fully utilize space by strategically positioning vehicle drop-off and service access locations.

2.3 EXISTING CONDITIONS

The Existing Conditions Plan, included in the drawings submitted with this application, depicts the existing conditions of the project area, based on a ground-level survey and site observations completed by Owen-Haskell on October 12, 2018 and Woodard & Curran on December 12, 2018. No portion of the development is within the 100-year flood plain; a FEMA flood zone map has been attached for your reference. The Site is currently fully developed as a surface parking lot. There are no significant natural features or wetlands due to the intense level of existing development. Topography slopes gently from northwest to southeast towards Commercial Street, from approximate elevation 18' down to 11'.

2.4 PROPOSED DEVELOPMENT

The Center Street Hotel is situated on the northeast corner of Commercial Street and Center Street within the Old Port District of Portland, sited between the existing Richardson Wharf Company Building and the Baxter Davis Block building. As the parcel sits today, the hotel will be positioned in the Southern corner of an existing surface parking lot among the surrounding streets of Commercial, Center, Fore and Cross. Fathom CC, LLC holds an Agreement of Purchase and Sale with North River IV, LLC, to acquire this 23,795 +/- SF portion of the larger parcel.

The proposed redevelopment project includes the construction of a 6-story, 135-room boutique hotel, that includes a rooftop bar and ground-floor restaurant that will be positioned along the Commercial Street frontage. The proposed hotel will be situated in such a way as to optimize the site footprint and set no more than 5'-0" back from the property boundaries in order to maximize the pedestrian zone along Center and Commercial Streets. The project will also include associated utility and site improvements.

2.4.1 Civil Engineering Approach

The hotel has been designed to fill the parcel with minimal setback to adjacent property lines. The site work will consist primarily of utility improvements to support the hotel use and site layout for guest and service access for the hotel. Utility requirements are described in further detail in Section 13 of this report.

Primary guest access into the hotel is located along the Center Street façade with vehicular arrivals curbside along Center Street. The project also includes reconfiguration and widening of the Center Street sidewalk to support pedestrian circulation and create a well-defined guest arrival and drop off/loading area and valet space to improve visibility and safety of pedestrians, hotel guests, and hotel staff. Guest and staff parking will be located offsite; valet service will transport guest vehicles offsite to a parking area provided by North River IV, LLC as part of the Agreement of Purchase and Sales. Hotel service access will be provided via Cross Street through a service access easement along the rear of the adjacent Richardson Wharf Company building.

A set of project design plans showing the proposed Center Street Hotel is attached to this application. The set includes site, utility, grading and drainage plans, and details to support the site design.

2.4.2 Architectural Approach

Being one of the more historic streets in the Old Port District, Commercial Street's appearance is one of uniformity in scale and harmony of materials. Most of the existing structures were built in the mid 1850's on infilled land. Due to the introduction of the railroad to Portland in the 1840's, there was a necessity for the land downhill of Fore Street to be filled to create a "mile-long, 100' wide street" to support all the intricacies involved with the expanding economy and incoming traffic. This timeframe sets the stage for Commercial Street architecture, since it happened relatively quickly, in a very short era in time. The scale of the buildings and the regularity of forms and openings has created a structured and continuous street façade that captures the eye the entirety of Commercial Street.

HKS Architects, has been working closely with the project team, the Historic Preservation Board and Fathom CC, LLC to ensure the overall vision is contextual to Portland and the lineage established within the Old Port District. To set the context for the architectural vision of the Center Street Hotel, HKS Architects looked very closely at the proportions, scale, heights and rhythms of the historic buildings running the length of Commercial Street. In particular, the two adjacent buildings sitting either side of the proposed Center Street Hotel site carried a heavy weight in the influence and recognition of the architectural context.

The Richardson Wharf Company building, constructed in 1860, sits to the east side of the proposed hotel while the Baxter Davis Block building, constructed in 1902, sits to the west. One of the main architectural challenges for the proposed site was finding a relationship and an acknowledgement to our neighbors, who respectively were built in different styles, different scales and different eras. The Richardson Wharf Company building follows the more traditional form built during the in-fill stage of the Commercial Street architectural style. Following the typical gambrel roof form, the rhythmic articulation of the vertical openings and the predominant use of brick façades with a granite base, the Richardson Wharf Company building is a reminder of the original construction topping out at 4 floors plus 5th floor attic areas now enhanced with dormers. On the other side, the Baxter Davis Block was built 40 years later following a slightly different rhythm of openings with architecture more along the style of Classical Revival and is a floor taller than the Richardson Wharf Company building at 5 full stories above the Commercial Street grade.

Architectural design plans have also been provided and reflect the design approach.

2.4.2.1 Building Organization

Keeping that architectural approach above in mind, HKS Architects immersed their study into the defining characteristics of Commercial Street. The building planning has been organized to push all "guest-facing amenities" forward to align with both Commercial and Center Street. The hotel is configured in such a way that the pedestrian encouragement zone will be greatly enhanced by the prospect of the hotel and the internal space planning that engages

at the street level. Nearly the entirety of the site is encompassed by the hotel footprint so that the overall scale of the building relates to the neighboring context to create a continuous façade along both Commercial and Center Street.

Working within the overall 65'-0" height limit, the Architect has established the Center Street Hotel at 6 floors, one public base level with four levels of guestrooms and the top floor mixed with a rooftop bar amongst guestrooms. HKS is also exploring the potential for an open-air roof terrace at Level 07. In a balanced hierarchy between the two existing buildings (Richardson Wharf at 4 stories and the Baxter Davis Block at 5 stories) – the Center Street Hotel proposes to have a flat roof system which balances the overall scale amongst the adjacent roof forms of the slightly lower buildings either side.

2.4.2.2 Principal Façades

The main two façades proposed for the Center Street Hotel align to Commercial and Center Street respectively, with the main guest arrival to the hotel occurring off Center Street. The architectural language along these two façades pays homage to the neighboring context with a continuous brick base acting as the anchor to the organized rhythm of the guestroom windows above. The desire to have the guest vehicular arrival occur off Center Street is to help lessen the vehicular impact to Commercial Street by utilizing the slower Center Street to provide a safe arrival sequence for hotel guests to load/unload without impacting the main traffic flow. The arrival sits evenly in the middle of the Center Street façade, thus offering a balanced architecture and even form. The Commercial Street façade follows on with this language allowing the public base, tucked snugly behind a brick façade with guestrooms running smoothly on the upper levels above with an elegant rooftop bar and terrace acting as the jewel at the top.

2.4.2.3 Scale, Form, & Composition

The typical architectural base found running along Commercial Street is highlighted as mentioned above with a brick façade over the first two floors. This base helps to create a strong datum as it is capped at the top of the second floor, that relates strongly to the base architecture of the Baxter Davis Block Building. At this datum, HKS proposes to start the transition to a more contemporary interpretation of the surrounding context with a change in materials. While recognizing the overall "red" undertone that lies within the City as a whole, HKS proposes a more contemporary metal panel system that follows within a complimentary earth-tone family. Now, as the building starts to take form in relationship to the Commercial Street architecture, the overall palette pays a strong homage to the historic palette but sits itself nicely among the surrounding buildings in a style that is of this current era.

2.4.2.4 Materials

There are two principle building materials - a brick base and an upper metal panel system. The form is simple and regular with vertical openings articulated by a simple surrounding metal trim, grouped together over several floors. The brick base captures an accent around the brick openings which pull the more contemporary detailing of the metal panels above down to the streetscape below. This is a nice introduction at the street level to help inform pedestrians that this is a new development, of this age in time, that is not trying to copy what is old, but rather to interpret into a fresh vision, in today's contemporary and quality materials. It is a consistent, uniform and limited material palette, but one of our era, to provide architectural interest to the street.

2.4.2.5 Summary

Commercial Street is a predominantly developed street with only one or two larger parcels remaining to be developed. To help complete the original "mile-long corridor," the development of the Center Street Hotel offers a wonderful opportunity to embrace the historic street with a contemporary interpretation that blends contextually with the surroundings. The proposed simple architecture, clean palette of materials and respective nod to the history of the Old Port District, the Center Street Hotel strives to create a harmonious environment to the surrounding while remaining current and of this point in time. HKS Architects and Fathom CC, LLC are currently working with the City's Historic Preservation Board to refine the design in anticipation of a future Public Hearing and to obtain Certificate of

Appropriateness for the proposed hotel. The landscape plan and associated details are included in the attached design plans.

2.4.3 Landscaping Approach

Carroll Associates Landscape Architects have been working closely with the project team to develop a landscape concept for the Center Street Hotel that focuses on two distinct areas of the site, the public streetscape and the hotel courtyard.

2.4.3.1 The Public Streetscape

Proposed sidewalk improvements include new brick sidewalks and curbing with widened pedestrian flares at the Center-Commercial Street intersection and along the south face of the hotel, providing enhanced pedestrian zones and improved crosswalk function. Planned improvements will include new streetlights meeting the City of Portland Standards. Proposed street trees will be located approximately 50 feet on center along the curbline, located in flush mounted tree grates to provide maximum pedestrian movement along the sidewalk. Bike racks will be proposed in strategic locations within the right-of-way along Commercial Street.

2.4.3.2 Hotel Courtyard

The other defined landscape area is the rooftop courtyard located at the second level of the hotel. This courtyard is designed primarily for viewing from adjacent rooms which front onto this space and has no direct access from the hotel except for maintenance.

The courtyard is designed as a roof garden over first floor service uses, providing a protective cover for the roof and color/interest for hotel guests. The landscape plan proposes a series of curvilinear beds of different heights and textures. Close to the building, the bed consists of a dense ground cover to provide a clear buffer and privacy to the guest rooms. As the courtyard extends out to the north, there will be a series of landscape bands consisting of sedum planting, riverstone (to provide a central location for surface drainage to collect prior to collection), and a slightly raised bed of shrubs. At the northwest corner of the courtyard, a raised planting area of trees and small lawn could connect to any future development of the adjacent North River IV, LLC parcel.

2.4.3.3 Materials

Trees, shrubs, and ground covers are selected based on exposure, type of use, color/ flowering characteristics, and growing conditions. The street trees along Commercial and Center Streets are proposed to be columnar Armstrong Maple and Zelkova, robust trees able to tolerate urban conditions. Courtyard trees are proposed to be medium size deciduous trees such as Redbud or Flowering Cherry, providing color and interest and in scale with the adjacent plaza and buildings. Shrubs and groundcovers will be a mixture of evergreen and deciduous plants, providing year-round interest and appropriate to the shady microclimate of the courtyard. Sedum plantings may be installed in a planting medium or in trays typical to other roof applications. We anticipate working closely with the City Arborist on the final selection of these plant species.

2.5 ATTACHMENTS

- Agent Letter
- Location Map
- Tax Map
- FEMA Map
- Civil, Landscape, & Architecture Design Plans (uploaded to Drawings folder in Eplan)
- Architectural Renderings (uploaded to Drawings folder in Eplan)

Fathom
COMPANIES

December 21, 2018

Re: 1 Center Street Hotel– Agent Authorization

To Whom it May Concern:

Woodard & Curran is acting as our agent for all project permitting associated with the Center Street Hotel development (1 Center Street) project located in Portland, Maine.

Please contact me if you have any questions.

Sincerely,

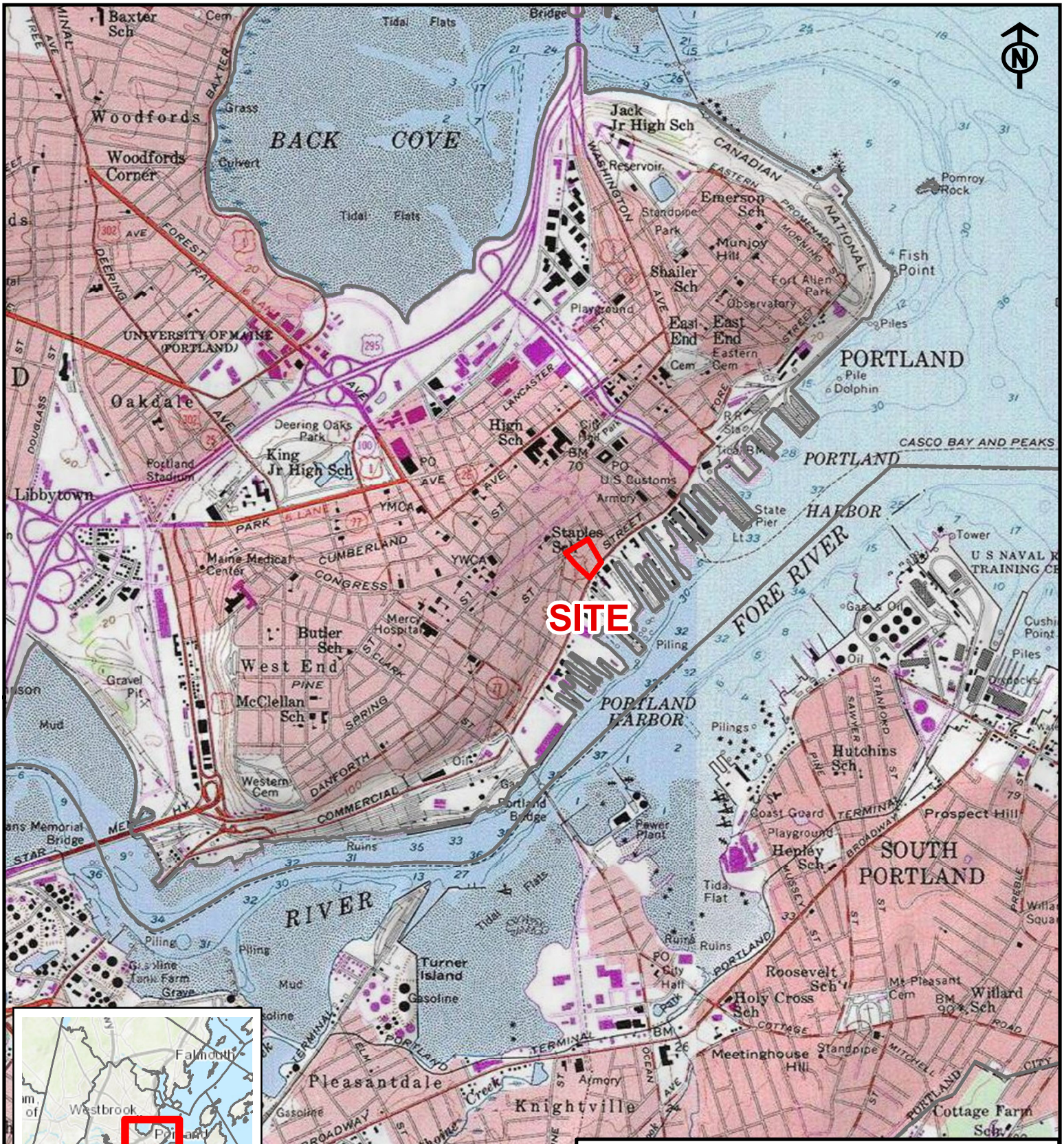
Fathom CC, LLC

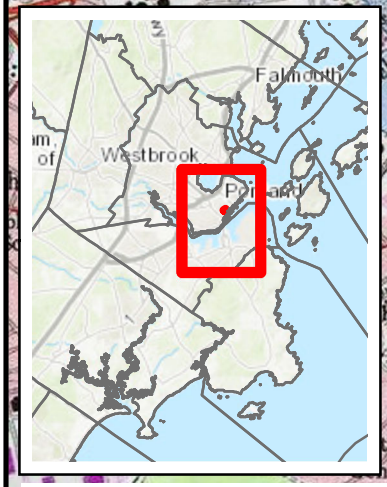
Its Manager:

Name: James H Brady

80 Exchange Street Suite 400 Portland Maine 04101

Tel | 207.808.8787 www.Fathomcompanies.com





Center Street Hotel
USGS Map

Portland, ME

Figure 1 of 1

Service Layer Credits: ESRI, MEGIS

41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

DRAWN BY: AL

SCALE: 1 in = 2,000 feet

DATE: November 2018

DOC: CenterStHotel_USGSmap.mxd

F9SE F10SW F10SE

E9NE E10NW

E9SE E10SW E10SE

SPRING ST
ONE PORTLAND SQUARE CONDO
39393
032 I036
032 I040
CANAL PLZ
1 - 4
0 - 0
032 I039
21195
40
032 I041
41764
032 I013
1880
032 I017
032 I018
395
3315
PATTON CT
11 - 1
18 - 1
032 F014
365 - 377 379 - 387
366 - 380 382 - 388
370
376
390 - 406 389 - 399
384
388
12
392
032 J001
2812
032 J002
1892
398
FORE ST CONDO
958
032 J005
FORE-DANA CONDO
3120
394
8 - 17
8 - 18
12 - 15
2 - 5
2 - 6
032 S001
5808
11
9
032 S003
2727
032 S004
161
3600
5
032 S005
3
3576
MARKET ST
1 - 15
2 - 15
029 D001
145
14978
029 S001
SILVER ST
1 - 15
2 - 15
128 - 134 133 - 139
030 C006
100
030 C007
030 C008
030 C005
030 C004
030 C003
030 C002
138
030 C001
030 A001
030 A002
9
7407
030 B002
030 B003
22
030 B006
030 B001
40 PORTLAND PIER CONDO
8269
40
39
030 H008
030 H001
48169
038 B001
038 B002
2
038 B003
455
463
469
UNION ST
24 - 45 29 - 43
47 - 58 47 - 67
39520
414 - 426 405 - 427
409 - 412 401 - 403
032 N011
414
416
418
032 N010
410
032 N009
1120
420
2178
424
422
426
032 N012
2079
1080
428 - 448 429 - 457
032 R001
1740
432
032 R004
434
032 R003
1036
436
1426
43
37
WHARF ST
37 - 53 38 - 54
42
032 R007
4739
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446
032 R008
1891
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032 V015
4590
032 V016
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032 V001
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032 V002
3805
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032 V004
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032 V005
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032 V014
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032 V012
032 V008
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227
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ONE UNION ST CONDO
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9 - 13 10 - 15 - 21
DANA ST
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032 T004
6093
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032 U005
3983
7
032 U003
3991
032 U004
2406
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MOULTON ST
1 - 11
2 - 10
155 - 171 156 - 170
172 - 180 173 - 183
182 - 194 185 - 197
COMMERCIAL ST
136 - 154 141 - 153
116426
144
030 H004
144
030 H007
030 H011
030 H019
030 H018
5
1873
1800
2229
12016
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1832
1864
1760
1920
2000
PORTLAND PIER
1 - 83
2 - 84
030 H013
5100
DOCK
1500
031 H007
031 H002
184
DOCK
15996
031 H001
031 J030
79792
196 - 214 0 - 0
198 - 215 0 - 0
216 - 234 217 - 237
LONG WHARF
1 - 25
2 - 26
029 D002
031 J031
031 K103
031 L038
1
11786
2278
031 L135
26336
1
031 K003
218
13200
2 - 32
1 - 31
WIDGERY'S WHARF
031 J032
1712
2 - 78 1 - 77
CHANDLER'S WHARF
715
708
714
707
713
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710
716
704
712
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86862
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81980
DOCK
298453
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031 J003
031 J002
CHANDLER'S WHARF CONDO
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031 K010
031 L036
71280
1 inch = 50 feet
COTTON ST
498 - 516 505 - 517
474 - 496 463 - 503
038 G001
68736
038 F009
28337
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038 F008
2128
038 F019
12471
038 F006
038 F004
241
4857
245
4930
038 F010
261
4463
038 F020
9430
CROSS ST
1 - 35
2 - 38
038 G003
038 G007
038 G002
HARBOR LANDING CONDO
8568
038 G005
12386
CENTER ST
1 - 39
2 - 40
040 F009
64954
040 F011
305
041 A014
041 A015
260
12983
041 A016
041 A012
12 A
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22352
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041 A017
041 A011
254
036
147389
034048
031 K008
031 L034
250
14948
7390
031 L035
30
031 L036
UNION WHARF
COMMERCIAL ST
228 - 242 229 - 251
224 - 256 253 - 265
204 - 220 205 - 233
D - O
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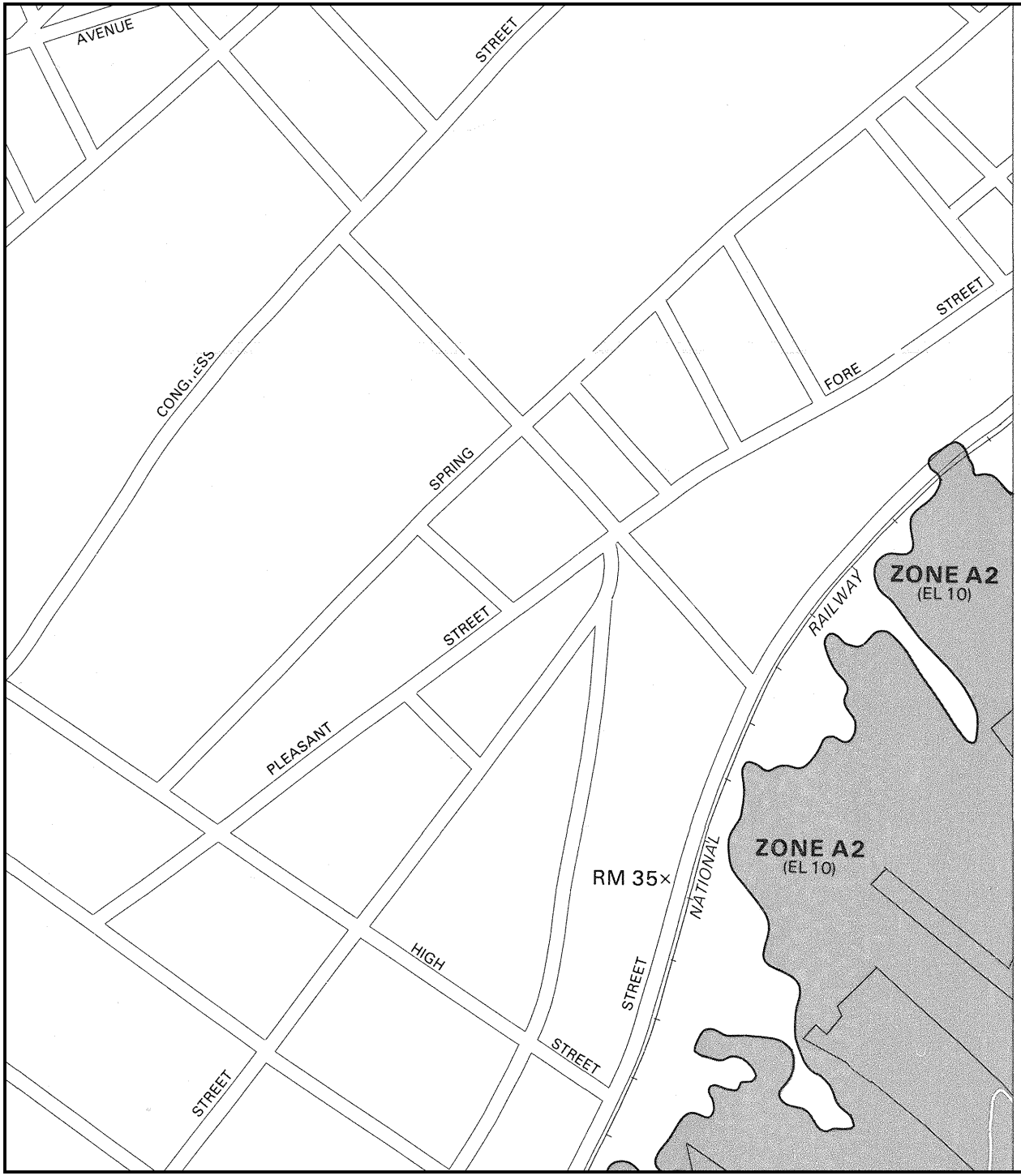
April 1 2012 fy 2013

Tax Map Index; http://www.portlandassessors.com/taxmaps.htm

Index Number - E10NW



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY

PANEL 13 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230051 0013 B

EFFECTIVE DATE:
JULY 17, 1986

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

3. EVIDENCE OF RIGHT, TITLE AND INTEREST

As noted on the survey, the hotel will be located on a proposed lot to be split from the larger existing parcel, owned by North River IV, LLC. The Agreement of Purchase and Sale between North River IV, LLC and Fathom CC, LLC, which serves as evidence of right, title, and interest, has been attached to this Section.

3.1 ATTACHMENTS

- Agreement of Purchase and Sale, dated August 9, 2018, between North River IV, LLC and Fathom CC, LLC.

EXECUTION VERSION

AGREEMENT OF PURCHASE AND SALE

between

FATHOM CC, LLC

Buyer

And

NORTH RIVER IV, LLC

Seller

August 9, 2018

Center and Commercial Streets
Portland Square
Portland, Maine

AGREEMENT OF PURCHASE AND SALE

BY THIS AGREEMENT OF PURCHASE AND SALE (the "Agreement") entered into this 9th day of August, 2018 ("Effective Date"), NORTH RIVER IV, LLC, a Delaware limited liability company (hereinafter referred to as "Seller"), and FATHOM CC, LLC, a Delaware limited liability company (hereinafter referred to as "Buyer"), hereby agree as follows:

ARTICLE I
Terms and Definitions

Section 1.1. In addition to the other terms herein defined, the following terms shall have the meanings set forth in this Article I, unless the context otherwise requires:

Buyer's Knowledge. Means the knowledge of James Brady based upon his historical knowledge of the Real Property and assuming a commercially reasonable level of inquiry.

Closing. The consummation of the purchase and sale of the Property pursuant to this Agreement.

Deed. As defined in Section 11.2.1(a).

Deposit. The cash deposits referred to in Article III.

Due Diligence Period. As defined in Section 6.4.

Execution Date. The date of this Agreement as hereinabove set forth.

Improvements. All improvements constructed on the Real Property.

Master Development. Means the Seller's development of the area shown in the Plan attached as Exhibit C.

Property. The Real Property and Improvements.

Purchase Price. The Purchase Price to be paid by Buyer for the Property in the manner provided in this Agreement.

Real Property. The real property located at Commercial Street and Center Street, Portland, Maine, as more particularly described on Exhibit A attached hereto and by this reference made a part hereof, together with all strips and gores of land lying adjacent to such land and owned by Seller, and all rights, privileges, easements and appurtenances thereto. The Real Property description shall be finally determined by an ALTA survey commissioned by Buyer and the Real Property shall be conveyed using that survey description.

Preliminary Title Report. The commitment for issuance of an owner's policy of title insurance issued by the Title Company.

Seller's Knowledge. Means the knowledge of Christopher Flagg, Christopher Pachios and Peter Pachios based upon their historical knowledge of the Real Property and assuming a commercially reasonable level of inquiry.

Title Company. A nationally recognized title insurance company to be selected by Buyer.

ARTICLE II
Purchase and Sale

Section 2.1. Purchase and Sale. Seller agrees to sell, contribute and convey to Buyer, and Buyer agrees to purchase from Seller, the Property, on all of the mutual terms, covenants and conditions hereinafter set forth.

ARTICLE III
Deposit

Section 3.1. Deposit. Upon execution hereof, Buyer shall deposit with Old Republic National Title Insurance Company (the "Escrow Agent") the sum of [redacted] Dollars [redacted] (the "Initial Deposit"). Upon completion of the Due Diligence period if Buyer has not otherwise terminated this Agreement in accordance with its terms, Buyer shall deposit with the Escrow Agent the additional sum of [redacted] Dollars [redacted] (the "Additional Deposit"). The Initial Deposit and the Additional Deposit are hereinafter collectively referred to as the "Deposit" and are to be held and applied as hereinafter set forth. The Deposit shall be held in an interest-bearing escrow account. All interest earned on the Deposit shall be credited to Buyer unless the purchase and sale of the Property is not consummated hereunder, in which case such interest shall be paid to the party entitled to receive the Deposit.

Section 3.2. Non-Refundable. Except as otherwise specifically set forth in this Agreement, the Deposit shall be non-refundable, and shall serve as Seller's liquidated damages in the event of a breach of this Agreement by Buyer pursuant to Article IV, or shall be applied against the Purchase Price pursuant to Article V.

Section 3.3. Termination. In the event Buyer elects to terminate this Agreement pursuant to Article VI, the Deposit shall be refunded to Buyer following receipt by Seller and Escrow Agent of Buyer's Termination Notice, as such term is defined in said Article.

Section 3.4. Liability of Escrow Agent. In the event of any disagreement between the parties, Escrow Agent shall be entitled to refuse to comply with any claims or demands by either party as long as such disagreement may continue, and in so refusing, shall make no delivery or other disposition of the Deposit. Escrow Agent shall not become liable in any way for such refusal, and Escrow Agent shall be entitled to continue to refrain from acting until (a) the rights of the parties shall have been finally adjudicated in a court of competent jurisdiction, or (b) all differences shall have been settled by agreement and Escrow Agent shall have been notified in writing of such agreement signed by both parties.

ARTICLE IV
Damages

Section 4.1. Buyer's Default. In the event that this transaction does not close as a consequence of a default by Buyer, Seller shall retain the Deposit as liquidated damages. The parties hereby agree that if Buyer defaults, Seller's actual damages would be difficult or impossible to determine, and thus the amount of the Deposit is the best estimate of the damage Seller would suffer. Accordingly, the Deposit shall be the total amount that Seller is entitled to receive as liquidated damages.

Section 4.2. Seller's Default. In the event Seller fails to perform any obligation of Seller under this Agreement, including without limitation the obligation to convey good, clear record and marketable title to the Property to Buyer on the Closing Date, as hereinafter defined, in accordance with the provisions of this Agreement, and such failure shall remain uncured for a period of thirty (30) days following written notice thereof from Buyer to Seller (but no notice shall be required for Seller's failure to convey title as required hereunder on the Closing Date), then Buyer may (a) terminate this Agreement, in which event the Deposit together with all interest thereon shall be returned to Buyer, or (b) Buyer shall be entitled to pursue any other remedies available to Buyer at law or in equity, including the right to seek to enforce specific performance of Seller's obligations hereunder.

ARTICLE V
Purchase Price

Section 5.1. Amount of Consideration. Buyer shall provide Seller consideration (the "Consideration") for the Property consisting of: (A) cash in the amount of [redacted] (the "Cash Portion"); (B) Class A Units in Buyer representing a capital contribution of [redacted] and (C) one (1) Class C Unit in Buyer (the Class A Units and Class C Unit are referred to collectively as the "Equity Portion").

Section 5.2. Manner of Payment. Buyer shall pay and provide the Consideration to Seller at the Closing as follows:

5.2.1. Deposit. Applying the Deposit against the Cash Portion of the Consideration; and

5.2.2. Cash Portion. Paying the balance of the Cash Portion of the Consideration, by wire transfer to an account to be designated by Seller (the "Cash Balance").

5.2.3. Equity Portion. Issuing the Equity Portion of the Consideration to Seller Purchase Price by entering into the Operating Agreement of Owner in the form attached hereto as Exhibit B (the "Ownership LLC Agreement").

Section 5.3. Treatment of Transaction. Buyer and Seller agree that the transactions contemplated hereby shall be deemed to consist of a sale of a portion of the Property in exchange for the Cash Portion of the Consideration and a contribution of the Property in exchange for the Equity Portion of the Consideration, all pursuant to Section 707(a)(2)(B) of the Internal Revenue

Code of 1986 and Treasury Regulations Section 1.707-3(a)(1). Buyer and Seller agree that the transactions contemplated hereby shall be reported for federal income tax purposes consistent with the preceding sentence.

ARTICLE VI
Conditions Precedent to Closing

Section 6.1. Buyer's Conditions Precedent. Buyer's obligation to purchase the Property from Seller is subject to the following conditions precedent (the "Buyer's Conditions Precedent"):

6.1.1. Title. At the Closing, Seller shall sell, assign, convey, transfer and deliver the Property to the Buyer by good and sufficient Quitclaim Deed with Covenant in form acceptable to the Buyer (the "Deed"), and the Deed shall convey to the Buyer fee title consistent in all respects with the Title Commitment.

6.1.2. Condition of Improvements. The Improvements shall be substantially the same condition as the Improvements were in at the end of the Due Diligence Period, reasonable wear and tear excepted.

6.1.3. Seller's Representations and Warranties. Seller's representations and warranties set forth herein shall be true and correct in all material respects at and as of the Closing as though such representations and warranties were made at and as of such date.

6.1.4. Seller's Compliance. The Seller shall have in all respects performed and complied with all covenants, agreements and conditions required by this Agreement to be performed or complied with by them prior to or at the Closing.

6.1.5. Title Policy. The Buyer shall have obtained a title insurance policy with respect to the Property conforming in all respects to the Title Commitment.

6.1.6. Lease Termination. Delivery by Seller of evidence satisfactory to Buyer that all Leases of all or any portion of the Property have been terminated at or prior to Closing, at Seller's expense, and Tenants have no further right to occupancy or use of the Property thereunder.

6.1.7. Approvals. Buyer shall have received all Approvals for the Project in accordance with Section 6.5 hereof on a final, non-appealable basis (subject only to such terms and conditions as may be approved by Buyer, in its sole discretion), and all Approvals, as received, shall continue in full force and effect through the date of Closing, without any amendments, changes or additional conditions not approved by Buyer.

6.1.8. Consents and Approvals. The Seller shall have obtained all consents, approvals, authorizations, exemptions and waivers from governmental authorities and third parties, if any, as shall be necessary, in the Buyer's reasonable discretion, to effect the transactions contemplated hereby.

6.1.9. Parking Lease and Construction License. Buyer and Seller shall have executed and delivered the Parking Lease as described in Section 14.1 and the Construction License as described in Section 14.2.

6.1.10. No Material Adverse Changes. There shall have been no material adverse change since the date of this Agreement in the Property, except changes contemplated or required by this Agreement, including without limitation, any change in the title, physical condition, legal status, use or possession of the Property from the conclusion of the Due Diligence Period through the date of closing that would cause the Property to be unsuitable for development of the Project, as reasonably determined by Buyer.

6.1.11. No Legal Restraints or Litigation. No statute, rule, regulation or order of any court or administrative agency shall be in effect which restrains or prohibits the Seller from consummating the transactions contemplated hereby. In addition, no action, suit, or proceeding shall be pending before any court or quasi judicial or administrative agency of any federal, state, local, or foreign jurisdiction wherein an unfavorable injunction, judgment, order, decree, ruling, or charge would (a) prevent consummation of any of the transactions contemplated by this Agreement, or (b) result in a material adverse change in the Property or the ability to develop the Project at the Property.

Section 6.2. Failure of Buyer's Conditions Precedent. If, at the time of the Closing, any of the foregoing Buyer's Conditions Precedent have not been fulfilled, Buyer may, at its option, do either of the following:

6.2.1. Waive and Close. Waive such condition and close in accordance with this Agreement; or

6.2.2. Terminate. Terminate this Agreement by delivery of a written notice to Seller and to Escrow Agent ("Buyer's Termination Notice") and enforce any remedy afforded by Section 4.2; provided however that, if Buyer fails to deliver Buyer's Termination Notice to Seller at or prior to the Closing, the applicable condition or conditions shall be deemed waived by Buyer.

Section 6.3. Title Examination. From the date hereof through the date of expiration of the Due Diligence Period, as hereinafter defined (the "Title Inspection Period"), Buyer shall have the opportunity to review the commitment to insure title (the "Title Commitment"), any amendments thereto issued during the Title Inspection Period, the exceptions to title disclosed in the Title Commitment, all Survey Matters and all other aspects of Seller's title to the Property. The Title Commitment shall be for the benefit of the Buyer, at customary rates, in the ALTA form currently in use, subject only to the Permitted Encumbrances (as defined below) and with such standard exceptions deleted standard endorsements included as Buyer may, in its sole discretion, require. On or before the date of the expiration of the Title Inspection Period (the "Title Notice Deadline"), Buyer shall notify Seller in writing of any defect in title to the Property, or any other matter which is indicated on the Title Commitment or any Survey Matter to which Buyer objects except for the following (collectively, the "Permitted Encumbrances"): (a) liens for real estate taxes not yet due and payable or for betterments assessed after the Execution Date, (b) other encumbrances which may be removed or satisfied by the payment of a

liquidated sum of money which Seller agrees to discharge at Closing to Buyer's satisfaction and (c) such easements, restrictions and reservations of record as are acceptable to Buyer, in its discretion. If Buyer does so notify Seller of a defect in title or other matter objectionable to Buyer prior to the Title Notice Deadline, Seller shall have ten (10) days in which to determine whether to cure the defect or other matter so objected to by Buyer and to notify Buyer of Seller's decision in this regard. If Seller does not respond within such time frame, Seller shall be deemed to have elected not to cure the defect or other matter. Seller, at its sole cost and expense, will have until thirty (30) days before the Closing to cure the title objections, other than the Monetary Liens (as herein defined), which (to the extent not previously removed) Seller shall remove or cure by payment of funds at Closing. Those defects that Seller gives notice will be cured on or before the Closing Date, along with discharge of Monetary Liens, are referred to herein as "Mandatory Cure Items." If Seller elects (or is deemed to elect) not to cure the defect or other matter so objected to by Buyer to the reasonable satisfaction of Buyer, Buyer shall have the right, by not later than the tenth (10th) day after the date of Seller's notice (or failure to provide notice) to either (a) waive such defect or other matter and take title to the Property without any adjustment in the Purchase Price, or (b) terminate this Agreement by giving written notice thereof to Seller. If Buyer timely gives such notice of termination, this Agreement shall terminate and the Deposit shall be returned to Buyer. If Buyer fails to give Seller a notice of termination, Buyer (a) shall no longer have an right to terminate this Agreement under this Section 6.1.1 and shall be bound to proceed to Closing and consummate the transaction contemplated hereby pursuant to the terms of this Agreement and (b) shall be deemed to have approved the state of title to the Property as it exists on the effective date of the Title Commitment, as last amended during the Title Inspection Period. Seller shall be responsible for discharging any mortgages or voluntary monetary liens (other than municipal liens not yet due and payable), including mechanics' liens for unpaid work at the Property performed on behalf of Seller, (collectively, "Monetary Liens") at or prior to Closing.

Section 6.4. Buyer's Due Diligence. Notwithstanding any other provision of this Agreement to the contrary, Buyer shall be entitled to undertake a thorough investigation of the Property, including without limitation such reviews, analyses and studies of the Property and the development of the Project at the Property, as Buyer may, in its sole discretion, determine to be necessary or appropriate, including without limiting the generality of the foregoing:

6.4.1. Inspection of physical condition.

6.4.2. Review of the Leases (copies of which shall be made available to Buyer promptly following the Effective Date).

6.4.3. Confirmation that the Property has all necessary zoning, including zoning board approvals of required variances and any other matters, required in order to develop the Project ("Zoning Confirmation");.

6.4.4. A Phase I Environmental Site Assessment for the Property, together with any Phase II Environmental Site Assessments or other studies or analyses as may be required ("ESA").

6.4.5. An ALTA/ACSM Land Title Survey of the Property certified satisfactory to Buyer, in its sole opinion, sufficient in all respects to delete the standard survey exception from Buyer's title policy, and bearing a legal description, made by a licensed surveyor, and showing, among other things, the area, dimensions and location of the Property to the nearest monuments, streets, alleys on all sides, the topography, the location of all available utilities in adjoining streets, alleys, or property, the location of all recorded and apparent easements against or appurtenant to the Property, the location of all active and abandoned sewer and storm water lines on an as built basis, certifying the applicable zoning and flood zone classifications and not disclosing any condition rendering the Property unusable, in Buyer's sole opinion, for the Project (the "Survey").

6.4.6. A geotechnical report in form satisfactory to Buyer, boring, percolation and other soil tests and feasibility, demographic, traffic pattern, and other site assessment studies ("Site Studies") as required by Buyer.

6.4.7. Confirmation that all utilities, including without limitation, water, gas, electric power, telephone, cable and sanitary sewer, necessary or appropriate for development of the Project ("Utilities"), as determined by Buyer in its sole discretion, shall be located in the public way or ways adjacent to the Property ("Utility Confirmation") which confirmation may be in such form as Buyer may require.

In connection therewith, Buyer shall have access to the Property as required, and may conduct such tests, studies, surveys and inspections (expressly including boring, drilling and other subsurface exploration as Buyer may reasonably deem appropriate. In addition, Buyer shall be afforded full opportunity by Seller, without warranty or recourse, to examine all books and records which relate to the Property in the possession of Seller and/or Seller's agents or employees, including the reasonable right to make copies of such books and records. Such right shall extend to all operating books of account, environmental and engineering reports, surveys, title reports and insurance policies, Leases, rental applications and any other agreements, correspondence or other documents relating to the Leases, tenant files, rent rolls, operating statements, accounting support for bills, inventories of Personal Property, service contracts, management contracts, warranties, general ledgers, journals, vendor files, invoices, operating manuals, maintenance records, utility bills, marketing data (including brochures), historical occupancy reports and any summaries of such items but excluding Seller's internal memoranda, financial projections, budgets, appraisals, accounting and tax records, attorney work product, work protected by attorney-client privilege and similar proprietary or confidential information. Buyer shall take commercially-reasonable precautions to ensure that such materials and any information contained therein are disclosed only to such of Buyer's employees, agents, consultants, attorneys, investors and lenders as have need therefor, under conditions which will prohibit any further dissemination thereof not authorized by Seller. Buyer shall have the right to contact and communicate with such governmental officials regarding the Property and the project as Buyer may deem appropriate.

If Buyer, in Buyer's sole and absolute discretion, is not satisfied with the results of such investigation, Buyer may terminate this Agreement by giving Buyer's Termination Notice to Seller and Escrow Agent at any time during the period beginning on the Effective Date and continuing through the sixtieth (60th) day thereafter (the "Due Diligence Period"). Buyer shall

restore to its former condition any portion of the Property disturbed by any activity conducted hereunder, shall repair all damage to the Property caused thereby and shall indemnify and hold Seller harmless from and against any claims, losses, liabilities, costs or expenses (including without limitation reasonable attorneys' fees) asserted against or incurred by Seller in connection with any such activity, it being expressly understood and agreed that the foregoing provisions shall survive the Closing or the termination of this Agreement prior thereto.

Section 6.5. Permitting and Approvals. Notwithstanding any other provisions of this Agreement to the contrary, Buyer shall be entitled to apply for and obtain all necessary federal, state and local governmental permits, licenses and approvals of any type or nature required in connection with the development of as may be necessary for the development and construction of an approximately on hundred thirty (130) room hotel on the Property, which hotel may include up to fifteen (15) residential units (the "Project") at the Property, including without limiting the generality of the foregoing, all necessary site plan, and other governmental permits, licenses, and approvals, of any type and from any necessary public or governmental authority or other party for Buyer's development of the Project at the Property (collectively, the "Approvals").

6.5.1. If for any reason whatsoever all Approvals required for the development of the Project have not been obtained on a final, non-appealable basis (subject only to such terms and conditions as may be approved by Buyer, in its sole discretion) on or before the expiration of the period commencing on the expiration of the Due Diligence Period and terminating one hundred fifty (150) days thereafter (the "Entitlement Period") (as the same may be extended as provided below), then Buyer may, in its sole discretion, terminate this Agreement by giving Seller written notice thereof, in which event this Agreement shall terminate, the Deposit shall be returned to Buyer and the parties shall have no further obligations of any nature whatsoever hereunder. If Buyer fails to give Seller a notice of termination on or before the expiration of the Entitlement Period, then Buyer shall be deemed to have waived this condition and Buyer's right to terminate this Agreement for failure to satisfy this condition. Buyer shall have the right to purchase up to two 30-day extensions of the Entitlement Period provided the Buyer is pursuing the Approvals in good faith. Buyer shall notify the Seller of its exercise of each 30-day extension by written notice, together with the [redacted] to Seller provided on or before the expiration of the entitlement period (as extended). All payments made pursuant to this paragraph shall become and be considered part of the Deposit as defined in Section 3.1.

6.5.2. Buyer shall have the right to apply for and pursue the Approvals on a stand-alone basis, separate from any master plan permits or approvals required for Seller's Master Development, so long as such Approvals do not unreasonably interfere with Seller's Master Development.

6.5.3. Buyer shall be responsible, at its sole cost and expense, for production of all plans, specifications and other materials required in connection with application for and obtaining Approvals, and for preparing and submitting all necessary applications ("Project Plans"); provided, however, that Seller shall have the right to review the Project Plans, at Seller's expense, prior to submission for site plan approval from the City of Portland Planning Board ("Site Plan Approval"). Prior to submission of any application or other materials and all amendments thereto in connection with obtaining Site Plan Approval, Buyer shall submit draft

Project Plans to Seller for Seller's review and comment. Seller shall have the right to review and approve the Project Plans prior to submission for Site Plan Approval. Seller's approval shall not be unreasonably conditioned, delayed or withheld, provided, however, that Seller, in its sole and absolute discretion, may condition, delay or withhold approval if Seller determines that Buyer's activities, including but not limited to the Project as described on the Project Plans, will or may interfere with Seller's development plans on its adjacent land. Buyer and Seller agree to work together in a commercially reasonable manner to integrate the Project Plans and Seller's planning for the Master Development. Buyer and Seller shall keep Seller informed of the progress of the Approvals procurement process. Seller shall be a co-applicant to the extent required.

6.5.4. Notwithstanding the provisions of Section 6.5.1 above:

(a) The Entitlement Period shall be tolled for the duration of Seller's review of Buyer's application for Site Plan Approval and related materials, from the date of submission to the date of final approval of submission of the application for Site Plan Approval to the City of Portland Planning Board.

(b) Buyer and Seller shall exercise commercially reasonable efforts to obtain separate review of Buyer's Site Plan Approval and Seller's Master Development plan approvals; however, in the event the review and approval of Buyer's Site Plan Approval is integrated with, or becomes contingent upon, the Seller's Master Development plan approvals, then the Entitlement period shall be extended for the duration of the City of Portland Planning Board's review of the Seller's Master Development.

6.5.5. The parties hereto agree and recognize that the Property needs to be subdivided from a larger tract shown in Exhibit C (the "Lot") in a configuration to be acceptable to the Buyer. If the Lot is not approved for subdivision in a configuration reasonably acceptable to Buyer, then Buyer may terminate this Agreement by giving Seller written notice thereof on or before the expiration of the Entitlement Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder. If Buyer fails to give Seller a notice of termination on or before the expiration of the Entitlement Period, then Buyer shall be deemed to have waived this condition and Buyer's right to terminate this Agreement for failure to satisfy this condition.

Section 6.6. Utilities. To the extent of Seller's knowledge, without any duty of inquiry, Seller shall provide Buyer with specifications of all electric Utility service to the property, including but not limited to types, capacity, costs (payable by Buyer) (collectively, the "Costs") and location of interconnection. Buyer shall have until the end of the Due Diligence Period to evaluate whether such connections are suitable for Buyer. If not, Buyer shall give Seller notice of the same no later than the end of the Due Diligence Period. In the event improvement to electric Utility connections are required in connection with the Project in order to provide the Project with 3,000 amps at 120/208 service, then on or before the expiration of the Due Diligence Period, Buyer and Seller shall exercise good faith efforts to negotiate and enter into a mutually satisfactory agreement regarding the construction of such Improvements ("Utility Improvements") and allocation of any Costs associated therewith, taking into consideration the relative benefit derived by the Project and the Master Development from the Utility

Improvements; provided that the cost allocated to Buyer shall not exceed [redacted] ("Utilities Agreement"). Failure to enter into a Utilities Agreement shall constitute a lack of Utility Confirmation under Section 6.4.7 hereof. The Utilities Agreement will contain the following provisions, among others, all as more particularly set forth therein:

(a) In the event the Seller does not complete Utilities Improvements as required in order to accommodate Buyer's development schedule for the Project (as provided to Seller contemporaneously herewith), then Buyer shall have the right to complete the Utility Improvements, following written notice to Seller and an opportunity to cure, all as to be more particularly described in the Utilities Agreement.

(b) Seller shall reimburse Buyer for all Costs associated with Buyers construction of Utility Improvements in excess of [redacted], with such reimbursement obligation to be due and payable at the earlier of (i) such time as Seller has received site plan approval from the City of Portland Planning Board for the Master Development or (ii) six (6) months following completion of the Utility Improvements. All amounts advanced by Buyer in excess of [redacted] ("Reimbursable Utility Costs") shall accrue interest at the rate of [redacted] per annum beginning on from the date of each advance until date of payment with interest payable monthly.

(c) Reimbursable Utility Costs shall include only costs paid to a third party on an arm's length basis for development and construction/installation of Utility Improvements.

(d) Seller shall have the right to take over Buyer's utility work upon reasonable advance notice at any point during the construction/installation process, provided adequate assurance of completion of the Utility Improvements in a timely manner is provided.

(e) Buyer will agree to provide Seller with notice of any communication with Central Maine Power Company regarding the design and scope of work, which may not be amended in any way without the prior written consent of Seller.

(f) In the event Seller completes the Utility Improvements and Buyer abandons the development of the Project, Buyer shall nevertheless be obligated to reimburse Seller for Buyer's allocated of Costs associated therewith, up to the [redacted] limit specified above.

Section 6.7. Closing. Subject to satisfaction of the conditions set forth in in this Article VI and Section 15.5, the Closing shall occur on the date specified by Buyer at the not later than sixty (60) days following the Entitlement Period ("Closing Date"). Closing shall occur at the offices of Pierce Atwood LLP, 254 Commercial Street, Portland, Maine commencing at 10:00 a.m. local time on the Closing Date, or at such other date, time and location as Buyer and Seller may mutually agree.

Section 6.8. Effective Termination. If this Agreement is terminated pursuant to the provisions of this Article, all other obligations of the parties hereto shall cease and this Agreement shall be void and without recourse to the parties hereto, except as otherwise expressly set forth in Article IV and Section 6.2 hereof.

Section 6.9. Seller's Conditions Precedent. Seller's obligation to sell the Property to Buyer is subject to the following conditions precedent (the "Seller's Conditions Precedent"):

(a) Payment by Buyer of all sums due in accordance with this Agreement;

(b) As of the Closing Date, there shall be no pending court litigation of any kind whatsoever against or relating to the Property, which would prohibit or materially impair Seller's ability to close hereunder;

(c) All of the representations and warranties of Buyer shall be true and correct in all material respects as of the Closing, and Buyer shall deliver a separate certificate certifying to that effect; and

(d) Buyer shall have performed in all material respects each of its obligations under this Agreement to be performed at or prior to the Closing.

ARTICLE VII
Representations and Warranties

Section 7.1. Buyer's Representations and Warranties. Buyer hereby represents, warrants and covenants to Seller the following:

(a) Buyer is duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing in the State of Maine. Buyer has the requisite right, power and authority to buy the Property from Seller as provided herein, and has taken all action necessary to authorize the execution, delivery and performance of this Agreement. Buyer has obtained all consents and approvals necessary for Buyer's execution, delivery and performance of this Agreement, and the performance by Buyer of Buyer's obligations hereunder will not constitute a default under the terms and provisions of any material agreement, document or instrument to which Buyer is a party or by which Buyer is bound.

(b) This Agreement constitutes the valid and binding obligation of Buyer, enforceable against Buyer in accordance with its respective terms, except to the extent that enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the rights of contracting parties generally.

(c) There is no suit or proceeding pending or, to Buyer's knowledge, threatened against or affecting Buyer that might affect or relate to this Agreement or the transactions contemplated hereby, in any court or before or by any federal, state, county or municipal department, commission, board, bureau, or agency or other governmental instrumentality. No order, writ, injunction, subpoena or decree has been issued by or requested of any court or government agency which is reasonably likely to result in a material adverse change in the Property or the Buyer, or which could reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(d) Buyer has engaged no broker or agent in connection with the sale. Buyer shall indemnify, defend and hold Seller harmless from and against any loss, damages, liabilities, costs or expenses, including without limitation attorneys' fees and court costs, resulting from any claim for a fee or commission by any other broker or finder with whom Buyer has dealt.

(e) Neither Buyer nor any of its affiliates, nor any of their respective partners, members, shareholders or other equity owners, and none of their respective employees, officers, directors, representatives or agents is, nor will they become, a person or entity with whom United States persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

Section 7.2. Authority. Each party warrants and represents that this Agreement and all other documents delivered prior to or at the Closing (a) have been or shall be duly authorized and executed and delivered by such party; (b) are legal, valid, and binding obligations of such party; and (c) neither violate any provision of any agreement to which such party is a party, nor violate any charters, bylaws, operating agreements or other organizational documents of such party.

Section 7.3. Seller's Representations and Warranties. Seller hereby represents, warrants and covenants to Buyer the following:

(a) Seller is duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing in the State of Maine. Seller has the requisite right, power and authority to sell and convey the Property to Buyer as provided herein, and has taken all action necessary to authorize the execution, delivery and performance of this Agreement. Seller has obtained all consents and approvals necessary for Seller's execution, delivery and performance of this Agreement, and the performance by Seller of Seller's obligations hereunder will not constitute a default under the terms and provisions of any material agreement, document or instrument to which Seller is a party or by which Seller is bound.

(b) This Agreement constitutes the valid and binding obligation of Seller, enforceable against Seller in accordance with its respective terms, except to the extent that enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the rights of contracting parties generally.

(c) Seller has not received any written or oral notice of any pending condemnation, expropriation, eminent domain or similar proceeding affecting all or any portion of the Property and has no knowledge that any such proceeding is contemplated.

(d) There are no leases, tenancy agreements, tenancies at will, parking space agreements and other contracts, agreements or occupancy arrangements, whether written or oral, affecting the Property or any portions thereof in effect with respect to any portion of the Property ("Leases").

(e) No written or oral notice has been given by the holder of any mortgage on the Property, any insurance company that has issued a policy with respect to the Property, or by any board of fire underwriters (or other body exercising similar functions) claiming any material defect or deficiency or requesting the performance of any material repairs, alterations or other work to the Property.

(f) There are no management, service, equipment, supply, maintenance or concession agreements with respect to or affecting all or any portion of the Property.

(g) Seller has paid or will pay in full prior to the Closing all outstanding bills and invoices for Utility charges, labor, goods, materials, and services of any kind relating to the Property incurred by or for the benefit of Seller**.**

(h) No work has been performed or is in progress at, and no materials have been furnished to, at the direction of or for the benefit of the Seller, the Property which, though not presently the subject of, might give rise to mechanic's, materialmen's or other liens against the Property or any portion thereof. If any lien for work performed or materials furnished prior to the Closing, in either case pursuant to a contract with Seller, is filed before or after the Closing, Seller shall promptly discharge such lien by filing the requisite bond or in any other manner allowed by applicable law. Seller will execute and deliver a standard form of Mechanic's Lien Affidavit for title insurance purposes.

(i) There is no suit or proceeding pending or to Seller's Knowledge, threatened against or affecting Seller or the Property that might affect or relate to this Agreement or the transactions contemplated hereby, in any court or before or by any federal, state, county or municipal department, commission, board, bureau, or agency or other governmental instrumentality. No order, writ, injunction, subpoena or decree has been issued by or requested of any court or government agency which is reasonably likely to result in a material adverse change in the Property or the Seller, or which could reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(j) Seller has received no written notice of any outstanding violation of any federal, state, county, or municipal laws, ordinances, orders, codes, rules, regulations, or requirements affecting all or any portion of the Property, including without limitation violations of the housing, building, safety, health, fire, or zoning ordinances, codes, and regulations of the municipality or county within which the Property is located, issued by any governmental or quasi-governmental authority.

(k) To Seller's Knowledge, Seller is not in violation or default under any agreement with any third party, or under any judgment, order, decree, rule or regulation of any court, arbitrator, administrative agency or other governmental authority to which it may be subject, which violation or default will, in any one case or in the aggregate, materially and adversely affect the ownership or operation of the Property or Seller's ability to consummate the transactions contemplated hereby. To Seller's Knowledge, there are no material violations of laws, regulations, permits or approvals affecting or pertaining to the Property. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby will not (i) violate any law or any order of any court or governmental

authority with proper jurisdiction; (ii) result in a breach or default under any provision of the organizational documents of Seller; or (iii) require any consent, or approval or vote of any third person that, as of the Closing Date, has not been given or taken, and does not remain effective.

(l) As used herein, "Environmental Laws" shall mean all federal state and local laws, statues, rules, codes, ordinances, regulations, orders, judgments, decrees, binding and enforceable guidelines, including any judicial or administrative order, consent decree or judgment, in each case to the extent binding, relating to the environment, the protection of health or Hazardous Materials, including, without limitation, the Comprehensive Environmental Response Compensation and Liability Act, 42 USC §9601 et seq.; the Resource Conservation and Recovery Act, 42 USC §6901 et seq.; the Federal Water Pollution Control Act, 33 USC §1251 et seq.; the Toxic Substances Control Act, 15 USC §2601 et seq.; the Clean Air Act, 42 USC §7401 et seq.; the Safe Drinking Water act, 42 USC §3803 et seq.; the Oil Pollution Act of 1990, 33 USC §2701 et seq.; the Emergency Planning and Community Right-to-Know Act of 1986, 42 USC §11001 et seq.; the Hazardous Material Transportation Act, 49 USC §1801 et seq.; and the Occupational Safety and Health Act, 29 USC §651 et seq. (to the extent it regulates occupational exposure to Hazardous Materials); any state, local or foreign counterparts or equivalents, in each case as amended from time to time, and includes the Project Permits (defined below). As used herein, "Hazardous Materials" shall mean (i) substances that are defined or listed in, or otherwise classified pursuant to, any applicable law or regulations as "hazardous substances," hazardous materials," "hazardous wastes," "toxic substances," "pollutants," "contaminants" or other similar term intended to define, list or classify a substance by reason of such substance's ignitability, corrosivity, reactivity, carcinogenicity, reproductive toxicity or "EP toxicity" and (ii) oil, petroleum or petroleum derived substances, natural gas, natural gas liquids, synthetic gas, drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal resources. Except as may be identified in any Phase 1 ESA prepared for the benefit of Seller and provided to Buyer: (i) to Seller's Knowledge, there are no violations of any Environmental Laws with respect to the Property and Seller has not used, stored, disposed of or released any Hazardous Materials on the Property; (ii) to Seller's Knowledge, during Seller's ownership of the Property, the Property has not been used, and to Seller's Knowledge, the Property has not been used in the past, to treat, store or dispose of Hazardous Materials in violation of Environmental Laws, and neither Seller, nor, to Seller's Knowledge, anyone else, has otherwise dumped, placed, released, or discharged Hazardous Materials in violation of Environmental Laws on the Property or any property adjacent to the Property.

(m) There are no tax liens on any of the Property, and Seller has paid or will pay through the Closing all real estate taxes, withholdings and governmental charges due with respect to the Personal Property under all applicable federal, state and local laws and regulations. There are no legal, administrative or other tax proceedings currently in progress or threatened pursuant to which Seller is or could be made liable for any taxes.

(n) Seller has engaged no broker or agent in connection with the sale. Seller shall indemnify, defend and hold Buyer harmless from and against any loss, damages, liabilities, costs or expenses, including without limitation attorneys' fees and court costs, resulting from any claim for a fee or commission by any other broker or finder with whom Seller has dealt.

(o) Seller is not a "foreign person" as defined in Section 1445(f)(3) of the Code.

(p) Neither Seller nor any of its affiliates, nor any of their respective partners, members, shareholders or other equity owners, and none of their respective employees, officers, directors, representatives or agents is, nor will they become, a person or entity with whom United States persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

ARTICLE VIII
Disclaimer of Warranties

Section 8.1. Buyer's Inspections. Buyer acknowledges that Buyer has had or will have an adequate opportunity to inspect the Property and all factors relevant to its use and operation.

Section 8.2. Purchase "As Is". Buyer further acknowledges that Buyer has substantial experience with investment real property and that, except for the Seller's representations and warranties set forth herein, Buyer is acquiring the Property in an "as is" condition, and solely in reliance on Buyer's own inspection and examination. Except as set forth in Section 7.3 and in the Deed, neither Seller, nor any agents, representatives or employees of Seller, have made any representations or warranties, direct or implied, oral or written, with respect to the Property, or its fitness for any particular purpose except as expressly set forth herein.

Section 8.3. Representations, Warranties. Except as otherwise specifically provided in Section 7.3, no representations, warranties, covenants or other obligations of Seller or Buyer set forth in this Agreement shall survive the Closing, and no action based thereon shall be commenced after the Closing. All of Seller's representations and warranties set forth in Section 7.3 shall survive Closing for a period not to exceed twenty-four (24) months after the Closing Date (the "Survival Period"), and shall inure to the benefit of Buyer and its legal representatives, successors or assigns; provided, however, that Seller shall have no liability or other obligation with respect to any such representation or warranty herein contained unless, prior to the expiration of the Survival Period, Buyer shall have notified Seller in writing setting forth specifically the representation or warranty allegedly breached, a description of the alleged breach in reasonable detail, and a proposed remedy. The aggregate liability of Seller for breach of any representation or warranty made by Seller in Section 7.3 shall not exceed Three Million Dollars ($3,000,000.00) (the "Seller's Liability Cap"). Purchaser shall not have any further right, claim or recourse against the Seller in excess of the Seller's Liability Cap or from any other asset of Seller except for the sale proceeds from this transaction, and Buyer waives any right or claim of any kind or nature against Seller other than a right or claim limited to the Seller's Liability Cap as aforesaid. Notwithstanding the foregoing, there shall be no limitation on the aggregate liability of Seller hereunder in the event of fraud or intentional material misrepresentation by the

Seller, in which event Buyer shall be entitled to all rights and remedies against Seller available to it at law and/or in equity.

Section 8.4. Merger. Except as otherwise specifically provided in Section 7.3 and this Article VIII, the delivery of the Deed by Seller, and the acceptance thereof by Buyer, shall be deemed the full performance and discharge of every obligation on the part of Seller to be performed hereunder.

Section 8.5. No Reliance. Except as expressly stated in Section 7.3 and in the Deed, Seller makes no representation or warranty as to the truth, accuracy or completeness of any materials, data or information delivered by Seller or its brokers or agents to Buyer in connection with the transaction contemplated hereby. Buyer acknowledges and agrees that all materials, data and information delivered by Seller to Buyer in connection with the transaction contemplated hereby are provided to Buyer as a convenience only and that any reliance on or use of such materials, data or information by Buyer shall be at the sole risk of Buyer, except as otherwise expressly stated herein. Without limiting the generality of the foregoing provisions, Buyer acknowledges and agrees that (a) Buyer shall be responsible for conducting its own inspections and investigations for the Property and for obtaining any reports thereon which is deemed necessary, (b) any environmental, engineering or other report with respect to the Property which is delivered by Seller to Buyer shall be for general informational purposes only, (c) Buyer shall not have any right to rely on any such report delivered by Seller to Buyer, but rather will rely on its own inspections and investigations of the Property and reports commissioned by Buyer with respect thereto, and (d) neither Seller, any affiliate of Seller nor the person or entity which prepared any such report delivered by Seller to Buyer shall have any liability to Buyer for any inaccuracy in or omission from any such report.

Section 8.6. Disclaimers. EXCEPT AS EXPRESSLY SET FORTH IN SECTION 7.3 AND THE DEED, IT IS UNDERSTOOD AND AGREED THAT SELLER IS NOT MAKING AND HAS NOT AT ANY TIME MADE ANY WARRANTIES OR REPRESENTATIONS OF ANY KIND OR CHARACTER, EXPRESS OR IMPLIED, WITH RESPECT TO THE PROPERTY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OR REPRESENTATIONS AS TO HABITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, ZONING, PERMITTING, USE, TAX CONSEQUENCES, LATENT OR PATENT PHYSICAL OR ENVIRONMENTAL CONDITION, UTILITIES, OPERATING HISTORY OR PROJECTIONS, VALUATION, GOVERNMENTAL APPROVALS, THE COMPLIANCE OF THE PROPERTY WITH LAWS, THE TRUTH, ACCURACY OR COMPLETENESS OF THE DOCUMENTS OR ANY OTHER INFORMATION PROVIDED BY OR ON BEHALF OF SELLER TO BUYER, OR ANY OTHER MATTER OR THING REGARDING THE PROPERTY. BUYER ACKNOWLEDGES AND AGREES THAT AT THE CLOSING SELLER SHALL SELL AND CONVEY TO BUYER AND BUYER SHALL ACCEPT THE PROPERTY "AS IS, WHERE IS, WITH ALL FAULTS," EXCEPT TO THE EXTENT EXPRESSLY PROVIDED OTHERWISE IN THIS AGREEMENT. BUYER HAS NOT RELIED AND WILL NOT RELY ON, AND SELLER IS NOT LIABLE FOR OR BOUND BY, ANY EXPRESS OR IMPLIED WARRANTIES, GUARANTIES, STATEMENTS, REPRESENTATIONS OR INFORMATION PERTAINING TO THE PROPERTY OR RELATING THERETO (INCLUDING SPECIFICALLY, WITHOUT LIMITATION, PROPERTY INFORMATION

PACKAGES DISTRIBUTED WITH RESPECT TO THE PROPERTY) MADE OR FURNISHED BY SELLER, THE MANAGER OF THE PROPERTY, OR ANY REAL ESTATE BROKER OR AGENT REPRESENTING OR PURPORTING TO REPRESENT SELLER, TO WHOMEVER MADE OR GIVEN, DIRECTLY OR INDIRECTLY, ORALLY OR IN WRITING, UNLESS SPECIFICALLY SET FORTH IN THIS AGREEMENT.

Section 8.7. Seller shall not be liable under Section 7.3 or the Deed for any loss or claim arising out of any inaccuracy in or breach of any of the representations and warranties of Seller contained in Section 7.3 or the Deed if Buyer had actual knowledge of such inaccuracy or breach prior to or at Closing.

Section 8.8. Effect and Survival of Disclaimers. Seller and Buyer acknowledge that the compensation to be paid to Seller for the Property takes into account that the Property is being sold subject to the provisions of this Article VIII. Seller and Buyer agree that the provisions of this Article VIII shall survive Closing.

ARTICLE IX
Risk of Loss

Section 9.1. Risk of Loss. In the event the Property is materially damaged prior to Closing, Buyer may either (i) terminate this Agreement and receive back the Deposit in accordance with this Agreement; or (ii) close with no adjustment in Purchase Price.

Section 9.2. Condemnation. Any taking or condemnation for any public or quasi-public purpose or use by any competent authority in appropriate proceedings or by any right of eminent domain of all or any material part of the Property between the Execution Date and the time of the Closing shall, at Buyer's option, cause a termination of this Agreement. The election to terminate provided for hereby must be exercised by Buyer by written notice to Seller to such effect, which notice shall be given by Buyer on or before the thirtieth (30th) day after Buyer's receipt of written notice of such condemnation (but in any event prior to the Closing, provided however that Buyer shall be entitled to extend the Closing Date to a date that is two business days beyond the date that would be the thirtieth (30th) day following such notice). If Buyer shall not elect so to terminate this Agreement, Seller shall be relieved of its duty to convey title to the portion of the Property so taken or condemned, but Buyer will be entitled to receive all proceeds of any such taking or condemnation provided Buyer takes title hereunder and Seller shall make no settlement or adjustment of such proceedings without Buyer's consent, and shall take at the Closing all action necessary to assign its entire interest in any such award to Buyer.

Section 9.3. Return of Deposit. The Deposit shall be returned to Buyer immediately following termination of this Agreement by Buyer under this Article and all other obligations of the parties hereto shall cease and this Agreement shall be void and without recourse to the parties hereto subject to the provisions of Section 6.3.

ARTICLE X
Operation of Property

Section 10.1. Property Management. Seller shall operate the Property before the Closing in substantially the same manner that Seller operated the Property before the Execution

Date. Subject to the foregoing provisions, it is expressly understood and agreed that Seller may, so long as Buyer is so advised and consents in advance, (a) enter into service contracts, utility contracts and other contracts pertaining to the management of the Property, (b) renegotiate, modify or cancel (including without limitation on account of a Tenant's default) any of the Leases, (c) accept surrender of the premises demised under any of the Leases and (d) execute or otherwise enter into any new Lease. In no event shall Seller accept any payment of fixed rental under any Lease more than thirty (30) days in advance.

ARTICLE XI
Closing

Section 11.1. Closing Date. The Closing shall take place at the time and place specified in Section 6.7 hereof. The cash portion of the Purchase Price ("Cash Balance") shall be held in escrow by the Buyer's attorney pursuant to customary conveyancing practice until the Deed is recorded, provided however that the Deed shall be recorded no later than 1:00 P.M. on the Closing Date unless Seller's attorney has been advised of any matter of record arising after the effective date of the Preliminary Title Report and preventing Seller from conveying title to the Property in accordance with the applicable provisions of this Agreement.

Section 11.2. Closing Deposits. At the Closing, Seller and Buyer shall exchange the following documents and funds:

11.2.1. Seller's Deposits. Seller shall deliver to Buyer the following:

(a) Deed. A duly executed and acknowledged quitclaim deed with covenant in form acceptable to Buyer (the "Deed") conveying the Real Property and the Improvements to Buyer subject only to Permitted Encumbrances.

(b) LLC Agreement. A duly executed copy of the Ownership LLC Agreement

(c) [*intentionally omitted*]

(d) [*intentionally omitted*]

(e) Non-Foreign Affidavit. A duly executed original affidavit as to Seller's non-foreign status.

(f) Authority. Such evidence as may be reasonably required as to the authority of the person or persons executing documents on behalf of Seller.

(g) Affidavits. Executed affidavits and indemnifications in form and substance reasonably satisfactory to the Buyer regarding mechanics' and materialmen's liens and parties in possession sufficient to eliminate any title insurance exceptions for these matters with respect to the Property.

(h) Additional Documents. Such other documents, including without limitation settlement statements and escrow instructions, as are required of Seller to close in accordance with this Agreement and local conveyancing practice.

11.2.2. Buyer's Deposits. Buyer shall deliver to Seller the following:

(a) Cash Balance. The Cash Balance;

(b) Equity Portion. A duly executed copy of the Ownership LLC Agreement reflecting issuance of the Equity Portion of the Consideration.

(c) Closing Costs. Additional cash in the amount necessary to pay Buyer's share of closing costs, as set forth in Section 12.2.; and

(d) Additional Documents. Such other documents, including without limitation authority documents, settlement statements and escrow instructions, as are required of Buyer to close in accordance with this Agreement and local conveyancing practice.

Section 11.3. Use of Purchase Price to Clear Title. To enable Seller to make conveyance as herein provided, Seller may, at the Closing, use the Purchase Price or any portion thereof to clear title of any or all encumbrances or interests so long as Seller has obtained and furnished to Buyer at or prior to the Closing a recordable release of each such encumbrance or interest or (in the case of an institutional mortgage or other security interest) written commitment from the holder thereof to provide such release upon receipt of a sum certain.

Section 11.4. Closing Statement. The parties shall execute and deliver a Closing and Proration Statement confirming the funds flow and prorations required under Article XII hereof.

ARTICLE XII
Closing Costs, Prorations

Section 12.1. Seller's Costs. Seller shall pay (a) ½ of the transfer taxes payable upon recordation of the Deed and (b) the costs necessary to discharge Seller's obligations under this Agreement.

Section 12.2. Buyer's Costs. Buyer shall pay (a) ½ of transfer taxes; (b) the cost of the Preliminary Title Report; (c) all title insurance premiums; (d) the cost of recording the Deed; and (e) all other costs required in order to close in accordance with this Agreement (except as specified in Section 12.1).

Section 12.3. Prorations. Taxes (including any business and license taxes and any other state, county or municipal assessments), utility and fuel bills and other customarily-adjusted operating expenses shall be prorated as of the Closing Date and added to or subtracted from (as the case may be) the Cash Balance. All charges accruing prior to the Closing Date shall be the obligation of Seller and all charges accruing on or after the Closing Date shall be the obligation of Buyer. If the amount of such taxes is not known on the Closing Date, such taxes shall be prorated on the basis of taxes assessed for the preceding fiscal period, subject to reapportionment as soon as the new tax rate and valuation can be ascertained. In the event of any abatement of such taxes subsequent to the apportionment thereof, the amount of such abatement, less the reasonable cost of obtaining the same, shall be prorated as of the Closing Date.

ARTICLE XIII
Notices

Section 13.1. Notices. All notices required or permitted to be given hereunder shall be in writing and sent by a recognized overnight courier service offering confirmation of delivery to the appropriate address indicated below or at such other place or places as either Buyer or Seller may, from time to time, respectively, designate in a written notice given to the other:

To Buyer: Fathom CC, LLC
183 Middle Street, Suite 21
Portland, ME 04101
Attn: James H Brady, Manager

With a copy to: Christopher E. Howard, Esq.
Pierce Atwood LLP
254 Commercial Street
Portland, Maine 04101

To Seller: North River IV, LLC
224 12th Avenue
New York, New York 10001
Attention: Christopher H. Pachios, Manager

With a copy to: Michael L. Lane, Esq.
Preti, Flaherty, Beliveau & Pachios LLP
One City Center
Portland, Maine 04101

ARTICLE XIV
Additional Commitments

Section 14.1. Parking Commitment. Seller or its Affiliate shall lease parking spaces proximate to the Project (together with related access) to Buyer as follows ("Parking Lease"):

(a) Up to 75 parking spaces at market rate specific to the space utilization for a term of ten (10) years, with the right to extend for up to two (2) additional 10-year terms, at Buyer's option. Buyer shall have the option to adjust the number of parking spaces included in the lease between the minimum and maximum specified above on semi-annual basis (for the periods November 1st through April 30th and May 1st through October 31st) with written notice to be provided by Buyer to Seller not less than 90 days prior to the commencement of each semi-annual period. In the absence of notice the previously specified number of spaces shall carry over for the ensuing semi-annual period.

(b) "Overnight Parking Spaces" to be agreed upon by Buyer and Seller with such agreement to be set forth in the Parking Lease.

(c) Seller, or its Affiliate, intends to construct a parking garage as part of the Master Development provided Seller, or its Affiliate, shall have no obligation to do so. In the event a parking garage is constructed, the parking spaces may be relocated to the parking garage, with appropriate adjustment in market rent. The location of parking spaces in the parking garage shall be specified in the Parking Lease.

(d) Provided a parking garage is built as part of the Master Development by Seller or its affiliates, Buyer and Seller may discuss possible purchase and sale of spaces, but purchase and sale is not a condition to the transaction contemplated hereby.

Section 14.2. Lay-Down Space. In the event Seller does not elect to build a parking garage adjacent to the Real Property contemporaneously with Buyer's construction of the Project, then Seller shall provide Buyer with access to and right to use the lay-down space shown in Exhibit D hereto for Project construction, at Buyer's expense, which shall be based on a market rate for displaced surface parking. A license to use the lay-down area will be executed and delivered at Closing ("Construction License"). If the Construction License is not finalized in a form reasonably acceptable to Buyer on or before the expiration of the Due Diligence Period, then Buyer may terminate this Agreement by giving Seller written notice thereof on or before the expiration of the Due Diligence Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder. Buyer and Seller agree to exercise reasonable good faith efforts to agree on any adjustments required in the lay-down space to accommodate the needs of both parties in the development of the Project and the Master Development. In the event the Seller elects to construct a parking garage contemporaneously with the construction of the Project, then Seller shall have no obligation to grant the Construction License; however the Seller and Buyer will exercise reasonable good faith efforts to coordinate construction and accommodate the needs of space needs of both parties with respect to contemporaneous construction of the Project and the parking garage.

Section 14.3. Repurchase Option. Buyer shall grant to Seller an option to repurchase the Property (the "Repurchase Option") in the event the Buyer has not closed on the senior construction debt financing required to construct the Project ("Project Construction Financing") within thirty-six (36) months following Closing (the "Financing Period"). The Repurchase Option shall expire upon the earlier of (i) Buyer closing on the Project Construction Financing or (ii) if not previously exercised, twelve (12) months following the expiration of the Financing Period. The basic terms of the Repurchase Option are as follows:

(a) Seller may exercise the Repurchase Option by providing Buyer written notice of exercise at any time following the expiration of the Financing Period and prior to expiration of the Repurchase Option.

(b) The Repurchase Option price purchase price for the Property ("Repurchase Option Price") shall be an amount equal to the Purchase Price.

(c) Buyer agrees that it will not encumber the Property or permit the Property to be encumbered by any leases, contracts, liens, mortgages, attachments, covenants, restrictions

or easements prior to the expiration of the Repurchase Option. Nevertheless, Seller and Buyer agree to apply such portion of the Repurchase Option Price as may be required to obtain a release and discharge of any and all liens and encumbrances encumbering the Property, and such amounts shall be paid as a disbursement at closing of the Repurchase Option.

(d) The closing of the Repurchase Option shall occur at such date and time as is specified in the notice of exercise provided by Seller to Buyer under subsection (a) above. At closing of the Repurchase Option, Buyer agrees to convey the Property to Seller in the same fashion, by the same form of deed, subject only to the same Encumbrances and in the same condition as conveyed to Buyer by Seller at Closing hereunder. The closing of the Repurchase Option shall be subject to the same adjustments, pro rations and closing cost allocations as applicable to the Closing hereunder, and at the closing of the Repurchase Option the parties shall execute and deliver to one another the same forms of affidavits and certificates as are required for the Closing hereunder.

Section 14.4. Recordation. The form of Deed, the easements referred to in Exhibit A, the Parking Lease, the Construction License and the Repurchase Option will be memorialized in in form and substance acceptable to both Seller and Buyer, to be executed and delivered by the parties at Closing ("Commitments"). If the Commitments are not finalized in a form reasonably acceptable to Buyer on or before the expiration of the Due Diligence Period, then Buyer may terminate this Agreement by giving Seller written notice thereof on or before the expiration of the Due Diligence Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder. The Commitments shall survive the Closing and shall be memorialized in a written agreement in recordable form that will be executed and delivered by Buyer and Seller at Closing.

ARTICLE XV
Miscellaneous Provisions

Section 15.1. Attorneys' Fees. If any suit or action be instituted to enforce the rights of either party under this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and court costs.

Section 15.2. Further Assurances. Whenever reasonably requested to do so by the other party, Seller and Buyer shall execute, acknowledge, and deliver any and all such further conveyances, assignments, confirmations, satisfactions, releases, instruments of further assurance, approvals, consents and any and all such further instruments and documents as may be necessary in order to complete any and all conveyances, transfers, sales and assignments herein provided, and to do any and all other acts and to execute, acknowledge and deliver any and all documents as so requested in order to carry out the intent and purpose of this Agreement.

Section 15.3. Buyer's Right to Assign. Buyer shall have no right, power, or authority to assign this Agreement, or any portion hereof, or to delegate any duties or obligations arising hereunder, either voluntarily, involuntarily or by operation of law, without the prior written

consent of Seller, it being expressly understood and agreed that such consent may be withheld or denied in Seller's sole and absolute discretion and bear all costs incurred by Seller in the preparation or review of any assignment agreement. Notwithstanding the foregoing, Buyer may, by written notice to Seller prior to the Closing Date, designate a nominee controlled by Buyer to take title to the Property.

Section 15.4. Successors and Assigns. Without waiver of the terms and conditions of Section 15.3, all of the rights, benefits, duties, liabilities, and obligations of the parties hereto shall inure to the benefit of, and be binding upon, their respective successors and assigns.

Section 15.5. Acceptance of Deed. The acceptance of the Deed by Buyer or its nominee, as the case may be, shall be deemed to be a full performance and discharge of every agreement, obligation and liability of Seller herein contained or expressed or derived herefrom, except as provided for in Section 7.3 and Article VIII, by the express terms thereof, are to be performed or remain in effect after the Closing as provided for in Section 7.3 and Article VIII.

Section 15.6. Time. Time is of the essence of this Agreement and of every provision herein contained.

Section 15.7. Headings. The title and headings of the Sections hereof are intended solely for means of reference and are not intended to modify, explain or place any construction on any of the provisions of this Agreement.

Section 15.8. Modification. This Agreement may not be modified, amended or otherwise changed in any manner except by a writing mutually executed by both parties. To the extent there is any conflict between the terms and conditions of this Agreement and the terms and conditions of any other documents relating to the acquisition of the Property as they relate to rights and obligations between Buyer and Seller, the terms and conditions of this Agreement shall be deemed controlling.

Section 15.9. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Maine.

Section 15.10. Nonrecourse. Buyer agrees to look solely to the Property and Seller in connection with this Agreement, and further agrees that the individual partners, directors, officers, shareholders, employees, agents, members, managers, trustees, beneficiaries and other principals of Seller shall not be liable under or with respect to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM CC, LLC:

By: _____

Its: Manager
title (duly-authorized)

NORTH RIVER IV, LLC

By: _____

Its: _____
title (duly-authorized)

ESCROW AGENT: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

By: _____
Its:

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM CC, LLC:

By: _____

Its: Manager
title (duly-authorized)

NORTH RIVER IV, LLC

By: _____

Its: _____
title (duly-authorized)

ESCROW AGENT: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

By: _____
Its: Counsel

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM CC, LLC:

By:_____

Its:_____
title (duly-authorized)

NORTH RIVER IV, LLC

By: Christopher S. Flagg
CHRISTOPHER S. FLAGG

Its: PRESIDENT
title (duly-authorized)

ESCROW AGENT: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

By:_____
Its:

EXHIBIT A

DESCRIPTION OF REAL PROPERTY

The attached 2-page plan depicts the Real Property, which consists of a 23,795 square feet portion of Seller's property located at the corner of Commercial Street and Center Street in Portland, Maine. The areas shown on the plan are further described as follows:

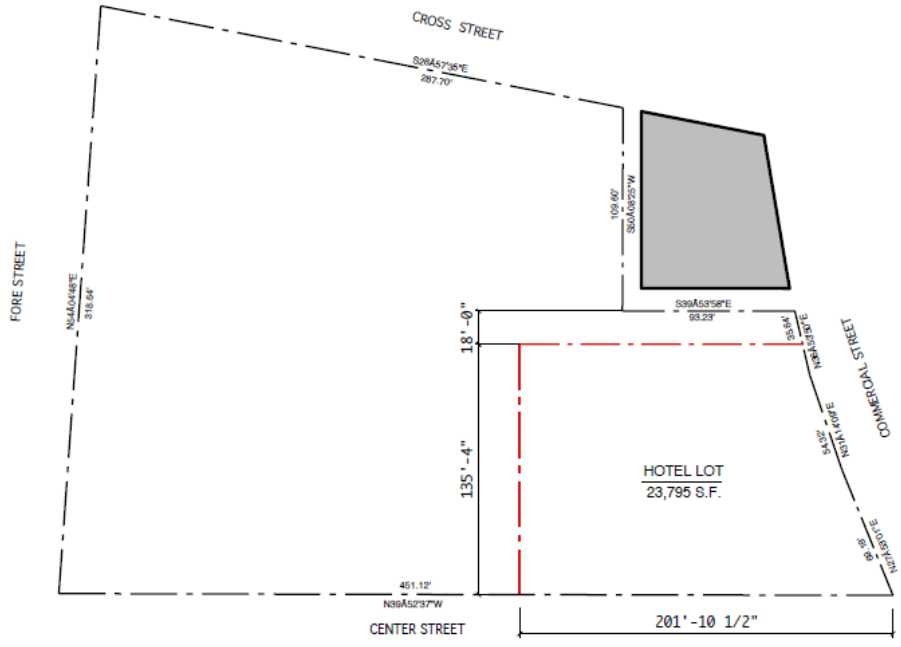
- The area labeled "Hotel Lot 23,795SF" the depicts the area to be conveyed in fee to Buyer.

- The cross-hatched area on page 2 of the plan labeled "Conceptual Service Access for Development Master Plan" extending from Cross Street to the Site Area depicts the location of an access easement for use in common with Seller as the hotel's service entrance for deliveries, waste removal and employee entry, with an appropriate easement to be granted to Buyer in the deed to the Site Area.

- The Real Property will include footing/foundation easements for Buyer's hotel development and will reserve to Seller footing/foundation easements under the Real Property for footing/foundation easements for Seller's Master Development.

Real Property description is to be formalized by ALTA/ACSM Land Title Survey as provided in Section 6.4.5 of the Agreement.

Plan attached



WSA WINTON SCOTT ARCHITECTS

WINTON SCOTT ARCHITECTS, PA
5 Milk Street
Portland, Maine 04101
207 774 4811

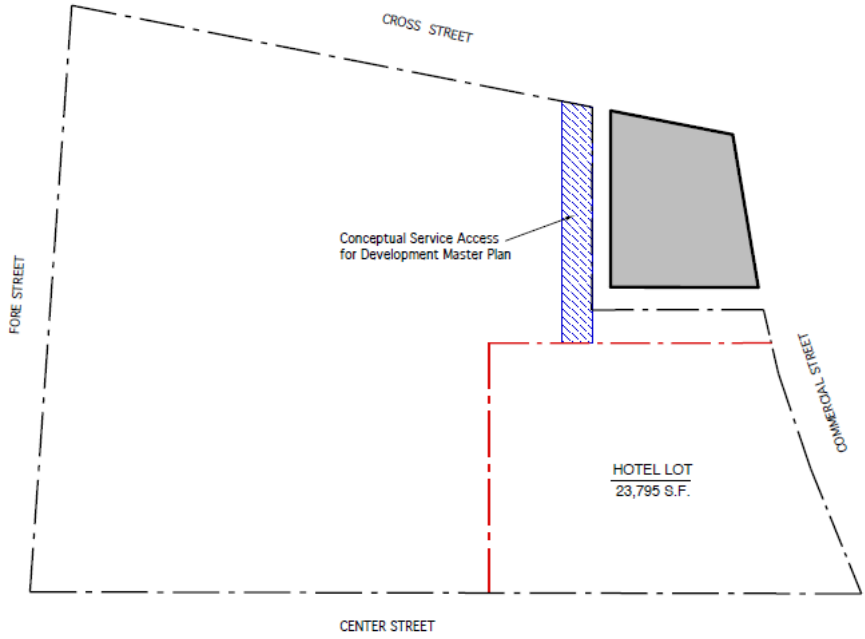
EXHIBIT 1:

HOTEL SITE PROPERTY LINE PLAN
Scale: 1"=50'

A1

July 18, 2018

{W6588006.18}



WSA
WINTON SCOTT ARCHITECTS
WINTON SCOTT
ARCHITECTS, PA
5 Milk Street
Portland, Maine 04101
207 774 4811

EXHIBIT 2:

SERVICE ACCESS PLAN
Scale: 1"=50'

A2
July 18, 2018

4. ADDITIONAL PROJECT APPROVALS

No environmental permits from State or Federal regulators are required for this project as it does not meet size or resource thresholds. The following additional permits will be required.

4.1 HISTORIC PRESERVATION

A Historic Preservation Application for Certificate of Appropriateness was submitted on November 21, 2018 and presented at a workshop on December 5, 2018. We are actively engaged in the Historical Preservation review process and anticipate the project will be presented at a second workshop in early 2019, followed by a public hearing where the Historic Preservation Board will approve a Certificate of Appropriateness.

4.2 FAA NOTICE OF PROPOSED CONSTRUCTION

We have evaluated the proposed building location for the need to file a Notice of Proposed Construction to the Federal Aviation Administration (FAA). Based on the FAA Notice Criteria Tool, the proposed structure is in proximity to a navigation facility and may impact he assurance of navigation signal reception. In accordance with CFR Title 14 Part 77.9, a notice will be filed with the FAA at least 45 days prior to the start of construction. A copy of this notice, and any response received from the FAA will be provided to the City of Portland.

5. ASSESSMENT OF ZONING

The project is located within the City of Portland B-3 Downtown Business Zone, Pedestrian Activity District (PAD) overlay zone and Historic Preservation District 0 -The Old Port. The proposed project is undergoing separate review for compliance with historic preservation standards as previously described in Section 4 of this report. The B-3 Downtown Business Zone and PAD overlay zone are regulated by Division 12 of the City of Portland Land Use Ordinance. Hotels and restaurants are permitted uses within these zones. No portion of the development is within the 100-year flood plain; a FEMA flood zone map is attached to Section 2 of this Report. The proposed project is therefore not subject to the City's Shoreland and Flood Plan Management Regulations. The following sections describe how the proposed project will comply with the City's parking and dimensional requirements within these zones.

5.1 PARKING & LOADING

Valet service will be provided for hotel guests, with guest and staff vehicles parked in an off-site parking area. Guests will also have the option to self-park and can use existing nearby overnight parking lots and structured parking facilities. Per Section 14-332 of the Land Use Ordinance, the off-street parking requirement for the 135-room hotel (one parking space per 4 guest rooms) is 34 parking spaces, plus the 2,620 SF ground-floor restaurant and 1725 SF rooftop bar (one parking space per 150 SF of floor area not used for storage or food prep) requires 18 and 12 spaces respectively, totaling a minimum off-street parking requirement of 64. North River IV, LLC has committed to Fathom CC, LLC within its Agreement of Purchase and Sale to provide up to 75 parking spaces for the hotel and associated project components (see Article XIV Section 14.1).

Per Section 14-351 of the Land Use Ordinance, the off-street loading standards specified in Division 21, one loading bay is required for hotels with gross floor area of more than one hundred thousand square feet. The gross floor area of the hotel is 112,046 square feet; therefore, one loading bay is required. One loading bay is provided on the eastern side of the building, which will be accessed through a service access easement from Cross Street as discussed in Section 9 and as shown on the Engineering Drawings.

5.2 DIMENSIONAL REQUIREMENTS

As shown in **Table 5-1**, the proposed building meets the dimensional requirements for the B-3 Downtown Business Zone.

Table 5-1: Center Street Hotel Dimensional Requirements

	REQUIRED	PROVIDED
Minimum Frontage	15 feet	~140 feet (Commercial St) ~200 feet (Center St)
Street wall build-to line	5 feet to property line	< 5 feet to property line (property line alignment varies)
Maximum Lot coverage	100%	96%
Building Height	35' min – 65' max*	65'
Maximum length of undifferentiated blank wall in PAD Overlay Zone	15 feet	</= 15' (Commercial/Center Street)

*Note: The maximum building height per the downtown height overlay map is 65-feet.

The project is located within the downtown height overlay zone and complies with the 65-foot maximum building height, based on the average grade calculations shown on the following figure.

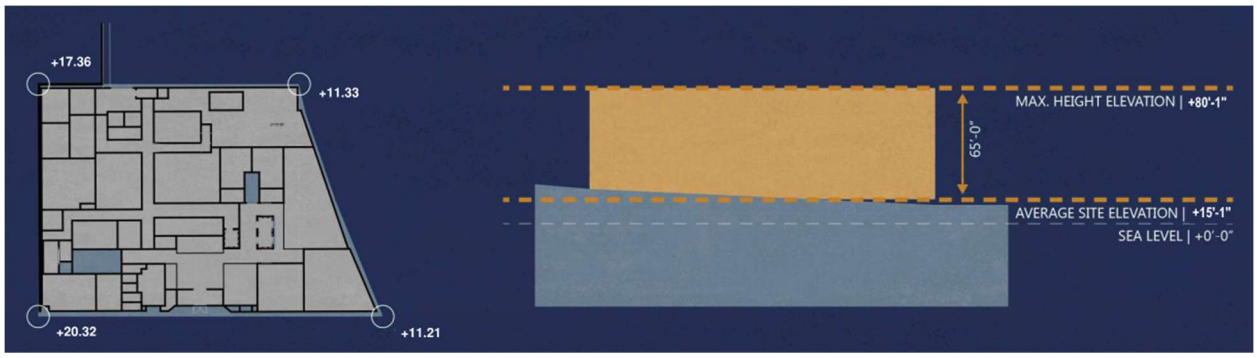


Figure 5-1 Average Grade Calculation

The façades along Commercial and Center Street, as well as the building walls that face the internal roof garden area have been designed to meet the standard for minimum length of undifferentiated blank wall, as required in the B-3 zone and PAD overlay district. The northeastern building wall that faces the existing Richardson Wharf adjacent building on Commercial Street and the northwestern building wall adjacent to the Portland Square site on Center Street have been designed with vertical differentiation at 10-foot intervals.

The building has been sited such that the building wall will be no more than 5 feet from the property line, and along Commercial and Center Streets, brick sidewalk will be extended back to the building wall edge. The proposed canopy over the Center Street Entrance will extend over the sidewalk, and beyond the property line. We understand that a license from the City will be required for this layout.

5.3 PEDESTRIAN ACTIVITY DISTRICT OVERLAY ZONE REQUIREMENTS

The site borders Center Street to the west and Commercial Street to the south, which are both listed as streets within the Pedestrian Activity District (PAD) overlay zone as shown on the Portland PAD overlay zone map. Per ground floor use restrictions for hotels within the PAD overlay zones, at least seventy-five (75) percent of the street level frontage of the building must be utilized; and at minimum, the floor area to be occupied shall be seventy-five percent (75%) of the street level frontage multiplied by a twenty (20) foot depth. Per Section 14-217(b)1.b., buildings with frontage on more than one street in the PAD overlay zone may reduce required retail area on one street to fifty percent of the frontage; the reduction in required area is applied to the Center Street frontage at the hotel entrance. The project has been designed to meet the required standards.

Further design discussion of the site design standards is included in Section 2 and Section 16 of this report.

6. EASEMENTS AND OTHER BURDENS

No easements are currently located on the site or proposed on the site. One proposed easement will border the site, as described in the Agreement of Purchase and Sale. This service access easement will be utilized by the hotel as described in Section 5 of this report for loading purposes. The Boundary Survey attached to Section 18 herein shows and describes easements located within adjacent parcels. Proposed work will not change or restrict access to facilities, utilities, amenities, or resource, public or private.

7. EVIDENCE OF FINANCIAL & TECHNICAL CAPACITY

7.1 FINANCIAL CAPACITY

Attached to this Section is a letter from the Senior Vice President of Mascoma Bank demonstrating that the developer has financial capacity to support the proposed project.

7.2 TECHNICAL CAPACITY

On behalf of Fathom CC, LLC, Woodard & Curran is preparing this application for the Center Street Hotel Development Project. Woodard & Curran has extensive experience with design for site development projects and specifically on the peninsula within the City of Portland. Woodard & Curran, a 1,000-person Portland-based firm, has provided engineering services to the public and private sector for nearly 40 years, including permitting, civil/site engineering, storm water and construction management services. Fathom CC, LLC is also supported by a design team including HKS Architects, Pat Carroll Landscape Architects, and Wright-Ryan Construction, Inc.

Copies of the company profiles of the various design team partners are attached, providing further verification of technical capacity for this project.

7.3 ATTACHMENTS

- Financial Capacity Letter
- Technical Capacity Documentation

Mascoma Bank

December 11, 2018

City of Portland, Planning Department
389 Congress Street
Portland, ME 04101

RE: Fathom CC, LLC, 135 room hotel to be developed at 1 Center St., Portland, ME

Portland Planning Department,

This letter will confirm that Mascoma Bank has had an exceptional relationship with Jim Brady and his related Fathom companies for approximately 6 years. We have the highest regard for Mr. Brady, as well as his partners and associates. Mr. Brady and his development team have demonstrated exceptional ability to create and build projects on time, in budget, and which are also a credit to the community.

Further, Mr. Brady and the Fathom companies always demonstrate exceptional financial acumen and most importantly, financial capacity to capitalize their projects.

Mascoma Bank looks forward to working with Mr. Brady and his development team, as we consider the proposed financing for the Center Street hotel project.

If you need further information, please do not hesitate to contact me.

Sincerely,

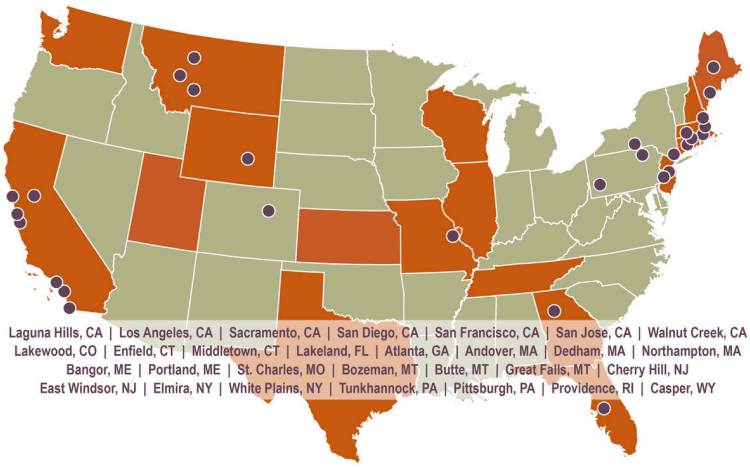
Richard S. Jennings,
Senior Vice President
Mascoma Bank
80 South Main St., Hanover, NH 03755
603-443-8781
603-667-6652
Dick.jennings@mascomabank.com

Printed on Recycled Paper

PROFILE OF THE FIRM

Woodard & Curran is an integrated engineering, science, and operations company. Privately held and steadily growing, we serve public and private clients locally and nationwide.

Talented people are at the heart of our firm. Our company was founded in 1979 on a simple business concept: provide an enjoyable place to work with opportunity, integrity, and commitment, and we will attract talented people. It happened. At the heart of our company are people who are experts in their fields and passionate about what they do, showing a level of commitment and integrity that drive results for our clients. You experience this power every day in our actions, our solutions, and our promises kept.



Commitment evident in personal approach

Our commitment is reflected in the personal attention, collaborative resources, and dedication to results that we devote to each project. We assign the right people with the right expertise to the job, and provide clients with easy accessibility to senior experts.

Our work is characterized by responsiveness, resourcefulness, and willingness to do what it takes to get the job done properly. Examples range from helping communities garner state and federal funding for wastewater treatment system improvement to managing a multi-vendor manufacturing project through a major snowstorm and getting production lines up and running. We are experts at navigating the complexities of environmental regulations and have been involved in transforming many brownfields sites into marketable properties. In defining moments like these, it is commitment that brings our clients results.

Woodard & Curran serves clients locally and nationwide from offices throughout the U.S. Headquartered in Portland, Maine, the firm operates offices in the locations noted above, as well as treatment facilities in the states that appear in orange.

Operating with integrity

Our integrity impacts our decision-making at all junctures of our work — from the openness of our communication to the fairness of our prices to placing your interests above our pocketbook. We hire people who share our values of honesty, respect, and fairness and who want to do the right thing. They, in turn, treat everyone — our people, our clients, regulators, and stakeholders — respectfully and honestly.

Full-service firm with multidisciplined staff

Our integrity and commitment are matched only by the depth of our expertise. Our staff are specialists in their fields, offering in-depth understanding of cutting-edge technology, astute problem-solving, multidisciplinary engineering, and expert regulatory guidance. The firm has received numerous honors and awards, and we have ranked among *Engineering News-Record's* top 100 environmental firms every year since 2000.

Services to the private sector

Woodard & Curran provides a range of site/civil and environmental engineering, science, and operations support to companies in the real estate sector, as well as to hospitals, colleges and universities, and law firms, helping our clients realize their project vision.

COMPANY PROFILE

Over the past two decades, the HKS Hospitality Group has designed projects in 53 countries, garnering numerous awards and coverage in national and international publications.

FIRM NAME
HKS Architects, Inc.
#AA F000119

OFFICE RESPONSIBLE FOR PROJECT
201 Alhambra Circle, Suite 800
Coral Gables, FL 33134

CONTACT PERSON
Sergio Saenz

TELEPHONE NUMBERS
305.476.1102

INTERNET ADDRESS
www.hksinc.com

EMAIL ADDRESS
ssaenz@hksinc.com

REGISTRATION
HKS was incorporated in the state of Texas on November 3, 1961. The firm is authorized to conduct business in the following states:
AL, AK, AZ, AR, CA, CO, CT, DE, FL, GA, HI, ID, IL, IN, IA, KS, KT, LA, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, ND , OH, OK, OR, PA, RI, SC, SD TN, TX, UT, VA, WA, D.C., WV, WI and WY

We are also authorized to do business in Abu Dhabi, Brazil, Macau, India, Mexico, Shanghai, Singapore and the United Kingdom.

WHO WE ARE

From arrival to departure, HKS Hospitality Group is known for hotel architecture and design that anticipates the guest's every need and desire, engaging the senses and creating an impeccable ambiance for work, play and escape. We strive to craft environments that lift the guest, enhancing relaxation, adventure, celebration and invention – special places where guests long to return and love to recommend.

HKS Hospitality Group projects are frequently featured in travel and lifestyle media worldwide and are enduring favorites on "Best Hotel" guest-ranked lists and online reviews. Our studio and firm are recipients of numerous awards, achieving national and international distinction for providing a full range of architectural services.

And while it's great to focus on the end result, we're also keenly dedicated to our process and how our clients experience working with us. It's one of the reasons we've had the honor to work time and again with many of the same leading, recognized brand hospitality owners, operators and developers for decades.

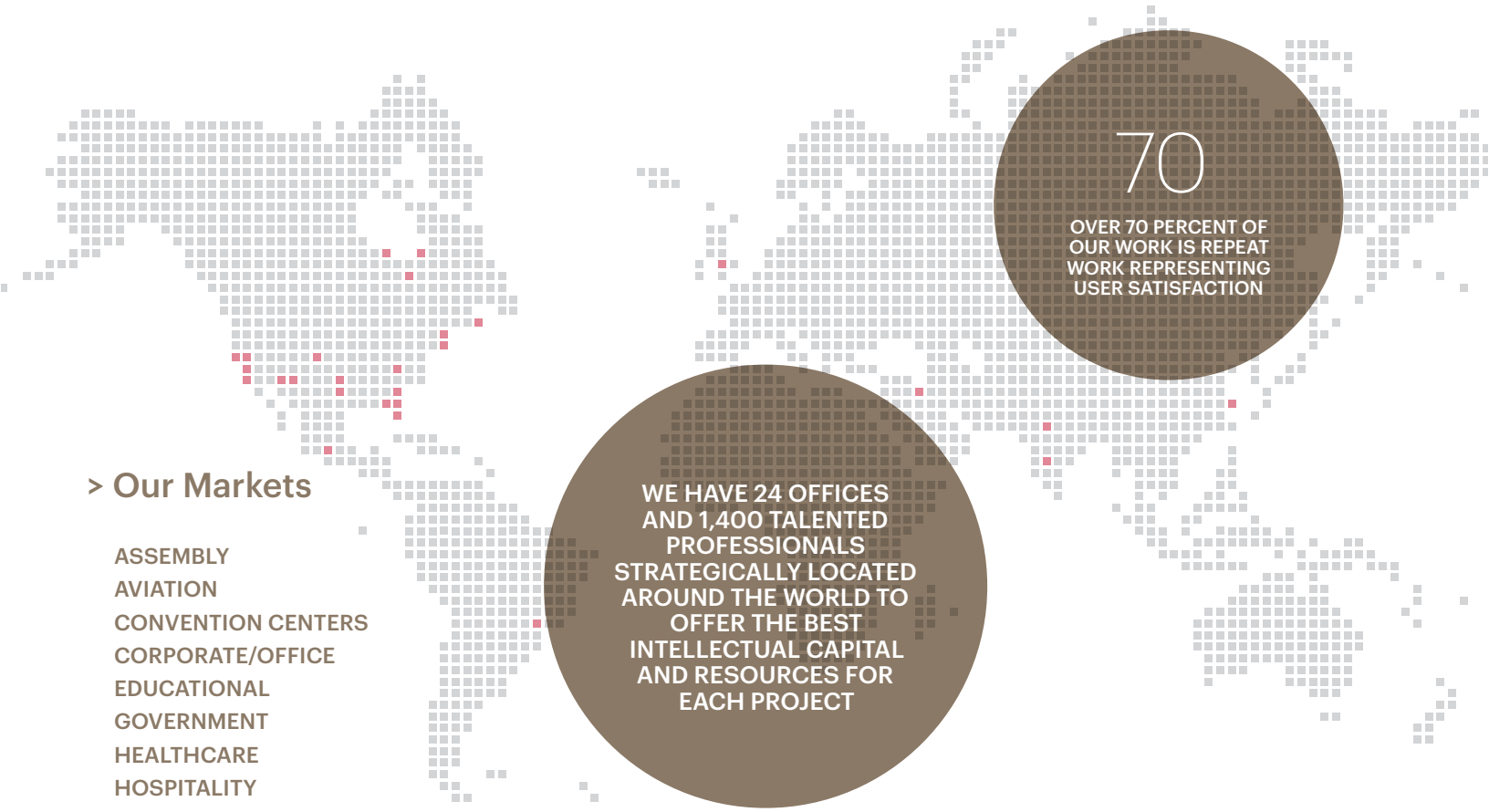
Our Practice

HKS specializes in the design of hotels, luxurious destination resorts and spas, urban high-rise and mixed-use projects, entertainment, gaming and convention hotels, boutique properties and golf clubhouses. Our work spans the world's most desirable beaches, mountains, deserts, waterfronts and cities. HKS' designs are always carefully planned to respect both the local architectural character and natural site features.

Our Process

Creating successful and profitable destinations that are also memorable, lift the spirit and create a true sense of place is the cornerstone of our design philosophy. We begin each project with enthusiasm, creativity, teamwork and a common-sense, pragmatic approach; a successful project is one in which the design resonates for guests as well as the people who work there. We are committed to sustainable design practices – environmentally conscious architecture benefits our clients, community and planet. An increasing number of our hotel projects are LEED Certified and a majority of our designers are LEED Accredited.

An experienced team is selected for each project to ensure completion on time and within budget.



> Our Markets

ASSEMBLY
AVIATION
CONVENTION CENTERS
CORPORATE/OFFICE
EDUCATIONAL
GOVERNMENT
HEALTHCARE
HOSPITALITY
RESIDENTIAL
SCIENCE & TECHNOLOGY
SPORTS & ENTERTAINMENT

> Our Disciplines

ARCHITECTURE
PROGRAMMING
PROJECT MANAGEMENT
MASTER PLANNING
URBAN DESIGN
SUSTAINABLE DESIGN
STRUCTURAL ENGINEERING
INTERIOR DESIGN
GRAPHICS & BRANDING
RESEARCH & DEVELOPMENT
ADVISORY PRACTICE
LABORATORY PLANNING
MISSION CRITICAL DESIGN
MULTIMEDIA PRODUCTION
MODEL SERVICES

HKS offers clients the high-touch, personalized service of a boutique firm, with the resources and multi-disciplinary expertise of one of the largest architectural firms in the country. Beyond traditional architectural services, HKS provides state-of-the-art programming analysis and design standards assistance to hotel developers, owners and operators.

Our process begins with a design charrette – an active, fluid give-and-take dialogue between all project stakeholders and the design team. As this process unfolds, we identify your overall needs and translate them into a design response that establishes the building as an inspiring and integral part of the business at hand. We realize the relationship between the built and natural environment is unique to each site and situation.

We offer a collaborative, integrated project delivery model that is focused on sustainability, value and quality.

Project management, honed through decades of experience, is our strong suit. Our project management process includes design-quality

We offer a collaborative, integrated project delivery model that is focused on sustainability, value and quality.

CARROLL ASSOCIATES

Firm Description

Carroll Associates is a small consulting firm engaged in the practice of landscape architecture, land planning, and site design. The firm was created in 1993, and is involved in a wide range of design and planning projects throughout Maine and New England.

The firm provides professional services to a broad-based clientele that includes municipal and institutional organizations, architects, engineers, real estate developers, and private individuals. While maintaining a diverse workload, the firm is entrenched in public, urban, and residential based planning and design work. Carroll Associates has significant experience in public, urban waterfront settings, institutional projects ranging from elementary schools to university work; municipal projects and recreational projects including work at Acadia National Park. The overriding objective in each is to provide a sensitive and well thought out solution which respects the natural environment and creates a functional and inviting setting for the building and its user.

Carroll Associates has been involved with many complex state and municipal projects which are specifically relevant to this project. Relevant Site Planning and Urban Design projects in Portland include the following:

- Ocean Gateway Ferry Terminal
- Marriot Residence Inn
- Riverwalk Condominiums (unbuilt)
- Maine State Pier Redevelopment Design Competition (selected design, unbuilt)
- Merrill's Wharf Redevelopment
- Thompsons Point Redevelopment
- International Marine Terminal Expansion
- Portland Gateway Hotel

In all of these projects the ability to integrate a new facility or program with historical buildings, complex physical and environmental sites, and established neighborhoods was critical to the overall success of the project.

We are well experienced with working within an interdisciplinary design team and the need to provide strong design solutions with limited budgets. Key to the firm's success is the commitment to providing attention and focusing on the specific needs of the client, remaining flexible and bringing projects to closure on time and within budget.

Professional services offered through Carroll Associates may include any or all of the following:

- Site Selection and Analysis
- Program Development and Budgeting
- Site Feasibility/ Utilization Studies
- Recreation Planning and Design
- Site Master Planning
- Construction Documents, Bidding, and Administration
- Consultant Team Coordination and Management
- Local, State, and Federal Permitting and Approvals

Brick Hill, South Portland, ME

Brickhill consisted of redevelopment of former Maine Youth Center into mixed use 'Smart Growth' project. The program for the 56 acre site includes 300 affordable housing apartments and condominiums, 250,000 SF of professional office space, recreation amenities including an 8 acre park, boat launch, community gardens, and hiking trails while preserving the historic brick structures on the site. The project is 100% completed in 2017. Carroll Associates provided Master Planning and Site Design Services for the project since 2001.

Forefront at Thompsons Point

The Forefront at Thompson's Point is a mixed-use development located on an existing vacant industrial site on the Fore River in Portland Maine. The original program consisted of a new Sports Event Cente, Concert Hall with an adjacent outdoor amphitheater seating 4500, a 235 room hotel, cultural center, restaurants, and approximately 180,000 sf of professional office space. Carroll Associates has been retained by the Developer to provide Master Planning and Landscape Architectural Services on the project.

Oceangate and Maine State Pier Redevelopment

Redevelopment of underutilized portion of Portland waterfront to provide new berthing for cruise ships and international ferry terminal. Oceangate Project includes extensive parking for ferry arrivals and departures, passengers, and tour busses; integration of adjacent narrow gauge railway, extension of existing streets to provide critical connections, and outdoor plazas and parks providing strong pedestrian connectivity to adjacent open space systems. Maine State Pier project includes redevelopment of aging waterfront pier and landside property to provide strong mixed use including office, retail, hotel, and a 2 acre park and with direct access to the waterfront.

Harborcorp, Portsmouth, NH

Redevelopment of vacant property in West End of Portsmouth, NH to provide mixed use development. Project envisions up to 115 Hotel rooms, 24 Condominium Units, Conference Facilities, Retail, dedicated parkland, and Structured Parking. The project ties into the existing Sheraton Hotel across the street. Approvals are in place and construction is expected to begin in 2019

CARROLL ASSOCIATES

PATRICK J. CARROLL
Principal Landscape Architect

Professional Registration:
Maine, New Jersey, New Hampshire, CLARB

Education:
Utah State University
Bachelor of Landscape Architecture,1978

Prior Experience
Carroll Associates, Portland ME 1993-
Moore Weinrich Architects, ME 1989- 2003
Environmental Planning and Design, ME 1988
Design Workshop, CO 1982- 1988
Land Design, UT 1989- 1988

As founder of Carroll Associates, Pat brings 40 years of landscape Architectural experience on a wide variety of projects throughout Maine, New England, and the Western United States. His successful project experience on largescale master planning and urban design provides a strong basis for solving complex design issues and managing important design and permitting challenges. His sensitivity and understanding of environmental constraints and culture provides for successful projects that are fitting and appropriate to each setting.

Erin Kay
Project Manager

Professional Registration:
Maine

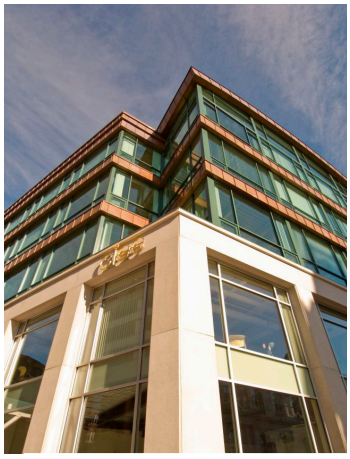
Education:
Rhode Island School of Design
Master of Landscape Architecture, 2010

University of New Hampshire
BA Studio Art, 2004

Prior Experience
Carroll Associates, Portland ME 2013-
Crossby/Schlessinger, MA 2010- 2013

Erin joined Carroll Associates in 2010, and brings significant experience in urban design and planning from her experience in Boston prior to joining the firm. She has actively participated in many of the larger urban projects Carroll Associates has undertaken in the last five years, including Thompsons Point, Harborcorp and other complex and challenging projects. Her ability to quickly synthesize a site and develop creative solutions make her a valuable member of the design team.

About Wright-Ryan



Commitment to Excellence

Tom Wright and John Ryan, our founding partners, grew up as childhood friends spending summers on a small island off of Portland, Maine and often working together on odd jobs throughout the 1970's. Tom went on to pursue a career in construction and industrial arts education while John began his working life as a civil engineer. Though they found their early careers satisfying, whenever they met their talk inevitably landed on a key missing ingredient - the pleasure of working alongside people who cared about each other and who shared a commitment to excellence. The idea of Wright-Ryan, a relationship-driven construction firm, hatched from these discussions.

Contributing to Communities

Thirty years later, Wright-Ryan has grown into one of the largest and most respected construction firms in northern New England. The firm has centered its efforts on projects that contribute to the communities in which we live and work and that challenge and engage the spirit and ingenuity of our team. While Tom has since left Wright-Ryan to pursue a life of community service, John and the rest of the team continue to build upon the vision of the founders - providing unrivaled customer service characterized by collaboration, innovation, and an unwavering commitment to quality.

Building Maine's Great Spaces

At Wright-Ryan we understand that successful projects require commitment to open communication and teamwork. The people we hire, our attention to detail, the duration and satisfaction of our professional relationships - they all attest to our concern for building spaces that meet the needs of our clients and the rapidly changing world we live in. We employ over 80 Maine residents including project managers, superintendents, a preconstruction team, highly skilled administrative support staff, and qualified trades people.

Sustainable Design & Construction

Wright-Ryan has been at the forefront of sustainable construction for over twenty years beginning with the ground-breaking Gilsland Farm Maine Audubon Environmental Center in Falmouth. Since that time, we have built dozens of highly efficient buildings including the first LEED Platinum home in the Northeast, Oak Street Lofts in Portland, the first affordable multifamily building in Maine to achieve LEED Platinum, as well as multiple Passive House structures. Wright-Ryan continues to push the envelope, finding new ways to deliver high performance buildings for our clients and our communities.

EMPLOYER OF CHOICE

Wright-Ryan is consistently seen as an employer of choice because of our sustainability practices, ethics, and commitment to quality. We can build Maine's greatest spaces because we're built from Maine's greatest people.

Our office and millwork operations are powered by 100% Maine Green Power.

9. TRAFFIC ANALYSIS

9.1 TRAFFIC

Gorrill-Palmer has evaluated the anticipated traffic for the hotel and has determined that a Traffic Movement Permit (TMP) will not be required for the hotel by itself. Further evaluation of traffic for the overall Portland Square Redevelopment, including the hotel, is being completed, and a TMP will be required for the entire developemnent. We anticipate that traffic analysis will include a Traffic Demand Management Plan, which will make considerations for the hotel and surrounding redevelopment needs and anticipates potential for off-site mitigation of traffic impacts. The TMP submission for Portland Square and additional information on traffic analysis to support the TMP process will be submitted as part of a future permit application.

9.2 PARKING

As noted within Section 5 of this report, hotel parking demand is met through the 75 spaces committed to by North River IV, LLC within the Agreement of Purchase and Sale.

The vehicle loading/unloading and valet service area proposed along Center Street will accommodate four vehicles. The length of the space is designed to prevent vehicles from waiting in the travel-way and will reduce impacts to traffic circulation at the intersection of Center Street and Commercial Street. Per a phone conversation with Jeremiah Bartlett on December 7, 2018, a distance of greater than 25 feet should be provided from an intersection to the entrance an off-street parking area, and he noted that the layout of the loading/unloading area should not cause any visibility issues at the nearby intersection. Approximately 71 feet is provided from the loading/unloading entrance to the Commercial Street right-of-way, and no site visibility or circulation issues are anticipated as a result of this design.

The proposed development results in the elimination of approximately ten Center Street on-street parking spaces and one Cross Street on-street parking space. The Center Street on-street parking spaces will be replaced by a well-defined and protected vehicle loading/unloading and valet service area and widened sidewalk area. These features will provide improved visibility, circulation and pedestrian safety. The Cross Street space will be replaced by a service access driveway entrance to the hotel loading dock.

Two bicycle parking spaces are required for every ten vehicle parking spaces. Based on parking analysis that is currently in progress for the entire Portland Square site, it has been determined that seven bicycle parking spaces are required for the proposed hotel. A total of 12 bicycle parking spaces are provided at locations in the sidewalk on Commercial Street and Center Street, and at the hotel entrance on Center Street. Locations are shown on the design drawings attached to Section 2.

9.3 SERVICE ACCESS

The proposed hotel will be serviced through an 18-foot service access easement from Cross Street. A 14-foot paved access driveway is proposed to provide service access to the loading dock located on northeastern side of the building on the ground floor, as shown on the design drawings attached to Section 3. Construction of the service access drive will be coordinated with the abutting property owner to provide proper drainage, and a catch basin is proposed to tie into the separated stormdrain in Cross Street.

A waiver is requested from the minimum driveway separation standard specified in Technical Manual Section 1.7.2.7. The service access easement is located immediately adjacent to a driveway on the abutting parcel. This existing driveway is currently used for service access to an existing dumpster. Therefore, the proposed driveway entrance will act as a shared service entrance for both the abutting Swasey building and the Center Street Hotel. A fence will be installed between the two driveways behind the existing dumpster to maintain the Center Street access within its easement, and we have performed a turning movement analysis to show that anticipated truck traffic will be able to maneuver within the space.

We have coordinated with Historic Preservation with regards to cobblestone replacement/placement at the service access entrance. The adjacent driveway has a cobblestone apron, and the proposed apron will be a continuation of the same material, with the cobblestones ending at the proposed brick sidewalk ramp.

9.4 ATTACHMENTS

- Traffic Analysis Memorandum by Gorrill-Palmer, dated January 10, 2019
- Autoturn Figure – Service Drive
- Waiver Request Form

GORRILL PALMER

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

Trip Generation Evaluation
Center Street Boutique Hotel
Portland, Maine

JN 3020.01

Date: January 16, 2019
Subject: Trip Generation Evaluation – Center Street Boutique Hotel
To: Barry Sheff, Woodard & Curran
From: Randy Dunton, Gorrill Palmer (JN 3020.01)

The purpose of this memo is to evaluate the need for a MaineDOT Traffic Movement Permit (TMP), for which the City has delegated review. The subject property is the Center Street Boutique Hotel as a standalone business, and not included in the adjacent Portland Square mixed use development. The hotel as proposed is a 135 key boutique hotel with a 2,620 square foot ground floor restaurant and a 1,725 square foot roof top bar. The following is a summary of the evaluation:

Criteria for triggering a TMP:

The criteria for requiring a MaineDOT TMP is if the development is proposed to generate a net increase of 100 trip ends or more during any peak hour of any day. If the site has (or has had within the last 10 years) a use that generates traffic, that trip generation can be subtracted from the proposed trip generation.

The proposed hotel location is currently a parking lot, and MaineDOT does not consider parking lots as a traffic generator, therefore there is no trip generation "credit" for this site.

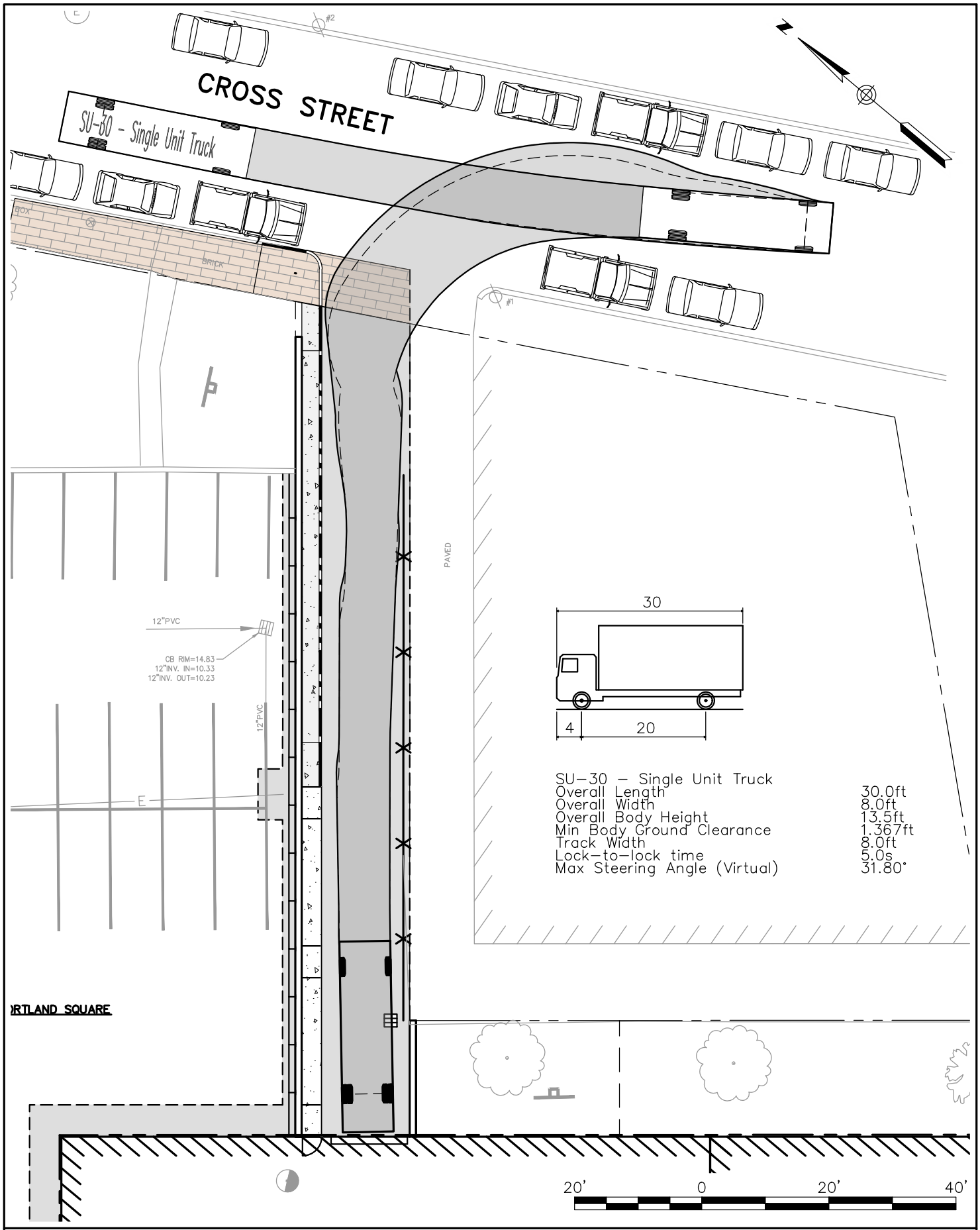
Trip Generation:

The trip generation is based on the ITE Trip Generation Manual, 7th Edition – Land Use Code (LUC) 310 – Hotel. The ITE description provided for this use identifies that hotels can provide "…facilities such as restaurants, cocktail lounges…". Therefore, the individual restaurant and roof top bar were not separated out as individual land uses. It is expected that these uses will draw some of their own traffic, but that would be consistent with the hotels that were counted as part of ITE Land Use that was used to determine the trip generation.

ITE 7th Edition Trip Generation Summary

Time Period	Trip Generation
AM Peak Hour of Adjacent Street	76
PM Peak Hour of Adjacent Street	80
AM Peak Hour of Generator	70
PM Peak Hour of Generator	82
Saturday Peak Hour	97

As the table summarizes, the trip generation for the 135 room hotel with supplemental restaurant and roof bar does not trigger the need for a TMP as a standalone project.



WOODARD &CURRAN
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

AASHTO SU-30 TURN MOVEMENT

DESIGNED BY: MDLM	CHECKED BY: LJS
DRAWN BY: JBC	0231538.01-C1.02 - C2.0*.dwg

FATHOM CC, LLC
P.O. BOX 7486
PORTLAND, MAINE 04112-7486

CENTER STREET BOUTIQUE HOTEL

JOB NO: 0231538.01
DATE: JANUARY 2019
SCALE: 1" = 20'

Turn Movement

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.
Technical Manual Section 1.7.2.7 (Location and spacing of driveways)	1.7.2.7 Along arterial, collector and local streets, minimum acceptable spacing between double or multiple driveways for driveways on adjacent lots or on the same parcel shall meet the criteria below: for a speed limit 25 mph or less, provide a minimum separation	We request a waiver for the minimum driveway separation standard on Cross Street of 100 feet. The proposed service access drive for the Center Street Hotel is located within an 18 foot service access easement. The easement is located immediately adjacent to	The existing driveway is currently being used for service access to a dumpster. The proposed driveway will also be used for service access for the hotel. Due to similar use, the proposed driveway will serve as a shared service entrance for the Swasey building and Center

10. SIGNIFICANT NATURAL FEATURES

The Site is fully developed and there are no known areas of significant natural features, including unusual natural areas, rare or endangered botanical features, areas of significant wildlife habitats, or wetland areas. The attached Official Species List identifies the northern long-eared bat, which has been listed as a Federally Threatened Species, in association with the project area; however, there are no critical habitat areas located within the project area. Based on US Fish & Wildlife information, the northern long-eared bat typically lives in caves during the winter months, and in trees larger than three inches in diameter during the summer, with migration between these two habitats in the spring in the fall. Tree-clearing for this project will be minimal and limited removal and replacement of street trees and landscaping vegetation; it is not anticipated that this project will have an impact on the northern long-eared bat species.

10.1 ATTACHMENTS

- Official Species List

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: 05E1ME00-2019-SLI-0278
Event Code: 05E1ME00-2019-E-00531
Project Name: Center Street Boutique Hotel

December 19, 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: 05E1ME00-2019-SLI-0278

Event Code: 05E1ME00-2019-E-00531

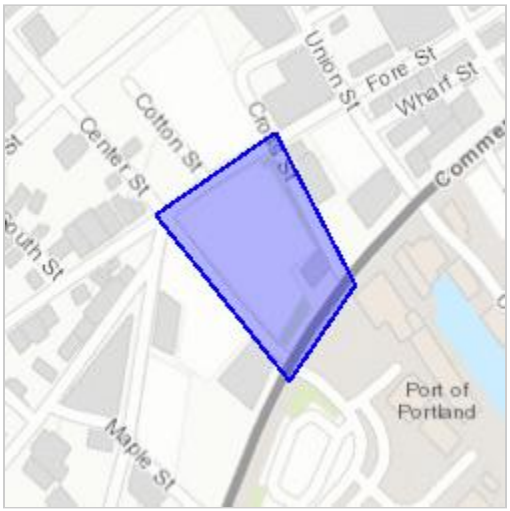
Project Name: Center Street Boutique Hotel

Project Type: DEVELOPMENT

Project Description: 135-room hotel development project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.65445370431211N70.2560234263751W



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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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.

11. STORMWATER MANAGEMENT PLAN & CALCULATIONS

The proposed project must comply with the water quality, stormwater management, and erosion control standards identified by the City of Portland in the Land Use Chapter of the Code of Ordinances. Section 14-527 of the Code of Ordinances requires that the stormwater standards must be met for this level of permit submission.

11.1 EXISTING CONDITIONS

The 23,795 +/- square foot site, located in a highly developed urban environment, currently consists of a paved parking lot surrounded by a landscaped esplanade containing shrubs and trees. In general, stormwater drains via sheet flow in a southerly direction into an existing catch basin along the southern property line. This catch basin connects to a separated storm drain located in Center Street, which connects to the combined sewer system located in Commercial Street (Lower Fore River Interceptor).

The service access easement northeast of the site to Cross Street currently consists of a steep vegetated slope with several trees and bushes. Approximately 2,120 square feet of the service access easement is vegetated, and the remaining 800 square feet consists of paved parking and driveway. Runoff from the service access drive largely drains via sheet flow toward Commercial Street. The easternmost portion of the service access easement area drains via sheet flow toward Cross Street. A 24" separated storm sewer is located in Cross Street.

The Lower Fore River Interceptor flows northeast through the Long Wharf Diversion Structure to the India Street Pumping Station where flow is pumped to the Portland Wastewater Treatment Plant.

11.2 PROPOSED DEVELOPMENT

The proposed building covers almost the entire site, as is required per zoning setbacks. The site layout is shown in the Design Drawings attached to Section 2. The siting of the building will eliminate the landscaped esplanade space around the perimeter of the parking lot.

The proposed service access driveway will eliminate the vegetated slope, trees and bushes for the majority of the service access easement. A catch basin is proposed adjacent to the northwestern corner of the abutting property. Runoff from the majority of the proposed service access driveway will be captured by the proposed catch basin and directed through a proposed storm drain into the separated storm sewer on Cross Street, as shown on the design drawings attached to Section 3. Runoff from paved portions of the abutting lot will also be directed toward the proposed catch basin. In summary, runoff that previously sheet flowed toward the combined sewer on Commercial Street will be captured and redirected to a separated storm sewer on Cross Street. The service driveway entrance will continue to sheet-flow toward Cross Street, similar to existing conditions.

A rooftop garden is proposed on the northeastern corner of the hotel's ground floor. This plaza will not be accessible from the hotel, but it is anticipated to provide a visually pleasing aesthetic for guest rooms as well as adjacent future and current development. The landscaped design of the garden space is shown on the landscape plan included in the Design Drawings attached to Section 2. While some existing perimeter landscaping will be removed, a greater area of new landscaping is proposed to provide an improved landscaped space on the redeveloped property.

The following **Table 11-1** provides a summary of existing and proposed site surface.

Table 11-1: Center Street Hotel Surface Cover Breakdown

	Pervious Surface (SF)	Impervious Surface (SF)			Total Area (SF)
		Roof	Non-Roof	Total	
Existing	4,875	0	21,845	21,845	26,720
Proposed	5,090	18,050	3,580	21,630	26,720

The project will result a net reduction of impervious area by approximately 215 square feet. The redevelopment project will also replace non-roof impervious surface with a building. Stormwater runoff from roof-top surfaces generally contains less pollutants than runoff from parking lots. A steep vegetated slope will be replaced by a relatively flat paved service access driveway, resulting in minimal impact to stormwater. The proposed project will not disturb more than one acre of area.

Applicable regulations that govern stormwater management on this site include Section 5 of the City of Portland Technical Manual, Chapter 32 of the City of Portland Code of Ordinances, and the Maine Stormwater Best Management Practices (BMP) Manual. Under Section 5 of the City Technical Manual, the project is subject to the Basic, General, Flooding, and Redevelopment Standards of the Maine Department of Environmental Protection Chapter 500 Stormwater Regulations. The project is not located within the watershed of an Urban Impaired Stream and will not be subject to that standard. The following sections describe the proposed compliance with the stormwater standards.

11.3 BASIC STANDARD (SOIL EROSION AND SEDIMENTATION CONTROL)

Erosion and sedimentation control measures will be utilized during construction to ensure that the work will not result in the release of sediment off-site. Details for all proposed erosion and sedimentation control measures are included in the engineering plan set submitted with this application. The plans include a narrative and construction details describing the plan for all temporary and permanent erosion control techniques to be utilized on this project in accordance with MaineDEP Erosion Control Best Management Practices. The Erosion and Sedimentation Control Plan for the proposed project is summarized below.

11.3.1 Erosion and Sedimentation Control Plan

The overall goal of the Soil Erosion and Sedimentation Plan is to restrict the potential for erosion and sedimentation at the site and down-gradient of the site. A variety of erosion control techniques will be implemented to achieve this goal. During construction, these include:

- Installation and maintenance of construction entrances at the travelled interface between stabilized and non-stabilized portions of the project site;
- Catch basin inlet protection devices;
- Controls for fugitive dust, debris, and other materials; and
- Inspection of all in-place measures after every significant rainfall until the site is permanently stabilized.

All measures will be implemented in accordance with the "Maine Erosion and Sedimentation Handbook for Construction: Best Management Practices"; they will be installed prior to any earth disturbing activities. All temporary measures will be removed after the areas are permanently stabilized.

Permanent erosion control measures will include vegetation and pavement. All measures will be maintained in effective operating condition. The Contractor will be responsible for implementing and maintaining all erosion and sediment control measures and will use the attached inspection report form or equivalent.

11.4 GENERAL AND FLOODING STANDARDS (WATER QUALITY & QUANTITY)

The proposed project results in a net decrease in impervious area; therefore, per Section 5 of the City Technical Manual the project is not required to comply General and Flooding Standards. With the reduction in impervious surface, and the replacement of parking lot with roof area, it is anticipated that the project will result in an improvement in water quality for runoff from the site. With no increase in impervious surface planned, the project is not anticipated to result in an increase in stormwater flow. While the project is not required to meet the General and Flooding standards, it will still meet the Standards' intents of not degrading water quality or increasing water quantity respectively.

11.5 REDEVELOPMENT STANDARD

The proposed site will be comprised almost entirely of roof area per setback requirements. Redevelopment within the service access easement is less than 2,200 square feet. As such, the project will result in less than 5,000 square feet of non-roof redeveloped impervious area. The redevelopment standards, as outlined in Section 5 of the City's Technical Manual do not apply.

11.6 CONNECTION TO CITY OF PORTLAND STORMWATER INFRASTRUCURE

On-site runoff, including drainage from roof and foundation drains, will be directed into the separated stormdrain in Center Street. As noted earlier, this stormdrain eventually connects to the combined sewer Lower Fore River Interceptor in Commercial Street. We have discussed the proposed stormwater connections with Brad Roland from the City of Portland's Department of Public Works. Other stormdrain systems in the area are at elevations that are too high to accept stormwater from the site, and it was determined that the proposed connection would be the most appropriate.

11.7 ATTACHMENTS

- Stormwater Erosion & Sedimentation Control Inspection Report Form

STORMWATER EROSION & SEDIMENTATION CONTROL
INSPECTION REPORT FORM

Inspectors: Date: ___ / ___ / _____

_____ of _____ (Project Owner)

_____ of _____ (Contractor)

_____ of _____

_____ of _____

Storm Event? ☐ Yes ☐ No Rainfall Amount _____ Storm Duration _____ hours

Visual Observations of Activity and Site Conditions:

Disturbed Soil Areas:

Storage of Soils:

Sediment & Erosion Control Measures:

Construction Site Entrance:

Surface Stabilization:

Corrective Actions Taken

Attachments (if any):

Signature:

_____

Representing:

_____

Representing:

12. CONSISTENCY WITH MASTER PLAN

The proposed project is in alignment with the design guidelines specified in the City of Portland Comprehensive Plan, *Portland's Plan 2030*, developed in 2017. As described in Section 2, the project will support local businesses and the economy by providing lodging for visitors in the downtown area, and supplying restaurant, bar and event space. The proposed development will better utilize downtown space than the existing surface parking lot. Section 5 of this Report describes how the proposed project will comply with the zoning requirements. The Architectural Approach discussed in Section 2 of this Report describes the basis for the proposed project and includes a description of the project's compliance with the City's Historic Preservation requirements.

13. UTILITY CAPACITY TO SERVE

The proposed redevelopment will be serviced by public water, sewer, gas and electric. The proposed locations of the utility services are shown on the Utility Plan (C2.03) of the Design Drawings attached to Section 2.

13.1 WATER

The proposed development will be provided with both fire protection water service and domestic water service by the Portland Water District. The fire protection water service and domestic water service will connect to the existing 10-inch water main in Center Street.

Woodard & Curran met with the Portland Water District on December 21, 2018 to discuss the proposed project. Following the meeting, we received email correspondence from the Portland Water District, a copy of which is attached. We will be providing the requested fixture count spreadsheet and updated utility plans as the design progresses. A copy of the ability to serve will be provided to the City upon receipt.

13.2 SEWER

The public sewer infrastructure adjacent to the proposed redevelopment location consists of a separated sanitary sewer in Center Street that discharges to the combined sewer system in Commercial Street (Lower Fore River Interceptor), which conveys wastewater to the Long Wharf Diversion Structure and eventually to the India Street Pumping Station. We met with Brad Roland from the City of Portland's Department of Public Works on November 16, 2018 to discuss the appropriate sewer line connection. The proposed sewer service shown on the design plans reflects this discussion.

The proposed development will include a restaurant, bar and kitchen on the ground floor. All wastewater generated by these spaces will be directed to an exterior, underground grease trap located beneath the brick sidewalk on Center Street. The grease trap will discharge to the separated sanitary sewer on Center Street. Additional information on grease trap sizing and final location will be coordinated and provided as the design progresses. Wastewater from the remainder of the hotel, from spaces that do not require a grease trap will discharge to a second service also on Center Street.

A Wastewater Capacity Application is attached to this Application. The ability to serve confirmation will be provided to the Planning Department directly by the Department of Public Works.

13.3 GAS

The proposed redevelopment will utilize natural gas service provided by Unitil. A connection to the existing gas main in Center Street is proposed. We will be coordinating with Unitil on the location and size of the gas service.

13.4 ELECTRIC

The proposed redevelopment will utilize underground electric service fed from the existing electrical main in Cross Street. Per initial discussions with Central Maine Power (CMP), the transformer will be located beneath the Cross Street sidewalk and feed the rear of the building through a secondary service installed along the service access drive. This layout is reflected on the utility plan included in the design drawings. As the design progresses, the project team will continue to coordinate their design with representatives from Central Maine Power (CMP).

13.5 ATTACHEMENTS

- Portland Water District Ability to Serve Correspondence
- City of Portland Wastewater Capacity Application

Lauren Swett

From: Robert Bartels <rbartels@pwd.org>
Sent: Friday, December 21, 2018 3:00 PM
To: Lauren Swett
Cc: Amy LeBel
Subject: 348054-Portland Square, PO
Attachments: Peak Flow Based on Fixture Count_2018.xls

Lauren/Amy,

Thanks for meeting with us today regarding the upcoming development at Portland Square. Please fill out and return to MEANS the attached fixture count spreadsheet. This will allow us to size the meter appropriately. Please let me know if you have any questions.

Thanks,
Robert Bartels, PE

Robert Bartels
Senior Project Engineer
Portland Water District
Phone:
E-mail: rbartels@pwd.org
http://www.pwd.org

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

December 21, 2018

ATTN; Bradley Roland, P.E.
Department of Public Works
212 Canco Road
Portland, ME 04103

Re: Request for Ability to Serve – Center Street Hotel

Dear Mr. Roland:

This letter serves as a written request for the ability to serve for the Center Street Hotel development project located at the intersection of Center and Commercial Street in Portland, Maine. Woodard & Curran is serving as an agent to the applicant, Fathom CC, LLC.

The proposed redevelopment project includes construction of a 135-room 6-story hotel with a rooftop bar, and ground floor café and bar along the Commercial Street frontage. The site is currently fully developed as a surface parking lot. Due to a street disturbance moratorium on Commercial Street, all utility connections are proposed on Center Street. The proposed building has a footprint of approximately 22,758 square feet and total gross floor area of 112,046 square feet.

The proposed development will include a café and kitchen on the ground floor. All wastewater generated by the kitchen will be directed to an exterior, underground grease trap located beneath the brick sidewalk on Center Street, and then through a 6-inch service to the 12" brick sanitary sewer on Center Street. Additional information on grease trap sizing and final location will be coordinated and provided as the design progresses. A second 6" PVC sanitary sewer service for all other wastewater is proposed to wye into the existing 12" brick sanitary sewer located within Center Street as shown on the attached utility plan. Please refer to the attached utility plan and wastewater application for additional information.

Please let us know if any additional information is required to evaluate the service capacity for the site. We appreciate your assistance. If you have any questions or require any additional information, please do not hesitate to contact me at 207-558-3763 or lswett@woodardcurran.com.

Sincerely,

WOODARD & CURRAN

Lauren Swett

Lauren Swett, P.E.
Technical Manager

Enclosures – Utility Plan & Wastewater Application
PN: 0231538.01

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
55 Portland Street,
Portland, Maine 04101-2991

Bradley Roland, P.E.
Water Resources Division
Department of Public Works
55 Portland Street
Portland, ME 04103

Date: **December 21, 2018**

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: **Corner of Center Street and Commercial Street, Portland, ME 04101**

Chart Block Lot Number: **038/G003 & 038/G005**

Proposed Use: **Hotel**
Previous Use: **Surface Parking Lot**
Existing Sanitary Flows: **0** GPD
Existing Process Flows: **0** GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.

12" Brick on Center Street

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: **TBD** Phone: _____
Owner/Developer Name: **Fathom CC, LLC, c/o Jim Brady**
Owner/Developer Address: **183 Middle Street, Suite 21, Portland, ME 04101**
Phone: **(207) 653-9990** Fax: **N/A** E-mail: **jameshbrady@gmail.com**
Engineering Consultant Name: **Woodard & Curran**
Engineering Consultant Address: **41 Hutchins Drive, Portland, ME 04101**
Phone: **(207) 558-3763** Fax: **N/A** E-mail: **lswett@woodardcurran.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: **12,648 GPD (Hotel) + 780 GDP (Cafe) + 36 GPD (Bar) = 13,464 GPD**
Peaking Factor/ Peak Times: **Peak flow = 150 GPM / Morning**
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)*
Handbook of Subsurface Wastewater Disposal in Maine

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: _____

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 **X**

Is the process wastewater termed categorical under CFR 40? Yes ____ No **X**

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.

14. SOLID WASTE

14.1 COMMERCIAL SOLID WASTE

All solid waste materials and recyclables from the proposed Center Street Hotel will be transported and disposed of or recycled in accordance with applicable laws and regulations. An appropriate solid waste management plan will be developed for the hotel, with schedules for solid waste removal via the loading dock area accessed via the easement to the north of the hotel.

14.2 CONSTRUCTION & LAND CLEARING DEBRIS

As with any construction project, the proposed construction will generate construction waste and demolition debris (CDD). The construction contractor will be responsible for hauling the CDD or contracting with a waste management service to haul the CDD, from the project site. The contractor will be fully responsible for handling, managing, and disposing of all waste generated by construction in accordance with Maine Solid Waste Management Regulations – 06-096 CMR 400-409. The contractor will be bound by contract to dispose of all materials in full accordance with all applicable local state and federal regulations. Actual waste volumes will be measured at the time of construction.

14.3 SPECIAL & HAZARDOUS WASTE

The proposed development is not anticipated to produce any hazardous waste. A previous site investigation adjacent to the hotel site on the Portland Square property identified the presence of typical urban fill, as is seen on redevelopment sites throughout the City. We anticipate that soils from the site may be classified as special waste and shall be handled and disposed of accordingly.

14.4 SUMMARY

Adequate provisions for recycling and solid waste disposal have been made. General solid waste, construction, demolition, and land-clearing debris will be managed in full accordance with all applicable laws and will not cause a deleterious effect on the environment.

15. SUMMARY OF FIRE CODES

The items in the Portland Fire Department Site Review Checklist are addressed as follows:

- Name, address, telephone number of applicant
  - Fathom CC, LLC, c/o Jim Brady
  - 80 Exchange Street, Suite 400, Portland, ME 04101 (P. O. Box 7486, Portland, ME 04112-7486)
  - (207) 808-8787
- Name, address, telephone number of architect
  - HKS, Inc. c/o Melissa Voelker
  - 350 N Saint Paul Street, Suite 100, Dallas, TX 75201-4240
  - (214) 969-5599
- Proposed uses of any structures [NFPA and IBC classification]
  - The proposed structure will primarily be used as a hotel with a restaurant located on the ground floor along the Commercial Street frontage, and a rooftop bar provided on the 6th level (2015 IBC, NFPA Occupancy Classification of Group R1).
- Square footage of all structures [total and per story].
  - Information is provided on the attached plan set, and is also as outlined on the following table:

Table 15-1 Building Square Footage (Based on Schematic Design)

FOOTPRINT	FOOTPRINT	TOTAL LAND AREA	SITE COVERAGE
LEVEL 01 - FOOTPRINT	*22,758 sf*	*23,800 sf*	*96%*

GROSS BUIDLING AREAS	CONDITIONED AREA	UNCONDITIONED AREA	MEP	TOTAL GROSS BUILD AREA
LEVEL 01	*20,598 sf*	*1,041 sf*	*1,119 sf*	**22,758 sf**
LEVEL 02	*16,628 sf*	-	*260 sf*	**16,888 sf**
LEVEL 03	*16,548 sf*	-	*260 sf*	**16,808 sf**
LEVEL 04	*16,520 sf*	-	*260 sf*	**16,780 sf**
LEVEL 05	*16,520 sf*	-	*260 sf*	**16,780 sf**
LEVEL 06	*15,339 sf*	*1,328 sf*	*114 sf*	**16,781 sf**
LEVEL 07 - ROOFTOP TERRACE (OPEN-AIR)	*100 sf*	*3,031 sf*	*2,120 sf*	**5,251 sf**
	102,253 sf	**5,400 sf**	**4,393 sf**	**112,046 sf**

- Elevations of all structures
  - This information is provided on the attached plan set.
- Proposed fire protection of all structures
  - All structures shall be sprinkled.
- Hydrant locations
  - The following figure shows the proximity of existing hydrants to the proposed project. The closest hydrant is across the street, at the corner of Commercial and Center Street, with a second hydrant

located to the northeast on the same side of Commercial Street, and a third hydrant located to the northwest across the street on Center Street.

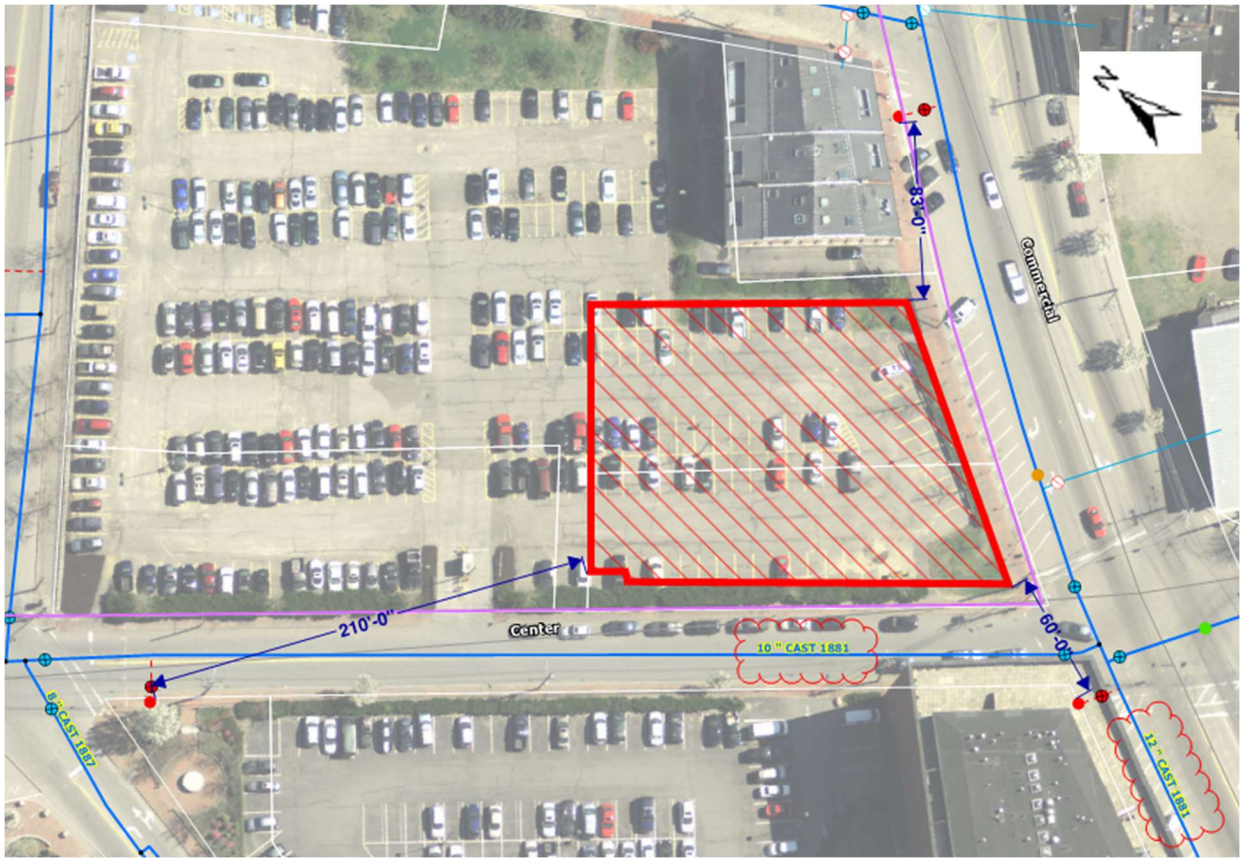


Figure 15-1 Existing Portland Water District Main Information and Hydrant Locations

- Water main size and location
    - Watermain locations are shown on the attached design plans, as well as on the figure above. The main in Center Street that the project's domestic and fire service will connect to is a 10-inch cast-iron pipe from 1881. The main on Commercial Street is a 12-inch cast iron pipe also installed in 1881.
- Access to all structures [min. 2 sides]
    - The building will have full access on Center Street and Commercial Street, as shown on the attached plan set.
- A code summary shall be included referencing NFPA 1 and all fire department technical standards.
    - A code summary referencing NFPA 1 and all fire department technical standards will be submitted under separate cover.

In addition, a fire pull box currently exists at the corner of Commercial and Center Street. This box will need to be relocated with the proposed realignment of the curb and sidewalk widening. This relocation will be coordinated with the fire department.

16. CONSISTENCY WITH PORTLAND DESIGN STANDARDS & DESIGN MANUAL

Section 14-526 of the City of Portland's Land Use Code outlines the site plan standards that must be met by Level III Site Plan projects. The proposed development will follow the City's design standards as described in the following section.

16.1 TRANSPORTATION STANDARDS

1. *Impact on Surrounding Street Systems*
   As described in Section 9, a well-defined vehicle loading/unloading and valet service area will be provided on Center Street. This valet service area will accommodate four vehicles. Additionally, the adjacent sidewalk has been expanded to promote pedestrian passage through the entrance area. The proposed valet service area is located in a protected area on the side of Center Street; traffic congestion at the intersection Commercial Street and Center Street due to hotel guest drop-off is not anticipated. The loading/unloading area was designed to promote site visibility, circulation and safety.

2. *Access and Circulation*
   The site has been designed to provide safe access for pedestrians, vehicles, guests and hotel staff. Service access is provided off Cross Street, as described in Section 9 of this Report. A loading dock is proposed along the northeastern side of the building and an easement for access across the adjacent property is proposed.

   Sidewalk brick along both Commercial Street and Center Street will be removed and replaced. Granite curb in good condition along Commercial Street will be left in-place to prevent disturbance to Commercial Street, which is under moratorium.

3. *Public Transit Access*
   No changes to public transit access are proposed as part of this project.

4. *Parking*
   Off-street vehicle parking will be provided by the adjacent Portland Square either in the existing parking lot or as part of proposed new development as described in Section 5 and 9 of this Report.

   With no parking provided on-site and roughly 96% building coverage, there will not be a need for snow storage on site. Snow removal will be managed around the hotel by staff or a contracted third party to ensure safe pedestrian circulation, and access to the loading area and building entrances

   The traffic analysis is currently being completed and number of bicycle parking spaces determined as part of that analysis. Bicycle parking is anticipated to be sited on Commercial Street.

5. *Transportation Demand Management (TDM)*
   A Transportation Demand Management plan is being developed for the adjacent Portland Square redevelopment. This plan includes the proposed hotel and will be submitted under separate cover.

16.2 ENVIRONMENTAL QUALITY STANDARDS

1. *Preservation of Significant Natural Features*
   The Site is fully developed and there are no known areas of significant natural features, including unusual natural areas, threatened or endangered botanical features, areas of significant wildlife habitats, aquifers, waterbodies, or wetland areas.

2. *Landscaping & Landscape Preservation*
   Landscaping Plans are included in the Design Drawings referenced in Section 2 of this Report. Due to zoning setback requirements, preservation of existing perimeter landscaping is not possible. Replacement landscaping is proposed within the rooftop garden located over a portion of the ground floor of the hotel. Street trees will be placed on Commercial Street and Center Street frontages as described in Section 2.

3. *Water Quality, Stormwater Management & Erosion Control*
   The proposed project has been designed to minimize the impact of stormwater leaving the site. As further described in Sections 2 and 11 of this report, a landscaped roof garden is proposed over a portion of the first floor of the hotel, which will result in a net reduction in impervious area on the site. The proposed project will not result in the flooding of adjacent lots or City property. Additionally, the proposed project is not located within the watershed of an Urban Impaired Stream and is not anticipated to pose a risk of groundwater contamination either during or post-construction. Compliance with erosion and sedimentation control measures is described in Section 11 of this report. The proposed project has also been designed to provide for adequate and sanitary disposal of sewage, as further described in Section 13 of this Report.

16.3 PUBLIC INFRASTRUCTURE & COMMUNITY SAFETY STANDARDS

1. *Consistency with City Master Plan*
   The proposed project's consistency with City Master Plans is described in Section 12 of this Report.

2. *Public Safety and Fire Prevention*
   Provisions for public safety have been incorporated into the design of site visibility, access, and territorial reinforcement. Adequate emergency vehicle access is provided along Commercial Street and Center Street. The Portland Fire Department Site Review Checklist is discussed further in Section 15 of this Report.

   In addition, a fire pull box currently exists at the corner of Commercial and Center Street. This box will need to be relocated with the proposed realignment of the curbing and widening of the sidewalk. This relocation will be coordinated with the fire department.

3. *Availability and Adequate Capacity of Public Utilities*
   The availability and adequate capacity of public utilities is being confirmed, as described in Section 13 of this Report.

16.4 SITE DESIGN STANDARDS

1. *Massing, ventilation, and wind impact*
   - Overall massing is contextual to the surrounding area and falls within the allowed height limit of 65'-0" from average grade of the site.
   - The development will locate all HVAC venting mechanisms to direct exhaust away from public spaces and adjacent residential properties with screening to reduce the visual impact.
   - The site requires a certificate of appropriateness under article IX (historic preservation) of the land use code, and a wind study is not required (Portland Land Use Code Section 14-256(d) 5a.1).

2. *Shadows*
No adverse impacts from shadows are anticipated to result from the proposed project. As the site falls within the B3 zone, a shadow study is not required (Portland Land Use Code Section 14-256(d) 2a, 5a.1). However, HKS anticipates that this will likely be part of the design study for the project and will assist in the design and plant selection for the rooftop garden and plaza.

3. *Snow and ice loading*
The proposed buildings have been designed to accommodate appropriate snow and ice loads in accordance with code minimums and City requirements, and to prevent significant amounts of accumulated snow and ice from loading or falling onto adjacent properties or public ways.

4. *View corridors*
The proposed buildings comply with the building height requirements, as described in Section 5 of this Report, and will not obstruct public view corridors identified in the City's Downtown Vision View Corridor Protection Plan.

5. *Historic Resources*
The project is within the Historic District and an application for a Certificate of Appropriateness was submitted in November 2018. The project has been presented to the board during a first workshop in December 2018, and a second workshop is anticipated in early 2019. Following the workshop, any concerns will be addressed. The project will meet the requirements for the pedestrian encouragement zone and designed to meet the requirements and guidance of the Historic Preservation Boards approval.

As the site requires a Certificate of Appropriateness under article IX (historic preservation) of the Land Use Code – that the site is exempt from the following design standards as described in Section B of the Design Manual:

- (b) (1) e.2
- (b) (1)f: Shadow Impact on open space
- (b) (1)h: Wind Impacts
- (b) (1)g: Setbacks from existing structures

6. *Exterior Lighting*
The lighting design for the project is in progress. Cut sheets and a Photometric Plan will be submitted under separate cover.

Street lighting will be incorporated on Commercial and Center Street, as part of the reconstruction of the sidewalks. The City's revised street lighting standards are currently being developed, and have not yet been adopted, but we are working with the City to utilize the design standards as they are anticipated to be approved. Based on discussions we have had with City's Urban Designer, Caitlin Cameron, we understand that the Old Port lighting district will be extended to include Center Street in the area of our project, and we will be installing the LED version of the Old Port light X4-B at the spacing as outlined in the current technical manual. On Commercial Street, lighting fixtures will be cobra head-style, and we will incorporate these fixtures at the spacing and with the appropriate pole, as will be identified by the City.

7. *Noise and Vibration*
Noise associated with the proposed development will not exceed regulated levels.

8. *Signage and Wayfinding*
   A signage plan and sign permit application are in progress and will be submitted under separate cover. The size, scale, proportions, design, materials, placement, quantity and source and intensity of illumination shall be designed to complement and enhance the architectural attributes of the proposed building. Proposed signage will be submitted to Historic Preservation and will meet the standards of Article IX with an approved Certificate of Appropriateness.

9. *Zoning Related Design Standards*
   An assessment of the City Zoning requirements is provided in Section 5 of this Report. There are no other zoning related design standards associated with the proposed project.

17. HVAC & MANUFACTURING EQUIPMENT VERIFICATION

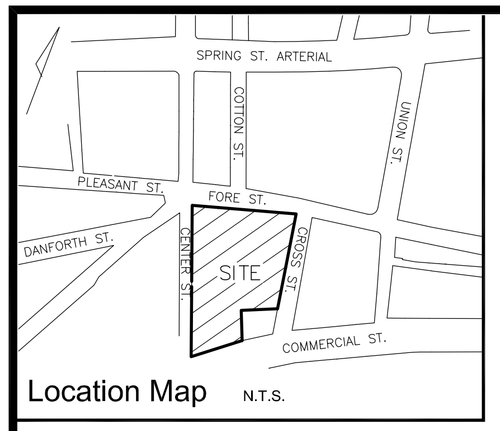
Final HVAC equipment is in the process of being selected. HVAC and primary mechanical equipment will be located on the project in such a way as to direct exhaust away from adjacent properties and will meet federal emissions standards. The HVAC and mechanical equipment will be screened from view.

18. BOUNDARY SURVEY

A boundary survey of Portland Square was completed by Owen Haskell, Inc. Professional Land Surveyors in October 2018 and is attached to this Section.

18.1 ATTACHMENTS

- Boundary Survey



Location Map N.T.S.

Legend

IRON PIPE OR ROD FOUND	CURB
GRANITE MONUMENT FOUND	SANITARY SEWER
WATER VALVE	STORM DRAIN
HYDRANT	SECURITY LINE
VALVE	UNDERGROUND ELECTRIC
UTILITY POLE	PNEUMATIC TUBE
LIGHT POLE	WATER LINE
MANHOLE	TELEPHONE LINE
CATCH BASIN	COMMUNICATION CABLE
BORING	1' CONTOUR
DEDUCIOUS TREE	N/F NOW OR FORMERLY
CONIFEROUS TREE	000/000 DEED BOOK/PAGE
	CONC. CONCRETE
	(A) POSSIBLE ENCROACHMENT
	(1) SCHEDULE B EXCEPTION

Schedule B Section II Exceptions

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
TITLE INSURANCE COMMITMENT FILE NO. BTC4327/TF7674
COMMITMENT DATE: SEPTEMBER 17, 2018

1 – 7. NON SURVEY ITEMS

8. RIGHTS AND EASEMENTS GRANTED TO ARI NEWMAN AND LEE BEAMIS BY PINE STATE BEEF COMPANY AS SET FORTH IN A DEED DATED SEPTEMBER 12, 1967 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 3011, PAGE 321. – THE ROOFS DO NOT OVERHANG ONTO LOCUS PARCEL AND THE "EXISTING PLATFORMS" NO LONGER EXIST

9. RIGHTS AND EASEMENTS GRANTED TO CENTRAL MAINE POWER COMPANY BY POULTRY PROCESSING INC. AS SET FORTH IN AN INSTRUMENT DATED MAY 31, 1978 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 4278 PAGE 303. – REFERENCED POLE #1.1 OR VAULT #1.2 NOT FOUND, POSSIBLE LOCATION ON PROPOSED PARCEL

10. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR MGI ONE PORTLAND SQUARE, INC. LAND TITLE SURVEY" BY H. I. & E. C. JORDAN – SURVEYORS, DATED NOVEMBER 15, 1989, AS REVISED AND RE–CERTIFIED, AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 196, PAGE 219. – PERTINENT INFORMATION AS SHOWN

11. TITLE TO LAND AND GRADING RIGHTS ACQUIRED FROM PORTLAND SQUARE LIMITED PARTNERSHIP BY THE STATE OF MAINE BY ITS DEPARTMENT OF TRANSPORTATION AS SET FORTH IN A NOTICE OF LAYOUT AND TAKING DATED AUGUST 21, 1991 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9688, PAGE 341.– AS SHOWN

12. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "STATE OF MAINE, DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, PORTLAND, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. M–0685(4)", D.O.T. FILE NO. 3–388, DATED JUNE 1991 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 193, PAGE 342. – PERTINENT INFORMATION AS SHOWN

13. TERMS AND CONDITIONS STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MODIFICATION FINDINGS OF FACT AND ORDER ISSUED TO PORTLAND SQUARE LIMITED PARTNERSHIP DATED NOVEMBER 30, 1990 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9418, PAGE 59, AS AFFECTED BY A TRANSFER DATED FEBRUARY 6, 1996 AND RECORDED IN BOOK 12350, PAGE 321, A MODIFICATION DATED FEBRUARY 14, 1996 AND RECORDED IN BOOK 12367, PAGE 325, AND TRANSFER DATED APRIL 21, 2015 AND RECORDED IN IN BOOK 32265, PAGE 156.– NON SURVEY ITEM

14. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 486 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR FATHOM CC, LLC" SEPTEMBER 18, 2018 BY OWEN HASKELL, INC. – SEE THIS PLAN

General Notes

1. OWNER OF RECORD: NORTH RIVER IV LLC, 224 12TH AVENUE, NEW YORK, NY 10001 C.C.R.D. BOOK 32163 PAGE 33

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM MAINE WEST NAD83. CITY POINT T124–18–1143 N:299542.1747 E:2928944.1068 AND T124–18–1155 N:299607.6956 E:2929152.2276 HELD.

3. ELEVATIONS ARE BASED ON CITY DATUM.

3. THE LOCUS IS SHOWN AS LOT 1, 3, 5 & 7 BLOCK G ON THE CITY OF PORTLAND ASSESSORS MAP 38.

4. THERE ARE 214 REGULAR PARKING SPACES, 76 COMPACT PARKING SPACES AND 3 HANDICAPPED PARKING SPACES FOR A TOTAL OF 293 PARKING SPACES ON THE SUBJECT PROPERTY.

Zoning Information

NONE PROVIDED

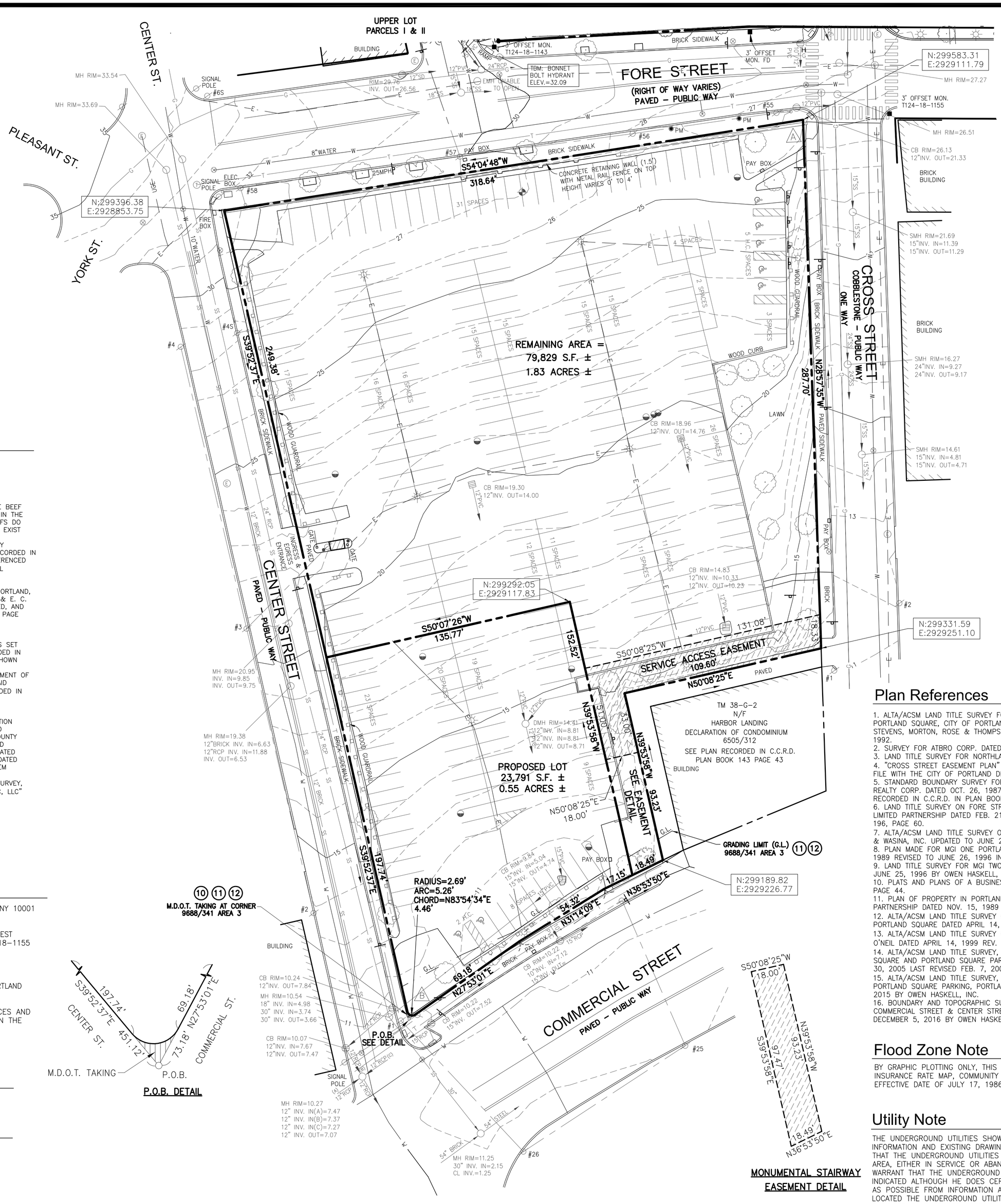
Possible Encroachments

(A) 1.5' WIDE CONCRETE RETAINING WALL INTO CROSS STREET 1.8'±

(B) BRICK SIDEWALK ON COMMERCIAL STREET ONTO SUBJECT PARCEL 2'±

SCALE : 1" = 30'

0' 15' 30' 60'



Legal Descriptions

PROPOSED LOT

A CERTAIN LOT OR PARCEL OF LAND AT THE INTERSECTION OF THE NORTHERLY SIDE OF COMMERCIAL STREET AND THE EASTERLY SIDE OF CENTER STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING ON THE NORTHERLY SIDELINE OF COMMERCIAL STREET AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, S 36°53'50" W ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 18.49 FEET TO THE POINT OF BEGINNING;

THENCE, FROM SAID POINT OF BEGINNING, N 39°53'58" W THROUGH THE LAND OF NORTH RIVER IV LLC 152.52 FEET;

THENCE, S 50°07'26" W CONTINUING THROUGH THE LAND OF NORTH RIVER IV LLC 135.77 FEET TO THE EASTERLY SIDELINE OF CENTER STREET;

THENCE, S 39°52'37" E ALONG THE EASTERLY SIDELINE OF CENTER STREET 197.74 FEET;

THENCE, ALONG A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 2.69 FEET, AN ARC LENGTH OF 5.26 FEET, A CHORD BEARING OF N 83°54'34" E AND CHORD DISTANCE OF 4.46 FEET TO THE NORTHERLY SIDELINE OF SAID COMMERCIAL STREET;

THENCE, N 27°53'01" E ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 69.18 FEET;

THENCE, N 31°14'09" E CONTINUING ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 54.32 FEET;

THENCE, N 36°53'50" E CONTINUING ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 17.15 FEET TO THE POINT OF BEGINNING, CONTAINING 23,791 S.F., OR 0.55 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BE DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

SERVICE ACCESS EASEMENT

A CERTAIN LOT OR PARCEL OF LAND ON THE WESTERLY SIDE OF CROSS STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE WESTERLY SIDELINE OF CROSS STREET AT THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, N 28°57'35" W ALONG THE WESTERLY SIDELINE OF CROSS STREET 18.33 FEET;

THENCE, S 50°08'25" W THROUGH THE LAND OF NORTH RIVER IV LLC 131.08 FEET TO THE PROPOSED LOT AS SHOWN ON SAID PLAN;

THENCE, S 39°53'58" E ALONG THE EASTERLY LINE OF SAID PROPOSED LOT 51.00 FEET;

THENCE, N 50°08'25" E THROUGH THE LAND OF NORTH RIVER IV LLC 18.00 FEET TO THE WESTERLY LINE OF LAND OF SAID HARBOR LANDING CONDOMINIUM, BEING AN EASTERLY LINE OF LAND OF SAID NORTH RIVER IV LLC;

THENCE, N 39°53'58" W ALONG SAID EASTERLY LINE OF LAND OF NORTH RIVER IV LLC 33.00 FEET;

THENCE, N 50°08'25" E ALONG THE SOUTHERLY LINE OF LAND OF NORTH RIVER IV LLC 109.60 FEET TO THE POINT OF BEGINNING, CONTAINING 2,922 S.F. OR 0.07 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BY DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

MONUMENTAL STAIRWAY EASEMENT

A CERTAIN LOT OR PARCEL OF LAND ON THE NORTHERLY SIDE OF COMMERCIAL STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTHERLY SIDELINE OF COMMERCIAL STREET AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, N 39°53'58" W ALONG THE WESTERLY LINE OF LAND OF SAID HARBOR LANDING CONDOMINIUM, BEING AN EASTERLY LINE OF LAND OF SAID NORTH RIVER IV LLC 93.23 FEET;

THENCE, S 50°08'25" W THROUGH THE LAND OF NORTH RIVER IV LLC 18.00 FEET TO THE PROPOSED LOT AS SHOWN ON SAID PLAN;

THENCE, S 39°53'58" E ALONG THE EASTERLY LINE OF SAID PROPOSED LOT 97.47 FEET TO THE NORTHERLY SIDELINE OF SAID COMMERCIAL STREET;

THENCE, N 36°53'50" E ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 18.49 FEET TO THE POINT OF BEGINNING, CONTAINING 1,716 S.F., OR 0.04 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BY DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

Plan References

1. ALTA/ACSM LAND TITLE SURVEY FOR PORTLAND SQUARE LIMITED PARTNERSHIP, TWO PORTLAND SQUARE, CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE, BY STEVENS, MORTON, ROSE & THOMPSON DATED DEC. 11, 1989, REVISED THROUGH DEC. 11, 1992.
2. SURVEY FOR ATBRO CORP. DATED JULY 1981 BY H.I. & E.C. JORDAN.
3. LAND TITLE SURVEY FOR NORTHLAND REALTY DATED NOV. 26, 1985 BY H.I. & E.C. JORDAN.
4. "CROSS STREET EASEMENT PLAN" DATED JAN. 3, 1986 BY HUNTER– BALLEW ASSOCIATES ON FILE WITH THE CITY OF PORTLAND DEPT. OF PLANNING AND URBAN DEVELOPMENT.
5. STANDARD BOUNDARY SURVEY FOR PORTLAND SQUARE LIMITED PARTNERSHIP, NORTHLAND REALTY CORP. DATED OCT. 26, 1987 BY STEVENS, MORTON, ROSE & THOMPSON, INC. RECORDED IN C.C.R.D. IN PLAN BOOK 182, PAGE 29.
6. LAND TITLE SURVEY ON FORE STREET, PORTLAND, MAINE MADE FOR TWO PORTLAND SQUARE LIMITED PARTNERSHIP DATED FEB. 21, 1996 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 196, PAGE 60.
7. ALTA/ACSM LAND TITLE SURVEY OF ONE PORTLAND SQUARE DATED MAY 16, 1996 BY LEWIS & WASINA, INC. UPDATED TO JUNE 24, 1996 IN PLAN BOOK 196, PAGE 221.
8. PLAN MADE FOR MGI ONE PORTLAND SQUARE, INC. BY H.I. & E.C. JORDAN DATED NOV. 15, 1989 REVISED TO JUNE 26, 1996 IN PLAN BOOK 196, PAGE 86 AND 219.
9. LAND TITLE SURVEY FOR MGI TWO PORTLAND SQUARE, INC., FORE STREET, PORTLAND, MAINE, JUNE 25, 1996 BY OWEN HASKELL, INC. IN PLAN BOOK 196, PAGE 220.
10. PLATS AND PLANS OF A BUSINESS CONDOMINIUM OCTOBER 29, 1987 PLAN BOOK 166, PAGE 44.
11. PLAN OF PROPERTY IN PORTLAND MAINE MADE FOR PORTLAND SQUARE LIMITED PARTNERSHIP DATED NOV. 15, 1989 BY H.I. AND E.C. JORDAN.
12. ALTA/ACSM LAND TITLE SURVEY ON FORE STREET PORTLAND, MAINE MADE FOR MGI, ONE PORTLAND SQUARE DATED APRIL 14, 1999 BY OWEN HASKELL, INC.
13. ALTA/ACSM LAND TITLE SURVEY ON FORE STREET PORTLAND, MAINE MADE FOR TIMOTHY O'NEIL DATED APRIL 14, 1999 REV. 7 3/23/04 BY OWEN HASKELL, INC.
14. ALTA/ACSM LAND TITLE SURVEY, BCIA PROJECT, ONE PORTLAND SQUARE, TWO PORTLAND SQUARE AND PORTLAND SQUARE PARKING, PORTLAND, MAINE, SHEETS 1 AND 2, DATED SEPT. 30, 2005 LAST REVISED FEB. 7, 2006 AND MARCH 3, 2006 BY OWEN HASKELL, INC.
15. ALTA/ACSM LAND TITLE SURVEY, oNE PORTLAND SQUARE, TWO PORTLAND SQUARE AND PORTLAND SQUARE PARKING, PORTLAND, MAINE, MADE FOR NORTH RIVER IV LLC FEBRUARY 12, 2015 BY OWEN HASKELL, INC.
16. BOUNDARY AND TOPOGRAPHIC SURVEY, LOWER PARKING LOT, FORE STREET, CROSS STREET, COMMERCIAL STREET & CENTER STREET, PORTLAND, MAINE MADE FOR CARROLL ASSOCIATES DECEMBER 5, 2016 BY OWEN HASKELL, INC.

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051 0013 B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

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.

ALTA / NSPS Land Title Survey

Commercial & Center Street
Portland, Cumberland County, Maine
Made For
Fathom CC, LLC
80 Exchange Street, Suite 30, Portland, Maine

Surveyor's Certification

TO: FATHOM CC, LLC, AND OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 11, 13, 14, 16, 17, 19 AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 5, 2016, WITH A FIELD INSPECTION ON SEPTEMBER 18, 2018.

Randy R. Loubier

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: OCTOBER 12, 2018
DATE OF LAST REVISION:

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: OHI / JLW	FIELD BOOK: FILE	JOB NO.	2018-239 P
CHECKED BY: RRL	SCALE: 1" = 30'	DRWG. NO.	1

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B-3, PAD

All Projects:

	Required	Proposed
Lot Size	N/A	23,975 SF
Area Per Dwelling Unit	N/A	
Minimum Street Frontage	15'	140' & 200'
Front Yard Minimum	N/A	
Front Yard Maximum	5'	<5'
Rear Yard	N/A	
Yard Right	N/A	
Yard Left	N/A	
Side Street Setback	N/A	
Step Back	N/A	
Maximum Lot Coverage	100%	96%
Minimum Lot Coverage	N/A	
Maximum Height	65'	65'
Open Space	N/A	
Maximum Impervious Area	N/A	
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	34	75
Loading Bays	1	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

Supplementary Traffic Evaluation
Center Street Boutique Hotel
Portland, Maine
JN 3520

Date: May 2, 2019
Subject: Center Street Boutique Hotel Supplemental Traffic Evaluation
Portland, Maine
To: Barry Sheff, Woodard & Curran
From: Randy Dunton / Emily Leighton, Gorrill Palmer

Gorrill Palmer (GP) has prepared this memorandum as a summary of supplemental traffic information for the proposed Center Street Boutique Hotel in Portland, Maine as requested by the City of Portland at a meeting held on February 22, 2019. It should be noted that the hotel has been included in the Traffic Movement Permit (TMP) application for the proposed Portland Square redevelopment project due to common scheme of development. The TMP application was submitted on April 3, 2019. Additional analysis for the hotel will be completed for both the proposed hotel and the Portland Square redevelopment throughout the TMP process. The following summarizes the requested information and evaluation.

Trip Assignment

It was requested that the trip assignment for the proposed hotel be revised to include the recirculation of valet parking, as well as consideration for the local highway network going to and from the site. The following summarizes the reassignment assumptions in more detail.

Trip Reassignment

The trip generation has been reassigned to the adjacent roadway network based on a review of the AADT of the major roadways onto the Peninsula (i.e. I-295) and the potential routes to and from the major roadways. Since most vehicles traveling to and from the proposed hotel are anticipated to be visitors, with less knowledge of local roadway network, it is expected that they would use major routes to get to the site, rather than smaller local roads. The attached Figure 1 shows the reassigned trip generation based on these assumptions.

Valet Recirculation

The valet trip reassignment has been based on the following assumptions:

- The location of the parking lot access to the north of the on street valet area
- To be conservative, it has been assumed that all traffic entering and exiting the parking garage is valet during the peak hours
- The only recirculation of valet parking will be due to exiting vehicles, since entering vehicles drive only a short distance from the valet drop off area to the parking lot entrance
- The exiting valet will loop around the block with a series of right turns from the parking lot access to the valet area

The attached Figure 2 shows the valet recirculation assignment.

Total Trip Assignment

The trip reassignment on Figure 1 has been combined with the valet recirculation on Figure 2 to yield the total trip assignment, shown on the attached Figure 3.

Other Development

Other development in the immediate area that has been approved and not yet constructed or is ahead of this project in the approval process is required to be included in the background traffic. The following projects were included in the TMP Application that was submitted on April 3, 2019:

- 383 Commercial Street
- Canal Landing
- 184 Commercial Street
- Eastern Waterfront TMP

The traffic from these projects will be included in the background traffic when traffic modeling is completed for the Portland Square project.

Crash History

The City requested that the crash history be researched in more detail to provide information on crashes involving pedestrians in the area and the MaineDOT crash history for the study area. The crash history that was submitted with the proposed Portland Square project Traffic Movement Permit (TMP), which includes this proposed hotel, is attached.

Based on a review of the MaineDOT crash report, there were five pedestrians that were involved in collisions that occurred within the study area. GP reviewed the MaineDOT online Public Crash Query Tool to review the locations of the pedestrian collisions. The attached map from the Public Crash Query Tool shows that four collisions involving pedestrians occurred in the study area at the following locations:

- Intersection of Commercial Street with Cross Street
- Intersection of Fore Street with Cotton Street
- Intersection of Center Street with Spring Street
- Spring Street between Center Street and Temple Street

Although there were five pedestrians involved in collisions and only four collisions identified in the study area, one of the collisions may have involved more than one pedestrian. Based on a review of the available information, three of the four collisions occurred at night. There did not appear to be a consistent pattern of the same location.

Conclusions

The following is a summary of the conclusions:

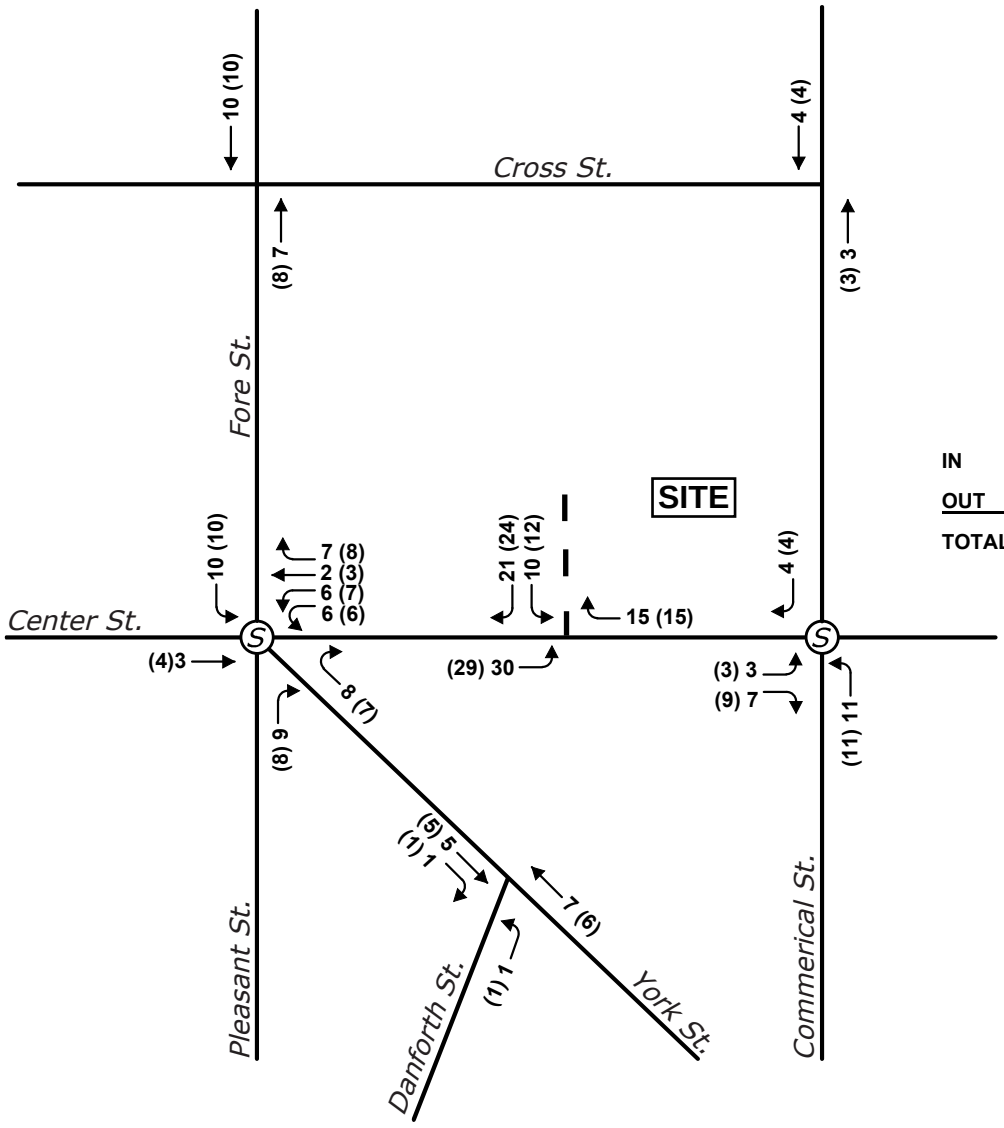
1. The trip assignment has been reassigned based on existing traffic patterns, local highway routes to the site, and valet recirculation.

2. The other development traffic from four identified projects will be included in the background traffic when capacity analysis is completed for the Portland Square TMP Application process.

3. Based on a review of available information, there were four collisions involving pedestrians within the study area. Of these four collisions, three occurred at night.

Trip Assignment

Figure No. 1



Ⓢ Denotes Signalized Intersection
XX = AM Peak Hour
(XX) = PM Peak Hour

CENTER STREET HOTEL
PORTLAND, MAINE

Design: EAL Scale: NONE
Draft: Date: APR 2019
Checked: RED File Name: 3520_FIGURES

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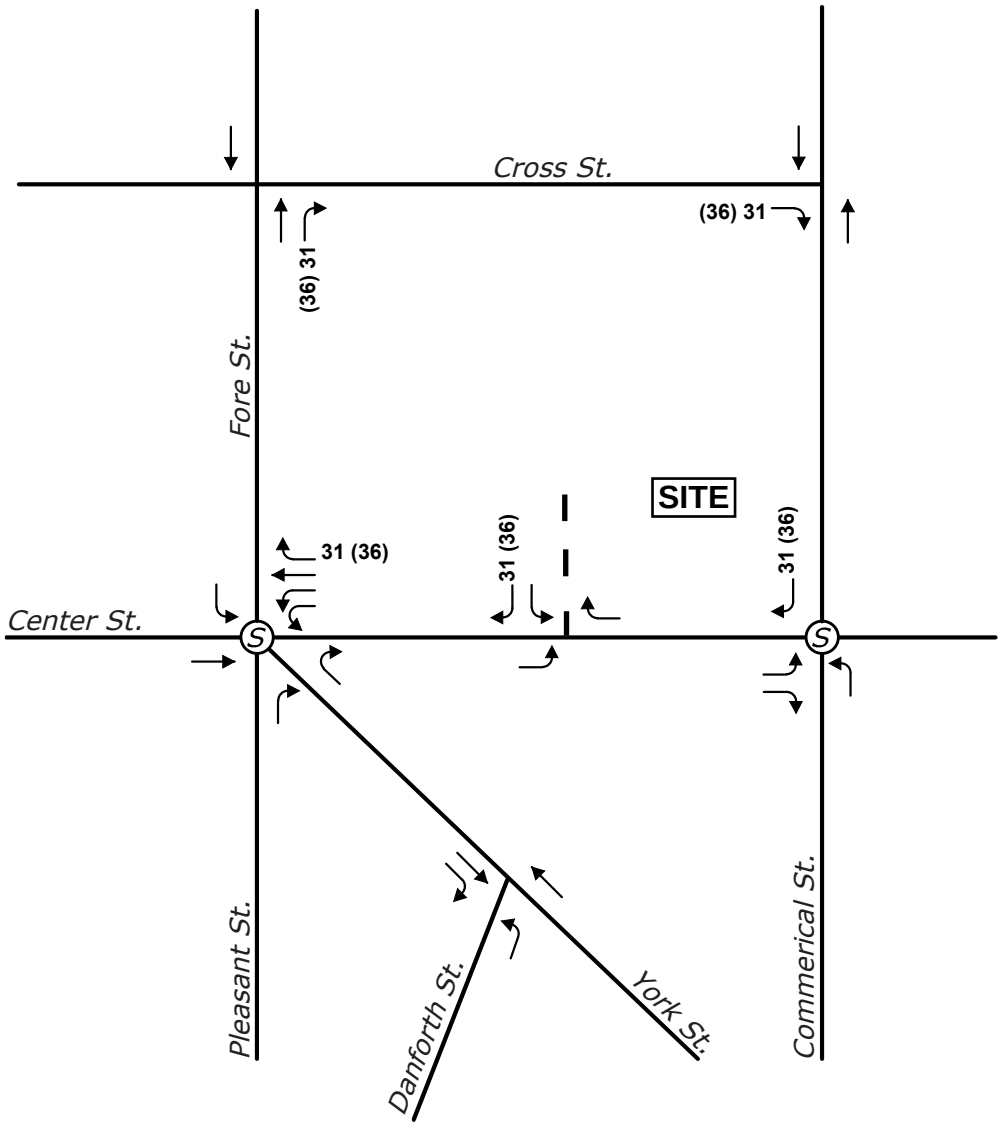
Valet Recirculation

Figure No. 2



(S) Denotes Signalized Intersection
XX = AM Peak Hour
(XX) = PM Peak Hour

CENTER STREET HOTEL
PORTLAND, MAINE

Design:	EAL	Scale:	NONE
Draft:		Date:	APR 2019
Checked:	RED	File Name:	3520_FIGURES

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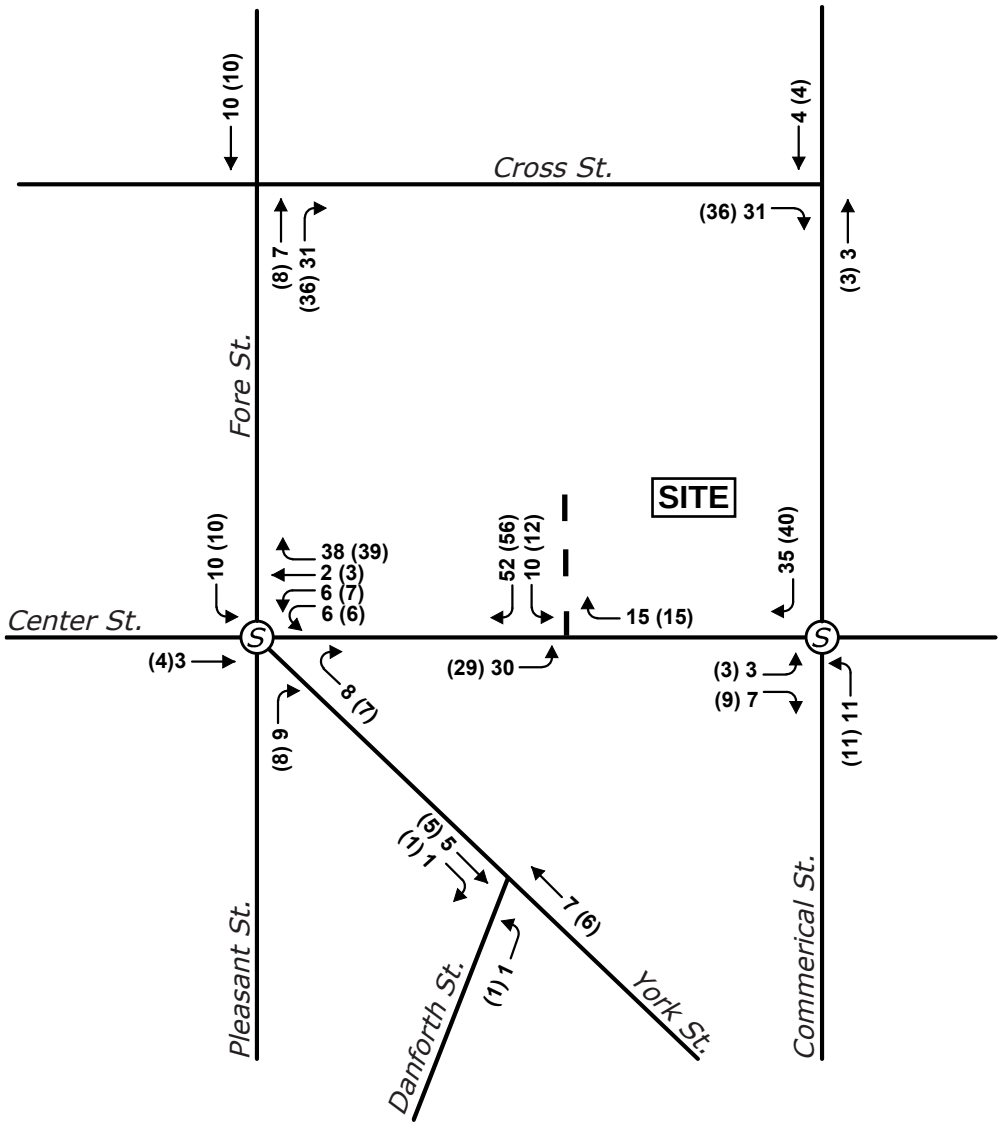
Trip Assignment

Figure No. 3



S Denotes Signalized Intersection
XX = AM Peak Hour
(XX) = PM Peak Hour

CENTER STREET HOTEL
PORTLAND, MAINE

Design: EAL Scale: NONE
Draft: Date: APR 2019
Checked: RED File Name: 3520_FIGURES

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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

Portland - intersections and entering links in the area of Center St where it intersects with Fore St and Commercial St

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

Route: **0001A**	Start Node: **18968**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **16790**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560286**	Start Node: **18786**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18964**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560584**	Start Node: **18978**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18964**	End Offset: **0**	☑ **Exclude Last Node**
Route: **3209862**	Start Node: **16788**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **69082**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560122**	Start Node: **16788**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18964**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560122**	Start Node: **18964**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18975**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3200508**	Start Node: **18964**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18967**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560191**	Start Node: **19130**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18981**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561017**	Start Node: **18966**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18972**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561017**	Start Node: **16789**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18966**	End Offset: **0**	☑ **Exclude Last Node**

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 - intersections and entering links in the area of Center St where it intersects with Fore St and Commercial St

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

Route: **0561016**	Start Node: **18965**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18969**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3209786**	Start Node: **67712**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18975**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560672**	Start Node: **18975**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18974**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560122**	Start Node: **18975**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18976**	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
16789	0001A - 11.41	Int of COMMERCIAL ST CROSS ST S	2	4	0	0	1	1	2	50.0	5.107	0.26	0.39	0.00
												Statewide Crash Rate:	0.16	
16788	0001A - 11.35	Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER	9	6	0	0	0	0	6	0.0	5.797	0.34	1.24	0.00
												Statewide Crash Rate:	0.74	
18966	0560286 - 0.95	Int of CROSS ST S FORE ST	2	1	0	0	0	1	0	100.0	2.423	0.14	0.45	0.00
												Statewide Crash Rate:	0.15	
18964	0560286 - 1.02	Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST	9	11	0	0	1	2	8	27.3	3.961	0.93	1.34	0.00
												Statewide Crash Rate:	0.74	
18965	0560286 - 0.99	Int of COTTON ST FORE ST	2	2	0	0	1	0	1	50.0	2.481	0.27	0.45	0.00
												Statewide Crash Rate:	0.15	
18975	0560122 - 0.20	Int of CENTER ST SPRING ST	9	12	0	0	2	4	6	50.0	3.338	1.20	1.39	0.00
												Statewide Crash Rate:	0.74	
19130	3200508 - 0.02	Int of DANFORTH ST YORK ST	9	2	0	0	1	0	1	50.0	2.551	0.26	1.48	0.00
												Statewide Crash Rate:	0.74	
18972	0561017 - 0.12	End of CROSS ST S	2	0	0	0	0	0	0	0.0	0.087	0.00	0.11	0.00
												Statewide Crash Rate:	0.14	
18969	0561016 - 0.07	End of COTTON ST	2	1	0	0	0	0	1	0.0	0.068	4.94	-0.19	0.00
												Statewide Crash Rate:	0.14	
Study Years:	3.00	**NODE TOTALS:**		39	0	0	6	8	25	35.9	25.813	0.50	0.71	0.71

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
16788	18968	3119256	0 - 0.04	0001A - 11.31	0.04	2	3	0	0	0	2	1	66.7	0.00223	447.73	608.83	0.00
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				US 1A											Statewide Crash Rate: 218.39		
16788	16789	3120368	0 - 0.06	0001A - 11.35	0.06	2	7	0	0	0	0	5	0.0	0.00285	817.38	571.37	1.43
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				US 1A											Statewide Crash Rate: 218.39		
16789	16790	3120311	0 - 0.06	0001A - 11.41	0.06	2	7	0	0	1	1	5	28.6	0.00278	839.47	575.31	1.46
Int of COMMERCIAL ST CROSS ST S				US 1A											Statewide Crash Rate: 218.39		
18786	18966	3106807	0 - 0.05	0560286 - 0.90	0.05	2	1	0	0	0	0	1	0.0	0.00116	288.50	609.06	0.00
Int of FORE ST UNION ST				RD INV 05 60286											Statewide Crash Rate: 174.81		
18965	18966	3124004	0 - 0.04	0560286 - 0.95	0.04	2	1	0	0	0	0	1	0.0	0.00094	352.98	638.21	0.00
Int of COTTON ST FORE ST				RD INV 05 60286											Statewide Crash Rate: 174.81		
18964	18965	3106829	0 - 0.03	0560286 - 0.99	0.03	2	0	0	0	0	0	0	0.0	0.00074	0.00	672.52	0.00
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 05 60286											Statewide Crash Rate: 174.81		
18964	18978	194644	0 - 0.07	0560584 - 0.26	0.07	2	5	0	0	0	1	4	20.0	0.00031	5299.07	1571.45	3.37
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 05 60584											Statewide Crash Rate: 407.82		
16788	69082	3506290	0 - 0.01	3209862 - 0	0.01	2	0	0	0	0	0	0	0.0	0.00000	0.00	-406499.83	0.00
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				RD INV 3209862											Statewide Crash Rate: 407.82		
16788	18964	192464	0 - 0.10	0560122 - 0	0.10	2	2	0	0	0	0	1	0.0	0.00125	533.75	1124.22	0.00
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				RD INV 05 60122											Statewide Crash Rate: 407.82		
18964	18975	194643	0 - 0.10	0560122 - 0.10	0.10	2	4	0	0	0	1	3	25.0	0.00124	1079.48	1127.47	0.00
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 05 60122											Statewide Crash Rate: 407.82		
18964	19130	3106830	0 - 0.02	3200508 - 0	0.02	2	0	0	0	0	0	0	0.0	0.00050	0.00	719.91	0.00
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 3200508											Statewide Crash Rate: 174.81		
18967	19130	194651	0 - 0.04	3200508 - 0.02	0.04	2	0	0	0	0	0	0	0.0	0.00073	0.00	1289.57	0.00
Non Int YORK ST				RD INV 3200508											Statewide Crash Rate: 407.82		
18981	19130	3106832	0 - 0.10	0560191 - 0	0.10	2	4	0	0	0	0	2	0.0	0.00075	1787.17	671.33	2.66
Int of DANFORTH ST MAPLE ST				RD INV 05 60191											Statewide Crash Rate: 174.81		
18966	18972	194648	0 - 0.04	0561017 - 0.08	0.04	2	1	0	0	0	0	1	0.0	0.00007	4796.44	1612.40	2.97
Int of CROSS ST S FORE ST				RD INV 05 61017											Statewide Crash Rate: 407.82		
16789	18966	192467	0 - 0.08	0561017 - 0	0.08	2	0	0	0	0	0	0	0.0	0.00033	0.00	1556.43	0.00
Int of COMMERCIAL ST CROSS ST S				RD INV 05 61017											Statewide Crash Rate: 407.82		
18965	18969	194647	0 - 0.07	0561016 - 0	0.07	2	1	0	0	0	0	0	0.0	0.00009	3526.03	1733.84	2.03
Int of COTTON ST FORE ST				RD INV 05 61016											Statewide Crash Rate: 407.82		
67712	18975	3417147	0 - 0.10	3209786 - 0.17	0.10	2	0	0	0	0	0	0	0.0	0.00067	0.00	685.28	0.00
Non Int SPRING ST				RD INV 3209786											Statewide Crash Rate: 174.81		

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
18974	18975	3119282	0 - 0.10	0560672 - 1.02	0.10	2	1	0	0	0	0	1	0.0	0.00157	212.93	565.33	0.00
Int of CROSS ST N	SPRING ST			RD INV 05 60672											Statewide Crash Rate: 174.81		
18975	18976	194658	0 - 0.04	0560122 - 0.20	0.04	2	0	0	0	0	0	0	0.0	0.00039	0.00	1504.36	0.00
Int of CENTER ST	SPRING ST			RD INV 05 60122											Statewide Crash Rate: 407.82		
Study Years:	3.00			**Section Totals:**	1.15		37	0	0	1	5	25	16.2	0.01861	662.79	411.40	1.61
				Grand Totals:	1.15		76	0	0	7	13	50	26.3	0.01861	1361.41	554.84	2.45

https://mdotapps.maine.gov/Ma

https://mdotapps.maine.gov/MaineCrashPublic/PublicQueryMap

Study Area

MaineDOT Maine Public Crash Query Tool

Home | Statistics | High Crash Locations | IMPORTANT: User Notes | Advanced User Login

Set Search Criteria

Set Search Criteria

County Police Dept.

Portland ×

Step 2: Select single year or multi-year.

Single Year Multi-Year

Step 3: Select Year(s).

2015 2017

Step 4: Select Type of Crash.

Pedestrians

Step 5: Select what to view.

All Crashes
Fatal Crashes
Injury Crashes
Property Damage Only Crashes

Step 6: Submit Query. Press the button below t submit your query and view results.

Submit Query

All/Pedestrians Crashes - Year: 2015 To 2017 City or Town: Portland

Number of crashes returned: 161 Number of crashes mapped: 161

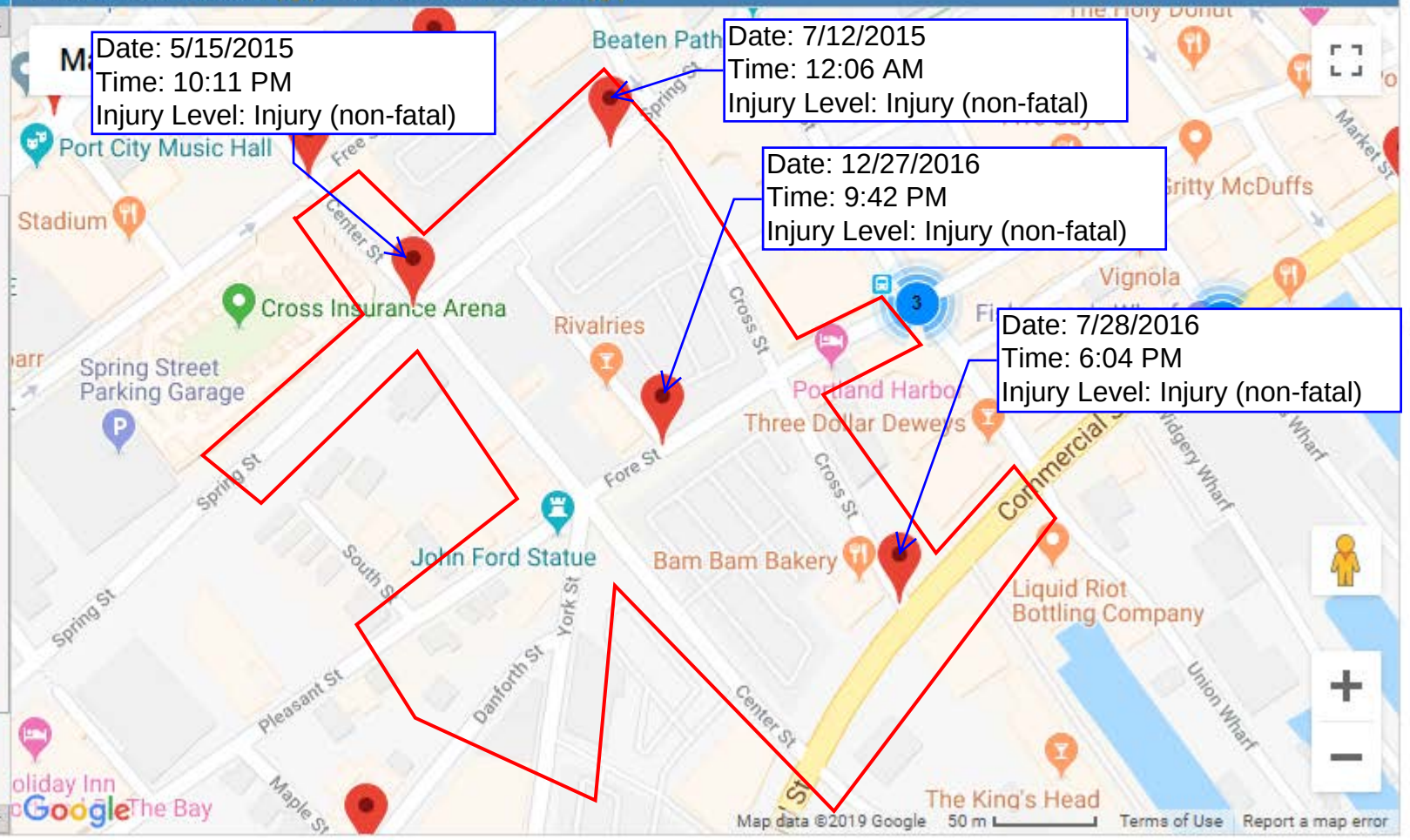
Cluster Markers: Print

Date: 5/15/2015
Time: 10:11 PM
Injury Level: Injury (non-fatal)

Date: 7/12/2015
Time: 12:06 AM
Injury Level: Injury (non-fatal)

Date: 12/27/2016
Time: 9:42 PM
Injury Level: Injury (non-fatal)

Date: 7/28/2016
Time: 6:04 PM
Injury Level: Injury (non-fatal)



https://mdotapps.maine.gov/MaineCrashPublic/Home

Maine Department of Transportation

Att V

WOODARD &CURRAN

Center Street Boutique Hotel

Site Location of Development Amendment

41 Hutchins Drive
Portland, ME 04102
800-426-4262

woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

0231538.01
Fathom CC, LLC
May 2019

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Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-3901

FOR DEP USE **FORM A PAGE 1**
ATS # _____
L-_____
Total Fees: _____
Date: Received _____

****

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.SA. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)	☐ **20 acre development** ☐ **Planning Permit** ☐ **Metallic Mining**	☐ **Marine Oil Terminal** ☐ **Structure** ☐ **Subdivision**	■ **Major Amendment** ☐ **Minor Amendment**

1. Name of Applicant:	Fathom CC, LLC, Jim Brady	**6. Name of Agent (if applicable):**	Woodard & Curran, Lauren Swett
2. Applicant's Mailing Address:	PO Box 7486 Portland, ME 04112	**7. Agent's Mailing Address:**	41 Hutchins Dr., Portland, ME
3. Applicant's Daytime Phone #:	(207) 653-9990	**8. Agent's Daytime Phone # :**	(207) 558-3763
4. Applicant's Fax # (if available):		**9. Agent's Fax # (if available):**	
5. Applicant's *e-mail address* (REQUIRED -license will be sent via: e-mail):	jameshbrady@gmail.com	**10. Agent's *e-mail address* (REQUIRED - license will be sent via e-mail):**	lswett@woodardcurran.com

PROJECT INFORMATION

11. Name of Development:	Fathom - Hotel at Center Street						
12. Map and Lot #'s:	**Map #:**	**Lot #:**	**13. Deed Reference #'s:**	**Book #:** 32163		**Page #:** 33	
14. Location of Project City/Town:	Portland	**15. County:**	Cumberland	**16. UTM Northing**	4834211	**17. UTM Easting**	398717.6
18. Brief Description of Project including total parcel size:	Amendment to existing SLOD permit relating to development of a +/- 23,795 SF parcel with proposed 6-story, 135-room boutique hotel.						

19. Type of Direct Watershed: (Check all that apply)

☐ Lake not most at risk ■ River, stream or brook ☐ Coastal wetland
☐ Lake most at risk ☐ Urban impaired stream ☐ Wellhead or public water
☐ Lake most at risk, severely blooming ☐ Freshwater wetland

20. Name of Waterbody Project Site drains to:	Fore River		
21. Amount of Developed Area:	Total acres: 0.55	Existing Developed area: 0.55 acres	New Developed area: 0 acres (Full parcel to be redeveloped)
22. Amount of Impervious Area:	Total acres:	Existing Impervious areas 0.48 acres	New Impervious area: 0 acres (Net Reduction of 0.052 acres)

23. Development started prior to obtaining a license?:	☐ **Yes** ■ **No**		
24. .Development or any portion of the site subject to enforcement action?	☐ **Yes** ☐ **No**	**If yes**, name of enforcement staff involved?	
25. Common scheme of development?:	☐ **Yes** ☐ **No**	**26. Title, Right or Interest:**	☐ **own** ☐ **lease** ☐ **purchase option** ■ **written agreement**
27. Natural Resources Protection Act permit required?:	☐ **Yes** ☐ **No**	**If yes:** ☐ **PBR** ☐ **Tier 1** ☐ **Full Permit** ☐ **Tier 2**	
28. Existing DEP Permit number (if applicable):	L-013526-A-N		
29. Names of DEP staff person(s) present at the pre-application meeting:	NA		
30. Does agent have an interest in project? If yes, what is the interest?	☐ **Yes** ■ **No**		

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 :

CERTIFICATIONS / SIGNATURES

"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 am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. 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.

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 electronic address located on the front page of this application (see #5 for the applicant and #10 for the agent)"..

Signed: Lauren Swett **Title** Technical Manager **Date:** 5/31/19

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** Lauren Swett **Date:** 5/31/19

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: Lauren Swett

Name (print): Lauren Swett

Date: 5/31/19

Re/Cert/Lic No.: 12284

Engineer X

Geologist

Soil Scientist

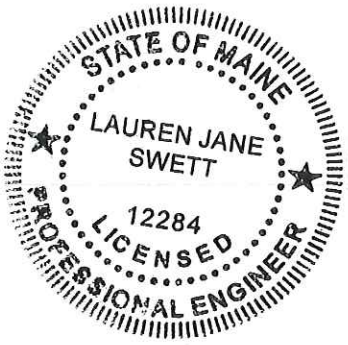
Land Surveyor

Site Evaluator

Active Member of the Maine Bar

Professional Landscape Architect

Other



Fathom
COMPANIES

December 21, 2018

Re: 1 Center Street Hotel– Agent Authorization

To Whom it May Concern:

Woodard & Curran is acting as our agent for all project permitting associated with the Center Street Hotel development (1 Center Street) project located in Portland, Maine.

Please contact me if you have any questions.

Sincerely,

Fathom CC, LLC

Its Manager:

Name: James H Brady

80 Exchange Street Suite 400 Portland Maine 04101

Tel | 207.808.8787 www.Fathomcompanies.com

Not Applicable - City of Portland has Delegated Review

FORM B

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that

_____

(*Name, Address and Phone # of Applicant*)

_____

is intending to file a Site Location of Development Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481 thru 490 on or about

_____

(Anticipated Filing Date)

The application is for

_____

(Description of the Project)

_____

at the following location:

_____

(*Project Location*)

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

For Federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act, 16 U.S.C. § 1456. (Delete if not applicable.)

The application will be filed for public inspection at the Department of Environmental Protection's office in (*Portland, Augusta or Bangor*)(circle one) during normal working hours. A copy of the application may also be seen at the municipal offices in _____, Maine.

(*Town*)

Written public comments may be sent to the regional office in Portland, Augusta, or Bangor where the application is filed for public inspection:

MDEP, Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333
MDEP, Southern Maine Regional Office, 312 Canco Road, Portland, Maine 04103
MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401

Not Applicable - City of Portland has Delegated Review

FORM C

PUBLIC NOTICE FILING AND CERTIFICATION

The DEP Rules, Chapter 2, require an applicant to provide public notice for all Site Location projects with the exception of minor revisions and condition compliance applications. In the notice, the applicant must describe the proposed activity and where it is located. **"Abutter"** for the purposes of the notice provision means any person who owns property that is BOTH (1) adjoining and (2) within one mile of the delineated project boundary, including owners of property directly across a public or private right of way.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication and certified mailing.

2. **Abutting Property Owners:** You must send a copy of the Notice of Intent to File by certified mail to the owners of the property abutting the activity. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office:** You must send a copy of the Notice of Intent to File and a **duplicate of the entire application** to the Municipal Office.

   ATTACH a list of the names and addresses of the owners of abutting property.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;
2. A certified mailing of the Notice of Intent to File was sent to all abutters within 30 days of the filing of the application;
3. A certified mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located; and
4. Provided notice of, if required, and held a public informational meeting in accordance with Chapter 2, Rules Concerning the Processing of Applications, Section 14, prior to filing the application. Notice of the meeting was sent by certified mail to abutters and to the town office of the municipality in which the project is located at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on _____.
Date

Approximately _____ members of the public attended the Public Informational Meeting.

_____

Signature of Applicant or Authorized Agent Date

FORM D

SUBMISSIONS CHECKLIST

If a provision is not applicable, put "NA"

Section 1. Development description

A. Narrative

X 1. Objectives and details

X 2. Existing facilities (with dates of construction)

B. Topographic map

X 1. Location of development boundaries

NA 2. Quadrangle name

C. Construction plan

X 1. Outline of construction sequence (major aspects)

2. Dates

D. Drawings

X 1. Development facilities

X a. Location, function and ground area

X b. Length/cross-sections for roads

X 2. Site work (nature and extent)

X 3. Existing facilities (location, function ground area and floor area)

4. Topography

X a. Pre- and post-development (contours 2 ft or less)

X b. Previous construction, facilities and lot lines

X **Section 2. Title, right or interest** (copy of document)

Section 3. Financial capacity

X A. Estimated costs

B. Financing

X 1. Letter of commitment to fund

2. Self-financing

NA a. Annual report

NA b. Bank statement

3. Other

NA a. Cash equity commitment

NA b. Financial plan

NA c. Letter

X 4. Affordable housing information

Section 4. Technical ability (description)

X A. Prior experience (statement)

X B. Personnel (documents)

Section 5. Noise

X A. Developments producing a minor noise impact (statement)

NA 1. Residential developments

NA 2. Certain non-residential subdivisions

NA 3. Schools and hospitals

NA 4. Other developments

NA a. Type, source and location of noise

NA b. Uses, zoning and plans

NA c. Protected locations

NA d. Minor nature of impact

NA e. Demonstration
NA B. Developments producing a major noise impact (full noise study)
NA 1. Baseline
NA a. Uses, zoning and plans
NA b. Protected locations
NA c. Quiet area
NA 2. Noise generated by the development
NA a. Type, source and location of noise
NA b. Sound levels
NA c. Control measures
NA d. Comparison with regulatory limits
NA e. Comparison with local limits

X **Section 6. Visual quality and scenic character**(narrative, description, visual impact analysis)

X **Section 7. Wildlife and fisheries** (narrative)

X **Section 8. Historic sites** (narrative)

NA **Section 9. Unusual natural areas** (narrative)

Section 10. Buffers
NA A. Site plan and narrative

Section 11. Soils
X A. Soil survey map and report
X 1. Soil investigation narrative
X 2. Soil survey map
NA B. Soil survey intensity level by development type
1. Class A (High Intensity) Soil Survey
2. Class B (High Intensity) Soil Survey
3. Class C (Medium High-Intensity) Soil Survey
4. Class D (Medium Intensity) Soil Survey
X C. Geotechnical Investigation
NA D. Hydric soils mapping

Section 12. Stormwater management
A. Narrative
X 1. Development location
NA 2. Surface water on or abutting the site
NA 3. Downstream ponds and lakes
X 4. General topography
X 5. Flooding
X 6. Alterations to natural drainage ways
X 7. Alterations to land cover
X 8. Modeling assumptions
9. Basic standard
NA 10. Flooding standard
X 11. General standard
X 12. Parcel size
13. Developed area
14. Disturbed area
15. Impervious area
B. Maps
X 1. U.S.G.S. map with site boundaries
X 2. S.C.S. soils map with site boundaries
NA C. Drainage Plans (a pre-development plan and a post-development plan)

X 1. Contours
X 2. Plan elements
X 3. Land cover types and boundaries
X 4. Soil group boundaries
X 5. Stormwater quantity subwatershed boundaries
X 6. Stormwater quality subwatershed boundaries
X 7. Watershed analysis points
X 8. Hydrologic flow lines (w/flow types and flow lengths labeled)
X 9. Runoff storage areas
X 10. Roads and drives
X 11. Buildings, parking lots, and other facilities
X 12. Drainage system layout for storm drains, catch basins, and culverts
NA 13. Natural and man-made open drainage channels
NA 14. Wetlands
NA 15. Flooded areas
X 16. Benchmark
X 17. Stormwater detention, retention, and infiltration facilities
X 18. Stormwater treatment facilities
X 19. Drainage easements
X 20. Identify reaches, ponds, and subwatersheds matching stormwater model
NA 21. Buffers

X D. Runoff analysis (pre-development and post development)
X 1. Curve number computations
X 2. Time of concentration calculations
X 3. Travel time calculations
X 4. Peak discharge calculations
X 5. Reservoir routing calculations

NA E. Flooding Standard
NA 1. Variance submissions (if applicable)
NA a. Submissions for discharge to the ocean, great pond, or major river
NA i. Map
NA ii. Drainage plan
NA iii. Drainage system design
NA iv. Outfall design
NA v. Easements
NA b. Insignificant increase
NA i. Downstream impacts
NA
NA c. Submissions for discharge to a public stormwater system
NA i. Letter of permission
NA ii. Proof of capacity
NA ii. Outfall analysis and design (pictures)
X 2. Sizing of storm drains and culverts
NA 3. Stormwater ponds and basins
NA a. Impoundment sizing calculations
NA b. Inlet calculations
NA c. Outlet calculations
NA d. Emergency spillway calculations
NA e. Subsurface investigation report
NA f. Embankment specifications
NA g. Embankment seepage controls
NA h. Outlet seepage controls
NA i. Detail sheet
NA j. Basin cross sections
NA k. Basin plan sheet
NA 4. Infiltration systems
NA a. Well locations map
NA b. Sand and gravel aquifer map
NA c. Subsurface investigation report with test pit or boring logs

NA d. Permeability analysis
NA e. Infiltration structure design
NA f. Pollutant generation and transport analysis
NA g. Monitoring and operations plan
NA i. Locations of storage points of potential contaminants
NA ii. Locations of observation wells and infiltration monitoring plan
NA iii. Groundwater quality monitoring plan
X 5. Drainage easement declarations.
X F. Stormwater quality treatment plan peak discharge calculations
X 1. Basic stabilization plan
NA a. Ditches, swales, and other open channel stabilization
X b. Culvert and storm-drain outfall stabilization
X c. Earthen slope and embankment stabilization
X d. Disturbed area stabilization
NA e. Gravel roads and drives stabilization

X 2. General Standard
X a. Calculations for sizing BMP
X b. Impervious area calculation
X c. Developed area calculation
X d. Summary spreadsheet of calculations

NA 3. Phosphorus control plan
NA a. Calculations for the site's allowable phosphorus export
NA b. Calculations for determining the developed site's phosphorus export
NA c. Calculations for determining any phosphorus compensation fees
NA 4. Offset Credits
NA a. Urban impaired stream
NA Offset credit calculation
NA b. Phosphorus credit determination
NA i. Location map
NA ii. Scaled plan
NA iii. Title and right
NA iv. Demolition plan
NA v. Vegetation plan
NA vi. Offset credit calculation
NA vii. Calculation for the new allowable export
X 5. Runoff treatment measures
X a. structural measures
X i. Design drawings and specifications
X ii. Design calculations
X iii. Maintenance plan
NA iv. TSS removal or phosphorus treatment factor determinations
X v. Stabilization plan
NA b. Vegetated buffers
NA i. Soil survey
NA ii. Buffer plan
NA iii. Turnout and level spreader designs
NA iv. Deed restrictions
NA 6. Control plan for thermal impacts to coldwater fisheries
NA 7. Control plan for other pollutants
X 8. Engineering inspection of stormwater management facilities

X G. Maintenance of common facilities or property
X 1. Components of the maintenance plan
X A. Maintenance of facilities by owner or operator
X 1. Site owner or operator (name legally responsible party)
X 2. Contact person responsible for maintenance
X 3. Transfer mechanism

X 4. List of facilities to be maintained
X 5. List of inspection and maintenance tasks for each facility
X 6. Identifications of any deed covenants, easements, or restrictions
X 7. Sample maintenance log
NA 8. Copies of any third-party maintenance contracts
NA B. Maintenance of facilities by homeowner's association
NA 1. Incorporation documents for the association
NA 2. Membership criteria
NA 3. Association officer responsible for maintenance
NA 4. Establishment of fee assessment for maintenance work
NA 5. Establishment of lien system
NA 6. Reference to department order(s) in association charter
NA 7. Transfer mechanism from developer to association
NA 8. List of facilities to be maintained
NA 9. Identification of any deed covenants, easements, or restrictions
NA 10. Renewal of covenants and leases
NA 11. List of inspection and maintenance tasks for each facility
NA 12. Sample maintenance log
NA 13. Copies of any third-party maintenance contracts
NA C. Maintenance of facilities by municipality or municipal district
NA 1. Identification of the municipal department or utility district
NA 2. Contact person responsible for maintenance
NA 3. Evidence of acceptance of maintenance responsibility
NA 4. Transfer mechanism from developer
NA 5. List of facilities to be maintained
NA 6. List of inspection and maintenance tasks for each facility
NA 7. Identifications of any deed covenants, easements, or restrictions
NA 8. Sample maintenance log
X 2. General inspection and maintenance requirements
X a. Drainage easements
X b. Ditches, culverts, and catch-basin systems
NA c. Roadways and parking surfaces
X d. Stormwater detention and retention facilities
NA 1. Embankment inspection and maintenance
X 2. Outlet inspection and clean-out
NA 3. Spillway maintenance
X 4. Sediment removal and disposal
NA e. Stormwater infiltration facilities
NA 1. Sediment protection plan
NA 2. Infiltration rehabilitation plan
NA 3. Sediment removal and disposal
NA 4. Groundwater monitoring plan
X f. Proprietary treatment devices
NA g. Buffers
NA h. Other practices and measures

Section 13. Urban Impaired Stream Submissions

NA 1. Off-site credits
NA 2. Compensation fees (Urban Impaired Stream/Phosphorus)
NA 3. Development impacts

Section 14. Basic Standards

X A. Narrative
X 1. Soil types
NA 2. Existing erosion problems
NA 3. Critical areas
NA 4. Protected natural resources
X 5. Erosion control measures

X 6. Site stabilization
X B. Implementation schedule
X C. Erosion and sediment control plan
X 1. Pre-development and post-development contours
X 2. Plan scale and elements
X 3. Land cover types and boundaries
NA 4. Existing erosion problems
NA 5. Critical areas
NA 6. Protected natural resources
X 7. Locations (general)
X 8. Locations of controls
X 9. Disturbed areas
10. Stabilized construction entrance
X D. Details and specifications (for both temporary and permanent measures)
E. Design calculations
X F. Stabilization plan
X 1. Temporary seeding
X 2. Permanent seeding
NA 3. Sodding
X 4. Temporary mulching
X 5. Permanent mulching
X G. Winter construction plan
X 1. Dormant seeding
X 2. Winter mulching
NA H. Third-party inspections
NA 1. Inspector's name, address, and telephone number
NA 2. Inspector's qualifications
NA 3. Inspection schedule
NA 4. Contractor contact
NA 5. Reporting protocol

Section 15. Groundwater

NA A. Narrative
NA 1. Location and maps
NA 2. Quantity
NA 3. Sources
NA 4. Measures to prevent degradation
NA B. Groundwater protection plan
NA C. Monitoring plan
NA 1. Monitoring points
NA 2. Monitoring frequency
NA 3. Background conditions
NA 4. Monitoring parameters
NA 5. Personnel qualifications
NA 6. Proof of training
NA 7. Equipment and methods
NA 8. Quality assurance/quality control
NA 9. Reporting requirements
NA 10. Remedial action plan
NA D. Monitoring well installation report
NA 1. Well location map
NA 2. Elevation data
NA 3. Well installation data
NA 4. Well construction details
NA 5. Borehole logs
NA 6. Summary of depth measurements
NA 7. Characteristics of subsurface strata
NA 8. Well installation contract

NA 9. Schematic cross-sections
NA 10. Monitoring point summary table
NA 11. Protective casing
NA 12. On-site well identification

Section 16. Water supply

X A. Water supply method
NA 1. Individual wells (evidence of sufficient/healthful supply)
NA a. Support of findings by well drillers
NA b. Support of findings by geologist
NA 2. Common well(s) (reports)
NA a. Hydrogeology report
NA b. Engineering report
NA c. Well installation report
NA d. Long-term safe yield and zone of influence determination
NA e. Public water supply
NA i. Proposed well or wells
NA ii. Existing well or wells
NA iii. Water quality analysis
NA 3. Well construction in shallow-to-bedrock areas
NA 4. Additional information
X 5. Off-site utility company or public agency
NA 6. Other sources
NA B. Subsurface wastewater disposal systems (locations of systems and wells)
X C. Total usage (statement re: total anticipated water usage)

Section 17. Wastewater disposal

NA A. On-site subsurface wastewater disposal systems (investigation results)
NA 1. Site plan
2. Soil conditions summary table
NA 3. Logs of subsurface explorations
4. Additional test pits, borings or probes
NA a. Soil conditions A
NA b. Soils with Profiles 8 and 9 parent material
NA c. Soil conditions D
NA d. Disposal field length 60 feet or greater
NA 5. 3-bedroom design
NA 6. Larger disposal systems
a. System design details
NA b. Plan view
NA c. Cross sections
NA d. Test pit data
NA e. Mounding analysis
NA B. Nitrate-nitrogen impact assessment
NA 1. When required
NA a. Exempted____
i. Conventional systems meeting certain setbacks
NA ii. Denitrification systems
NA b. Special conditions and other exemptions
NA 2. Assumptions
NA a. Initial concentration
NA b. Background concentration
NA c. Contribution from development
NA d. Mixing and dilution
NA e. Severe-drought scenario
NA f. Wastewater flow to subsurface wastewater disposal fields

NA 3. Assessment report minimum requirements
NA a. Narrative and calculations
NA b. Site plan
NA i. Well locations
NA ii. 10 mg/l and 8 mg/l isocons
NA iii. Groundwater contours and groundwater flow divides
NA c. References
NA 4. Denitrification systems
NA a. Design plans and specifications
NA b. Installation information
NA c. Monitoring plan
NA d. Maintenance
NA e. Backup system
X D. Municipal facility or utility company letter
NA E. Storage or treatment lagoons

X **Section 18. Solid waste** (list: type, quantity, method of collection and location)
NA A. Commercial solid waste facility (final disposal location)
X B. Off-site disposal of construction/demolition debris (final disposal location)
C. On-site disposal of woodwaste/land clearing debris
NA 1. Applicability of rules (evidence re: applicability of rules)
2. Burning of wood wastes
NA a. Delineation on site plan
NA b. Plans for handling unburned woodwaste and woodash
NA c. Evidence of capacity to accept waste (approved facility)
NA d. Usage of materials
NA e. Data on mixing ratios and application rates
NA D. Special or Hazardous Waste

Section 19. Flooding
NA A. Explanation of flooding impact
X B. Site plan showing 100-year flood elevation
NA C. Hydrology analysis
X D. FEMA flood zone map with site boundaries

Section 20. Blasting
NA A. Site Plan or map
NA B. Report
1. Assessment
2. Blasting plan

Section 21. Air emissions (narrative and summary)
NA A. Point and non-point sources identified
NA B. Emission components (point sources)

Section 22. Odors
NA A. Identification of nature/source
NA B. Estimate of areas affected
NA C. Methods of control)

NA **Section 23. Water vapor** (narrative)

NA **Section 24. Sunlight** (statement and drawing, if required)

Section 25. Notices
NA A. Evidence that notice sent
NA B. List of abutters for purposes of notice

1. DEVELOPMENT DESCRIPTION

This narrative is submitted in support of an amendment to the Portland Square Site Location of Development (SLOD) Permit for the Center Street Hotel project in Portland, Maine.

1.1 PERMIT BACKGROUND & REQUIREMENTS

In 1986, the Maine Department of Environmental Protection (MaineDEP) issued a Site Location of Development (SLOD) Permit Order (No. L-013526-A-N) for Portland Square. Since that time, a number of amendments have been made to that permit. The proposed hotel will be constructed within the property limits regulated by the existing Portland Square SLOD Permit Order, and an amendment to that permit is required. This report is provided for this application. The City of Portland will be reviewing the application as part of their Delegated Review Authority granted by the Maine DEP.

Fathom CC, LLC holds an Agreement of Purchase and Sale with North River IV, LLC, to acquire a 23,795 +/- SF portion of the larger Portland Square parcel. Since Fathom CC, LLC is not listed as a permittee on the existing SLOD, a permit transfer application is required for the parcel that is being sold for the construction of the hotel. A Transfer of Activity Form was submitted to MaineDEP on May 24, 2019; a copy of approval will be submitted to the City upon receipt.

1.2 OBJECTIVE AND DETAILS

The proposed Center Street Hotel is located at the intersection of Commercial Street and Center Street within the Old Port District of Portland. The hotel will be sited between the existing Richardson Wharf Company Building and the Baxter Davis Block building. As the parcel sits today, the hotel will be positioned in the southeastern corner of an existing surface parking lot.

The proposed redevelopment project includes the construction of a 6-story, 135-room boutique hotel, that includes a rooftop bar and ground-floor restaurant that will be positioned along the Commercial Street frontage. The proposed hotel will be situated in such a way as to optimize the site footprint and set no more than 5'-0" back from the property boundaries in order to maximize the pedestrian zone along Center and Commercial Streets. The project will also include the relocation of traffic signal infrastructure and utility poles, reconstruction of the sidewalk along the project's frontage with adjustments to the curb alignment on Center Street to accommodate hotel guest pick-up/drop-off and vehicle valet services, utility and drainage improvements, and associated site improvements including street trees and street lights.

In addition to the SLOD permit, the proposed project requires the following permits:

- City of Portland Level III Site Plan Review – In progress
- City of Portland Historic Preservation Application for Certificate of Appropriateness – Approval was granted during the Public Hearing on April 17, 2019
- FAA Notice of Proposed Construction – Notice will be filed with the FAA at least 45 days prior to the start of construction.

No additional environmental permits from State or Federal regulators are required for this project as it does not meet size or resource thresholds.

1.3 EXISTING FACILITIES

The Site is currently fully developed as a paved surface parking lot surrounded by a landscaped esplanade and sidewalk with street trees. There are no significant natural features or wetlands due to the intense level of existing development. Topography slopes gently from northwest to southeast towards Commercial Street, from approximate elevation 20' down to 11'. A boundary survey of Portland Square was completed by Owen Haskell, Inc. Professional Land Surveyors in October 2018 and is attached to this Section.

1.4 TOPOGRAPHIC MAP

A USGS topographic map showing the approximate location of development boundaries is attached to this Section for your reference.

1.5 CONSTRUCTION PLAN

The proposed development will be constructed in a single phase. On-site work for this project is anticipated to begin in late Fall 2019. The contractor will be required to provide a construction management plan for the project, subject to the review and approval of the City and Engineer. Maintenance of access to adjacent properties will be a priority during this project. Construction activities will be closely coordinated with the adjacent Portland Square property.

The Center Street Hotel project site and surrounding area will be managed during construction to minimize impacts to the adjacent public and private land uses. Traffic impacts to Commercial Street and Center Street during construction will be minimized to the greatest extent possible. Traffic controls will consist of temporary signage and barriers where necessary to manage vehicle, pedestrian, and bicycle traffic. Work affecting circulation, i.e. underground utility work, grading, and drainage will be conducted during low traffic seasons to reduce impacts to circulation. The Contractor will be required to provide adequate safety fencing and signage directing pedestrians safely around the construction area.

All erosion and sediment control measures will be installed prior to any soil disturbance. All pavement areas impacted by construction will be repaved, resurfaced with brick sidewalk, or stabilized with landscaping.

The following is the anticipated sequence of construction for major aspects of the development:

- Installation of erosion and sediment control measures as well as any traffic control measures;
- Demolition and site preparation activities;
- Construction of required improvements on adjacent Portland Square;
- Construction of building, utility services, sidewalks, landscaping, and stormwater management facilities;
- Stabilization of the Site; and
- Removal of erosion and sediment control measures.

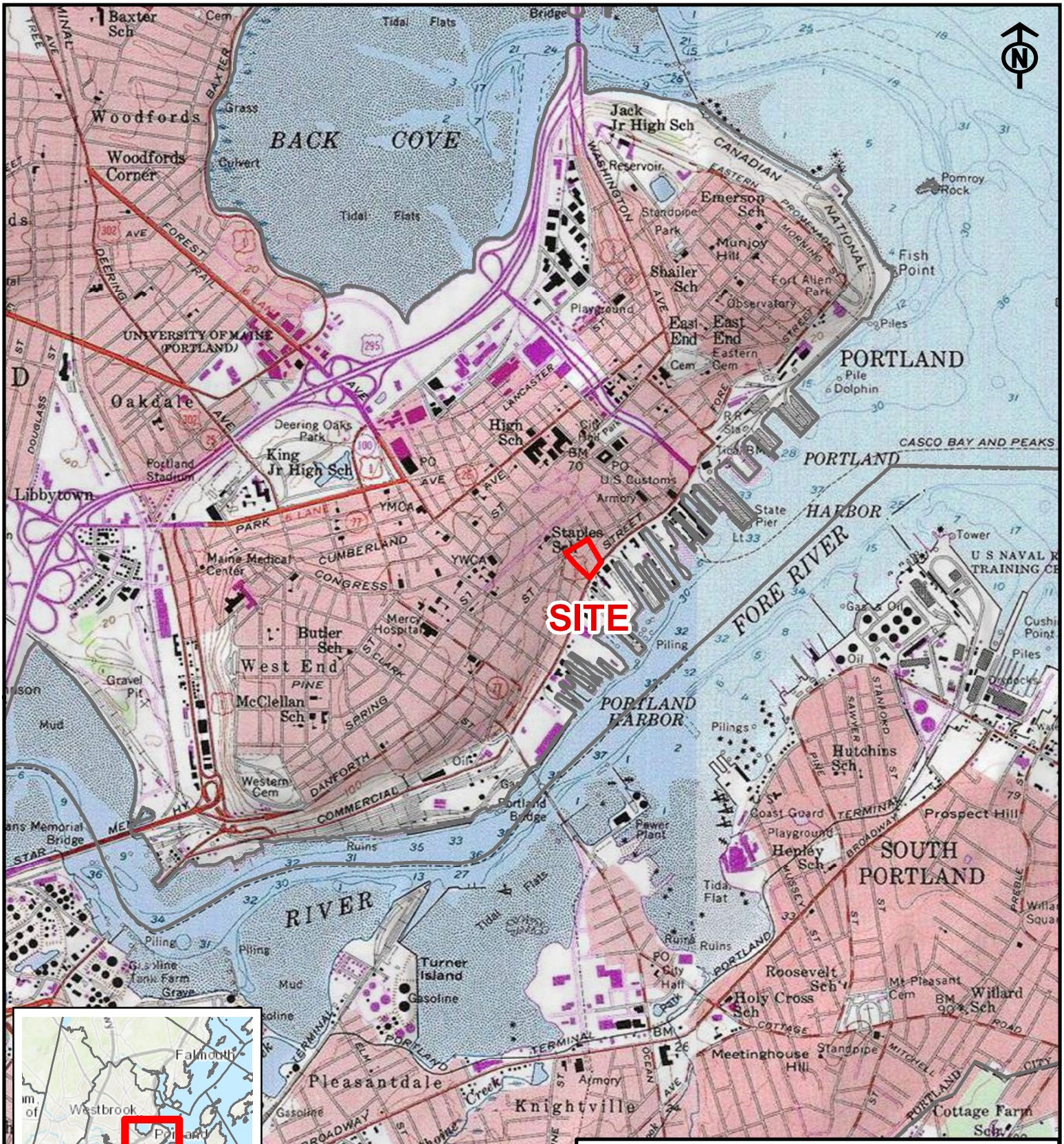
1.6 DRAWINGS

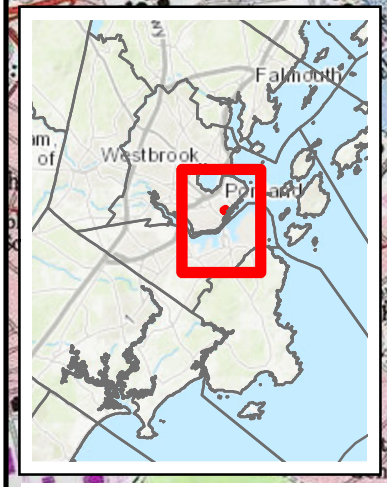
Project design plans showing the proposed improvements are included as an attachment to this section.

1.7 LIST OF ATTACHMENTS

The following documents are attached to this Section:

- Topographic Map
- Survey (Bound Separately)
- Drawings (Bound Separately)





Center Street Hotel
USGS Map

Portland, ME

Figure 1 of 1

Service Layer Credits: ESRI, MEGIS

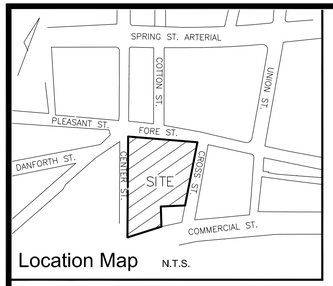
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

DRAWN BY: AL

SCALE: 1 in = 2,000 feet

DATE: November 2018

DOC: CenterStHotel_USGSmap.mxd



Location Map N.T.S.

Legend

● IRON PIPE OR ROD FOUND	CURB
■ GRANITE MONUMENT FOUND	SS SANITARY SEWER
⊗ WATER VALVE	SD STORM DRAIN
HYDRANT	SL SECURITY LINE
VALVE	E UNDERGROUND ELECTRIC
UTILITY POLE	PT PNEUMATIC TUBE
LIGHT POLE	W WATER LINE
MANHOLE	T TELEPHONE LINE
CATCH BASIN	C COMMUNICATION CABLE
BORING	25 1' CONTOUR
DEDUCIOUS TREE	N/F NOW OR FORMERLY
CONIFEROUS TREE	000/000 DEED BOOK/PAGE
	CONC. CONCRETE
	Ⓐ POSSIBLE ENCROACHMENT
	① SCHEDULE B EXCEPTION

Schedule B Section II Exceptions

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
TITLE INSURANCE COMMITMENT FILE NO. BTC4327/TF7674
COMMITMENT DATE: SEPTEMBER 17, 2018

1 – 7. NON SURVEY ITEMS

8. RIGHTS AND EASEMENTS GRANTED TO ARI NEWMAN AND LEE BEAMIS BY PINE STATE BEEF COMPANY AS SET FORTH IN A DEED DATED SEPTEMBER 12, 1967 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 3011, PAGE 321. – THE ROOFS DO NOT OVERHANG ONTO LOCUS PARCEL AND THE "EXISTING PLATFORMS" NO LONGER EXIST

9. RIGHTS AND EASEMENTS GRANTED TO CENTRAL MAINE POWER COMPANY BY POULTRY PROCESSING INC. AS SET FORTH IN AN INSTRUMENT DATED MAY 31, 1978 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 4278 PAGE 303. – REFERENCED POLE #1.1 OR VAULT #1.2 NOT FOUND, POSSIBLE LOCATION ON PROPOSED PARCEL

10. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR MGI ONE PORTLAND SQUARE, INC. LAND TITLE SURVEY" BY H. I. & E. C. JORDAN – SURVEYORS, DATED NOVEMBER 15, 1989, AS REVISED AND RE–CERTIFIED, AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 196, PAGE 219. – PERTINENT INFORMATION AS SHOWN

11. TITLE TO LAND AND GRADING RIGHTS ACQUIRED FROM PORTLAND SQUARE LIMITED PARTNERSHIP BY THE STATE OF MAINE BY ITS DEPARTMENT OF TRANSPORTATION AS SET FORTH IN A NOTICE OF LAYOUT AND TAKING DATED AUGUST 21, 1991 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9688, PAGE 341.– AS SHOWN

12. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "STATE OF MAINE, DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, PORTLAND, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. M–0685(4)", D.O.T. FILE NO. 3–388, DATED JUNE 1991 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 193, PAGE 342. – PERTINENT INFORMATION AS SHOWN

13. TERMS AND CONDITIONS STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MODIFICATION FINDINGS OF FACT AND ORDER ISSUED TO PORTLAND SQUARE LIMITED PARTNERSHIP DATED NOVEMBER 30, 1990 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9418, PAGE 59, AS AFFECTED BY A TRANSFER DATED FEBRUARY 6, 1996 AND RECORDED IN BOOK 12350, PAGE 321, A MODIFICATION DATED FEBRUARY 14, 1996 AND RECORDED IN BOOK 12367, PAGE 325, AND TRANSFER DATED APRIL 21, 2015 AND RECORDED IN IN BOOK 32265, PAGE 156.– NON SURVEY ITEM

14. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 486 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR FATHOM CC, LLC" SEPTEMBER 18, 2018 BY OWEN HASKELL, INC. – SEE THIS PLAN

General Notes

1. OWNER OF RECORD: NORTH RIVER IV LLC, 224 12TH AVENUE, NEW YORK, NY 10001 C.C.R.D. BOOK 32163 PAGE 33

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM MAINE WEST NAD83. CITY POINT T124–18–1143 N:299542.1747 E:2928944.1068 AND T124–18–1155 N:299607.6956 E:2929152.2276 HELD.

3. ELEVATIONS ARE BASED ON CITY DATUM.

3. THE LOCUS IS SHOWN AS LOT 1, 3, 5 & 7 BLOCK G ON THE CITY OF PORTLAND ASSESSORS MAP 38.

4. THERE ARE 214 REGULAR PARKING SPACES, 76 COMPACT PARKING SPACES AND 3 HANDICAPPED PARKING SPACES FOR A TOTAL OF 293 PARKING SPACES ON THE SUBJECT PROPERTY.

Zoning Information

NONE PROVIDED

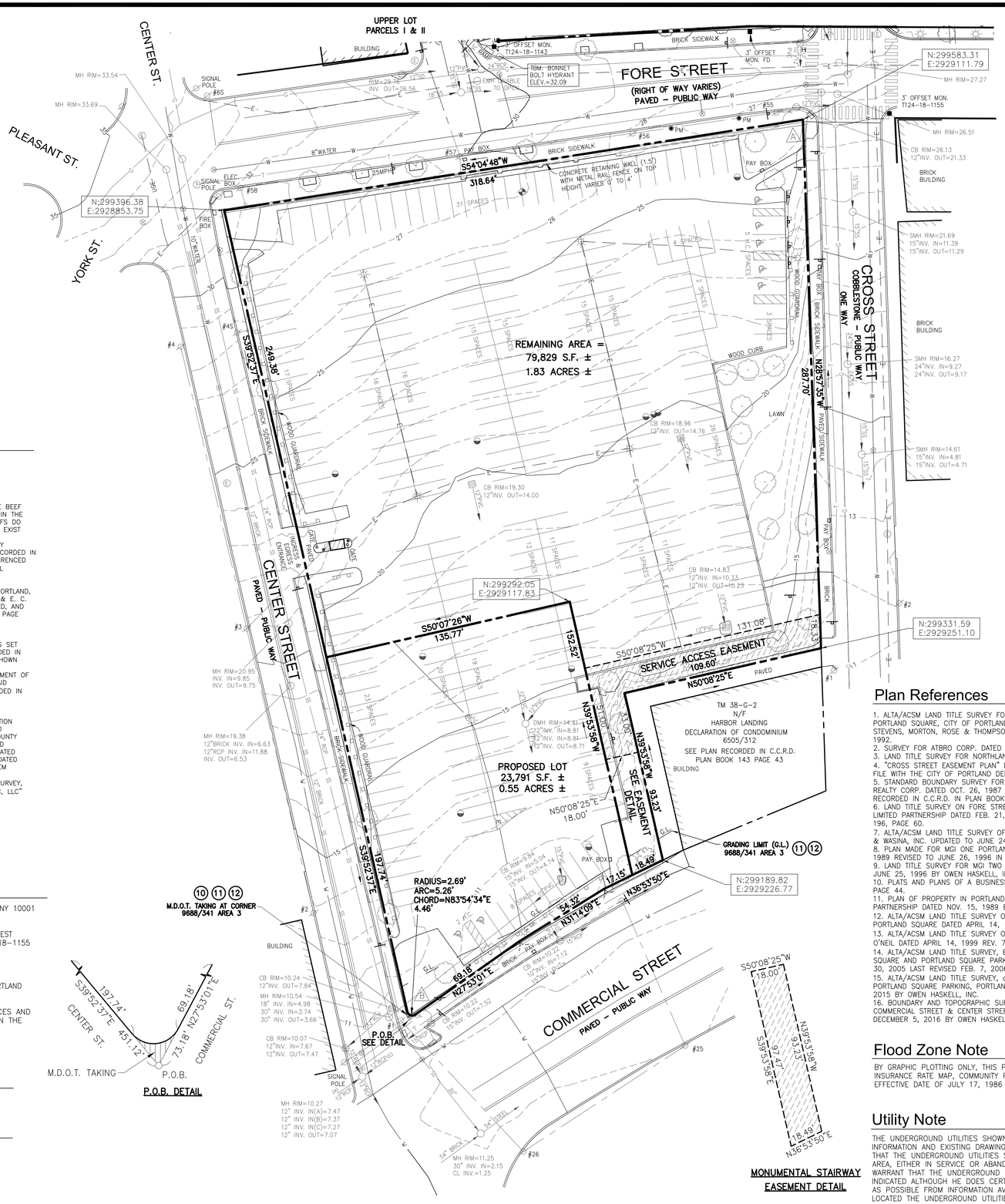
Possible Encroachments

Ⓐ 1.5' WIDE CONCRETE RETAINING WALL INTO CROSS STREET 1.8'±

Ⓑ BRICK SIDEWALK ON COMMERCIAL STREET ONTO SUBJECT PARCEL 2'±

SCALE : 1" = 30'

0' 15' 30' 60'



Legal Descriptions

PROPOSED LOT

A CERTAIN LOT OR PARCEL OF LAND AT THE INTERSECTION OF THE NORTHERLY SIDE OF COMMERCIAL STREET AND THE EASTERLY SIDE OF CENTER STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING ON THE NORTHERLY SIDELINE OF COMMERCIAL STREET AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, S 36°53'50" W ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 18.49 FEET TO THE POINT OF BEGINNING;

THENCE, FROM SAID POINT OF BEGINNING, N 39°53'58" W THROUGH THE LAND OF NORTH RIVER IV LLC 152.52 FEET;

THENCE, S 50°07'26" W CONTINUING THROUGH THE LAND OF NORTH RIVER IV LLC 135.77 FEET TO THE EASTERLY SIDELINE OF CENTER STREET;

THENCE, S 39°52'37" E ALONG THE EASTERLY SIDELINE OF CENTER STREET 197.74 FEET;

THENCE, ALONG A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 2.69 FEET, AN ARC LENGTH OF 5.26 FEET, A CHORD BEARING OF N 83°54'34" E AND CHORD DISTANCE OF 4.46 FEET TO THE NORTHERLY SIDELINE OF SAID COMMERCIAL STREET;

THENCE, N 27°53'01" E ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 69.18 FEET;

THENCE, N 31°14'09" E CONTINUING ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 54.32 FEET;

THENCE, N 36°53'50" E CONTINUING ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 17.15 FEET TO THE POINT OF BEGINNING, CONTAINING 23,791 S.F., OR 0.55 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BE DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

SERVICE ACCESS EASEMENT

A CERTAIN LOT OR PARCEL OF LAND ON THE WESTERLY SIDE OF CROSS STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE WESTERLY SIDELINE OF CROSS STREET AT THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, N 28°57'35" W ALONG THE WESTERLY SIDELINE OF CROSS STREET 18.33 FEET;

THENCE, S 50°08'25" W THROUGH THE LAND OF NORTH RIVER IV LLC 131.08 FEET TO THE PROPOSED LOT AS SHOWN ON SAID PLAN;

THENCE, S 39°53'58" E ALONG THE EASTERLY LINE OF SAID PROPOSED LOT 51.00 FEET;

THENCE, N 50°08'25" E THROUGH THE LAND OF NORTH RIVER IV LLC 18.00 FEET TO THE WESTERLY LINE OF LAND OF SAID HARBOR LANDING CONDOMINIUM, BEING AN EASTERLY LINE OF LAND OF SAID NORTH RIVER IV LLC;

THENCE, N 39°53'58" W ALONG SAID EASTERLY LINE OF LAND OF NORTH RIVER IV LLC 33.00 FEET;

THENCE, N 50°08'25" E ALONG THE SOUTHERLY LINE OF LAND OF NORTH RIVER IV LLC 109.60 FEET TO THE POINT OF BEGINNING, CONTAINING 2,922 S.F. OR 0.07 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BY DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

MONUMENTAL STAIRWAY EASEMENT

A CERTAIN LOT OR PARCEL OF LAND ON THE NORTHERLY SIDE OF COMMERCIAL STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTHERLY SIDELINE OF COMMERCIAL STREET AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, N 39°53'58" W ALONG THE WESTERLY LINE OF LAND OF SAID HARBOR LANDING CONDOMINIUM, BEING AN EASTERLY LINE OF LAND OF SAID NORTH RIVER IV LLC 93.23 FEET;

THENCE, S 50°08'25" W THROUGH THE LAND OF NORTH RIVER IV LLC 18.00 FEET TO THE PROPOSED LOT AS SHOWN ON SAID PLAN;

THENCE, S 39°53'58" E ALONG THE EASTERLY LINE OF SAID PROPOSED LOT 97.47 FEET TO THE NORTHERLY SIDELINE OF SAID COMMERCIAL STREET;

THENCE, N 36°53'50" E ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 18.49 FEET TO THE POINT OF BEGINNING, CONTAINING 1,716 S.F., OR 0.04 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BY DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

Plan References

1. ALTA/ACSM LAND TITLE SURVEY FOR PORTLAND SQUARE LIMITED PARTNERSHIP, TWO PORTLAND SQUARE, CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE, BY STEVENS, MORTON, ROSE & THOMPSON DATED DEC. 11, 1989, REVISED THROUGH DEC. 11, 1992.
2. SURVEY FOR ATBRO CORP. DATED JULY 1981 BY H.I. & E.C. JORDAN.
3. LAND TITLE SURVEY FOR NORTHLAND REALTY DATED NOV. 26, 1985 BY H.I. & E.C. JORDAN.
4. "CROSS STREET EASEMENT PLAN" DATED JAN. 3, 1986 BY HUNTER– BALLEW ASSOCIATES ON FILE WITH THE CITY OF PORTLAND DEPT. OF PLANNING AND URBAN DEVELOPMENT.
5. STANDARD BOUNDARY SURVEY FOR PORTLAND SQUARE LIMITED PARTNERSHIP, NORTHLAND REALTY CORP. DATED OCT. 26, 1987 BY STEVENS, MORTON, ROSE & THOMPSON, INC. RECORDED IN C.C.R.D. IN PLAN BOOK 182, PAGE 29.
6. LAND TITLE SURVEY ON FORE STREET, PORTLAND, MAINE MADE FOR TWO PORTLAND SQUARE LIMITED PARTNERSHIP DATED FEB. 21, 1996 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 196, PAGE 60.
7. ALTA/ACSM LAND TITLE SURVEY OF ONE PORTLAND SQUARE DATED MAY 16, 1996 BY LEWIS & WASINA, INC. UPDATED TO JUNE 24, 1996 IN PLAN BOOK 196, PAGE 221.
8. PLAN MADE FOR MGI ONE PORTLAND SQUARE, INC. BY H.I. & E.C. JORDAN DATED NOV. 15, 1989 REVISED TO JUNE 26, 1996 IN PLAN BOOK 196, PAGE 86 AND 219.
9. LAND TITLE SURVEY FOR MGI TWO PORTLAND SQUARE, INC., FORE STREET, PORTLAND, MAINE, JUNE 25, 1996 BY OWEN HASKELL, INC. IN PLAN BOOK 196, PAGE 220.
10. PLATS AND PLANS OF A BUSINESS CONDOMINIUM OCTOBER 29, 1987 PLAN BOOK 166, PAGE 44.
11. PLAN OF PROPERTY IN PORTLAND MAINE MADE FOR PORTLAND SQUARE LIMITED PARTNERSHIP DATED NOV. 15, 1989 BY H.I. AND E.C. JORDAN.
12. ALTA/ACSM LAND TITLE SURVEY ON FORE STREET PORTLAND, MAINE MADE FOR MGI, ONE PORTLAND SQUARE DATED APRIL 14, 1999 BY OWEN HASKELL, INC.
13. ALTA/ACSM LAND TITLE SURVEY ON FORE STREET PORTLAND, MAINE MADE FOR TIMOTHY O'NEIL DATED APRIL 14, 1999 REV. 7 3/23/04 BY OWEN HASKELL, INC.
14. ALTA/ACSM LAND TITLE SURVEY, BCIA PROJECT, ONE PORTLAND SQUARE, TWO PORTLAND SQUARE AND PORTLAND SQUARE PARKING, PORTLAND, MAINE, SHEETS 1 AND 2, DATED SEPT. 30, 2005 LAST REVISED FEB. 7, 2006 AND MARCH 3, 2006 BY OWEN HASKELL, INC.
15. ALTA/ACSM LAND TITLE SURVEY, oNE PORTLAND SQUARE, TWO PORTLAND SQUARE AND PORTLAND SQUARE PARKING, PORTLAND, MAINE, MADE FOR NORTH RIVER IV LLC FEBRUARY 12, 2015 BY OWEN HASKELL, INC.
16. BOUNDARY AND TOPOGRAPHIC SURVEY, LOWER PARKING LOT, FORE STREET, CROSS STREET, COMMERCIAL STREET & CENTER STREET, PORTLAND, MAINE MADE FOR CARROLL ASSOCIATES DECEMBER 5, 2016 BY OWEN HASKELL, INC.

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051 0013 B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

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.

ALTA / NSPS Land Title Survey

Commercial & Center Street
Portland, Cumberland County, Maine
Made For
Fathom CC, LLC
80 Exchange Street, Suite 30, Portland, Maine

Surveyor's Certification

TO: FATHOM CC, LLC, AND OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 11, 13, 14, 16, 17, 19 AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 5, 2016, WITH A FIELD INSPECTION ON SEPTEMBER 18, 2018.

Randy R. Loubier

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: OCTOBER 12, 2018
DATE OF LAST REVISION:

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: OHI / JLW	FIELD BOOK: FILE	JOB NO.	2018-239 P
CHECKED BY: RRL	SCALE: 1" = 30'	DRWG. NO.	1

2. TITLE, RIGHT, INTEREST

2.1 NARRATIVE

As noted on the survey, the hotel will be located on a proposed lot to be split from the larger existing parcel, owned by North River IV, LLC. Fathom CC, LLC holds an Agreement of Purchase and Sale with North River IV, LLC, to acquire 23,795 +/- SF of the parcel. A redacted copy of the Agreement of Purchase and Sale between North River IV, LLC and Fathom CC, LLC, which serves as evidence of right, title, and interest, has been attached to this Section. An updated version of this agreement will be provided once it has been finalized.

2.2 LIST OF ATTACHMENTS

- City of Portland Tax Map
- Draft Agreement of Purchase and Sale, dated August 9, 2018, between North River IV, LLC and Fathom CC, LLC

F9SE F10SW F10SE

E9NE E10NW

E9SE E10SW E10SE

SPRING ST
ONE PORTLAND SQUARE CONDO
39393
032 I036
032 I040
CANAL PLZ
1 - 4
0 - 0
032 I039
21195
40
032 I041
41764
032 I013
1880
032 I017
032 I018
395
3315
PATTON CT
11 - 1
18 - 1
032 F014
365 - 377 379 - 387
366 - 380 382 - 388
370
376
390 - 406 389 - 399
384
388
12
392
032 J001
2812
032 J002
1892
398
FORE ST CONDO
958
032 J005
FORE-DANA CONDO
3120
394
8 - 17
8 - 18
12 - 15
2 - 5
2 - 6
032 S001
5808
11
9
032 S003
2727
032 S004
161
3600
5
032 S005
3
3576
MARKET ST
1 - 15
2 - 15
029 D001
145
14978
029 S001
SILVER ST
1 - 15
2 - 15
128 - 134 133 - 139
030 C006
100
030 C007
030 C008
030 C005
030 C004
030 C003
030 C002
138
030 C001
030 A001
030 A002
9
7407
030 B002
030 B003
22
030 B006
030 B001
40 PORTLAND PIER CONDO
8269
40
39
030 H008
030 H001
48169
038 B001
038 B002
2
038 B003
455
463
469
UNION ST
24 - 45 29 - 43
47 - 58 47 - 67
39520
414 - 426 405 - 427
409 - 412 401 - 403
032 N011
414
416
418
032 N010
410
032 N009
1120
420
2178
424
422
426
032 N012
2079
1080
428 - 448 429 - 457
032 R001
1740
432
032 R004
434
032 R003
1036
436
1426
43
37
WHARF ST
37 - 53 38 - 54
42
032 R007
4739
45
446
032 R008
1891
47
51
46
44
032 V015
4590
032 V016
2630
34
36
10
032 V001
3469
205
032 V002
3805
207
032 V004
4324
211
215
032 V005
6530
217
219
223
50
52
032 V014
8048
032 V012
032 V008
5392
225
227
1
ONE UNION ST CONDO
5109
231
235
237
9 - 13 10 - 15 - 21
DANA ST
1 - 11
2 - 10
032 T004
6093
4
10
032 U005
3983
7
032 U003
3991
032 U004
2406
1
MOULTON ST
1 - 11
2 - 10
155 - 171 156 - 170
172 - 180 173 - 183
182 - 194 185 - 197
COMMERCIAL ST
136 - 154 141 - 153
116426
144
030 H004
144
030 H007
030 H011
030 H019
030 H018
5
1873
1800
2229
12016
12
1832
1864
1760
1920
2000
PORTLAND PIER
1 - 83
2 - 84
030 H013
5100
DOCK
1500
031 H007
031 H002
184
DOCK
15996
031 H001
031 J030
79792
196 - 214 0 - 0
198 - 215 0 - 0
216 - 234 217 - 237
LONG WHARF
1 - 25
2 - 26
029 D002
031 J031
031 K103
031 L038
1
11786
2278
031 L135
26336
1
031 K003
218
13200
2 - 32
1 - 31
WIDGERY'S WHARF
031 J032
1712
2 - 78 1 - 77
CHANDLER'S WHARF
715
708
714
707
713
719
706
711
717
705
710
716
704
712
703
709
86862
702
709
701
700
81980
DOCK
298453
25
109
101
108
102
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103
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105
613
606
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605
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604
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603
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602
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601
607
031 J003
031 J002
CHANDLER'S WHARF CONDO
81980
71280
212
201
211
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205
207
206
506
512
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511
504
510
503
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315
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313
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312
305
406
412
031 K010
031 L036
71280
1 inch = 50 feet
COTTON ST
498 - 516 505 - 517
474 - 496 463 - 503
038 G001
68736
038 F009
28337
468
470
038 F008
2128
038 F019
12471
038 F006
038 F004
241
4857
245
4930
038 F010
261
4463
038 F020
9430
CROSS ST
1 - 35
2 - 38
038 G003
038 G007
038 G002
HARBOR LANDING CONDO
8568
038 G005
12386
CENTER ST
1 - 39
2 - 40
040 F009
64954
040 F011
305
041 A014
041 A015
260
12983
041 A016
041 A012
12 A
041 A0121
22352
041 A018
041 A017
041 A011
254
036
147389
034048
031 K008
031 L034
250
14948
7390
031 L035
30
031 L036
UNION WHARF
COMMERCIAL ST
228 - 242 229 - 251
224 - 256 253 - 265
204 - 220 205 - 233
D - O
12 - 0
0 - 0
1 - 1
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April 1 2012 fy 2013

Tax Map Index; http://www.portlandassessors.com/taxmaps.htm

Index Number - E10NW

EXECUTION VERSION

AGREEMENT OF PURCHASE AND SALE

between

FATHOM CC, LLC

Buyer

And

NORTH RIVER IV, LLC

Seller

August 9, 2018

Center and Commercial Streets
Portland Square
Portland, Maine

AGREEMENT OF PURCHASE AND SALE

BY THIS AGREEMENT OF PURCHASE AND SALE (the "Agreement") entered into this 9th day of August, 2018 ("Effective Date"), NORTH RIVER IV, LLC, a Delaware limited liability company (hereinafter referred to as "Seller"), and FATHOM CC, LLC, a Delaware limited liability company (hereinafter referred to as "Buyer"), hereby agree as follows:

ARTICLE I
Terms and Definitions

Section 1.1. In addition to the other terms herein defined, the following terms shall have the meanings set forth in this Article I, unless the context otherwise requires:

Buyer's Knowledge. Means the knowledge of James Brady based upon his historical knowledge of the Real Property and assuming a commercially reasonable level of inquiry.

Closing. The consummation of the purchase and sale of the Property pursuant to this Agreement.

Deed. As defined in Section 11.2.1(a).

Deposit. The cash deposits referred to in Article III.

Due Diligence Period. As defined in Section 6.4.

Execution Date. The date of this Agreement as hereinabove set forth.

Improvements. All improvements constructed on the Real Property.

Master Development. Means the Seller's development of the area shown in the Plan attached as Exhibit C.

Property. The Real Property and Improvements.

Purchase Price. The Purchase Price to be paid by Buyer for the Property in the manner provided in this Agreement.

Real Property. The real property located at Commercial Street and Center Street, Portland, Maine, as more particularly described on Exhibit A attached hereto and by this reference made a part hereof, together with all strips and gores of land lying adjacent to such land and owned by Seller, and all rights, privileges, easements and appurtenances thereto. The Real Property description shall be finally determined by an ALTA survey commissioned by Buyer and the Real Property shall be conveyed using that survey description.

Preliminary Title Report. The commitment for issuance of an owner's policy of title insurance issued by the Title Company.

Seller's Knowledge. Means the knowledge of Christopher Flagg, Christopher Pachios and Peter Pachios based upon their historical knowledge of the Real Property and assuming a commercially reasonable level of inquiry.

Title Company. A nationally recognized title insurance company to be selected by Buyer.

ARTICLE II
Purchase and Sale

Section 2.1. Purchase and Sale. Seller agrees to sell, contribute and convey to Buyer, and Buyer agrees to purchase from Seller, the Property, on all of the mutual terms, covenants and conditions hereinafter set forth.

ARTICLE III
Deposit

Section 3.1. Deposit. Upon execution hereof, Buyer shall deposit with Old Republic National Title Insurance Company (the "Escrow Agent") the sum of [redacted] Dollars [redacted] (the "Initial Deposit"). Upon completion of the Due Diligence period if Buyer has not otherwise terminated this Agreement in accordance with its terms, Buyer shall deposit with the Escrow Agent the additional sum of [redacted] Dollars [redacted] (the "Additional Deposit"). The Initial Deposit and the Additional Deposit are hereinafter collectively referred to as the "Deposit" and are to be held and applied as hereinafter set forth. The Deposit shall be held in an interest-bearing escrow account. All interest earned on the Deposit shall be credited to Buyer unless the purchase and sale of the Property is not consummated hereunder, in which case such interest shall be paid to the party entitled to receive the Deposit.

Section 3.2. Non-Refundable. Except as otherwise specifically set forth in this Agreement, the Deposit shall be non-refundable, and shall serve as Seller's liquidated damages in the event of a breach of this Agreement by Buyer pursuant to Article IV, or shall be applied against the Purchase Price pursuant to Article V.

Section 3.3. Termination. In the event Buyer elects to terminate this Agreement pursuant to Article VI, the Deposit shall be refunded to Buyer following receipt by Seller and Escrow Agent of Buyer's Termination Notice, as such term is defined in said Article.

Section 3.4. Liability of Escrow Agent. In the event of any disagreement between the parties, Escrow Agent shall be entitled to refuse to comply with any claims or demands by either party as long as such disagreement may continue, and in so refusing, shall make no delivery or other disposition of the Deposit. Escrow Agent shall not become liable in any way for such refusal, and Escrow Agent shall be entitled to continue to refrain from acting until (a) the rights of the parties shall have been finally adjudicated in a court of competent jurisdiction, or (b) all differences shall have been settled by agreement and Escrow Agent shall have been notified in writing of such agreement signed by both parties.

ARTICLE IV
Damages

Section 4.1. Buyer's Default. In the event that this transaction does not close as a consequence of a default by Buyer, Seller shall retain the Deposit as liquidated damages. The parties hereby agree that if Buyer defaults, Seller's actual damages would be difficult or impossible to determine, and thus the amount of the Deposit is the best estimate of the damage Seller would suffer. Accordingly, the Deposit shall be the total amount that Seller is entitled to receive as liquidated damages.

Section 4.2. Seller's Default. In the event Seller fails to perform any obligation of Seller under this Agreement, including without limitation the obligation to convey good, clear record and marketable title to the Property to Buyer on the Closing Date, as hereinafter defined, in accordance with the provisions of this Agreement, and such failure shall remain uncured for a period of thirty (30) days following written notice thereof from Buyer to Seller (but no notice shall be required for Seller's failure to convey title as required hereunder on the Closing Date), then Buyer may (a) terminate this Agreement, in which event the Deposit together with all interest thereon shall be returned to Buyer, or (b) Buyer shall be entitled to pursue any other remedies available to Buyer at law or in equity, including the right to seek to enforce specific performance of Seller's obligations hereunder.

ARTICLE V
Purchase Price

Section 5.1. Amount of Consideration. Buyer shall provide Seller consideration (the "Consideration") for the Property consisting of: (A) cash in the amount of [redacted] (the "Cash Portion"); (B) Class A Units in Buyer representing a capital contribution of [redacted] and (C) one (1) Class C Unit in Buyer (the Class A Units and Class C Unit are referred to collectively as the "Equity Portion").

Section 5.2. Manner of Payment. Buyer shall pay and provide the Consideration to Seller at the Closing as follows:

5.2.1. Deposit. Applying the Deposit against the Cash Portion of the Consideration; and

5.2.2. Cash Portion. Paying the balance of the Cash Portion of the Consideration, by wire transfer to an account to be designated by Seller (the "Cash Balance").

5.2.3. Equity Portion. Issuing the Equity Portion of the Consideration to Seller Purchase Price by entering into the Operating Agreement of Owner in the form attached hereto as Exhibit B (the "Ownership LLC Agreement").

Section 5.3. Treatment of Transaction. Buyer and Seller agree that the transactions contemplated hereby shall be deemed to consist of a sale of a portion of the Property in exchange for the Cash Portion of the Consideration and a contribution of the Property in exchange for the Equity Portion of the Consideration, all pursuant to Section 707(a)(2)(B) of the Internal Revenue

Code of 1986 and Treasury Regulations Section 1.707-3(a)(1). Buyer and Seller agree that the transactions contemplated hereby shall be reported for federal income tax purposes consistent with the preceding sentence.

ARTICLE VI
Conditions Precedent to Closing

Section 6.1. Buyer's Conditions Precedent. Buyer's obligation to purchase the Property from Seller is subject to the following conditions precedent (the "Buyer's Conditions Precedent"):

6.1.1. Title. At the Closing, Seller shall sell, assign, convey, transfer and deliver the Property to the Buyer by good and sufficient Quitclaim Deed with Covenant in form acceptable to the Buyer (the "Deed"), and the Deed shall convey to the Buyer fee title consistent in all respects with the Title Commitment.

6.1.2. Condition of Improvements. The Improvements shall be substantially the same condition as the Improvements were in at the end of the Due Diligence Period, reasonable wear and tear excepted.

6.1.3. Seller's Representations and Warranties. Seller's representations and warranties set forth herein shall be true and correct in all material respects at and as of the Closing as though such representations and warranties were made at and as of such date.

6.1.4. Seller's Compliance. The Seller shall have in all respects performed and complied with all covenants, agreements and conditions required by this Agreement to be performed or complied with by them prior to or at the Closing.

6.1.5. Title Policy. The Buyer shall have obtained a title insurance policy with respect to the Property conforming in all respects to the Title Commitment.

6.1.6. Lease Termination. Delivery by Seller of evidence satisfactory to Buyer that all Leases of all or any portion of the Property have been terminated at or prior to Closing, at Seller's expense, and Tenants have no further right to occupancy or use of the Property thereunder.

6.1.7. Approvals. Buyer shall have received all Approvals for the Project in accordance with Section 6.5 hereof on a final, non-appealable basis (subject only to such terms and conditions as may be approved by Buyer, in its sole discretion), and all Approvals, as received, shall continue in full force and effect through the date of Closing, without any amendments, changes or additional conditions not approved by Buyer.

6.1.8. Consents and Approvals. The Seller shall have obtained all consents, approvals, authorizations, exemptions and waivers from governmental authorities and third parties, if any, as shall be necessary, in the Buyer's reasonable discretion, to effect the transactions contemplated hereby.

6.1.9. Parking Lease and Construction License. Buyer and Seller shall have executed and delivered the Parking Lease as described in Section 14.1 and the Construction License as described in Section 14.2.

6.1.10. No Material Adverse Changes. There shall have been no material adverse change since the date of this Agreement in the Property, except changes contemplated or required by this Agreement, including without limitation, any change in the title, physical condition, legal status, use or possession of the Property from the conclusion of the Due Diligence Period through the date of closing that would cause the Property to be unsuitable for development of the Project, as reasonably determined by Buyer.

6.1.11. No Legal Restraints or Litigation. No statute, rule, regulation or order of any court or administrative agency shall be in effect which restrains or prohibits the Seller from consummating the transactions contemplated hereby. In addition, no action, suit, or proceeding shall be pending before any court or quasi judicial or administrative agency of any federal, state, local, or foreign jurisdiction wherein an unfavorable injunction, judgment, order, decree, ruling, or charge would (a) prevent consummation of any of the transactions contemplated by this Agreement, or (b) result in a material adverse change in the Property or the ability to develop the Project at the Property.

Section 6.2. Failure of Buyer's Conditions Precedent. If, at the time of the Closing, any of the foregoing Buyer's Conditions Precedent have not been fulfilled, Buyer may, at its option, do either of the following:

6.2.1. Waive and Close. Waive such condition and close in accordance with this Agreement; or

6.2.2. Terminate. Terminate this Agreement by delivery of a written notice to Seller and to Escrow Agent ("Buyer's Termination Notice") and enforce any remedy afforded by Section 4.2; provided however that, if Buyer fails to deliver Buyer's Termination Notice to Seller at or prior to the Closing, the applicable condition or conditions shall be deemed waived by Buyer.

Section 6.3. Title Examination. From the date hereof through the date of expiration of the Due Diligence Period, as hereinafter defined (the "Title Inspection Period"), Buyer shall have the opportunity to review the commitment to insure title (the "Title Commitment"), any amendments thereto issued during the Title Inspection Period, the exceptions to title disclosed in the Title Commitment, all Survey Matters and all other aspects of Seller's title to the Property. The Title Commitment shall be for the benefit of the Buyer, at customary rates, in the ALTA form currently in use, subject only to the Permitted Encumbrances (as defined below) and with such standard exceptions deleted standard endorsements included as Buyer may, in its sole discretion, require. On or before the date of the expiration of the Title Inspection Period (the "Title Notice Deadline"), Buyer shall notify Seller in writing of any defect in title to the Property, or any other matter which is indicated on the Title Commitment or any Survey Matter to which Buyer objects except for the following (collectively, the "Permitted Encumbrances"): (a) liens for real estate taxes not yet due and payable or for betterments assessed after the Execution Date, (b) other encumbrances which may be removed or satisfied by the payment of a

liquidated sum of money which Seller agrees to discharge at Closing to Buyer's satisfaction and (c) such easements, restrictions and reservations of record as are acceptable to Buyer, in its discretion. If Buyer does so notify Seller of a defect in title or other matter objectionable to Buyer prior to the Title Notice Deadline, Seller shall have ten (10) days in which to determine whether to cure the defect or other matter so objected to by Buyer and to notify Buyer of Seller's decision in this regard. If Seller does not respond within such time frame, Seller shall be deemed to have elected not to cure the defect or other matter. Seller, at its sole cost and expense, will have until thirty (30) days before the Closing to cure the title objections, other than the Monetary Liens (as herein defined), which (to the extent not previously removed) Seller shall remove or cure by payment of funds at Closing. Those defects that Seller gives notice will be cured on or before the Closing Date, along with discharge of Monetary Liens, are referred to herein as "Mandatory Cure Items." If Seller elects (or is deemed to elect) not to cure the defect or other matter so objected to by Buyer to the reasonable satisfaction of Buyer, Buyer shall have the right, by not later than the tenth (10th) day after the date of Seller's notice (or failure to provide notice) to either (a) waive such defect or other matter and take title to the Property without any adjustment in the Purchase Price, or (b) terminate this Agreement by giving written notice thereof to Seller. If Buyer timely gives such notice of termination, this Agreement shall terminate and the Deposit shall be returned to Buyer. If Buyer fails to give Seller a notice of termination, Buyer (a) shall no longer have an right to terminate this Agreement under this Section 6.1.1 and shall be bound to proceed to Closing and consummate the transaction contemplated hereby pursuant to the terms of this Agreement and (b) shall be deemed to have approved the state of title to the Property as it exists on the effective date of the Title Commitment, as last amended during the Title Inspection Period. Seller shall be responsible for discharging any mortgages or voluntary monetary liens (other than municipal liens not yet due and payable), including mechanics' liens for unpaid work at the Property performed on behalf of Seller, (collectively, "Monetary Liens") at or prior to Closing.

Section 6.4. Buyer's Due Diligence. Notwithstanding any other provision of this Agreement to the contrary, Buyer shall be entitled to undertake a thorough investigation of the Property, including without limitation such reviews, analyses and studies of the Property and the development of the Project at the Property, as Buyer may, in its sole discretion, determine to be necessary or appropriate, including without limiting the generality of the foregoing:

6.4.1. Inspection of physical condition.

6.4.2. Review of the Leases (copies of which shall be made available to Buyer promptly following the Effective Date).

6.4.3. Confirmation that the Property has all necessary zoning, including zoning board approvals of required variances and any other matters, required in order to develop the Project ("Zoning Confirmation");.

6.4.4. A Phase I Environmental Site Assessment for the Property, together with any Phase II Environmental Site Assessments or other studies or analyses as may be required ("ESA").

6.4.5. An ALTA/ACSM Land Title Survey of the Property certified satisfactory to Buyer, in its sole opinion, sufficient in all respects to delete the standard survey exception from Buyer's title policy, and bearing a legal description, made by a licensed surveyor, and showing, among other things, the area, dimensions and location of the Property to the nearest monuments, streets, alleys on all sides, the topography, the location of all available utilities in adjoining streets, alleys, or property, the location of all recorded and apparent easements against or appurtenant to the Property, the location of all active and abandoned sewer and storm water lines on an as built basis, certifying the applicable zoning and flood zone classifications and not disclosing any condition rendering the Property unusable, in Buyer's sole opinion, for the Project (the "Survey").

6.4.6. A geotechnical report in form satisfactory to Buyer, boring, percolation and other soil tests and feasibility, demographic, traffic pattern, and other site assessment studies ("Site Studies") as required by Buyer.

6.4.7. Confirmation that all utilities, including without limitation, water, gas, electric power, telephone, cable and sanitary sewer, necessary or appropriate for development of the Project ("Utilities"), as determined by Buyer in its sole discretion, shall be located in the public way or ways adjacent to the Property ("Utility Confirmation") which confirmation may be in such form as Buyer may require.

In connection therewith, Buyer shall have access to the Property as required, and may conduct such tests, studies, surveys and inspections (expressly including boring, drilling and other subsurface exploration as Buyer may reasonably deem appropriate. In addition, Buyer shall be afforded full opportunity by Seller, without warranty or recourse, to examine all books and records which relate to the Property in the possession of Seller and/or Seller's agents or employees, including the reasonable right to make copies of such books and records. Such right shall extend to all operating books of account, environmental and engineering reports, surveys, title reports and insurance policies, Leases, rental applications and any other agreements, correspondence or other documents relating to the Leases, tenant files, rent rolls, operating statements, accounting support for bills, inventories of Personal Property, service contracts, management contracts, warranties, general ledgers, journals, vendor files, invoices, operating manuals, maintenance records, utility bills, marketing data (including brochures), historical occupancy reports and any summaries of such items but excluding Seller's internal memoranda, financial projections, budgets, appraisals, accounting and tax records, attorney work product, work protected by attorney-client privilege and similar proprietary or confidential information. Buyer shall take commercially-reasonable precautions to ensure that such materials and any information contained therein are disclosed only to such of Buyer's employees, agents, consultants, attorneys, investors and lenders as have need therefor, under conditions which will prohibit any further dissemination thereof not authorized by Seller. Buyer shall have the right to contact and communicate with such governmental officials regarding the Property and the project as Buyer may deem appropriate.

If Buyer, in Buyer's sole and absolute discretion, is not satisfied with the results of such investigation, Buyer may terminate this Agreement by giving Buyer's Termination Notice to Seller and Escrow Agent at any time during the period beginning on the Effective Date and continuing through the sixtieth (60th) day thereafter (the "Due Diligence Period"). Buyer shall

restore to its former condition any portion of the Property disturbed by any activity conducted hereunder, shall repair all damage to the Property caused thereby and shall indemnify and hold Seller harmless from and against any claims, losses, liabilities, costs or expenses (including without limitation reasonable attorneys' fees) asserted against or incurred by Seller in connection with any such activity, it being expressly understood and agreed that the foregoing provisions shall survive the Closing or the termination of this Agreement prior thereto.

Section 6.5. Permitting and Approvals. Notwithstanding any other provisions of this Agreement to the contrary, Buyer shall be entitled to apply for and obtain all necessary federal, state and local governmental permits, licenses and approvals of any type or nature required in connection with the development of as may be necessary for the development and construction of an approximately on hundred thirty (130) room hotel on the Property, which hotel may include up to fifteen (15) residential units (the "Project") at the Property, including without limiting the generality of the foregoing, all necessary site plan, and other governmental permits, licenses, and approvals, of any type and from any necessary public or governmental authority or other party for Buyer's development of the Project at the Property (collectively, the "Approvals").

6.5.1. If for any reason whatsoever all Approvals required for the development of the Project have not been obtained on a final, non-appealable basis (subject only to such terms and conditions as may be approved by Buyer, in its sole discretion) on or before the expiration of the period commencing on the expiration of the Due Diligence Period and terminating one hundred fifty (150) days thereafter (the "Entitlement Period") (as the same may be extended as provided below), then Buyer may, in its sole discretion, terminate this Agreement by giving Seller written notice thereof, in which event this Agreement shall terminate, the Deposit shall be returned to Buyer and the parties shall have no further obligations of any nature whatsoever hereunder. If Buyer fails to give Seller a notice of termination on or before the expiration of the Entitlement Period, then Buyer shall be deemed to have waived this condition and Buyer's right to terminate this Agreement for failure to satisfy this condition. Buyer shall have the right to purchase up to two 30-day extensions of the Entitlement Period provided the Buyer is pursuing the Approvals in good faith. Buyer shall notify the Seller of its exercise of each 30-day extension by written notice, together with the [redacted] to Seller provided on or before the expiration of the entitlement period (as extended). All payments made pursuant to this paragraph shall become and be considered part of the Deposit as defined in Section 3.1.

6.5.2. Buyer shall have the right to apply for and pursue the Approvals on a stand-alone basis, separate from any master plan permits or approvals required for Seller's Master Development, so long as such Approvals do not unreasonably interfere with Seller's Master Development.

6.5.3. Buyer shall be responsible, at its sole cost and expense, for production of all plans, specifications and other materials required in connection with application for and obtaining Approvals, and for preparing and submitting all necessary applications ("Project Plans"); provided, however, that Seller shall have the right to review the Project Plans, at Seller's expense, prior to submission for site plan approval from the City of Portland Planning Board ("Site Plan Approval"). Prior to submission of any application or other materials and all amendments thereto in connection with obtaining Site Plan Approval, Buyer shall submit draft

Project Plans to Seller for Seller's review and comment. Seller shall have the right to review and approve the Project Plans prior to submission for Site Plan Approval. Seller's approval shall not be unreasonably conditioned, delayed or withheld, provided, however, that Seller, in its sole and absolute discretion, may condition, delay or withhold approval if Seller determines that Buyer's activities, including but not limited to the Project as described on the Project Plans, will or may interfere with Seller's development plans on its adjacent land. Buyer and Seller agree to work together in a commercially reasonable manner to integrate the Project Plans and Seller's planning for the Master Development. Buyer and Seller shall keep Seller informed of the progress of the Approvals procurement process. Seller shall be a co-applicant to the extent required.

6.5.4. Notwithstanding the provisions of Section 6.5.1 above:

(a) The Entitlement Period shall be tolled for the duration of Seller's review of Buyer's application for Site Plan Approval and related materials, from the date of submission to the date of final approval of submission of the application for Site Plan Approval to the City of Portland Planning Board.

(b) Buyer and Seller shall exercise commercially reasonable efforts to obtain separate review of Buyer's Site Plan Approval and Seller's Master Development plan approvals; however, in the event the review and approval of Buyer's Site Plan Approval is integrated with, or becomes contingent upon, the Seller's Master Development plan approvals, then the Entitlement period shall be extended for the duration of the City of Portland Planning Board's review of the Seller's Master Development.

6.5.5. The parties hereto agree and recognize that the Property needs to be subdivided from a larger tract shown in Exhibit C (the "Lot") in a configuration to be acceptable to the Buyer. If the Lot is not approved for subdivision in a configuration reasonably acceptable to Buyer, then Buyer may terminate this Agreement by giving Seller written notice thereof on or before the expiration of the Entitlement Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder. If Buyer fails to give Seller a notice of termination on or before the expiration of the Entitlement Period, then Buyer shall be deemed to have waived this condition and Buyer's right to terminate this Agreement for failure to satisfy this condition.

Section 6.6. Utilities. To the extent of Seller's knowledge, without any duty of inquiry, Seller shall provide Buyer with specifications of all electric Utility service to the property, including but not limited to types, capacity, costs (payable by Buyer) (collectively, the "Costs") and location of interconnection. Buyer shall have until the end of the Due Diligence Period to evaluate whether such connections are suitable for Buyer. If not, Buyer shall give Seller notice of the same no later than the end of the Due Diligence Period. In the event improvement to electric Utility connections are required in connection with the Project in order to provide the Project with 3,000 amps at 120/208 service, then on or before the expiration of the Due Diligence Period, Buyer and Seller shall exercise good faith efforts to negotiate and enter into a mutually satisfactory agreement regarding the construction of such Improvements ("Utility Improvements") and allocation of any Costs associated therewith, taking into consideration the relative benefit derived by the Project and the Master Development from the Utility

Improvements; provided that the cost allocated to Buyer shall not exceed [redacted] ("Utilities Agreement"). Failure to enter into a Utilities Agreement shall constitute a lack of Utility Confirmation under Section 6.4.7 hereof. The Utilities Agreement will contain the following provisions, among others, all as more particularly set forth therein:

(a) In the event the Seller does not complete Utilities Improvements as required in order to accommodate Buyer's development schedule for the Project (as provided to Seller contemporaneously herewith), then Buyer shall have the right to complete the Utility Improvements, following written notice to Seller and an opportunity to cure, all as to be more particularly described in the Utilities Agreement.

(b) Seller shall reimburse Buyer for all Costs associated with Buyers construction of Utility Improvements in excess of [redacted], with such reimbursement obligation to be due and payable at the earlier of (i) such time as Seller has received site plan approval from the City of Portland Planning Board for the Master Development or (ii) six (6) months following completion of the Utility Improvements. All amounts advanced by Buyer in excess of [redacted] ("Reimbursable Utility Costs") shall accrue interest at the rate of [redacted] per annum beginning on from the date of each advance until date of payment with interest payable monthly.

(c) Reimbursable Utility Costs shall include only costs paid to a third party on an arm's length basis for development and construction/installation of Utility Improvements.

(d) Seller shall have the right to take over Buyer's utility work upon reasonable advance notice at any point during the construction/installation process, provided adequate assurance of completion of the Utility Improvements in a timely manner is provided.

(e) Buyer will agree to provide Seller with notice of any communication with Central Maine Power Company regarding the design and scope of work, which may not be amended in any way without the prior written consent of Seller.

(f) In the event Seller completes the Utility Improvements and Buyer abandons the development of the Project, Buyer shall nevertheless be obligated to reimburse Seller for Buyer's allocated of Costs associated therewith, up to the [redacted] limit specified above.

Section 6.7. Closing. Subject to satisfaction of the conditions set forth in in this Article VI and Section 15.5, the Closing shall occur on the date specified by Buyer at the not later than sixty (60) days following the Entitlement Period ("Closing Date"). Closing shall occur at the offices of Pierce Atwood LLP, 254 Commercial Street, Portland, Maine commencing at 10:00 a.m. local time on the Closing Date, or at such other date, time and location as Buyer and Seller may mutually agree.

Section 6.8. Effective Termination. If this Agreement is terminated pursuant to the provisions of this Article, all other obligations of the parties hereto shall cease and this Agreement shall be void and without recourse to the parties hereto, except as otherwise expressly set forth in Article IV and Section 6.2 hereof.

Section 6.9. Seller's Conditions Precedent. Seller's obligation to sell the Property to Buyer is subject to the following conditions precedent (the "Seller's Conditions Precedent"):

(a) Payment by Buyer of all sums due in accordance with this Agreement;

(b) As of the Closing Date, there shall be no pending court litigation of any kind whatsoever against or relating to the Property, which would prohibit or materially impair Seller's ability to close hereunder;

(c) All of the representations and warranties of Buyer shall be true and correct in all material respects as of the Closing, and Buyer shall deliver a separate certificate certifying to that effect; and

(d) Buyer shall have performed in all material respects each of its obligations under this Agreement to be performed at or prior to the Closing.

ARTICLE VII
Representations and Warranties

Section 7.1. Buyer's Representations and Warranties. Buyer hereby represents, warrants and covenants to Seller the following:

(a) Buyer is duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing in the State of Maine. Buyer has the requisite right, power and authority to buy the Property from Seller as provided herein, and has taken all action necessary to authorize the execution, delivery and performance of this Agreement. Buyer has obtained all consents and approvals necessary for Buyer's execution, delivery and performance of this Agreement, and the performance by Buyer of Buyer's obligations hereunder will not constitute a default under the terms and provisions of any material agreement, document or instrument to which Buyer is a party or by which Buyer is bound.

(b) This Agreement constitutes the valid and binding obligation of Buyer, enforceable against Buyer in accordance with its respective terms, except to the extent that enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the rights of contracting parties generally.

(c) There is no suit or proceeding pending or, to Buyer's knowledge, threatened against or affecting Buyer that might affect or relate to this Agreement or the transactions contemplated hereby, in any court or before or by any federal, state, county or municipal department, commission, board, bureau, or agency or other governmental instrumentality. No order, writ, injunction, subpoena or decree has been issued by or requested of any court or government agency which is reasonably likely to result in a material adverse change in the Property or the Buyer, or which could reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(d) Buyer has engaged no broker or agent in connection with the sale. Buyer shall indemnify, defend and hold Seller harmless from and against any loss, damages, liabilities, costs or expenses, including without limitation attorneys' fees and court costs, resulting from any claim for a fee or commission by any other broker or finder with whom Buyer has dealt.

(e) Neither Buyer nor any of its affiliates, nor any of their respective partners, members, shareholders or other equity owners, and none of their respective employees, officers, directors, representatives or agents is, nor will they become, a person or entity with whom United States persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

Section 7.2. Authority. Each party warrants and represents that this Agreement and all other documents delivered prior to or at the Closing (a) have been or shall be duly authorized and executed and delivered by such party; (b) are legal, valid, and binding obligations of such party; and (c) neither violate any provision of any agreement to which such party is a party, nor violate any charters, bylaws, operating agreements or other organizational documents of such party.

Section 7.3. Seller's Representations and Warranties. Seller hereby represents, warrants and covenants to Buyer the following:

(a) Seller is duly organized, validly existing and in good standing under the laws of the State of Delaware and is in good standing in the State of Maine. Seller has the requisite right, power and authority to sell and convey the Property to Buyer as provided herein, and has taken all action necessary to authorize the execution, delivery and performance of this Agreement. Seller has obtained all consents and approvals necessary for Seller's execution, delivery and performance of this Agreement, and the performance by Seller of Seller's obligations hereunder will not constitute a default under the terms and provisions of any material agreement, document or instrument to which Seller is a party or by which Seller is bound.

(b) This Agreement constitutes the valid and binding obligation of Seller, enforceable against Seller in accordance with its respective terms, except to the extent that enforcement may be limited by applicable bankruptcy, insolvency, moratorium and other principles relating to or limiting the rights of contracting parties generally.

(c) Seller has not received any written or oral notice of any pending condemnation, expropriation, eminent domain or similar proceeding affecting all or any portion of the Property and has no knowledge that any such proceeding is contemplated.

(d) There are no leases, tenancy agreements, tenancies at will, parking space agreements and other contracts, agreements or occupancy arrangements, whether written or oral, affecting the Property or any portions thereof in effect with respect to any portion of the Property ("Leases").

(e) No written or oral notice has been given by the holder of any mortgage on the Property, any insurance company that has issued a policy with respect to the Property, or by any board of fire underwriters (or other body exercising similar functions) claiming any material defect or deficiency or requesting the performance of any material repairs, alterations or other work to the Property.

(f) There are no management, service, equipment, supply, maintenance or concession agreements with respect to or affecting all or any portion of the Property.

(g) Seller has paid or will pay in full prior to the Closing all outstanding bills and invoices for Utility charges, labor, goods, materials, and services of any kind relating to the Property incurred by or for the benefit of Seller**.**

(h) No work has been performed or is in progress at, and no materials have been furnished to, at the direction of or for the benefit of the Seller, the Property which, though not presently the subject of, might give rise to mechanic's, materialmen's or other liens against the Property or any portion thereof. If any lien for work performed or materials furnished prior to the Closing, in either case pursuant to a contract with Seller, is filed before or after the Closing, Seller shall promptly discharge such lien by filing the requisite bond or in any other manner allowed by applicable law. Seller will execute and deliver a standard form of Mechanic's Lien Affidavit for title insurance purposes.

(i) There is no suit or proceeding pending or to Seller's Knowledge, threatened against or affecting Seller or the Property that might affect or relate to this Agreement or the transactions contemplated hereby, in any court or before or by any federal, state, county or municipal department, commission, board, bureau, or agency or other governmental instrumentality. No order, writ, injunction, subpoena or decree has been issued by or requested of any court or government agency which is reasonably likely to result in a material adverse change in the Property or the Seller, or which could reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(j) Seller has received no written notice of any outstanding violation of any federal, state, county, or municipal laws, ordinances, orders, codes, rules, regulations, or requirements affecting all or any portion of the Property, including without limitation violations of the housing, building, safety, health, fire, or zoning ordinances, codes, and regulations of the municipality or county within which the Property is located, issued by any governmental or quasi-governmental authority.

(k) To Seller's Knowledge, Seller is not in violation or default under any agreement with any third party, or under any judgment, order, decree, rule or regulation of any court, arbitrator, administrative agency or other governmental authority to which it may be subject, which violation or default will, in any one case or in the aggregate, materially and adversely affect the ownership or operation of the Property or Seller's ability to consummate the transactions contemplated hereby. To Seller's Knowledge, there are no material violations of laws, regulations, permits or approvals affecting or pertaining to the Property. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby will not (i) violate any law or any order of any court or governmental

authority with proper jurisdiction; (ii) result in a breach or default under any provision of the organizational documents of Seller; or (iii) require any consent, or approval or vote of any third person that, as of the Closing Date, has not been given or taken, and does not remain effective.

(l) As used herein, "Environmental Laws" shall mean all federal state and local laws, statues, rules, codes, ordinances, regulations, orders, judgments, decrees, binding and enforceable guidelines, including any judicial or administrative order, consent decree or judgment, in each case to the extent binding, relating to the environment, the protection of health or Hazardous Materials, including, without limitation, the Comprehensive Environmental Response Compensation and Liability Act, 42 USC §9601 et seq.; the Resource Conservation and Recovery Act, 42 USC §6901 et seq.; the Federal Water Pollution Control Act, 33 USC §1251 et seq.; the Toxic Substances Control Act, 15 USC §2601 et seq.; the Clean Air Act, 42 USC §7401 et seq.; the Safe Drinking Water act, 42 USC §3803 et seq.; the Oil Pollution Act of 1990, 33 USC §2701 et seq.; the Emergency Planning and Community Right-to-Know Act of 1986, 42 USC §11001 et seq.; the Hazardous Material Transportation Act, 49 USC §1801 et seq.; and the Occupational Safety and Health Act, 29 USC §651 et seq. (to the extent it regulates occupational exposure to Hazardous Materials); any state, local or foreign counterparts or equivalents, in each case as amended from time to time, and includes the Project Permits (defined below). As used herein, "Hazardous Materials" shall mean (i) substances that are defined or listed in, or otherwise classified pursuant to, any applicable law or regulations as "hazardous substances," hazardous materials," "hazardous wastes," "toxic substances," "pollutants," "contaminants" or other similar term intended to define, list or classify a substance by reason of such substance's ignitability, corrosivity, reactivity, carcinogenicity, reproductive toxicity or "EP toxicity" and (ii) oil, petroleum or petroleum derived substances, natural gas, natural gas liquids, synthetic gas, drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal resources. Except as may be identified in any Phase 1 ESA prepared for the benefit of Seller and provided to Buyer: (i) to Seller's Knowledge, there are no violations of any Environmental Laws with respect to the Property and Seller has not used, stored, disposed of or released any Hazardous Materials on the Property; (ii) to Seller's Knowledge, during Seller's ownership of the Property, the Property has not been used, and to Seller's Knowledge, the Property has not been used in the past, to treat, store or dispose of Hazardous Materials in violation of Environmental Laws, and neither Seller, nor, to Seller's Knowledge, anyone else, has otherwise dumped, placed, released, or discharged Hazardous Materials in violation of Environmental Laws on the Property or any property adjacent to the Property.

(m) There are no tax liens on any of the Property, and Seller has paid or will pay through the Closing all real estate taxes, withholdings and governmental charges due with respect to the Personal Property under all applicable federal, state and local laws and regulations. There are no legal, administrative or other tax proceedings currently in progress or threatened pursuant to which Seller is or could be made liable for any taxes.

(n) Seller has engaged no broker or agent in connection with the sale. Seller shall indemnify, defend and hold Buyer harmless from and against any loss, damages, liabilities, costs or expenses, including without limitation attorneys' fees and court costs, resulting from any claim for a fee or commission by any other broker or finder with whom Seller has dealt.

(o) Seller is not a "foreign person" as defined in Section 1445(f)(3) of the Code.

(p) Neither Seller nor any of its affiliates, nor any of their respective partners, members, shareholders or other equity owners, and none of their respective employees, officers, directors, representatives or agents is, nor will they become, a person or entity with whom United States persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

ARTICLE VIII
Disclaimer of Warranties

Section 8.1. Buyer's Inspections. Buyer acknowledges that Buyer has had or will have an adequate opportunity to inspect the Property and all factors relevant to its use and operation.

Section 8.2. Purchase "As Is". Buyer further acknowledges that Buyer has substantial experience with investment real property and that, except for the Seller's representations and warranties set forth herein, Buyer is acquiring the Property in an "as is" condition, and solely in reliance on Buyer's own inspection and examination. Except as set forth in Section 7.3 and in the Deed, neither Seller, nor any agents, representatives or employees of Seller, have made any representations or warranties, direct or implied, oral or written, with respect to the Property, or its fitness for any particular purpose except as expressly set forth herein.

Section 8.3. Representations, Warranties. Except as otherwise specifically provided in Section 7.3, no representations, warranties, covenants or other obligations of Seller or Buyer set forth in this Agreement shall survive the Closing, and no action based thereon shall be commenced after the Closing. All of Seller's representations and warranties set forth in Section 7.3 shall survive Closing for a period not to exceed twenty-four (24) months after the Closing Date (the "Survival Period"), and shall inure to the benefit of Buyer and its legal representatives, successors or assigns; provided, however, that Seller shall have no liability or other obligation with respect to any such representation or warranty herein contained unless, prior to the expiration of the Survival Period, Buyer shall have notified Seller in writing setting forth specifically the representation or warranty allegedly breached, a description of the alleged breach in reasonable detail, and a proposed remedy. The aggregate liability of Seller for breach of any representation or warranty made by Seller in Section 7.3 shall not exceed Three Million Dollars ($3,000,000.00) (the "Seller's Liability Cap"). Purchaser shall not have any further right, claim or recourse against the Seller in excess of the Seller's Liability Cap or from any other asset of Seller except for the sale proceeds from this transaction, and Buyer waives any right or claim of any kind or nature against Seller other than a right or claim limited to the Seller's Liability Cap as aforesaid. Notwithstanding the foregoing, there shall be no limitation on the aggregate liability of Seller hereunder in the event of fraud or intentional material misrepresentation by the

Seller, in which event Buyer shall be entitled to all rights and remedies against Seller available to it at law and/or in equity.

Section 8.4. Merger. Except as otherwise specifically provided in Section 7.3 and this Article VIII, the delivery of the Deed by Seller, and the acceptance thereof by Buyer, shall be deemed the full performance and discharge of every obligation on the part of Seller to be performed hereunder.

Section 8.5. No Reliance. Except as expressly stated in Section 7.3 and in the Deed, Seller makes no representation or warranty as to the truth, accuracy or completeness of any materials, data or information delivered by Seller or its brokers or agents to Buyer in connection with the transaction contemplated hereby. Buyer acknowledges and agrees that all materials, data and information delivered by Seller to Buyer in connection with the transaction contemplated hereby are provided to Buyer as a convenience only and that any reliance on or use of such materials, data or information by Buyer shall be at the sole risk of Buyer, except as otherwise expressly stated herein. Without limiting the generality of the foregoing provisions, Buyer acknowledges and agrees that (a) Buyer shall be responsible for conducting its own inspections and investigations for the Property and for obtaining any reports thereon which is deemed necessary, (b) any environmental, engineering or other report with respect to the Property which is delivered by Seller to Buyer shall be for general informational purposes only, (c) Buyer shall not have any right to rely on any such report delivered by Seller to Buyer, but rather will rely on its own inspections and investigations of the Property and reports commissioned by Buyer with respect thereto, and (d) neither Seller, any affiliate of Seller nor the person or entity which prepared any such report delivered by Seller to Buyer shall have any liability to Buyer for any inaccuracy in or omission from any such report.

Section 8.6. Disclaimers. EXCEPT AS EXPRESSLY SET FORTH IN SECTION 7.3 AND THE DEED, IT IS UNDERSTOOD AND AGREED THAT SELLER IS NOT MAKING AND HAS NOT AT ANY TIME MADE ANY WARRANTIES OR REPRESENTATIONS OF ANY KIND OR CHARACTER, EXPRESS OR IMPLIED, WITH RESPECT TO THE PROPERTY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OR REPRESENTATIONS AS TO HABITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, ZONING, PERMITTING, USE, TAX CONSEQUENCES, LATENT OR PATENT PHYSICAL OR ENVIRONMENTAL CONDITION, UTILITIES, OPERATING HISTORY OR PROJECTIONS, VALUATION, GOVERNMENTAL APPROVALS, THE COMPLIANCE OF THE PROPERTY WITH LAWS, THE TRUTH, ACCURACY OR COMPLETENESS OF THE DOCUMENTS OR ANY OTHER INFORMATION PROVIDED BY OR ON BEHALF OF SELLER TO BUYER, OR ANY OTHER MATTER OR THING REGARDING THE PROPERTY. BUYER ACKNOWLEDGES AND AGREES THAT AT THE CLOSING SELLER SHALL SELL AND CONVEY TO BUYER AND BUYER SHALL ACCEPT THE PROPERTY "AS IS, WHERE IS, WITH ALL FAULTS," EXCEPT TO THE EXTENT EXPRESSLY PROVIDED OTHERWISE IN THIS AGREEMENT. BUYER HAS NOT RELIED AND WILL NOT RELY ON, AND SELLER IS NOT LIABLE FOR OR BOUND BY, ANY EXPRESS OR IMPLIED WARRANTIES, GUARANTIES, STATEMENTS, REPRESENTATIONS OR INFORMATION PERTAINING TO THE PROPERTY OR RELATING THERETO (INCLUDING SPECIFICALLY, WITHOUT LIMITATION, PROPERTY INFORMATION

PACKAGES DISTRIBUTED WITH RESPECT TO THE PROPERTY) MADE OR FURNISHED BY SELLER, THE MANAGER OF THE PROPERTY, OR ANY REAL ESTATE BROKER OR AGENT REPRESENTING OR PURPORTING TO REPRESENT SELLER, TO WHOMEVER MADE OR GIVEN, DIRECTLY OR INDIRECTLY, ORALLY OR IN WRITING, UNLESS SPECIFICALLY SET FORTH IN THIS AGREEMENT.

Section 8.7. Seller shall not be liable under Section 7.3 or the Deed for any loss or claim arising out of any inaccuracy in or breach of any of the representations and warranties of Seller contained in Section 7.3 or the Deed if Buyer had actual knowledge of such inaccuracy or breach prior to or at Closing.

Section 8.8. Effect and Survival of Disclaimers. Seller and Buyer acknowledge that the compensation to be paid to Seller for the Property takes into account that the Property is being sold subject to the provisions of this Article VIII. Seller and Buyer agree that the provisions of this Article VIII shall survive Closing.

ARTICLE IX
Risk of Loss

Section 9.1. Risk of Loss. In the event the Property is materially damaged prior to Closing, Buyer may either (i) terminate this Agreement and receive back the Deposit in accordance with this Agreement; or (ii) close with no adjustment in Purchase Price.

Section 9.2. Condemnation. Any taking or condemnation for any public or quasi-public purpose or use by any competent authority in appropriate proceedings or by any right of eminent domain of all or any material part of the Property between the Execution Date and the time of the Closing shall, at Buyer's option, cause a termination of this Agreement. The election to terminate provided for hereby must be exercised by Buyer by written notice to Seller to such effect, which notice shall be given by Buyer on or before the thirtieth (30th) day after Buyer's receipt of written notice of such condemnation (but in any event prior to the Closing, provided however that Buyer shall be entitled to extend the Closing Date to a date that is two business days beyond the date that would be the thirtieth (30th) day following such notice). If Buyer shall not elect so to terminate this Agreement, Seller shall be relieved of its duty to convey title to the portion of the Property so taken or condemned, but Buyer will be entitled to receive all proceeds of any such taking or condemnation provided Buyer takes title hereunder and Seller shall make no settlement or adjustment of such proceedings without Buyer's consent, and shall take at the Closing all action necessary to assign its entire interest in any such award to Buyer.

Section 9.3. Return of Deposit. The Deposit shall be returned to Buyer immediately following termination of this Agreement by Buyer under this Article and all other obligations of the parties hereto shall cease and this Agreement shall be void and without recourse to the parties hereto subject to the provisions of Section 6.3.

ARTICLE X
Operation of Property

Section 10.1. Property Management. Seller shall operate the Property before the Closing in substantially the same manner that Seller operated the Property before the Execution

Date. Subject to the foregoing provisions, it is expressly understood and agreed that Seller may, so long as Buyer is so advised and consents in advance, (a) enter into service contracts, utility contracts and other contracts pertaining to the management of the Property, (b) renegotiate, modify or cancel (including without limitation on account of a Tenant's default) any of the Leases, (c) accept surrender of the premises demised under any of the Leases and (d) execute or otherwise enter into any new Lease. In no event shall Seller accept any payment of fixed rental under any Lease more than thirty (30) days in advance.

ARTICLE XI
Closing

Section 11.1. Closing Date. The Closing shall take place at the time and place specified in Section 6.7 hereof. The cash portion of the Purchase Price ("Cash Balance") shall be held in escrow by the Buyer's attorney pursuant to customary conveyancing practice until the Deed is recorded, provided however that the Deed shall be recorded no later than 1:00 P.M. on the Closing Date unless Seller's attorney has been advised of any matter of record arising after the effective date of the Preliminary Title Report and preventing Seller from conveying title to the Property in accordance with the applicable provisions of this Agreement.

Section 11.2. Closing Deposits. At the Closing, Seller and Buyer shall exchange the following documents and funds:

11.2.1. Seller's Deposits. Seller shall deliver to Buyer the following:

(a) Deed. A duly executed and acknowledged quitclaim deed with covenant in form acceptable to Buyer (the "Deed") conveying the Real Property and the Improvements to Buyer subject only to Permitted Encumbrances.

(b) LLC Agreement. A duly executed copy of the Ownership LLC Agreement

(c) [*intentionally omitted*]

(d) [*intentionally omitted*]

(e) Non-Foreign Affidavit. A duly executed original affidavit as to Seller's non-foreign status.

(f) Authority. Such evidence as may be reasonably required as to the authority of the person or persons executing documents on behalf of Seller.

(g) Affidavits. Executed affidavits and indemnifications in form and substance reasonably satisfactory to the Buyer regarding mechanics' and materialmen's liens and parties in possession sufficient to eliminate any title insurance exceptions for these matters with respect to the Property.

(h) Additional Documents. Such other documents, including without limitation settlement statements and escrow instructions, as are required of Seller to close in accordance with this Agreement and local conveyancing practice.

11.2.2. Buyer's Deposits. Buyer shall deliver to Seller the following:

(a) Cash Balance. The Cash Balance;

(b) Equity Portion. A duly executed copy of the Ownership LLC Agreement reflecting issuance of the Equity Portion of the Consideration.

(c) Closing Costs. Additional cash in the amount necessary to pay Buyer's share of closing costs, as set forth in Section 12.2.; and

(d) Additional Documents. Such other documents, including without limitation authority documents, settlement statements and escrow instructions, as are required of Buyer to close in accordance with this Agreement and local conveyancing practice.

Section 11.3. Use of Purchase Price to Clear Title. To enable Seller to make conveyance as herein provided, Seller may, at the Closing, use the Purchase Price or any portion thereof to clear title of any or all encumbrances or interests so long as Seller has obtained and furnished to Buyer at or prior to the Closing a recordable release of each such encumbrance or interest or (in the case of an institutional mortgage or other security interest) written commitment from the holder thereof to provide such release upon receipt of a sum certain.

Section 11.4. Closing Statement. The parties shall execute and deliver a Closing and Proration Statement confirming the funds flow and prorations required under Article XII hereof.

ARTICLE XII
Closing Costs, Prorations

Section 12.1. Seller's Costs. Seller shall pay (a) ½ of the transfer taxes payable upon recordation of the Deed and (b) the costs necessary to discharge Seller's obligations under this Agreement.

Section 12.2. Buyer's Costs. Buyer shall pay (a) ½ of transfer taxes; (b) the cost of the Preliminary Title Report; (c) all title insurance premiums; (d) the cost of recording the Deed; and (e) all other costs required in order to close in accordance with this Agreement (except as specified in Section 12.1).

Section 12.3. Prorations. Taxes (including any business and license taxes and any other state, county or municipal assessments), utility and fuel bills and other customarily-adjusted operating expenses shall be prorated as of the Closing Date and added to or subtracted from (as the case may be) the Cash Balance. All charges accruing prior to the Closing Date shall be the obligation of Seller and all charges accruing on or after the Closing Date shall be the obligation of Buyer. If the amount of such taxes is not known on the Closing Date, such taxes shall be prorated on the basis of taxes assessed for the preceding fiscal period, subject to reapportionment as soon as the new tax rate and valuation can be ascertained. In the event of any abatement of such taxes subsequent to the apportionment thereof, the amount of such abatement, less the reasonable cost of obtaining the same, shall be prorated as of the Closing Date.

ARTICLE XIII
Notices

Section 13.1. Notices. All notices required or permitted to be given hereunder shall be in writing and sent by a recognized overnight courier service offering confirmation of delivery to the appropriate address indicated below or at such other place or places as either Buyer or Seller may, from time to time, respectively, designate in a written notice given to the other:

To Buyer: Fathom CC, LLC
183 Middle Street, Suite 21
Portland, ME 04101
Attn: James H Brady, Manager

With a copy to: Christopher E. Howard, Esq.
Pierce Atwood LLP
254 Commercial Street
Portland, Maine 04101

To Seller: North River IV, LLC
224 12th Avenue
New York, New York 10001
Attention: Christopher H. Pachios, Manager

With a copy to: Michael L. Lane, Esq.
Preti, Flaherty, Beliveau & Pachios LLP
One City Center
Portland, Maine 04101

ARTICLE XIV
Additional Commitments

Section 14.1. Parking Commitment. Seller or its Affiliate shall lease parking spaces proximate to the Project (together with related access) to Buyer as follows ("Parking Lease"):

(a) Up to 75 parking spaces at market rate specific to the space utilization for a term of ten (10) years, with the right to extend for up to two (2) additional 10-year terms, at Buyer's option. Buyer shall have the option to adjust the number of parking spaces included in the lease between the minimum and maximum specified above on semi-annual basis (for the periods November 1st through April 30th and May 1st through October 31st) with written notice to be provided by Buyer to Seller not less than 90 days prior to the commencement of each semi-annual period. In the absence of notice the previously specified number of spaces shall carry over for the ensuing semi-annual period.

(b) "Overnight Parking Spaces" to be agreed upon by Buyer and Seller with such agreement to be set forth in the Parking Lease.

(c) Seller, or its Affiliate, intends to construct a parking garage as part of the Master Development provided Seller, or its Affiliate, shall have no obligation to do so. In the event a parking garage is constructed, the parking spaces may be relocated to the parking garage, with appropriate adjustment in market rent. The location of parking spaces in the parking garage shall be specified in the Parking Lease.

(d) Provided a parking garage is built as part of the Master Development by Seller or its affiliates, Buyer and Seller may discuss possible purchase and sale of spaces, but purchase and sale is not a condition to the transaction contemplated hereby.

Section 14.2. Lay-Down Space. In the event Seller does not elect to build a parking garage adjacent to the Real Property contemporaneously with Buyer's construction of the Project, then Seller shall provide Buyer with access to and right to use the lay-down space shown in Exhibit D hereto for Project construction, at Buyer's expense, which shall be based on a market rate for displaced surface parking. A license to use the lay-down area will be executed and delivered at Closing ("Construction License"). If the Construction License is not finalized in a form reasonably acceptable to Buyer on or before the expiration of the Due Diligence Period, then Buyer may terminate this Agreement by giving Seller written notice thereof on or before the expiration of the Due Diligence Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder. Buyer and Seller agree to exercise reasonable good faith efforts to agree on any adjustments required in the lay-down space to accommodate the needs of both parties in the development of the Project and the Master Development. In the event the Seller elects to construct a parking garage contemporaneously with the construction of the Project, then Seller shall have no obligation to grant the Construction License; however the Seller and Buyer will exercise reasonable good faith efforts to coordinate construction and accommodate the needs of space needs of both parties with respect to contemporaneous construction of the Project and the parking garage.

Section 14.3. Repurchase Option. Buyer shall grant to Seller an option to repurchase the Property (the "Repurchase Option") in the event the Buyer has not closed on the senior construction debt financing required to construct the Project ("Project Construction Financing") within thirty-six (36) months following Closing (the "Financing Period"). The Repurchase Option shall expire upon the earlier of (i) Buyer closing on the Project Construction Financing or (ii) if not previously exercised, twelve (12) months following the expiration of the Financing Period. The basic terms of the Repurchase Option are as follows:

(a) Seller may exercise the Repurchase Option by providing Buyer written notice of exercise at any time following the expiration of the Financing Period and prior to expiration of the Repurchase Option.

(b) The Repurchase Option price purchase price for the Property ("Repurchase Option Price") shall be an amount equal to the Purchase Price.

(c) Buyer agrees that it will not encumber the Property or permit the Property to be encumbered by any leases, contracts, liens, mortgages, attachments, covenants, restrictions

or easements prior to the expiration of the Repurchase Option. Nevertheless, Seller and Buyer agree to apply such portion of the Repurchase Option Price as may be required to obtain a release and discharge of any and all liens and encumbrances encumbering the Property, and such amounts shall be paid as a disbursement at closing of the Repurchase Option.

(d) The closing of the Repurchase Option shall occur at such date and time as is specified in the notice of exercise provided by Seller to Buyer under subsection (a) above. At closing of the Repurchase Option, Buyer agrees to convey the Property to Seller in the same fashion, by the same form of deed, subject only to the same Encumbrances and in the same condition as conveyed to Buyer by Seller at Closing hereunder. The closing of the Repurchase Option shall be subject to the same adjustments, pro rations and closing cost allocations as applicable to the Closing hereunder, and at the closing of the Repurchase Option the parties shall execute and deliver to one another the same forms of affidavits and certificates as are required for the Closing hereunder.

Section 14.4. Recordation. The form of Deed, the easements referred to in Exhibit A, the Parking Lease, the Construction License and the Repurchase Option will be memorialized in in form and substance acceptable to both Seller and Buyer, to be executed and delivered by the parties at Closing ("Commitments"). If the Commitments are not finalized in a form reasonably acceptable to Buyer on or before the expiration of the Due Diligence Period, then Buyer may terminate this Agreement by giving Seller written notice thereof on or before the expiration of the Due Diligence Period, in which event the Deposit will be refunded to Buyer and this Agreement shall terminate and the parties shall have no further obligations of any nature whatsoever hereunder. The Commitments shall survive the Closing and shall be memorialized in a written agreement in recordable form that will be executed and delivered by Buyer and Seller at Closing.

ARTICLE XV
Miscellaneous Provisions

Section 15.1. Attorneys' Fees. If any suit or action be instituted to enforce the rights of either party under this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and court costs.

Section 15.2. Further Assurances. Whenever reasonably requested to do so by the other party, Seller and Buyer shall execute, acknowledge, and deliver any and all such further conveyances, assignments, confirmations, satisfactions, releases, instruments of further assurance, approvals, consents and any and all such further instruments and documents as may be necessary in order to complete any and all conveyances, transfers, sales and assignments herein provided, and to do any and all other acts and to execute, acknowledge and deliver any and all documents as so requested in order to carry out the intent and purpose of this Agreement.

Section 15.3. Buyer's Right to Assign. Buyer shall have no right, power, or authority to assign this Agreement, or any portion hereof, or to delegate any duties or obligations arising hereunder, either voluntarily, involuntarily or by operation of law, without the prior written

consent of Seller, it being expressly understood and agreed that such consent may be withheld or denied in Seller's sole and absolute discretion and bear all costs incurred by Seller in the preparation or review of any assignment agreement. Notwithstanding the foregoing, Buyer may, by written notice to Seller prior to the Closing Date, designate a nominee controlled by Buyer to take title to the Property.

Section 15.4. Successors and Assigns. Without waiver of the terms and conditions of Section 15.3, all of the rights, benefits, duties, liabilities, and obligations of the parties hereto shall inure to the benefit of, and be binding upon, their respective successors and assigns.

Section 15.5. Acceptance of Deed. The acceptance of the Deed by Buyer or its nominee, as the case may be, shall be deemed to be a full performance and discharge of every agreement, obligation and liability of Seller herein contained or expressed or derived herefrom, except as provided for in Section 7.3 and Article VIII, by the express terms thereof, are to be performed or remain in effect after the Closing as provided for in Section 7.3 and Article VIII.

Section 15.6. Time. Time is of the essence of this Agreement and of every provision herein contained.

Section 15.7. Headings. The title and headings of the Sections hereof are intended solely for means of reference and are not intended to modify, explain or place any construction on any of the provisions of this Agreement.

Section 15.8. Modification. This Agreement may not be modified, amended or otherwise changed in any manner except by a writing mutually executed by both parties. To the extent there is any conflict between the terms and conditions of this Agreement and the terms and conditions of any other documents relating to the acquisition of the Property as they relate to rights and obligations between Buyer and Seller, the terms and conditions of this Agreement shall be deemed controlling.

Section 15.9. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Maine.

Section 15.10. Nonrecourse. Buyer agrees to look solely to the Property and Seller in connection with this Agreement, and further agrees that the individual partners, directors, officers, shareholders, employees, agents, members, managers, trustees, beneficiaries and other principals of Seller shall not be liable under or with respect to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM CC, LLC:

By: _____

Its: Manager
title (duly-authorized)

NORTH RIVER IV, LLC

By: _____

Its: _____
title (duly-authorized)

ESCROW AGENT: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

By: _____
Its:

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM CC, LLC:

By: _____

Its: Manager
title (duly-authorized)

NORTH RIVER IV, LLC

By: _____

Its: _____
title (duly-authorized)

ESCROW AGENT: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

By: _____
Its: Counsel

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

FATHOM CC, LLC:

By:_____

Its:_____
title (duly-authorized)

NORTH RIVER IV, LLC

By: Christopher S. Flagg
CHRISTOPHER S. FLAGG

Its: PRESIDENT
title (duly-authorized)

ESCROW AGENT: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

By:_____
Its:

EXHIBIT A

DESCRIPTION OF REAL PROPERTY

The attached 2-page plan depicts the Real Property, which consists of a 23,795 square feet portion of Seller's property located at the corner of Commercial Street and Center Street in Portland, Maine. The areas shown on the plan are further described as follows:

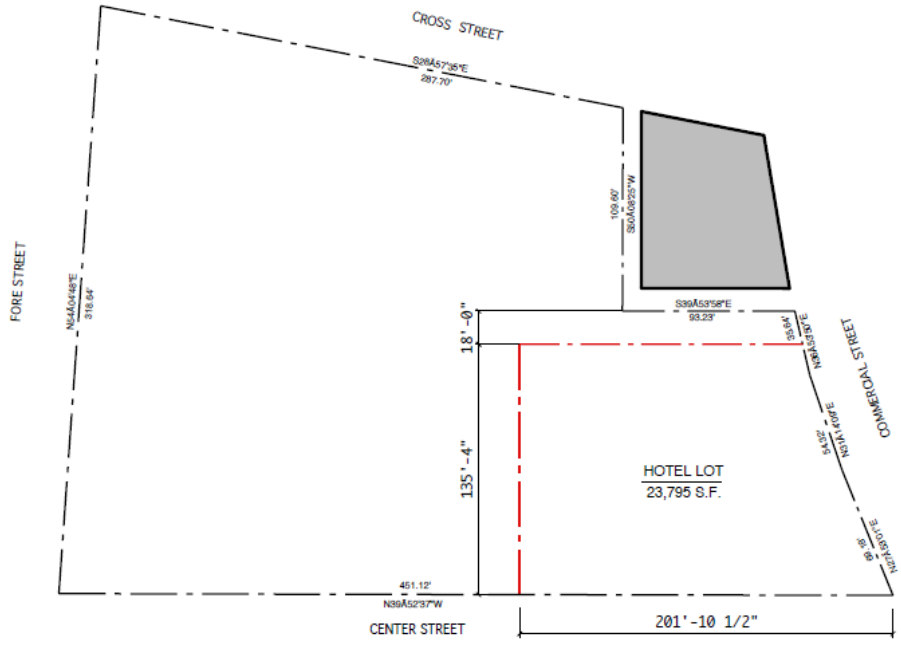
- The area labeled "Hotel Lot 23,795SF" the depicts the area to be conveyed in fee to Buyer.

- The cross-hatched area on page 2 of the plan labeled "Conceptual Service Access for Development Master Plan" extending from Cross Street to the Site Area depicts the location of an access easement for use in common with Seller as the hotel's service entrance for deliveries, waste removal and employee entry, with an appropriate easement to be granted to Buyer in the deed to the Site Area.

- The Real Property will include footing/foundation easements for Buyer's hotel development and will reserve to Seller footing/foundation easements under the Real Property for footing/foundation easements for Seller's Master Development.

Real Property description is to be formalized by ALTA/ACSM Land Title Survey as provided in Section 6.4.5 of the Agreement.

Plan attached



WSA WINTON SCOTT ARCHITECTS

WINTON SCOTT ARCHITECTS, PA
5 Milk Street
Portland, Maine 04101
207 774 4811

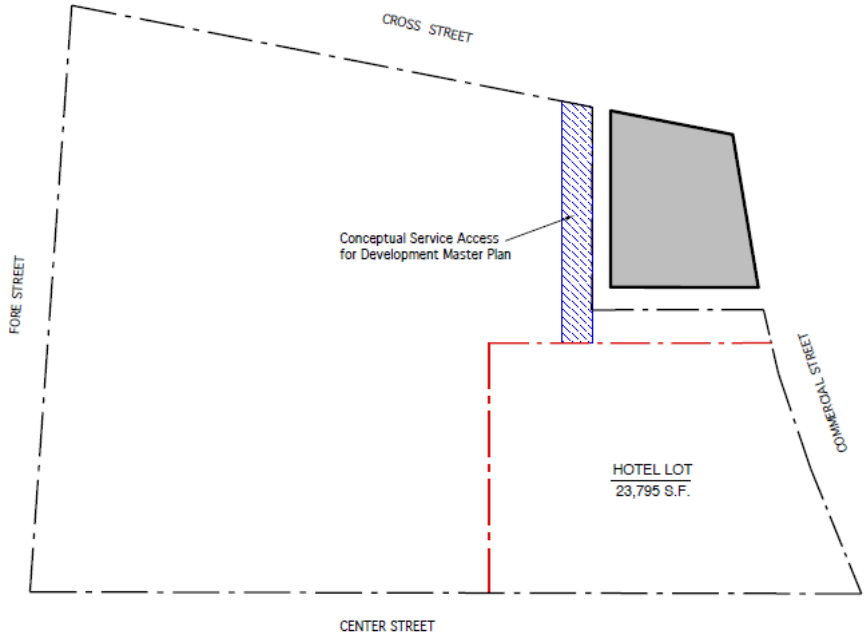
EXHIBIT 1:

HOTEL SITE PROPERTY LINE PLAN
Scale: 1"=50'

A1

July 18, 2018

{W6588006.18}



WSA
WINTON SCOTT ARCHITECTS
WINTON SCOTT
ARCHITECTS, PA
5 Milk Street
Portland, Maine 04101
207 774 4811

EXHIBIT 2:

SERVICE ACCESS PLAN
Scale: 1"=50'

A2
July 18, 2018

3. FINANCIAL CAPACITY

3.1 PROJECT CONSTRUCTION COST

The construction budget for the proposed development is $25,000,000.

3.2 FINANCING

Attached to this Section is a letter from the Senior Vice President of Mascoma Bank demonstrating that the developer has financial capacity to support the proposed project.

3.3 SLOD AFFORDABLE HOUSING/CITY OF PORTLAND INCLUSIONARY ZONING

Fathom CC, LLC considered creating on-site low-income rental housing units as the Purchase & Sale agreement for the parcel allows a maximum of fifteen (15) residential units within the property. After a detailed analysis, it was determined that due to the programmatic requirements associated with the operation of the hotel, any type of residential unit within the hotel is not a feasible option. Fathom CC, LLC elected the Fee-in-lieu Alternative option to meet the Inclusionary Zoning ordinance, consisting of $3,806 per hotel guest room for a total fee of $513,810, which will be paid into the City of Portland Housing Trust. The attached memo from Fathom CC, LLC discusses their intent to pay the fee. An Inclusionary Zoning Application will be filed with the City of Portland.

3.4 LIST OF ATTACHMENTS

- Financial Capacity Letter
- Inclusionary Zoning Memo

Mascoma Bank

December 11, 2018

City of Portland, Planning Department
389 Congress Street
Portland, ME 04101

RE: Fathom CC, LLC, 135 room hotel to be developed at 1 Center St., Portland, ME

Portland Planning Department,

This letter will confirm that Mascoma Bank has had an exceptional relationship with Jim Brady and his related Fathom companies for approximately 6 years. We have the highest regard for Mr. Brady, as well as his partners and associates. Mr. Brady and his development team have demonstrated exceptional ability to create and build projects on time, in budget, and which are also a credit to the community.

Further, Mr. Brady and the Fathom companies always demonstrate exceptional financial acumen and most importantly, financial capacity to capitalize their projects.

Mascoma Bank looks forward to working with Mr. Brady and his development team, as we consider the proposed financing for the Center Street hotel project.

If you need further information, please do not hesitate to contact me.

Sincerely,

Richard S. Jennings,
Senior Vice President
Mascoma Bank
80 South Main St., Hanover, NH 03755
603-443-8781
603-667-6652
Dick.jennings@mascomabank.com

Printed on Recycled Paper

80 Exchange Street, Suite 400, Portland ME, 04101

TO: Inclusionary Zoning for Hotel Projects Conditional Use Application
Planning & Urban Development Department
City of Portland, Maine
FROM: Fathom CC, LLC, James Brady & Marieke Thormann
SUBJECT: Center Street Hotel Inclusionary Zoning Memorandum
DATE: April 17, 2019

Fathom CC, LLC has reviewed the Amendment to Portland City Code Chapter 14 and the related options for Hotel Project Inclusionary Zoning. This memorandum summarizes our understanding of the compliance options to meet the requirements outlined in 14-448.1 and acts as an application to the City of Portland stating the approach that Fathom CC, LLC has selected for the Center Street Hotel project.

Compliance Options

14-488.1-c (Option 1) *Create on-site low-income rental housing units*
14-488.1-d (Option 2) *Fee-in-lieu*
14-488.1-c,d (Option 3) *Combination of on-site low income rental units and fee-in-lieu*

Center Street Hotel Summary Data and Compliance Approach

The Center Street Hotel project is anticipated to consist of 135 guest rooms and has selected the Fee-in-lieu Alternative option to meet the Inclusionary Zoning ordinance. In accordance with 14-488.1-d, a fee of $3,806 per hotel guest room that results in a total fee of $513,810 will be paid into the City of Portland Housing Trust. Fathom CC, LLC considered the option outlined in 14-488.1-c to create on-site low-income rental housing units as the Purchase & Sale agreement for the parcel allows a maximum of fifteen (15) residential units within the property. After a detailed analysis, it was determined that due to the programmatic requirements associated with the operation of the hotel any type of residential unit within the hotel is not a feasible option.

Conclusion

Fathom CC, LLC is providing this memorandum as the Inclusionary Zoning for Hotel Projects Conditional Use Application to the City of Portland to supplement the Site Plan Level III application for the Center Street Hotel project that has successfully completed a Planning Board workshop and is currently pending until the Planning Board public hearing.

4. TECHNICAL ABILITY

4.1 NARRATIVE

On behalf of Fathom CC, LLC, Woodard & Curran is preparing this application for the Center Street Hotel Development Project. Woodard & Curran is a national environmental consulting and engineering firm with expertise in site-civil engineering, stormwater management, and property development. Since the company was formed almost 40 years ago, Woodard & Curran has completed numerous site designs and permit applications for municipal, industrial, manufacturing, and commercial clients throughout the Northeast, and specifically within its home State of Maine. Woodard & Curran has been involved in numerous development projects in the Greater Portland Area and has developed working relationships with various consultants who are called upon, as necessary, to provide specialized services.

Fathom CC, LLC is also supported by a design team including Baskervill, Pat Carroll Landscape Architects, and Becker Structural Engineers. Copies of the company profiles of the various design team partners are attached, providing further verification of technical capacity for this project.

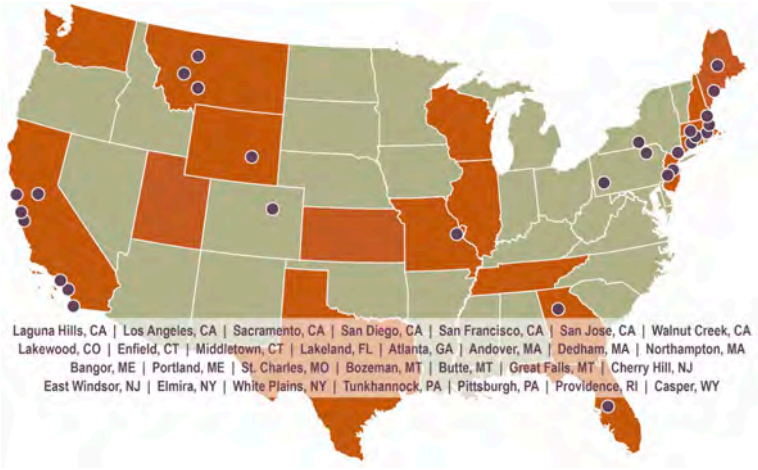
4.2 LIST OF ATTACHMENTS

- Technical Capacity Documentation

PROFILE OF THE FIRM

Woodard & Curran is an integrated engineering, science, and operations company. Privately held and steadily growing, we serve public and private clients locally and nationwide.

Talented people are at the heart of our firm. Our company was founded in 1979 on a simple business concept: provide an enjoyable place to work with opportunity, integrity, and commitment, and we will attract talented people. It happened. At the heart of our company are people who are experts in their fields and passionate about what they do, showing a level of commitment and integrity that drive results for our clients. You experience this power every day in our actions, our solutions, and our promises kept.



Woodard & Curran serves clients locally and nationwide from offices throughout the U.S. Headquartered in Portland, Maine, the firm operates offices in the locations noted above, as well as treatment facilities in the states that appear in orange.

Commitment evident in personal approach

Our commitment is reflected in the personal attention, collaborative resources, and dedication to results that we devote to each project. We assign the right people with the right expertise to the job, and provide clients with easy accessibility to senior experts.

Our work is characterized by responsiveness, resourcefulness, and willingness to do what it takes to get the job done properly. Examples range from helping communities garner state and federal funding for wastewater treatment system improvement to managing a multi-vendor manufacturing project through a major snowstorm and getting production lines up and running. We are experts at navigating the complexities of environmental regulations and have been involved in transforming many brownfields sites into marketable properties. In defining moments like these, it is commitment that brings our clients results.

Operating with integrity

Our integrity impacts our decision-making at all junctures of our work — from the openness of our communication to the fairness of our prices to placing your interests above our pocketbook. We hire people who share our values of honesty, respect, and fairness and who want to do the right thing. They, in turn, treat everyone — our people, our clients, regulators, and stakeholders — respectfully and honestly.

Full-service firm with multidisciplined staff

Our integrity and commitment are matched only by the depth of our expertise. Our staff are specialists in their fields, offering in-depth understanding of cutting-edge technology, astute problem-solving, multidisciplinary engineering, and expert regulatory guidance. The firm has received numerous honors and awards, and we have ranked among *Engineering News-Record's* top 100 environmental firms every year since 2000.

Services to the private sector

Woodard & Curran provides a range of site/civil and environmental engineering, science, and operations support to companies in the real estate sector, as well as to hospitals, colleges and universities, and law firms, helping our clients realize their project vision.

BARRY SHEFF, PE
PRINCIPAL-IN-CHARGE

Professional Profile

Barry is a Senior Principal and Senior Project Manager with over 25 years' experience working with the public sector on infrastructure planning and implementation, and with the private sector on urban revitalization projects. He is responsible for design and project management, with expertise engaging and facilitating stakeholder processes. His project work has involved utility infrastructure with focus on stormwater and wastewater utility planning studies, evaluations, and engineering; green infrastructure; master development planning and site design; and environmental/land-use permitting at the local, state, and federal levels. Barry focuses his work on sustainable environmental design and is committed to collaborating with owners and stakeholders to develop practical solutions to complex problems. He has been involved in numerous projects with high-performance buildings and LEED certification. Barry has a track record of understanding client expectations, consistent budget controls and excellent communication skills that enable him to drive the success of small and large projects of varying complexities.

Related Experience

Maine Medical Center, Portland, ME – Parking Garage. Principal-in-Charge for the permitting and design of the new 2,000+ car parking garage in St. John Valley neighborhood of Portland. The project is the result of a partnership between a private land-owner and Maine Medical Center (MMC) as part of the hospital's major campus expansion. Woodard & Curran's work involves site options analysis, land-use and environmental permitting, site/civil engineering and utility infrastructure design for the multi-level parking structure to serve MMC employees. Focus areas of the project involve the coordination with employee shuttle services, and the need for accommodating employee commuting patterns and routes while reducing demand on the existing urban street network surrounding the hospital campus.

Patrons Oxford Insurance – Patrons Oxford Insurance Headquarters. Principal-in-Charge for the permitting and design of the new Patrons Oxford Insurance Headquarters in Portland, Maine. The project was the first development in the Portland Technology Park in Portland (designed by Woodard & Curran). The project involved close coordination with the design team and owner, and included the low impact design considerations for parking and site features, as well as integration into the Technology Park's stormwater management plan.

East Brown Cow Management Inc., South Portland, ME – Sable Oaks Office. Principal-in-Charge responsible for civil site design and land-use permitting of a 45,000-SF office building with associated parking lot, access drives, plazas, and landscaping. The project included design of stormwater treatment systems, erosion control, site amenities, and utilities. Permitting efforts involved the City of South Portland, Maine Department of Environmental Protection (DEP), Army Corps of Engineers, and Federal Aviation Administration given proximity to the Portland International Jetport.

Education

- Bachelors, Civil / Environmental Engineering, University of Vermont

Registrations

- Registered Professional Engineer - ME, #9708
- NCEES License - National, 60366
- Maine DOT Local Project Administration Tier 1 Certification

Professional Associations

- American Society of Civil Engineers
- American Public Works Association
- New England Water Environment Association (NEWEA)
- Order of the Engineer

East Brown Cow Management Inc., Portland, ME – Hyatt Place Hotel. Principal-in-Charge for this redevelopment project to convert an existing parking lot on a 20,000 SF urban parcel of land into an 80,000 SF hotel. We collaborated with the architect and owner's representative to provide local permitting and site / civil engineering design associated with the project. The project was complicated by private power distribution infrastructure that crossed the site and needed to be maintained, as well as the City's desire to have off-site roadway improvements incorporated into the project.

PDT Architects, Portland, ME – Adams School Workforce Housing. Project Manager for this urban redevelopment project, supporting AVESTA Housing and its design team. Located in the Munjoy Hill neighborhood of Portland, the project is a result of a public RFP for redevelopment proposals of this brownfield site, the home of a former elementary school. The project involved the demolition of the existing Adams School building and site amenities, and remediation of environmental contamination; and development of a 16-unit affordable ownership-housing complex, with public open space and playground area. Our work involved local and state environmental permitting, and site engineering and design associated with the placement of this project in a densely developed residential neighborhood. The engineering effort required an intensive balance of earthwork activities to control remediation costs and ensure adequate environmental protections for the residents and users of the open spaces.

The Watermark and Ocean Gateway Garage – Mixed Use Development. Project Manager for the environmental due diligence phases (Phase 1 environmental site assessment and soil/groundwater investigations), site design, and permitting for this private mixed use development on the Portland waterfront (adjacent to the Ocean Gateway facility) with boutique hotel, luxury condominiums, retail, commercial space, office building, 750-car parking garage, and additional surface parking lots. Site/civil work includes layout, grading, drainage, erosion and sedimentation control, and utility design. Permitting includes City Site Plan, Subdivision, Historic Preservation, Maine DEP Site Law, and Maine Historic Preservation permitting. The parking garage was constructed while the remaining portions of the project were unbuilt.

MaineDOT, Portland, ME – Ocean Gateway Multimodal Facility. Program and Project Manager of the permitting and design for implementing first phase of the Master Plan of the redevelopment of a 19.5-acre ship repair facility to a multi-use marine transportation facility on Portland's waterfront. The phase one facility encompassed the former Bath Iron Works site and the associated City-owned land-based infrastructure. Under Barry's responsible charge, Woodard & Curran prepared, submitted, and obtained land-use and environmental permits for the project, including local land-use and Board of Harbor Commissioners approvals; Maine Department of Public Safety Construction Permit; Maine Traffic Movement Permit; U.S. Army Corps of Engineers Department of the Army Permit; and Maine DEP Site Location of Development Permit and Natural Resources Protection Act. We also designed the site infrastructure (vehicle queuing, pick-up and drop-off, short- and long-term parking) to be flexible in its use. The project includes the design of City streets, a major regional trail connection, and the narrow gauge passenger railway. The design creates a new city block and the impetus for economic development. The design of utility infrastructure and blending the facility into an existing congested urban environment proved challenging, but in the end, met the City's future needs. Barry was responsible for working with a steering committee to develop and refine concepts working within available construction funding constraints, and for preparing Phase 1 improvement recommendations as a summary of the preliminary design efforts. As the Program Manager, Barry was responsible for managing the contract with the State of Maine and the 10-firm design team.

University of Southern Maine, Portland, ME – Community Education Center and Parking Garage. Project Manager/Engineer responsible for site and utility design of a 1200-car parking garage, 500-seat lecture hall, and 15,000-SF office classroom building. Coordinated the site survey; completed preliminary site evaluations; prepared grading and utility plans for surface parking areas, open space, and roadways; developed construction documents; completed stormwater design; coordinated with the City of Portland for roadway realignments and discontinuances; coordinated design plans with the project architect and landscape architect; and prepared technical specifications for construction documents. Coordinated with the regulatory agency; prepared local Demolition Permit applications; prepared Application for Maine DEP Site Law and City's Major Site Plan Applications under tight time frames. The project is LEED Gold certified.

City of Portland, ME – Bayside Adapts, Phase I. Principal-in-Charge of the team providing planning and engineering services to facilitate the City's first climate change adaptation planning effort, for the City's Bayside neighborhood. The focus of the project was to conduct a Sewer and Stormwater Data Gap Analysis, and public engagement process to help the community identify a socially responsible, technically sound and financially feasible adaptive strategy to protect the Bayside Neighborhood from the effect of rising tides, extreme rain events and storm surge. Our work involved coordination and contracting with a subconsultant, RPS ASA to evaluate and recommend sea level rise and storm surge scenarios appropriate for City of Portland's planning horizon.

CARROLL ASSOCIATES

Firm Description

Carroll Associates is a small consulting firm engaged in the practice of landscape architecture, land planning, and site design. The firm was created in 1993, and is involved in a wide range of design and planning projects throughout Maine and New England.

The firm provides professional services to a broad-based clientele that includes municipal and institutional organizations, architects, engineers, real estate developers, and private individuals. While maintaining a diverse workload, the firm is entrenched in public, urban, and residential based planning and design work. Carroll Associates has significant experience in public, urban waterfront settings, institutional projects ranging from elementary schools to university work; municipal projects and recreational projects including work at Acadia National Park. The overriding objective in each is to provide a sensitive and well thought out solution which respects the natural environment and creates a functional and inviting setting for the building and its user.

Carroll Associates has been involved with many complex state and municipal projects which are specifically relevant to this project. Relevant Site Planning and Urban Design projects in Portland include the following:

- Ocean Gateway Ferry Terminal
- Marriot Residence Inn
- Riverwalk Condominiums (unbuilt)
- Maine State Pier Redevelopment Design Competition (selected design, unbuilt)
- Merrill's Wharf Redevelopment
- Thompsons Point Redevelopment
- International Marine Terminal Expansion
- Portland Gateway Hotel

In all of these projects the ability to integrate a new facility or program with historical buildings, complex physical and environmental sites, and established neighborhoods was critical to the overall success of the project.

We are well experienced with working within an interdisciplinary design team and the need to provide strong design solutions with limited budgets. Key to the firm's success is the commitment to providing attention and focusing on the specific needs of the client, remaining flexible and bringing projects to closure on time and within budget.

Professional services offered through Carroll Associates may include any or all of the following:

- Site Selection and Analysis
- Program Development and Budgeting
- Site Feasibility/ Utilization Studies
- Recreation Planning and Design
- Site Master Planning
- Construction Documents, Bidding, and Administration
- Consultant Team Coordination and Management
- Local, State, and Federal Permitting and Approvals

Brick Hill, South Portland, ME

Brickhill consisted of redevelopment of former Maine Youth Center into mixed use 'Smart Growth' project. The program for the 56 acre site includes 300 affordable housing apartments and condominiums, 250,000 SF of professional office space, recreation amenities including an 8 acre park, boat launch, community gardens, and hiking trails while preserving the historic brick structures on the site. The project is 100% completed in 2017. Carroll Associates provided Master Planning and Site Design Services for the project since 2001.

Forefront at Thompsons Point

The Forefront at Thompson's Point is a mixed-use development located on an existing vacant industrial site on the Fore River in Portland Maine. The original program consisted of a new Sports Event Cente, Concert Hall with an adjacent outdoor amphitheater seating 4500, a 235 room hotel, cultural center, restaurants, and approximately 180,000 sf of professional office space. Carroll Associates has been retained by the Developer to provide Master Planning and Landscape Architectural Services on the project.

Oceangate and Maine State Pier Redevelopment

Redevelopment of underutilized portion of Portland waterfront to provide new berthing for cruise ships and international ferry terminal. Oceangate Project includes extensive parking for ferry arrivals and departures, passengers, and tour busses; integration of adjacent narrow gauge railway, extension of existing streets to provide critical connections, and outdoor plazas and parks providing strong pedestrian connectivity to adjacent open space systems. Maine State Pier project includes redevelopment of aging waterfront pier and landside property to provide strong mixed use including office, retail, hotel, and a 2 acre park and with direct access to the waterfront.

Harborcorp, Portsmouth, NH

Redevelopment of vacant property in West End of Portsmouth, NH to provide mixed use development. Project envisions up to 115 Hotel rooms, 24 Condominium Units, Conference Facilities, Retail, dedicated parkland, and Structured Parking. The project ties into the existing Sheraton Hotel across the street. Approvals are in place and construction is expected to begin in 2019

BECKER
STRUCTURAL ENGINEERS

About Us

Becker Structural Engineers, Inc., was founded in 1995 and is a full service structural consulting firm with a staff of twenty-seven. We provide practical, cost-effective and innovative solutions on a wide range of challenging projects in three practice areas; buildings, parking structures and bridges.

We believe in competency and character as our defining values. We are pro-active and interactive in our approach. Our dedicated staff and our investment in technology allows us to deliver high quality service on multiple large and small projects simultaneously. We embrace an engineering approach to projects which combines classical engineering theory and practical experience, paired with the versatility and efficiency of Autodesk Revit to create structural models which interact and coordinate with architectural and mechanical models to define the comprehensive building system. This approach advances the design and coordination of our projects.

Our building design practice includes residential, commercial, education and public institutional buildings. We have substantial experience with contemporary building design which is complemented by an extensive background and expertise renovating and restoring historic structures. Our design capabilities are complemented by our construction phase services, which include construction reviews for general conformance and implementation and administration of the IBC Special Inspections Program. We believe a strong job site presence contributes to enhanced quality and improved construction efficiency. Working with the owner, architects, contractor and testing agencies our office provides a full range of construction monitoring capabilities.

Becker Structural Engineers have been the selected structural engineering consultant for municipalities, owners and developers throughout New England. Recent and relevant work includes on-going services under a **General Consulting Services for the City of Portland** and a **General A/E Services** agreement with the **Portland Housing Authority.** Significant buildings in Portland include the multi-story medical offices for **InterMed**, the **Hyatt Hotel** located on Fore St. and the rehabilitation of the **historic Twitchell-Champlain** building on Merill's Wharf which now serves as the law offices for Pierce Atwood**.** We strive to integrate ourselves in understanding the overall approach that each owner is seeking to obtain, with guidance on analysis and cost recommendations to fit within the sustainability of the program design.

City of Portland
International Jetport
Parking Garage

Hyatt Hotel

InterMed Medical Offices

Historic Twitchell-Champlain Offices

BECKER
STRUCTURAL ENGINEERS

Casco Bay Ferry Terminal

Canal Zero Redevelopment

Maine Medical Center
Employee Parking Garage

Portland Public Library

50 Sewall Street M.O.B. (LEED Certified), Portland, ME
58 Fore Street Building 2/3 & Marina Building, Portland, ME
84 Marginal Way M.O.B and Parking Structure, Portland, ME
173 Main Street Redevelopment, Waterville, ME
409 Cumberland Ave Housing, Portland, ME
Bayside Anchor Housing, Portland, ME
Bayside Village Student Housing, Portland, ME
Berlin City Honda Showroom, South Portland, ME
Berlin City TSL Showroom, South Portland, ME
Canal Zero, Portland, ME
Casco Bay Ferry Terminal, Portland, ME
CEI Office Building (LEED Certified), Brunswick, ME
Consigli Office Building, Milford, MA
Dead River Corporate Office, South Portland, ME
DHS Office Building, Portland & Lewiston, ME
Elm Terrace Apartments, Portland, ME
Emerson Shailer Housing, Portland, ME
Exactitude Office/Manufacturing Building, Cumberland, ME
Ferry Terminal Redevelopment IMT Office Building, Portland, ME
Genest Warehouse Addition, Biddeford, ME
Gorham Savings Bank Operations Center, Gorham, ME
Handyboat Restaurant/Dockside Grill, Falmouth Foreside, ME
Hill Farm Equestrian Center, New Gloucester, ME
Huston Commons, Portland, ME
Hyatt - Old Port Hotel, Portland, ME
IDEXX Laboratories Data Center Relocation, Westbrook, ME
Irish Heritage Center Structural Review, Portland, ME
Jackson Laboratories Building Renovation, Bar Harbor, ME
LL Bean Vertical Expansion Feasibility Study, Freeport, ME
Maine DEP - Deering & Greenlaw Buildings, Augusta, ME
Maine Medical Center Family Practice Office Building, Portland, ME
Maine Medical Center Employee Parking Garage, Portland, ME
Maine Municipal Association Office Addition, Augusta, ME
Maine Standards Building, Cumberland, ME
Maine Veterans Homes Office Building, Augusta, ME
Marriot Residence Inn, Portland, ME
Merrill Auditorium, Portland City Hall, Portland, ME
Norway Savings Bank, Gray, ME
Park Danforth New Residence Wing, Portland, ME
Patrons Insurance Building, Portland, ME
Pearl Place I & II, Portland, ME
Pinetree Shopping Center Retail Development, Portland, ME
Portland Public Library, Portland, ME
Portland Public Market Redevelopment, Portland, ME
RMS Office Building, South Portland, ME
Saco Biddeford Savings Bank (LEED Silver), Saco, ME
Shops at Falmouth Village, Falmouth, ME
Strand Theatre, Rockland, ME
Topsham Retail Center, Topsham, ME
Twitchell - Champlin Building, Portland, ME
Vortechnics Office Building, Scarborough, ME
Westin Hotel, Portland, ME

BECKER
STRUCTURAL ENGINEERS

Paul B. Becker, P.E., SECB
President

As the founder of Becker Structural Engineers, Paul has over thirty-eight years of structural engineering experience in New England and the Mid-Atlantic States. His technical experience covers all aspects of the structural engineering profession including complex building systems using steel framing, cast in place, precast and post-tensioned concrete, deep foundation support systems, earth retaining structures, masonry and timber framing. He has served as lead design engineer and project manager, responsible for establishing and monitoring schedules, budgets and quality control on projects with construction costs of up to $75 million. As Principal in Charge of a project, he collaborates with the client and project team to establish the project scope, schedule and contracts and monitors the progress and quality of work.

PROFESSIONAL ENGINEER REGISTRATION

- Maine (#6554)
- Massachusetts (#39009)
- New Hampshire (#6258)
- New York (#86255
- Vermont (#7773)
- Georgia (#033280)
- Connecticut (#20725)
- Rhode Island (#9067)
- Ohio (#74529)
- Certified in the Practice of Structural Engineering (#2285-0708)

Todd M. Neal, P.E.
Vice President

A principal of BSE, Todd is a registered Professional Engineer in the State of Maine and has extensive experience in the design and fabrication of precast/prestressed concrete garages, building components, bridge components, architectural precast concrete. Specialty topics include repair and maintenance of parking structures. He offers expertise in construction management, structural testing and administration of special inspection programs in accordance with the IBC Codes. Todd is currently an active member on the PCI Parking Garage Design Committee and Joint Sealant Sub-Committee and contributed to the publication of the PCI “Maintenance Manual for Precast Parking Structures” and the PCI Committee Report “Joints in Precast Parking Structures”.

PROFESSIONAL ENGINEER REGISTRATION

- Maine (#9406)
- Connecticut (#27306)
- Massachusetts (#51354)
- West Virginia (#20277)
- New Brunswick, Canada (#L5173)
- Nova Scotia, Canada (#11330)
- Certified in the Practice of Structural Engineering (#2639-0708)

Ethan A. Rhile, P.E.
Senior Associate

Ethan joined BSE in September of 2001 after practicing structural engineering in the Mid-Atlantic States. He has extensive experience in the design of multiple story buildings and industrial facilities, with several projects eclipsing 250,000 square feet. He has served as a Project Manager, responsible for the technical design, quality control, budgeting, and construction administration for building projects up to ten stories in height, with construction budgets up to $100 million. He has an in-depth knowledge of computer software packages including STAAD-III, SAPP 2000, RISA 3D, RAM Elements, RAM Structural System, SP Mats, AutoCAD and Revit.

PROFESSIONAL ENGINEER REGISTRATION

- Maine (#10266)
- Commonwealth of Pennsylvania (#057589)

INTRODUCTIONS

ASK + LISTEN + CREATE

DESIGN SHOWCASE

HOTELS + RESORTS

Baskervill

BY THE NUMBERS

BASKERVILL DELIVERS WORLD-CLASS ARCHITECTURE AND INTERIOR DESIGN FOR THE HOSPITALITY INDUSTRY. WHILE A SENSE OF HISTORY GROUNDS US, IT'S THE IDEA THAT DESIGN CAN SOLVE PROBLEMS OF THE FUTURE THAT REALLY KEEPS US INSPIRED. TO US, GREAT DESIGN IS THE RESULT OF ASKING THE RIGHT QUESTIONS AND TRULY LISTENING TO THE ANSWERS. AND AS ONE THE OLDEST DESIGN FIRMS IN THE NATION, WE KNOW WHAT IT TAKES TO STAY FRESH AND RELEVANT.

120+
YEARS
FOUNDED IN 1897

44
STATES
+ 4 COUNTRIES (ACTIVELY WORKING)

150+
CREATIVES
ARCHITECTS, ID + MEP ENGINEERS

94%
REPEAT-CLIENT BASE

3
OFFICES
RICHMOND, WASHINGTON DC + ORLANDO

HOSPITALITY STUDIO

POINTS OF PRIDE

#11

TOP DESIGN FIRM
HOTEL BUSINESS

#19

HOSPITALITY GIANT
INTERIOR DESIGN MAGAZINE

#21

HOSPITALITY GIANT
BD+C MAGAZINE

GOLD KEY FINALIST

IN LAST FIVE YEARS

125,000

GUESTROOMS DESIGNED

1,500

PROPERTIES TRANSFORMED

100+

HOSPITALITY CLIENTS SERVED

CORE TEAM

PROFILES IN DESIGN

TERRI CALLAWAY, AIA
PRINCIPAL + ARCHITECT
MAKE DESIGN A UNIFIED TEAM EFFORT.

DESIGN BELIEFS
UNDERSTANDING THE INTELLIGENCE OF A BUILDING AND ITS INTENDED SPACE ALLOWS US TO DESIGN EFFECTIVELY. THAT'S WHY PEOPLE SEE WISDOM THROUGH OUR DESIGN.

DESIGN DOESN'T HAVE TO BE MESSY. BUILD THE PROCESS ON RESPECT—VALUING EACH MEMBER AND MAKING SOUND DECISIONS.

PRIOR LIFE
ARMY CORPS OF ENGINEERS | US

AFTER HOURS
PASSIONATE MOM OF FOUR + PIANIST + CURATOR OF HER RIVER RETREAT.

BRAD RICHARDS, AIA
PRINCIPAL + ARCHITECT
ARCHITECTURE IS ORGANIZATION.

DESIGN BELIEFS
SMART DESIGN IS TAILOR-MADE. EVERY HOTELIER HAS NUANCES TO THEIR OPERATIONS, AESTHETIC AND STORY. THAT'S WHY WE'RE HOLISTIC IN OUR DESIGN APPROACH.

TRUST, OPEN COMMUNICATION AND SHARED CONFIDENCE WITHIN A TEAM IGNITE CREATIVITY. THOSE ARE THE KEY INGREDIENTS FOR SUCCESS.

PRIOR LIFE
BASKERVILL FOR LIFE | BY WAY OF WINDY-CITY CHICAGO

AFTER HOURS
COACH. WHITEWATER RAFTER. SECRET CULINARY GENIUS (TRIES TO BE).

BOB TIERNEY, AIA
PRINCIPAL + ARCH DIRECTOR
EXPLORE OPTIONS TO THE FULLEST.

DESIGN BELIEFS
A GOOD DESIGN IS ONE WHERE NOTHING CAN BE TAKEN AWAY OR ADDED—IT'S COMPLETELY COMPLETE.

GO FURTHER THAN JUST MEANING. IT'S NOT ENOUGH TO CAPTIVATE GUESTS. TAP INTO A BRAND'S ESSENTIAL MEANING TO CRAFT A REAL FOUNDATION FOR SUCCESS.

BE CURIOUS. QUESTION EVERYTHING.

PRIOR LIFE
HOSPITALITY ARCHITECT | WEST INDIES

AFTER HOURS
DREAMER. SURFER. MUSICIAN. GIN + TONIC IS HIS DRINK.

ANDREW HARTMAN
ASSOCIATE | PROJECT DESIGNER
EXCEPTIONAL DESIGN IS A COLLABORATIVE SPORT.

DESIGN BELIEFS
LISTEN FIRST, ALWAYS. HEAR OUT THE NEEDS OF A CLIENT, UNDERSTAND WHAT A BUILDING'S BONES MIGHT DICTATE—AND BE LASER-FOCUSED ON HOW EVERY DESIGN DECISION SUPPORTS THE OVERALL PURPOSE OF THE ENVIRONMENT.

THOUGHTFUL DESIGN IS BUILT ON RELATIONSHIPS. CREATIVITY CAN ONLY TAKE YOU SO FAR—TRUST GOES THE DISTANCE.

PRIOR LIFE
MULTI-FAMILY ARCHITECT IN DC

AFTER HOURS
ALL THE SPORTS, ALL THE TIME (SOCCER + DANCE DAD).

ERIC HALEY
ASSOCIATE | MECH DIRECTOR
SAVVY SYSTEMS ARE INVISIBLE WORK HORSES THAT DRIVE LONG-TERM SAVINGS.

DESIGN BELIEFS
INTEGRATED DESIGN APPROACHES ARE SIMPLY GOOD FOR BUSINESS. THAT'S WHERE TEAMS START AND FINISH TOGETHER (FASTER), UNITED IN DELIVERING COMPREHENSIVE SOLUTIONS WHERE FORM AND FUNCTION ARE EQUALS.

GREEN MEANS MONEY—THAT YOU SAVE. SMART SUSTAINABILITY MEASURES ARE ACHIEVABLE FOR ALL.

PRIOR LIFE
BUILDING SCIENCE IN MOTOR CITY USA

AFTER HOURS
GAMING BY NIGHT, TENNIS BY DAY. WATCHING ALL THE STAR WARS FLICKS FOR THE 1,000,000 TIME.

BOB TIERNEY, AIA

PRINCIPAL | DIRECTOR OF DESIGN: ARCH

28 YEARS EXPERIENCE
BACHELOR OF ARCHITECTURE, VIRGINIA TECH

ASSOCIATIONS: AIA RICHMOND CHAPTER BOARD MEMBER; VCU ARCHITECTURAL REVIEW COMMITTEE; SHOCKOE DESIGN DISTRICT, VENTURE RICHMOND ARCHITECTURAL REVIEW BOARD

AC HOTEL KINGSTON | KINGSTON, JAMAICA
SNOHETTA CORNELL EXECUTIVE EDUCATION CTR [CONCEPTS] | NEW YORK, NEW YORK
AC HOTEL ATLANTA DOWNTOWN | ATLANTA, GEORGIA
LAKE FLOWER RESORT & SPA | LAKE FLOWER, NEW YORK
BOUTIQUE HOTEL SACO | SACO, MAINE
THE EQUINOX LUXURY GOLF RESORT & SPA | MANCHESTER, VERMONT
CONFIDENTIAL UNIVERSITY BOUTIQUE HOTEL | WATERVILLE, MAINE
STONE WORLD BISTRO & GARDENS RICHMOND | RICHMOND, VIRGINIA
KIMPTON LORIEN HOTEL & SPA | ALEXANDRIA, VIRGINIA
WESTIN HOUSTON MEDICAL TOWER | HOUSTON, TEXAS
MOXY NEW ORLEANS | NEW ORLEANS, LOUSIANA
HILTON NORFOLK THE MAIN | NORFOLK, VIRGINIA
WASHINGTON HILTON LOBBY [CONCEPTS] | WASHINGTON DC
GRANITE FALLS INN & CONFERENCE CENTER [CONCEPTS] | FARMVILLE, VIRGINIA
WYNDHAM GRAND RESORT BONNET CREEK | ORLANDO, FLORIDA
HISTORIC CAVALIER HOTEL BUNGALOWS [CONCEPT] | VIRGINIA BEACH, VIRGINIA

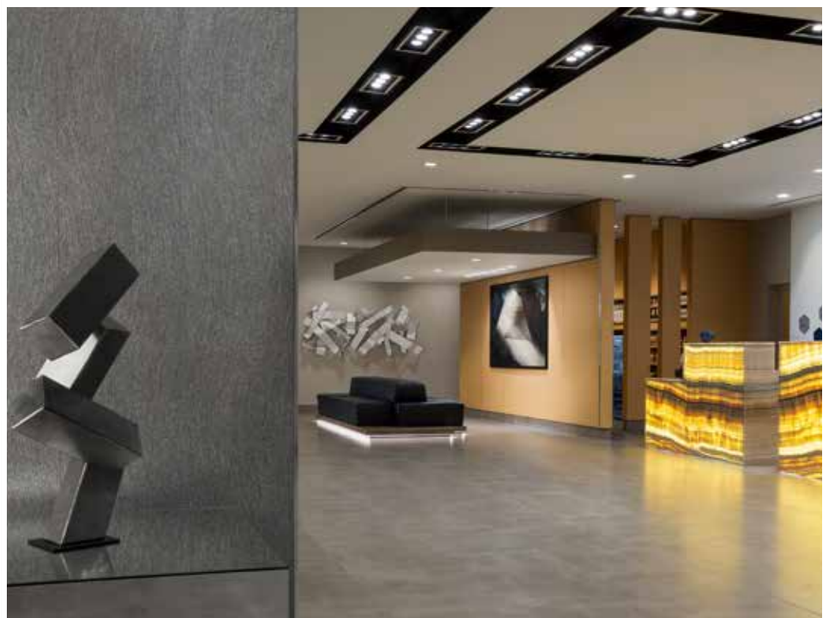
ERIC HALEY, PE, CEM

ASSOCIATE | DIRECTOR OF MECHANICAL ENGINEERING

17 YEARS EXPERIENCE
BACHELOR OF MECHANICAL ENGINEERING,
UNIVERSITY OF MICHIGAN

ASSOCIATIONS: UNITED STATES GREEN COUNCIL MEMBER; SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS; MULTIPLE NATIONAL TECHNICAL COMMITTEES, ASSOCIATION OF ENERGY ENGINEERS

STONE WORLD BISTRO & GARDENS RICHMOND | RICHMOND, VIRGINIA
DOUBLETREE HARRISONBURG | HARRISONBURG, VIRGINIA
EMBASSY SUITES PHOENIX DOWNTOWN NORTH | PHOENIX, ARIZONA
MARROITT CENTURY CENTER ATLANTA | ATLANTA, GEORGIA
UPSCALE IHG EXTENDED-STAY PROTOTYPE | NORTH AMERICA
SPRINGHILL SUITES GAINESVILLE | GAINESVILLE, VIRGINIA
EMBASSY SUITES TYSONS CORNER | TYSONS CORNER, VIRGINIA
CONFIDENTIAL UNIVERSITY BOUTIQUE HOTEL | WATERVILLE, MAINE
HILTON GARDEN INN NEW HAVEN | NEW HAVEN, CONNECTICUT
SUNTRUST CHILLER TOWER REPLACEMENT | RICHMOND, VIRGINIA
COURTYARD/RESIDENCE INN DUAL BRAND | KNOXVILLE, TENNESSEE
LAKE FLOWER RESORT & SPA | LAKE FLOWER, NEW YORK
HYATT PLACE VIRGINIA BEACH | VIRGINIA BEACH, VIRGINIA
GLASS LIGHT HOTEL + GALLERY, AUTOGRAPH COLLECTION | NORFOLK, VIRGINIA



ANDREW HARTMAN

ASSOCIATE | LEAD PROJECT DESIGNER

17 YEARS EXPERIENCE
BACHELOR OF ARCHITECTURE, VIRGINIA TECH

AC HOTEL KINGSTON | KINGSTON, JAMAICA
AC HOTEL SAN JOSE ESCAZU | ESCAZU, COSTA RICA
CONFIDENTIAL UNIVERSITY BOUTIQUE HOTEL | WATERVILLE, MAINE
AC HOTEL BY MARRIOTT PROTOTYPE | NORTH AMERICA
HILTON BOSTON DOWNTOWN | BOSTON, MASSACHUSETTS
HILTON ST. LOUIS AT THE ARCH | ST. LOUIS, MISSOURI
HILTON HOTEL DURHAM RESTAURANT + BAR | DURHAM, NORTH CAROLINA
WASHINGTON HILTON LOBBY [CONCEPTS] | WASHINGTON DC
HILTON VIRGINIA BEACH OCEANFRONT | VIRGINIA BEACH, VIRGINIA
LAKE FLOWER RESORT & SPA | LAKE FLOWER, NEW YORK
BOUTIQUE HOTEL SACO | SACO, MAINE
HILTON GARDEN INN NEW HAVEN | NEW HAVEN, CONNECTICUT
CROWNE PLAZA LOS ANGELES LAX | LOS ANGELES, CALIFORNIA
MARRIOTT SAN FRANCISCO AIRPORT WATERFRONT | SAN FRNCISCO, CALIFORNIA
GRANITE FALLS INN & CONFERENCE CENTER [CONCEPTS] | FARMVILLE, VIRGINIA
HYATT REGENCY SANTA CLARA | SANTA CLARA, CALIFORNIA

THE PRESS HOTEL, AUTOGRAPH COLLECTION*
PORTLAND, MAINE
(*DESIGNED BY BASKERVILL TEAM MEMBER PRIOR TO JOINING BASKERVILL)

5. NOISE

Mechanical systems located on the roof of the proposed building will be screened to mitigate noise impacts. Noise associated with the proposed development is not anticipated to negatively impact surrounding development in its urban setting.

6. VISUAL

Commercial Street is an urban, developed street with only one or two significant parcels remaining to be developed. To help complete the originally intended “mile-long corridor” of Commercial Street, the development of the Center Street Hotel will fill one of the last remaining open spaces on the street. The proposed building replaces a visually unappealing surface parking lot and has been designed to work in concert with existing and proposed surrounding developments.

As will be discussed further in Section 8, a Certificate of Appropriateness was approved for the proposed project by the City of Portland Historic Preservation Board at a Public Hearing on April 17, 2019, confirming the proposed architecture is consistent with and preserves the scenic character of the surrounding area.

7. WILDLIFE & FISHERIES

The Site is fully developed and there are no known areas of significant natural features, including areas of significant wildlife habitats or wetlands. The attached Official Species List identifies the northern long-eared bat, which has been listed as a Federally Threatened Species, in association with the project area; however, there are no critical habitat areas located within the project area. Based on US Fish & Wildlife information, the northern long-eared bat typically lives in caves during the winter months, and in trees larger than three inches in diameter during the summer, with migration between these two habitats in the spring in the fall. Tree-clearing for this project will be minimal and limited removal and replacement of street trees and landscaping vegetation; it is not anticipated that this project will have a negative impact on the northern long-eared bat species.

As described in Section 14, erosion and sedimentation control measures will be utilized during construction to ensure that the work will not result in release of sediment to natural resources. These measures will be in accordance to the MaineDEP Erosion Control Best Management Practices.

A letter was sent to the Maine Department of Inland Fisheries and Wildlife (MDIFW) on April 30, 2019, requesting information regarding any known threatened or endangered species or critical habitat relative to the project area. A copy of the response dated May 16, 2019 is enclosed, and it confirms that there are no habitats of concern at the site.

7.1 LIST OF ATTACHMENTS

- Official Species List
- Maine Department of Inland Fisheries and Wildlife Response Letter, Dated May 16, 2019

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: 05E1ME00-2019-SLI-0278
Event Code: 05E1ME00-2019-E-01394
Project Name: Center Street Boutique Hotel

April 24, 2019

Subject: Updated 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: 05E1ME00-2019-SLI-0278

Event Code: 05E1ME00-2019-E-01394

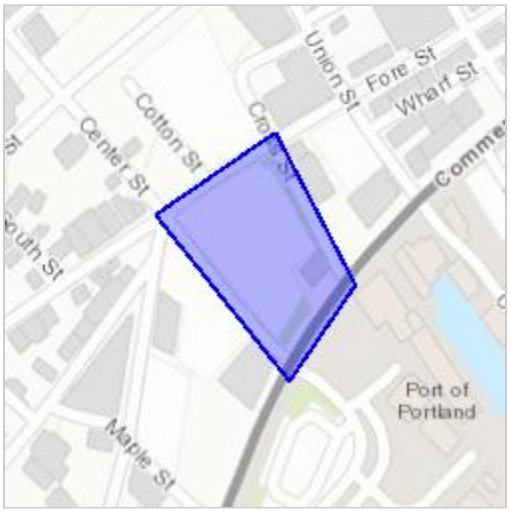
Project Name: Center Street Boutique Hotel

Project Type: DEVELOPMENT

Project Description: 135-room hotel development project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.65445370431211N70.2560234263751W



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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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.

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

May 16, 2019

Lauren Swett
Woodard & Curran
41 Hutchins Drive
Portland, ME 04102

RE: Information Request - Center Street Boutique Hotel, Portland

Dear Lauren:

Per your request received May 03, 2019, 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 *Center Street Boutique Hotel 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.

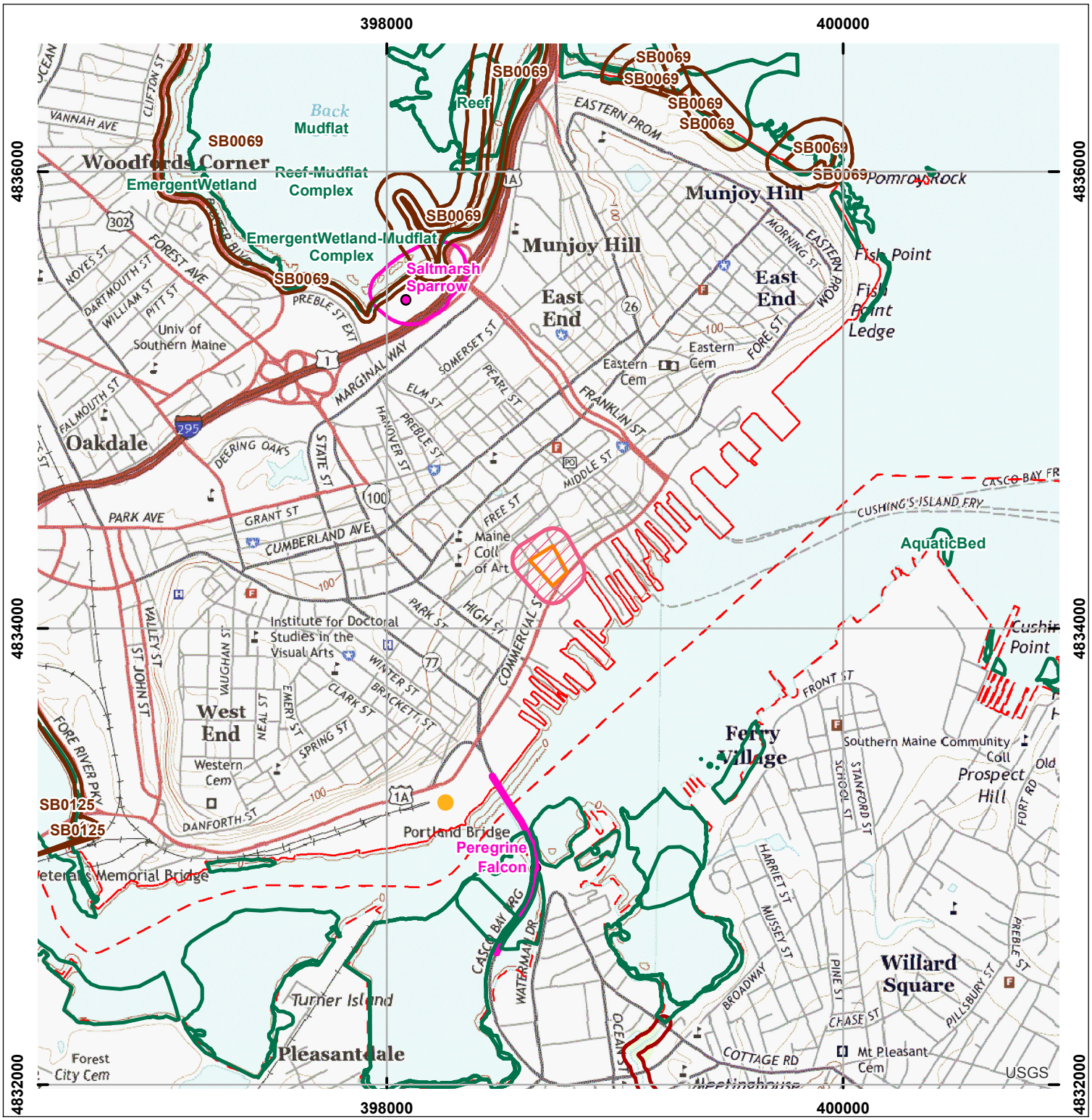
Best regards,

Becca Settele
Wildlife Biologist

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: Portland, Center Street Boutique Hotel (Version 1)

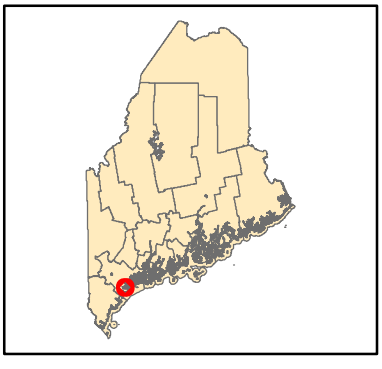
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 5/4/2019

- ProjectPoints
- ProjectLines
- ProjectPolys
- ProjectSearchAreas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl/Wading Bird
- 2008 Iwwh (Shoreland Zoning)
- Tidal Waterfowl/Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover/Least Tern
- Aquatic ETSc (2.5 mi review)
- Rare Mussels (5 mi review)
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel/Swamp Darter Habitats (buffer100ft)
- Special Concern-occupied habitats(100ft buffer)
- Wild Lake Trout Habitats



8. HISTORIC SITES

The proposed development is located within Historic Preservation District 0 -The Old Port. A Historic Preservation Application for Certificate of Appropriateness was submitted on November 21, 2018, presented at public workshops, and approved by the City of Portland Historic Preservation Board by unanimous vote at a Public Hearing on April 17, 2019. A copy of the approval letter is attached.

A request was made to the Maine Historic Preservation Commission (MHPC) for information regarding any known historic properties relative to the project area on April 30, 2019. We received a response letter from MHPC dated May 17, requesting additional information. This information is being provided with the attached response letter from the Applicant's lawyer at Pierce Atwood.

8.1 LIST OF ATTACHMENTS

- City of Portland HP Board Approval Letter
- Maine Historic Preservation Commission Letter, Dated May 17, 2019
- Pierce Atwood Response to MHPC, Dated May 31, 2019

CITY OF PORTLAND, MAINE
HISTORIC PRESERVATION BOARD

Julia Sheridan, Chair
Bruce Wood, Vice Chair
Ian Jacob
Robert O'Brien
Penny Pollard
Julia Tate
John Turk

May 31, 2019

Bettina Reece and James Brady
Fathom Companies
80 Exchange Street
Portland, Maine 04101

Re: 1 Center Street – Construction of a New Hotel

Dear Bettina, Jim, and Marieke,

On April 17, 2019, the City of Portland's Historic Preservation Board voted 6-0 to approve your application for a Certificate of Appropriateness for construction of a new hotel at 1 Center Street. Approval was made on the basis of plans and specifications submitted for the April 17, 2019 public hearing. Approval was made subject to the following conditions:

- Lighting and signage details are to be submitted to HP staff for final review.

Construction to be carried out as shown on the plans and specifications submitted for the April 17, 2019 public hearing and/or as described above. Changes to the approved plans and specifications and any additional work that may be undertaken must be reviewed and approved by this office prior to construction, alteration, or demolition. If, during the course of completing the approved work, conditions are encountered which prevent completing the approved work, or which require additional or alternative work, you must apply for and receive a Certificate of Appropriateness or Non-Applicability PRIOR to undertaking additional or alternative work.

This Certificate is granted upon condition that the work authorized herein is commenced within twelve (12) months after the date is issuance. If the work authorized by this Certificate is not commenced within twelve (12) months after the date of issuance or if such work is suspended in significant part for a period of one year after the time the work is commenced, such Certificate shall expire and be of no further effect; provided that, for cause, one or more extensions of time for periods not exceeding ninety (90) days each may be allowed in writing by the Department.

Sincerely,

Robert Wiener

Robert Wiener
Preservation Compliance Coordinator

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

May 17, 2019

Ms. Lauren Swett
Woodard & Curran
41 Hutchins Drive
Portland, ME 04102

Project: MHPC #0552-19 Fathom CC, LLC; Center Street Boutique Hotel
New 6 Story, 135 Room Hotel

Town: Portland, ME

Dear Ms. Swett:

In response to your recent request, I have reviewed the information received May 1, 2019 to initiate consultation on the above referenced project in accordance with the requirements of Maine Department of Environmental Protection.

There are National Register listed above-ground properties located near the proposed project area. See the enclosed map.

In order to continue our review, please provide site plans (if any), elevation plans and renderings of the proposed building.

Review of the above referenced project finds the site location to be sensitive for archaeological resources dating from Portland's (Falmouth's) earliest beginnings in the early and mid-18th century and continuing through the 19th century. Portland's waterfront shore was located across the middle of the block in the 18th century. By the third quarter of the century a large building was present at the northwest corner of the block. Probably by the latter 18th century the waterfront began to be filled, potentially covering remains of docks and abandoned small water craft, as well as refuse from town residents. The block was entirely filled by the 1830s and a number of buildings, probably a mix of commercial and domestic, were present. Construction continued, so that by 1857 the street faces of Fore, Center and some of Commercial streets were lined with buildings. Most of these improvements were probably destroyed by the great fire of July 4th, 1866, likely contributing to the archaeological record and sealing earlier deposits. By 1871 much of the block was owned by Richardson Wharf Co. Large commercial buildings including a blacksmith shop as well as domestic residences were present on all street faces as well as along Cotton Street, which at that time split the block into east and west halves. By the 1890s the block was dominated by commercial businesses including slate production and woodworking. Domestic residences were also present on Fore and Center Streets. It is not known when the block was cleared for development.

This downtown block represents one of, if not the last, opportunity to archaeologically document numerous important aspects of Portland's historic waterfront. This history potentially begins with

Native American occupation and continues from the early European founding of the town to the filling of the southern portion of the block to create 'made' land for waterfront development and wharf construction on the opposite side of Commercial Street. The block contained numerous commercial businesses and domestic residences at the time of the fire, and it is very likely that important archaeological deposits from the 18th and first half of the 19th centuries were preserved underground. Rebuilding after the fire was largely commercial, but included some domestic occupation as well.

The combination of the block's history and its high potential to contain information of considerable importance to Portland's history, together contribute to the determination of high sensitivity and recommendation for archaeological investigation. This recommended work should focus on 1) documenting and characterizing the early waterfront when Portland was in its infancy; 2) documenting 18th century development and land use starting on Fore Street and; 3) characterizing the 19th-century development of the block as it was filled and leading up to the time of the 1866 fire.

Because urban archaeological sites can present particular challenges, it is imperative that the developer and archaeologists work together so that the archaeological investigations are conducted quickly and efficiently, and in tandem with other site work.

We look forward to continuing consultation with you. If you have any questions regarding above-ground properties, please contact Megan M. Rideout of this office at megan.m.rideout@maine.gov. If you have any questions regarding archaeological resources, please contact Dr. Leith Smith of this office at Leith.Smtih@maine.gov.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

Historic Archaeologists Approved List: Review and Compliance Consulting/Contracting (Active) LEVEL 2 (Phase I, II, III, data recovery, all phases of survey) LEVEL 2

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LEVEL 1

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***Underwater and Maritime**

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

Archaeological Survey Guidelines

Updated: June 10, 2002

This document is provided as background information to agencies, corporations, professional consultants or individuals needing contract archaeological services (also known as Cultural Resources Management archaeology) in Maine. These guidelines are based on state rules (94-089 Chapter 812).

Project Types

The vast majority of contract archaeology survey work falls into one of three categories.

Phase I surveys are designed to determine whether or not archaeological sites exist on a particular piece of land. Such work involves checking records of previous archaeology in the area, walking over the landscape to inspect land forms and look for surface exposures of soil and possible archaeological material, and the excavation of shovel test pits in areas of high probability.

Phase II surveys are designed to focus on one or more sites that are already known to exist, find site limits by digging test pits, and determine site content and preservation. Information from Phase II survey work is used by the Maine Historic Preservation Commission (MHPC) to determine site significance (eligibility for listing in the National Register of Historic Places). Phase III archaeological work, often called data recovery, is careful excavation of a significant archaeological site to recover the artifacts and information it contains in advance of construction or other disturbance.

Archaeological sites are further divided into two broad categories of culture, prehistoric (or Native American), and historic (or European-American). Different archaeological specialists are usually needed for prehistoric or historic sites because the nature of content and preservation and site locations are quite different.

Scope of Work

In responding to a project submission, the MHPC may issue a letter specifying which type of archaeological survey is needed (prehistoric, historic or both) and at what level (Phase I, II, or III). Often the response letter contains further information, such as the suspected presence of an historic site of a certain age, or a statement that only a portion of the project parcel in question is sensitive for prehistoric sites and only that portion needs archaeological survey.

Once the project applicant has one or more scopes of work (proposals) from appropriate archaeologists (see below), the applicant should submit their preferred proposal (without attached financial information or bid total) to the MHPC for approval. MHPC will not comment upon cost, but will comment on the appropriateness of the scale and scope of the work. An approval from MHPC of the scope of work is the applicant's guarantee that, if the field and laboratory work are done according to the scope, and appropriately described in writing, the results will be accepted by MHPC.

The final written report on the project must also be submitted to MHPC for review and comment.

PHONE: (207) 287-2132

FAX: (207) 287-2335

Finding an Archaeologist

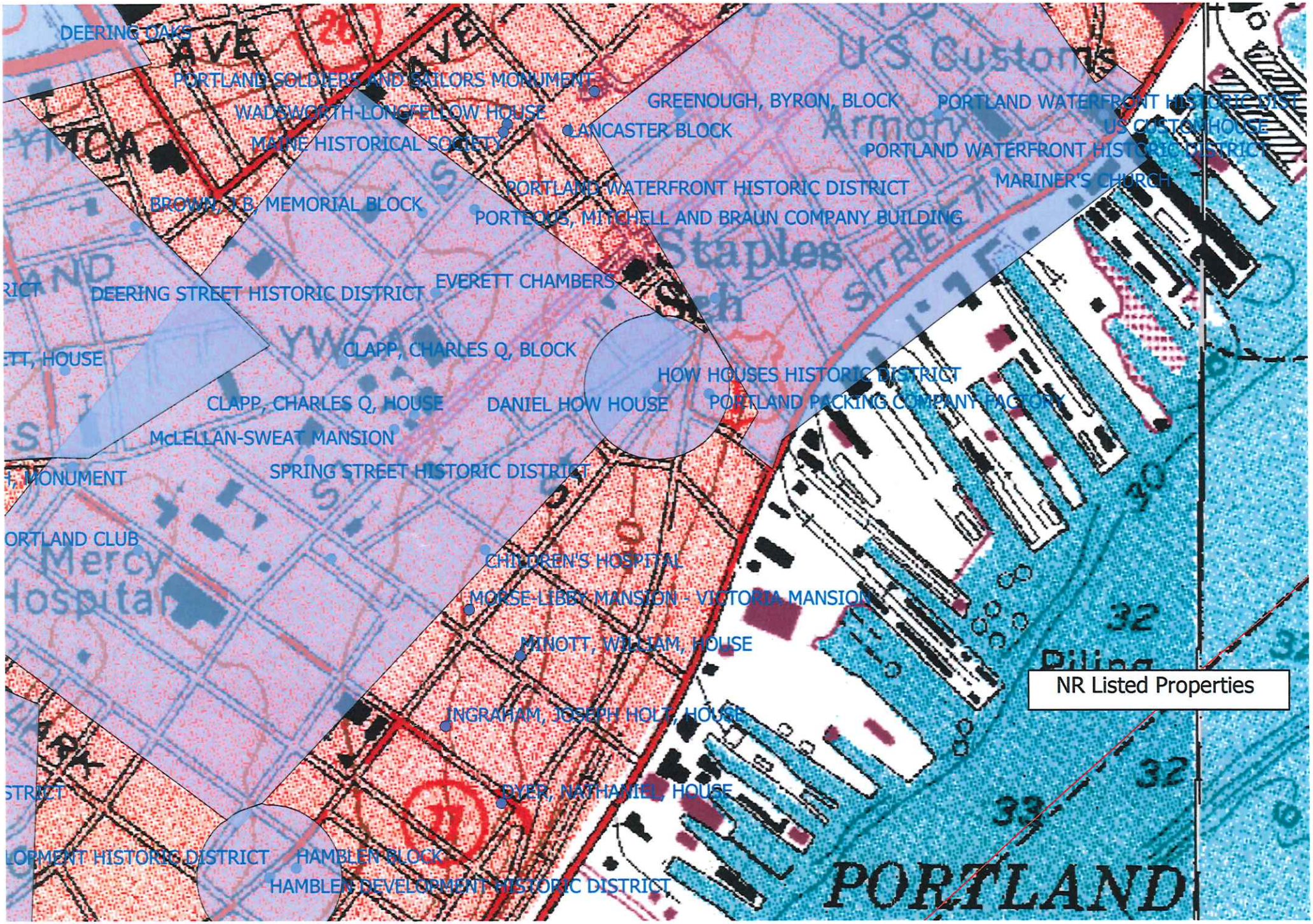
At the time that MHPC issues a letter requiring archaeological survey work, MHPC will also supply one (or more) lists of archaeologists (Levels 1 and/or 2, historic or prehistoric) appropriate to the type of work (Phase I, II, III, historic or prehistoric). Archaeologists on the Level 2 Approved Lists can do projects of any level, including Phase I archaeological survey projects. Level 1 archaeologists are restricted to doing Phase I surveys, and certain planning projects for municipal governments.

MHPC maintains lists of archaeologists interested in working in different geographic areas of Maine, and those who are qualified in different types of work. The archaeologists themselves indicate their availability (except for short-term absence) to MHPC on a periodic basis, so archaeologists on the list can be expected to respond to inquiries. The applicant should solicit proposals or bids for work from archaeologists whose names appear on the list supplied by MHPC.

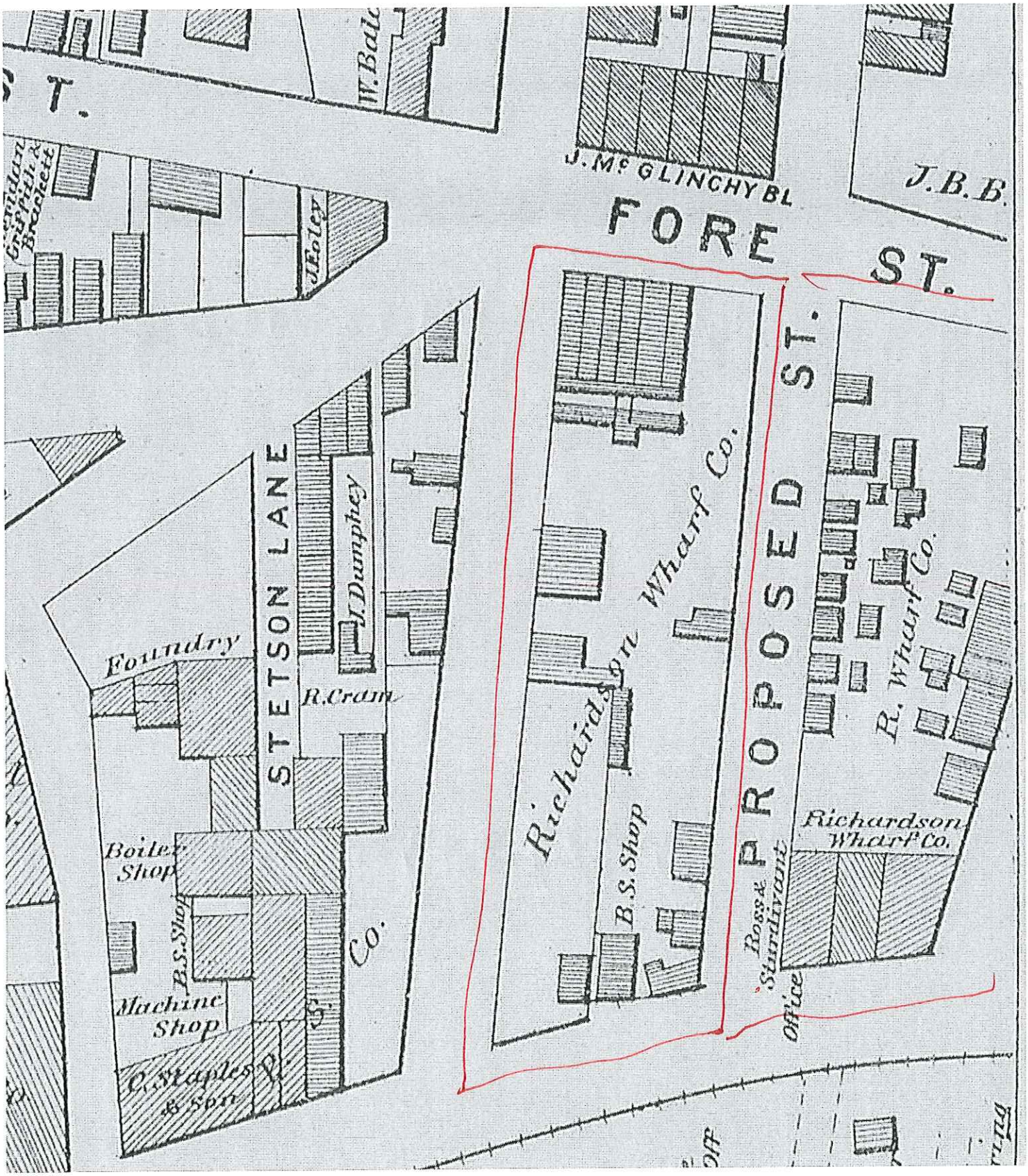
These archaeologists' names are taken from lists of archaeologists approved for work in Maine by MHPC under a set of rules establishing minimal qualifications, such as previous supervisory experience in northern New England, and an appropriate graduate degree. However, the inclusion of an archaeologist on one of these lists should not be interpreted as an endorsement by the MHPC beyond these limited qualification criteria. Moreover, the MHPC cannot recommend the services of an individual archaeologist.

Project Final Report

Whatever the archaeological survey result, a final report on the project should be submitted by the applicant to the MHPC. The MHPC will review the report, and issue further guidance or issue a "clearance" letter for the project.

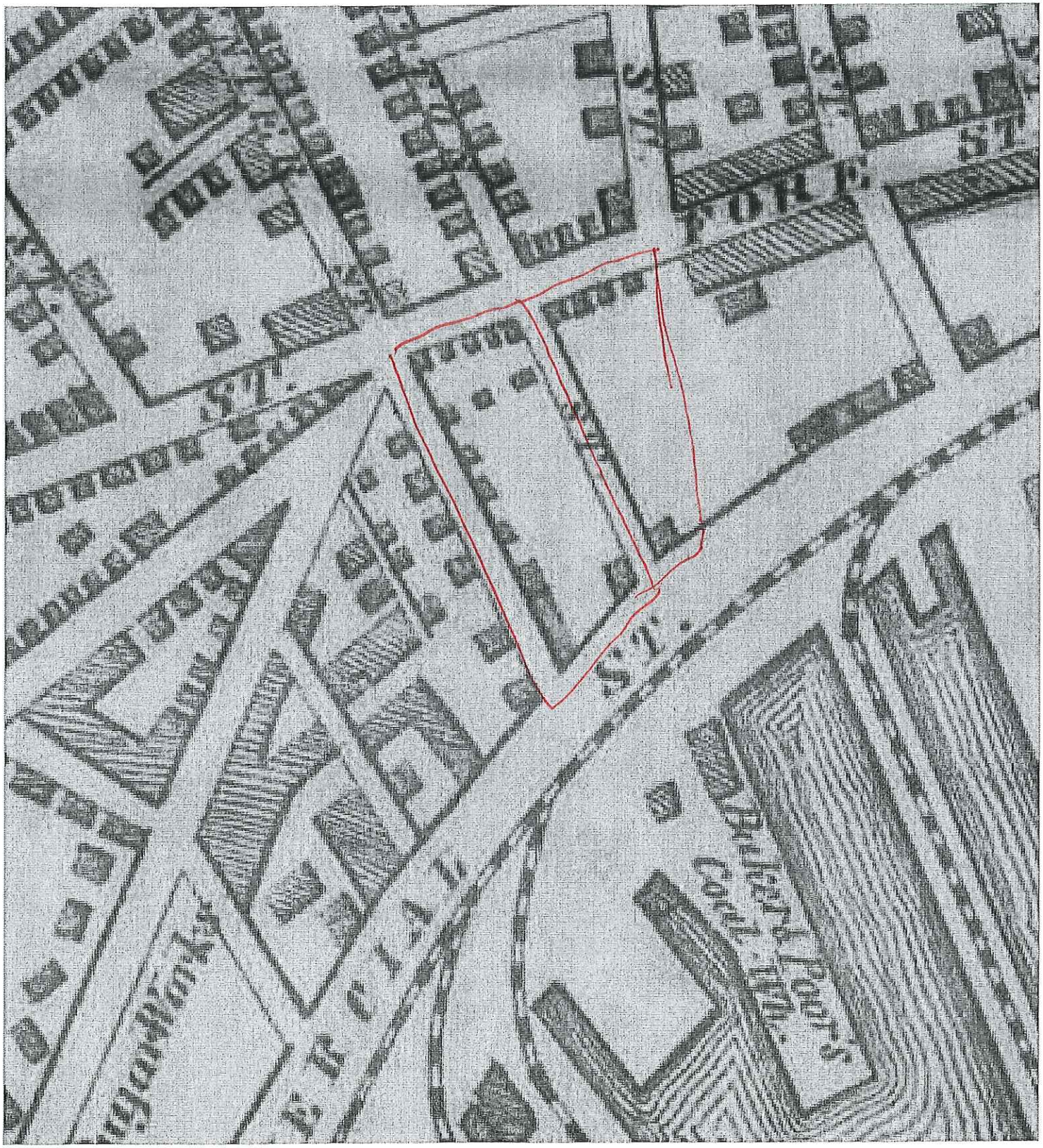

DEERING OAKS
PORTLAND SOLDIERS AND SAILORS MONUMENT
WADSWORTH-LONGFELLOW HOUSE
MAINE HISTORICAL SOCIETY
GREENOUGH, BYRON, BLOCK
LANCASTER BLOCK
PORTLAND WATERFRONT HISTORIC DISTRICT
US CUSTOM HOUSE
MARINER'S CHURCH
BROWN, J B, MEMORIAL BLOCK
PORTEOUS, MITCHELL AND BRAUN COMPANY BUILDING
EVERETT CHAMBERS
DEERING STREET HISTORIC DISTRICT
CLAPP, CHARLES Q, BLOCK
HOW HOUSES HISTORIC DISTRICT
CLAPP, CHARLES Q, HOUSE
DANIEL HOW HOUSE
PORTLAND PACKING COMPANY FACTORY
McLELLAN-SWEAT MANSION
SPRING STREET HISTORIC DISTRICT
CHILDREN'S HOSPITAL
MORSE-LIBBY MANSION - VICTORIA MANSION
MINOTT, WILLIAM, HOUSE
INGRAHAM, JOSEPH HOLT, HOUSE
DYER, NATHANIEL, HOUSE
HAMBLEN BLOCK
HAMBLEN DEVELOPMENT HISTORIC DISTRICT
NR Listed Properties
PORTLAND

1871


J. McGLINCHY BL
J.B.B.
FORE ST.
PROPOSED ST.
STETSON LANE
Foundry
R. Cram
J. Dumphey
Boiler Shop
B.S. Shop
Machine Shop
C. Staples & Son
Richardson Wharf Co.
B.S. Shop
Boss & Sullivant Office
R. Wharf Co.
Richardson Wharf Co.

0552-19

1857



1770s Shore across middle of block
1775 Building present at NW corner of block
1830s Block filled and a number of buildings present
1850s Buildings present along much of Center St. street face, Fore St face and gone in commercial

PIERCE ATWOOD LLP

THOMAS R. DOYLE

Merrill's Wharf
254 Commercial Street
Portland, ME 04101

P 207.791.1214
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C 207.776.9606
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pierceatwood.com

Admitted in: ME

May 30, 2019

Kirk F. Mohney, Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065

Re: Fathom CC, LLC ("Fathom") -- Center Street Boutique Hotel
Portland, Maine
MHPC #0552-19

Dear Mr. Mohney:

This firm represents Fathom in the development of its Center Street Boutique Hotel. I am writing in response to your May 17, 2019, letter to Woodard & Curran's Lauren Swett commenting on Fathom's proposed six-story hotel on an approximately ½ acre site that Fathom has an agreement to purchase at the intersection of Center and Commercial Streets in Portland. Because this project is located in the City of Portland, and Portland has delegated Site Location Law review for this relatively small project, the City of Portland is the permitting entity for the Site Location Law Amendment in this matter.

Per your request for site and elevation plans and renderings of the building, I am enclosing the full set of architectural plans, renderings of the proposed building, and related details that have been presented to the City. This project has already undergone an extensive historic preservation review process conducted by the City of Portland's Historic Preservation Board ("HPB"). The HPB's iterative process involved three workshops and a public hearing. At the conclusion of the public hearing on April 17, 2019, the City's HPB unanimously voted to issue a Certificate of Appropriateness, indicating that the project would not have any adverse impact on historic properties.

With respect to those portions of your letter related to potential archeological resources at this site and your recommendation for an archeological investigation, Fathom notes your recommendation. However, we draw your attention to the enclosed Site Location Law Order dated July 25, 1987, when, prior to the City's delegated Site Location Law authority, a former owner, Portland Square Limited Partnership, received DEP Site Location Law approval to construct the current parking lot on a larger 2.39 acre parcel of which the Fathom project parcel

is just part. In 1987, this larger parcel was covered by several buildings and paved area. Those buildings were then completely demolished. As indicated on page 1 of the Order (4th numbered paragraph), the area was then "graded, graveled with 6 inches of compacted aggregate and surfaced with 2 inches of Hot Bituminous pavement." In its Site Location Law approval (p. 3), the DEP specifically concluded as follows:

> The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character or natural resources in the municipality or neighboring municipalities in that the applicant has submitted a landscape plan for the proposed project which with modifications was accepted by the City of Portland.

You probably recognize that this is the approval standard of the Site Location Law (no adverse effect on natural environment) under which the "historic site" provisions of DEP's Chapter 375(11) are addressed. Because of this prior Site Location Law review and approval, and because Fathom has already addressed the potential for any adverse impact to historic sites above ground, we do not believe any aspect of this project should trigger the need for an archeological investigation, or change the conclusion the DEP reached over 30 years ago (adequate provision for fitting the development harmoniously into the existing natural environment) in issuing its Site Location Law approval for the existing parking lot.

Please don't hesitate to contact me should you have any questions.

Sincerely,

Thomas R. Doyle

Thomas R. Doyle

Enclosures

cc: James Brady, Fathom CC, LLC
Marieke Thormann, Fathom CC, LLC
Lauren Swett, Woodard & Curran

9. UNUSUAL NATURAL AREAS

The Site is fully developed and there are no known unusual natural areas. A request was made to the Maine Natural Areas Program for information regarding botanical features relative to the project area. A response letter was received on May 6, 2019, confirming there are no rare or significant botanical features within the project area; a copy of this letter is attached to this Section for your reference.

9.1 LIST OF ATTACHMENTS

- Maine Natural Areas Program Site Review Response Letter, dated May 6, 2019.

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 6, 2019

Lauren Swett
Woodard & Curran
41 Hutchins Drive
Portland, ME 04102

Via email: lswett@woodardcurran.com

Re: Rare and exemplary botanical features in proximity to: PN 0231538.01, Center Street Boutique Hotel, Portland, Maine

Dear Ms. Swett:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received May 2, 2019 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 Maine Natural Areas Program (MNAP) 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. MNAP welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine 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.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

Thank you for using MNAP 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

10. BUFFERS

This project is occurring entirely on previously developed land. The proposed building covers almost the entire site, as required per City of Portland Zoning setback requirements. Therefore, this section is not applicable.

11. SOILS

11.1 NARRATIVE

According to the Cumberland County Soil Survey, the Site contains Cut and Fill Land (Cu). This soil designation consists of gravely and sandy soil material that has been excavated, relocated and redistributed.

Haley & Aldrich, Inc. performed a subsurface exploration and preliminary geotechnical engineering evaluation in December 2016, and issued the attached report entitled *Preliminary Geotechnical Evaluation – Portland Square Development.* Subsurface explorations confirmed presence of 'man-placed fill soils' on site, overlying naturally-deposited marine soil, glacial till and bedrock. The subsurface explorations consisted of eighteen test borings over the Portland Square project area; four of these test borings are within the project area of the proposed Center Street Hotel. The soils profile encountered during the test borings generally consisted of bituminous concrete overlying about 18-feet of loose to dense (variable density) mixed fill of primarily gravely, sandy and silty soil material with some brick and ceramic fragments.

Additionally, groundwater levels were documented in each observation well and test boring. Groundwater was encountered from elevation 8.2 to 4.1 in the location of the proposed Center Street Hotel. A foundation drainage system is proposed.

Based on the findings within the geotechnical report, there are no specific geotechnical concerns with construction of the project.

11.2 LIST OF ATTACHMENTS

- United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey
- Preliminary Geotechnical Evaluation – Portland Square Development, dated December 23, 2016, prepared by Haley & Aldrich, Inc.

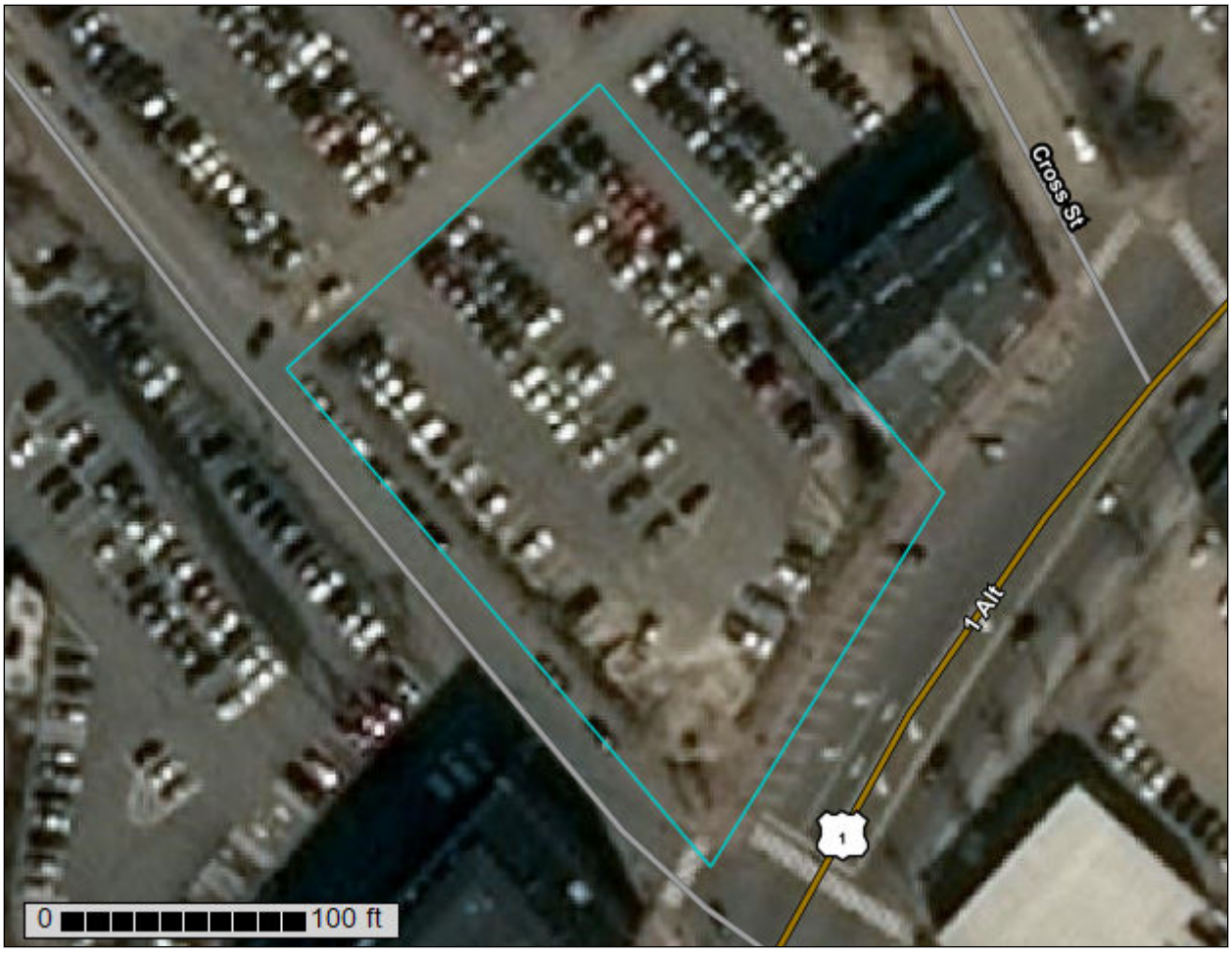
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



April 24, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:635 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

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 15, Sep 6, 2018

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
Cu	Cut and fill land	1.0	100.0%
Totals for Area of Interest		**1.0**	**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, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 42 inches
Available water storage in profile: Moderate (about 6.6 inches)

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HALEY ALDRICH

www.haleyaldrich.com

PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

by Haley & Aldrich, Inc.
Portland, Maine

for Winton Scott Architects
Portland, Maine

File No. 32328-111
December 2016

HALEY & ALDRICH, INC.
75 Washington Avenue
Suite 1A
Portland, ME 04101
207.482.4600

23 December 2016
File No. 32328-111

Winton Scott Architects
5 Milk Street
Portland, Maine 04101

Attention: Steve Weatherhead, RA
Senior Associate

Subject: Preliminary Geotechnical Evaluation
Portland Square Development
Portland, Maine

Ladies and Gentlemen:

This report presents the results of previous and recent subsurface exploration programs and preliminary geotechnical engineering evaluations including a discussion of how the subsurface conditions may impact the proposed development. This work was undertaken at your request and in accordance with our proposal, dated 20 September 2016, and your subsequent authorization.

Elevations

Elevations referenced herein are in feet and reference Portland City Datum (PCD). PCD relates to the National Geodetic Vertical Datum of 1929 (NGVD 29) as follows:

Elevation in ft (PCD) = Elevation in ft (NGVD 29) + 0.02 ft

Site Location, Existing Site Conditions and Historic Site Development

The Portland Square Development project is located on roughly two city blocks in downtown Portland that are generally bound by Commercial Street to the east, Center Street to the south, Spring Street to the west and Cross Street to the north as shown on Figure 1, Project Locus.

The Portland Square Parking Lot (Upper Lot) is generally bound by Spring Street to the west, Cotton Street to the south, Fore Street to the east and the One/Two Portland Square properties to the north. The site is currently being used as a commercial, at-grade (surface) parking facility. Existing site grades generally slope down from Center Street (west) to Fore Street (east) from approximately El. 52 to El. 28.

The Fore Street Parking Lot (Lower Lot) is generally bound by Fore Street to the west, Center Street to the south, Commercial Street to the east and Cross Street to the north. The existing Richardson Wharf Building is located in the northeast corner of the site adjacent to Commercial Street and is not part of the development project. Like the Upper Lot, the Lower Lot is currently being used as a commercial, surface parking facility. Existing site grades generally slope down from Fore Street (west) to Commercial Street (east) from approximately El. 28 to El. 10.

Based on our review of Historical Sanborn maps of the site (Upper and Lower Lots), it appears that each Lot contained multiple structures (buildings) between approximately 1886 and 1980. In general, the structures consisted of residential buildings or those that housed industrial, commercial or manufacturing facilities (e.g., blacksmith, machine, metal and wood shops) as well as ice houses and lumber yards. Each Lot became essentially vacant of above-grade structures between 1980 and 1986. Historical Sanborn Maps of the Lots are provided for informational purposes in Appendix D.

Based on our discussions with the project team and our review of preliminary master plans for the Upper and Lower Lots (see Appendix E) provided by Winton Scott Architects (WSA) dated August 2016 (Upper Lot) and June 2016 (Lower Lot), it is our understanding that the proposed site improvements generally include construction of an urban infill, mixed-use development consisting of a combination of commercial office, retail and residential space with multiple levels of parking (both at and below grade). It is also our understanding that the development will likely be constructed in multiple phases. Please note that the specific plan layout and finish floor slab levels of the proposed structures have not yet been finalized.

Our current understanding of the proposed development on the Upper Lot includes the following general elements:

- Office Building 1: 6-story tower on top of 5 levels of structured parking, 109,980 square feet (sf)
- Office Building 2: 6-story tower on top of 5 levels of structured parking, 100,400 sf

Below grade parking is currently planned beneath the footprint of Office Buildings 1 and 2. The elevation of the lowest parking level is currently planned at El. 29, approximately 23 ft below existing site grades along Center Street. Access to/from the below grade parking area is planned off Cotton Street. Ground floor retail/restaurant space is planned along Fore Street.

Our current understanding of the proposed development on the Lower Lot includes the following general elements:

- Building 3: 3-story tower above 4-levels of structured parking with some retail and residential space, 61,433 sf
- Buildings 4 and 5: 4-story residential towers above 1-level retail and 2- levels of structured parking
- Building 6: 6-story hotel

Below grade parking is currently planned beneath the footprint of the Buildings 3, 4, 5 and a portion of Building 6. The elevation of the lowest parking level (Ground Level) is currently planned at El. 6.42, approximately 22 to 26 ft below existing site grades adjacent to Fore Street. Access to/from Level 1 of the below grade parking area is planned off Cross Street as site grades at Cross Street on the north side of this portion of the site roughly match the proposed Level 1slab elevation (i.e., El. 16.92). The Ground Level parking area will be accessed by the ramp from Level 1 inside of the garage.

In addition to the proposed buildings summarized above, additional site improvements will likely include stormwater management, site roadways and supporting utility infrastructure needed to service the planned development. The details of these site improvements, including proposed site grading have not yet been developed.

Subsurface Exploration Programs

Multiple subsurface exploration programs have been undertaken at and adjacent to the site. Test borings were drilled by Haley & Aldrich in the vicinity of the site for design and construction of One and Two Portland Square, Canal Plaza and the Porteous Warehouse Development (bound by Commercial Street, York Street and Foundry Lane, located south of the Fore Street parking lot, across Center Street). In addition, test borings were drilled under the supervision/direction of Haley & Aldrich in 1985 and 1987 for preliminary geotechnical and phase I/II environmental site assessments completed on both the Upper Lot and Lower Lot sites. Additionally, and most recently, due diligence and preliminary phase geotechnical subsurface exploration programs for the subject project were completed by Haley & Aldrich in 2015 and 2016, respectively.

The approximate locations of relevant test borings are shown on Figures 2 and 3, Site and Subsurface Exploration Location Plans and test boring logs are provided in Appendix A.

2015 DUE DILIGENCE PHASE EXPLORATION PROGRAM

Haley & Aldrich completed a subsurface exploration program consisting of four test borings, designated HA15-1(OW) through HA15-4(OW), within the limits of the Upper and Lower Lots. “As-drilled” test boring locations were determined in the field by Haley & Aldrich by taping distances from existing site features upon the completion of drilling.

The test borings were drilled by New England Boring Contractors (NEBC) of Hermon, Maine during the period 10 to 12 August 2015. The test borings were advanced through overburden soils and terminated in/on bedrock at depths ranging from approximately 18 to 30 ft BGS using a Mobile Drill B-53 truck-mounted drill rig and 3-in. outside diameter (OD; NW size) steel casing.

Soil samples were generally collected continuously through man-placed fill soils and at standard, 5-ft intervals in naturally-deposited soils, by driving a 1-3/8-in. inside diameter (ID) split-spoon sampler with a 140-lb hammer dropped from a height of 30 in., as indicated on the test boring logs. The number of hammer blows required to advance the sampler through each 6-in. interval was recorded and is

provided on the logs. The uncorrected SPT N-value (N-uncorrected) is defined as the total number of blows required to advance the sampler through the middle 12 in. of the 24-in. sampling interval (24-in. long split-spoon sampler).

A photoionization detector (PID) was used in the field to screen for the presence of volatile organic compounds (VOCs) in the recovered man-placed fill soil samples. Elevated PID readings were recorded on individual test boring logs provided in Appendix A of this report.

Approximately 4.5 ft of bedrock was sampled in test boring HA15-1(OW) using a 2.0-in. (NQ-size) ID diamond-tipped core barrel.

Observation wells were installed in each of the completed boreholes to provide information on the static groundwater level at the sites. The observation wells consisted of 1-in. ID, machine-slotted PVC well screen and solid PVC riser pipe cut just below existing ground surface. Each observation well was outfitted with a flush-mounted steel roadway box. Observation well installation and groundwater monitoring reports are provided in Appendix B.

A Haley & Aldrich engineer was present on site to monitor the explorations and document the soil, rock, and groundwater conditions encountered in the explorations and prepare test boring logs. All soil and rock samples were collected and preserved in glass jars and wooden boxes. All soil and bedrock samples are available for review upon request. The available soil and bedrock samples are currently being stored at the Haley & Aldrich laboratory facility in Portland, Maine.

2016 PRELIMINARY PHASE EXPLORATION PROGRAM

Haley & Aldrich completed a preliminary subsurface exploration program consisting of 18 test borings, designated HA16-1 through HA16-18 within the limits of the Upper (HA16-1 through HA16-9) and Lower Lots (HA16-10 through HA16-18). “As-drilled” test boring locations were determined in the field by Haley & Aldrich by taping distances from existing site features upon the completion of drilling.

The test borings were drilled by New England Boring Contractors (NEBC) of Londonderry, New Hampshire under contract with Woodard & Curran (WC; project environmental consultant) during the period 3 to 17 October 2016. In general, the test borings were advanced through overburden soils and terminated in/on bedrock at depths ranging from approximately 15 to 43 ft below ground surface (BGS) using a Acker Drill AD-II truck-mounted drill rig and 4-in. outside diameter (OD; HW size) steel casing.

Soil samples were generally collected continuously through man-placed fill soils and at standard, 5-ft intervals in naturally-deposited soils, by driving a 1-3/8-in. inside diameter (ID) split-spoon sampler with a 140-lb hammer dropped from a height of 30 in., as indicated on the test boring logs. The number of hammer blows required to advance the sampler through each 6-in. interval was recorded and is provided on the logs. The uncorrected SPT N-value (N-uncorrected) is defined as the total number of blows required to advance the sampler through the middle 12 in. of the 24-in. sampling interval (24-in. long split-spoon sampler).

A photoionization detector (PID) was used by WC personnel in the field to screen for the presence of volatile organic compounds (VOCs) in the man-placed fill soil samples recovered from select test borings.

Approximately 5 to 7 ft of bedrock was sampled (cored) in each test boring except HA16-5, HA16-9, HA16-11, HA16-12 and HA16-16. Bedrock samples were collected using a 1.875-in. (NX-size) ID diamond-tipped core barrel.

A Haley & Aldrich geologist was present on site to monitor the explorations and document the soil, rock, and groundwater conditions encountered in the explorations and prepare test boring logs. All soil and rock samples were collected and preserved in glass jars and wooden boxes. All soil and bedrock samples are available for review upon request. The available soil and bedrock samples are currently being stored at the Haley & Aldrich laboratory facility in Portland, Maine.

Subsurface Conditions

The subsurface conditions encountered at the site consist of man-placed fill soils overlying multiple naturally-deposited geologic units. Additional details are provided on the test boring logs included in Appendix A. In addition, a summary of the soil units and thicknesses encountered within each test boring that was completed under the direction of Haley & Aldrich during the 2015 (due diligence phase) and 2016 (preliminary phase) subsurface exploration programs is provided on Table I. Please refer to subsurface profiles shown on Figures 4-6 for a graphical representation of the soil conditions across the sites (Upper and Lower Lots). A general description of soil, bedrock and groundwater conditions encountered in the due diligence and preliminary phase test borings are provided separately, below.

Please note that soil descriptions provided on the test boring logs do not represent actual field conditions other than at the specific test boring locations. Actual conditions encountered between test boring locations may vary from those described herein and shown in Table I and Figures 4-6.

Geologic Unit	Approximate Encountered Thickness (ft)	Generalized Description
Man-Placed Fill	2 to 24 (2 to 9 within Upper Lot and 12 to 24 within Lower Lot)	Loose to very dense poorly-graded SAND with variable amounts of silt (SP, SP-SM), silty SAND with variable amounts of gravel (SM), poorly-graded gravel with variable amounts of sand (GP), well graded SAND with variable amounts of silt and gravel (SW, SW-SM), well graded GRAVEL with sand (GW) and medium stiff to hard SILT (ML) with variable amounts of sand and gravel. Portions of the layer contained shell, organic, wood, concrete, brick, ceramic, glass, coal, slag, ash, rubber, and leather fragments. 1 to 5-ft thick layers of wood or concrete were encountered in test borings HA16-11, HA16-12 and HA16-16 through HA16-18. A strong petroleum-like odor was noted within the layer between approximately 3 and 12 ft BGS in test boring HA16-13. *(encountered in each test boring)*
Marine Deposit	0 to 20	very soft to hard SILT (ML) and CLAY (CL) with variable amounts of or interbedded with poorly-graded SAND (SP) or silty SAND with gravel (SM) and very loose to very dense silty SAND with variable amounts of gravel or lean clay (SM) and well graded GRAVEL with variable amounts of silt and sand (GW, GW-GM) (*encountered in each test boring except HA16-16 and HA16-18*)
Glacial Till	0 to 8	very dense well graded SAND with gravel (SW) (*encountered in test borings HA15-1(OW) through HA15-4(OW), HA16-1, HA16-8 and HA16-13*)
Bedrock	moderately hard to hard, fresh to highly weathered PHYLLITE and QUARTZITE. Up to 7 ft of weathered bedrock was encountered overlying more competent material at some test boring locations. Top of bedrock surface encountered in each test boring is shown on Figures 2 and 3 and graphically on Figures 4 and 5. *(sampled/cored in each test boring except HA15-1(OW) through HA15-4(OW), HA16-5, HA16-9, HA16-11, HA16-12 and HA16-16)*	

GROUNDWATER CONDITIONS

Observation wells were installed in each of the due diligence phase boreholes (i.e., HA15-1 through HA15-4). The observation wells were installed to provide information on the static groundwater level at the site and to determine whether the groundwater levels are affected by tidal fluctuations in nearby Fore River.

Beginning on 17 June 2016 downhole pressure transducers were installed in observation wells HA15-2(OW) and HA15-4(OW) and were programmed to record the groundwater level once every 15 minutes. The transducers were removed and data were downloaded on 6 December 2016. Observation well installation reports are provided in Appendix C and a graphical representation of the measured groundwater levels during the period 17 June to 6 December 2016 are provided for reference in Figure 8.

In addition, water levels were measured in the 1985, 1987 and 2016 boreholes upon the completion of drilling. It should be noted that the drilling means and methods used (HSAs; no water added during advancement of the boreholes) to drill the test borings likely did not significantly influence the static water levels. However, steel casing and drilling fluid (water) was used to drill the 2016 test borings. Therefore, it is our opinion that the measurements in the 1985 and 1987 test borings provide reasonable estimates of groundwater levels across the sites for this preliminary phase of the project.

The measured water levels in each observation well and test boring are summarized below. Static groundwater levels at each observation well and test boring location is also shown on Figures 2 and 3.

Site	Approximate Range in Ground Surface Elevation (ft, PCD)	Deepest Proposed Ground Floor Elevation (Approximate Bottom of Excavation)	Approximate Range in Water Level Elevation (ft, PCD)
Upper Lot	El. 52 (upper) to El. 28 (lower)	El. 29 (El. 26)	El. 40 (upper) to El. 16 (lower)
Lower Lot	El. 32 (upper) to El. 10 (lower)	El. 8.4 to El. 6.4 (upper) to El. 11 to El. 15 (lower) (El. 3.4 upper to El. 12 lower)	El. 16 to El. 18 (upper) to El. 4 to 5 (lower)

Based on the measured water levels summarized above and our understanding of the proposed FFEs for structures on the Upper and Lower Lots, we offer the following:

- Upper Lot:
  - Water levels could be 1 to 11 ft (approximate) above the FFE within the upper half of the site.
  - Water levels could be 5 to 13 ft (approximate) below the FFE within the lower half of the site.

- Lower Lot:
  - Water levels could be up to 12 ft (approximate) above the FFE within the upper half of the site.
  - Water levels could be in excess of 3 ft below the FFE within the lower half of the site.

Based on the water level readings measured in observation well HA15-4(OW) (adjacent to Commercial Street) it appears that the static water levels measured are not influenced by tidal fluctuations in the nearby Fore River.

In general, water levels may fluctuate with season, precipitation, local soil/bedrock conditions, excavation means and methods, temperature and tidal conditions. Therefore, water levels may vary from those summarized above, provided on the testing boring logs included in Appendix A and shown on Figures 2, 3 and 7.

Geotechnical Laboratory Testing

A geotechnical laboratory testing program was undertaken on representative soil samples collected during the 2016 subsurface exploration program to aid in soil classification and evaluation of reuse potential. The laboratory testing program consisted of 16 grain size analyses. All laboratory testing was performed in accordance with applicable American Society for Testing Materials (ASTM) testing procedures by GeoTesting Express of Acton, Massachusetts.

A summary of laboratory testing is summarized below and actual laboratory test results are provided in Appendix B.

Soil Unit	No. of Tests	Generalized Descriptions
Fill	6	clayey SAND with gravel, silty SAND with gravel, GRAVEL with silt and sand
Marine Deposit	10	CLAY with varying amounts of sand and gravel, sandy SILT, clayey SAND with gravel, silty SAND with varying amounts of gravel

Impacts of Subsurface Conditions on Proposed Development

Based on the subsurface conditions encountered in the 1985/1987 and 2015 and 2016 test borings completed by Haley & Aldrich and our current understanding of the project, we have the following general geotechnical "observations" regarding future development of the Upper (Portland Square) and Lower (Fore Street) Lots.

Please refer to Figures 4 and 5, Subsurface Profiles, for a graphical representation of the soil conditions across the site. Proposed building ground floor slab levels are shown on the profiles along with proposed finish floor elevations and anticipated bottom of excavation needed to construct the building foundation systems.

- Due to the historic presence of structures on each site, as shown on the historic Sanborn maps included in Appendix D, and layers of concrete and wood and miscellaneous debris encountered within the man-placed fill soils during our due diligence and preliminary phase subsurface investigations, it is likely that demolition debris and/or abandoned building foundations or other obstructions will be encountered during construction (excavation and foundation installation/construction). These potential obstructions may include, but are not limited to granite blocks, wood piles, concrete slabs, railroad rails, footings, pile caps, foundation walls and grade beams.

- Based on the elevation of the top of bedrock as compared to the planned finish floor elevation of the lowest floor slabs, we anticipate that up to approximately 13 ft of rock removal will be required in the upper portion of the Upper Lot to construct the building foundations and lowest level floor slab. We do not anticipate rock removal to be needed to construct the building foundations and lowest level floor slab in the lower portion of the Upper Lot or in the Lower Lot.

- Due to the proximity of the water table to the planned finish floor elevation of the lowest floor slab in the upper portion of both the Upper and Lower Lots, we anticipate that either a foundation drainage system or a membrane waterproofing system will be need to protect the below grade portions of the buildings from water infiltration and would be designed to resist hydrostatic pressures. The foundation drainage system would likely consist of a network of perimeter and underslab drains that ideally would connect by gravity to an existing or proposed storm drain system at the site. The membrane waterproofing system would likely be needed on the below grade portions of foundation walls and below slabs/mats. The feasibility of both options should be evaluated during the design phase of the project. The use of vapor barriers beneath the lowest level floor slab in residential and retail spaces will likely be needed.

- Due to the relatively shallow depth of the top of bedrock as compared to the planned finish floor elevation of the lowest floor slab, we estimate that structures occupying the upper one-half (approximate) of the Upper Lot could be supported by shallow, spread footing or mat foundations bearing on bedrock.

- Due to the presence and compressible nature of the man-placed fill and marine silt/clay soils present within some portions of the site, we estimate that structures occupying the lower one-half (approximate) of the Upper Lot and the entirety of the Lower Lot would likely need to be supported by deep foundations (i.e., driven piles or drilled shafts) or on shallow, spread footing foundations bearing in improved ground. Possible ground improvement technologies appropriate for the site and subsurface conditions are aggregate piers (APs), grouted aggregate piers (GAPs) and geo-concrete columns (GCCs). Additional evaluations are required to further explore the technical feasibility and cost of these systems. Depending on the magnitude of actual column loads, it may be possible to support some of the buildings on the lower portion of the Upper Lot on shallow footing or mat foundations. Detailed evaluations will be needed as well as interaction with the Structural Engineer to evaluate this.

- Considering that existing site grades will not be raised (except for Building 6), and in some cases lowered, we anticipate that the lowest level floor slab for most, if not all of the buildings could be designed and constructed as a soil-supported, slabs-on-grade.

- Based on the subsurface conditions present at the sites and the seismic requirements of the latest edition of the International Building Code (IBC), it is likely that buildings would have to be designed in accordance with a "Site Class D" classification. A more rigorous evaluation will be conducted during the design phase once the locations and FFE's of the buildings are finalized.

- Temporary support of excavation systems will be required to construct the below grade portions of the buildings on the upper portion of both the Upper and Lower Lots. Based on planned FFE's of the buildings and existing site grades we anticipate that a drilled-in soldier pile and lagging system with internal and/or external bracing will be the most cost effective system. Additional evaluations will be required during the design phase to determine the technical feasibility of different systems and their design requirements.

Please note that additional explorations and analyses should be conducted during future phases of the project to verify the accuracy of these observations as they relate to future site development plans.

Recommendations for Future Work

There are several items that require additional evaluation and consideration during the preliminary and final design, and contract document preparation phases of the project. These items are summarized below.

- Additional subsurface explorations within the Upper and Lower Lots may be required in order to:
  - Better define the top of bedrock surface for more accurate determination of quantities that will require removal during construction.

  - Determine the limits of where shallow foundations can be used to support the proposed structures and also to determine where building foundation bearing conditions and type will change.
  - Collect rock samples for laboratory testing and determination of engineering properties needed to design temporary lateral earth support systems and drilled shaft building foundations bearing in/on bedrock (especially if design column loads require the foundations to resist axial uplift and lateral forces)

- Evaluation of the use of ground improvement techniques and shallow, spread footing foundations in lieu of a deep foundation system across a portion of the proposed building footprints.

- Evaluations to determine final foundation support requirements for the buildings.

- Development of geotechnical specifications such as earthwork, rock removal/blasting (if used), temporary lateral earth support, dewatering, driven/drilled pile installation and testing (if used) and ground improvement (if used) will be required.

- Additional groundwater data is needed determine the most cost effective, technically feasible system to protect the below grade spaces.

- Evaluations to determine the most cost effective temporary support of excavation system for both the Upper and Lower Lots.

Limitations of Recommendations

This memorandum is prepared for the exclusive use of WSA relative to the Portland Square Development in Portland, Maine. There are no intended beneficiaries other than WSA. Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreement or the memorandum. Use of this memorandum by any person or entity other than of WSA for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from WSA and from Haley & Aldrich. Use of this memorandum by such other person or entity without the written authorization WSA and Haley & Aldrich shall be at such other person's or entities sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this memorandum by any person or entity, including by WSA, for a purpose other than relative to the Portland Square Development in Portland, Maine is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the memorandum is adequate for such other use. Use of this memorandum by any other person or entity for such other purpose without written authorization by Haley & Aldrich shall be at such person's or entities sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

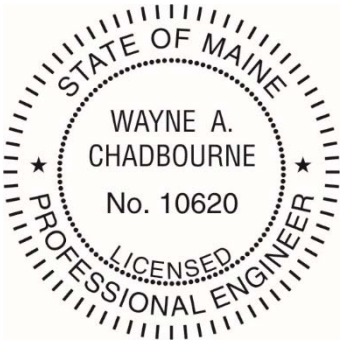
The information provided herein is based, in part, upon the data obtained from the referenced subsurface explorations. The nature and extent of variations between explorations may not become evident until construction. If variations then appear, it may be necessary to reevaluate the recommendations of this memorandum.

Closure

We greatly appreciate the opportunity to provide preliminary level geotechnical engineering consulting services on this project and trust this meets your present needs. We look forward to our continued association with you through preliminary and final design, construction document preparation, and construction. Please do not hesitate to contact us if you require additional information or have questions regarding any of the information provided herein.

Sincerely yours,
HALEY & ALDRICH, INC.

Bryan C. Steinert, P.E.
Project Manager



Wayne A. Chadbourne, P.E.
Senior Associate

Enclosures:

- Figure 1 – Project Locus
- Figure 2 – Site and Subsurface Exploration Location Plan Upper Lot
- Figure 3 – Site and Subsurface Exploration Location Plan Lower Lot
- Figure 4 – Subsurface Profiles A-A and B-B
- Figure 5 – Subsurface Profile C-C
- Figure 6 – Subsurface Profile Legend and Notes
- Figure 7 – Groundwater Level Monitoring Data
- Appendix A – Test Boring Logs
- Appendix B – Laboratory Test Results
- Appendix C – Observation Well Installation and Groundwater Monitoring Reports
- Appendix D – Historical Sanborn Maps
- Appendix E – Preliminary Conceptual Master Plans, Upper and Lower Lots

References

1. Report entitled, “Due Diligence Geotechnical Evaluation, Portland Square Development, Portland, Maine,” prepared by Haley & Aldrich, Inc. for Winton Scott Architects, dated 25 September 2016.

2. Report entitled, “Subsurface and Foundation Investigation, Proposed Two Portland Square, Portland, Maine,” prepared by Haley & Aldrich, Inc. for Portland Square Limited Partnership, dated July 1989.

3. Report entitled, “Supplemental Oil and Hazardous Material Site Evaluation, Fore Street Parking Lot, Portland, Maine,” prepared by Haley & Aldrich, Inc. for Portland Square Limited Partnership, dated December 1989.

4. Report entitled, “Supplemental Oil and Hazardous Material Site Evaluation, Portland Square Parking Lot, Portland, Maine,” prepared by Haley & Aldrich, Inc. for Portland Square Limited Partnership, dated December 1989.

5. Report entitled, “Proposed Site Development, Porteous Warehouse Project, The Finch Group, Inc., Portland, Maine,” prepared by Haley & Aldrich, Inc. for HTA/Oest Associates, Inc., dated 6 May 1986.

6. Report entitled, “Report of Preliminary Soil and Foundation Investigation, Proposed Canal National Bank Development, Portland, Maine,” prepared by Haley & Aldrich, Inc. for Stahl Associates, dated 25 May 1971.

TABLE I
Exploration Subsurface Data
Portland Square Development
Portland, Maine

Haley & Aldrich, Inc. File No.: 32328-111

	Test Boring No.[1]	Ground Surface Elevation[2,3]	Approximate Strata Thickness[4,5,6] (ft)					Approximate Elevation of Top of Bedrock[2,3,57]	Approximate Elevation of Bottom of Exploration[2,3]
			Topsoil/ Bituminous Concrete/Fill	Marine Deposit		Glacial Till	Weathered Bedrock		
				Silt/Clay	Sand/Gravel				
UPPER LOT	HA15-1(OW)	49.5	7.2	5.8	NE	1.1	NE	35.4	31.0
	HA16-1	49.0	4.7	9.3	NE	5.5	3.3	29.5	19.0
	HA16-2	46.0	8.5	6.0	NE	NE	4.2	31.5	20.0
	HA16-3	44.5	2.3	5.7	2.3	NE	3.2	34.2	26.2
	HA16-4	42.0	4.5	4.5	4.5	NE	3.5	28.5	19.0
	HA16-5	40.0	5.0	NE	9.9	NE	0.1	25.1	25.0
	HA16-6	39.0	6.5	NE	8.3	NE	0.2	24.2	17.5
	HA16-7	31.5	2.1	1.2	14.5	NE	6.5	13.7	2.5
	HA16-8	32.5	5.0	NE	11.7	7.3	1.0	8.5	1.5
	HA16-9	32.5	3.8	9.7	10.5	NE	2.7	8.5	5.8
LOWER LOT	HA15-2(OW)	29.0	9.2	13.2	1.6	4.6	NE	0.4	-0.9
	HA15-3(OW)	26.5	14.5	NE	12.5	1.9	0.3	-2.7	-3.8
	HA15-4(OW)	11.5	18.0	NE	NE	8.4	0.4	-15.3	-16.8
	HA16-10	25.5	21.0	NE	13.0	NE	4.5	-8.5	-17.7
	HA16-11	19.5	24.0	NE	11.5	NE	--	--	-16.0
	HA16-12	20.0	19.0	NE	9.0	NE	> 2.0	-8.0	-10.0
	HA16-13	22.5	12.3	4.9	NE	1.1	1.7	4.2	-2.5
	HA16-14	14.0	19.5	4.0	3.1	NE	8.4	-12.6	-25.7
	HA16-15	15.5	20.7	2.8	NE	NE	6.5	-8.0	-19.5
	HA16-16	17.0	17.7	NE	NE	NE	> 2.3	-0.7	-3.0
	HA16-17	11.0	18.0	NE	7.7	NE	3.3	-14.7	-23.0
	HA16-18	12.0	20.3	NE	NE	NE	4.7	-8.3	-18.0

Notes:

[1] Test boring locations are shown on Figures 2 and 3, Site and Subsurface Exploration Location Plans.

[2] Ground surface elevations were determined by Haley & Aldrich, Inc. by interpolating between existing topographic contour information.

[3] Elevations are measured in feet and reference Portland City Datum.

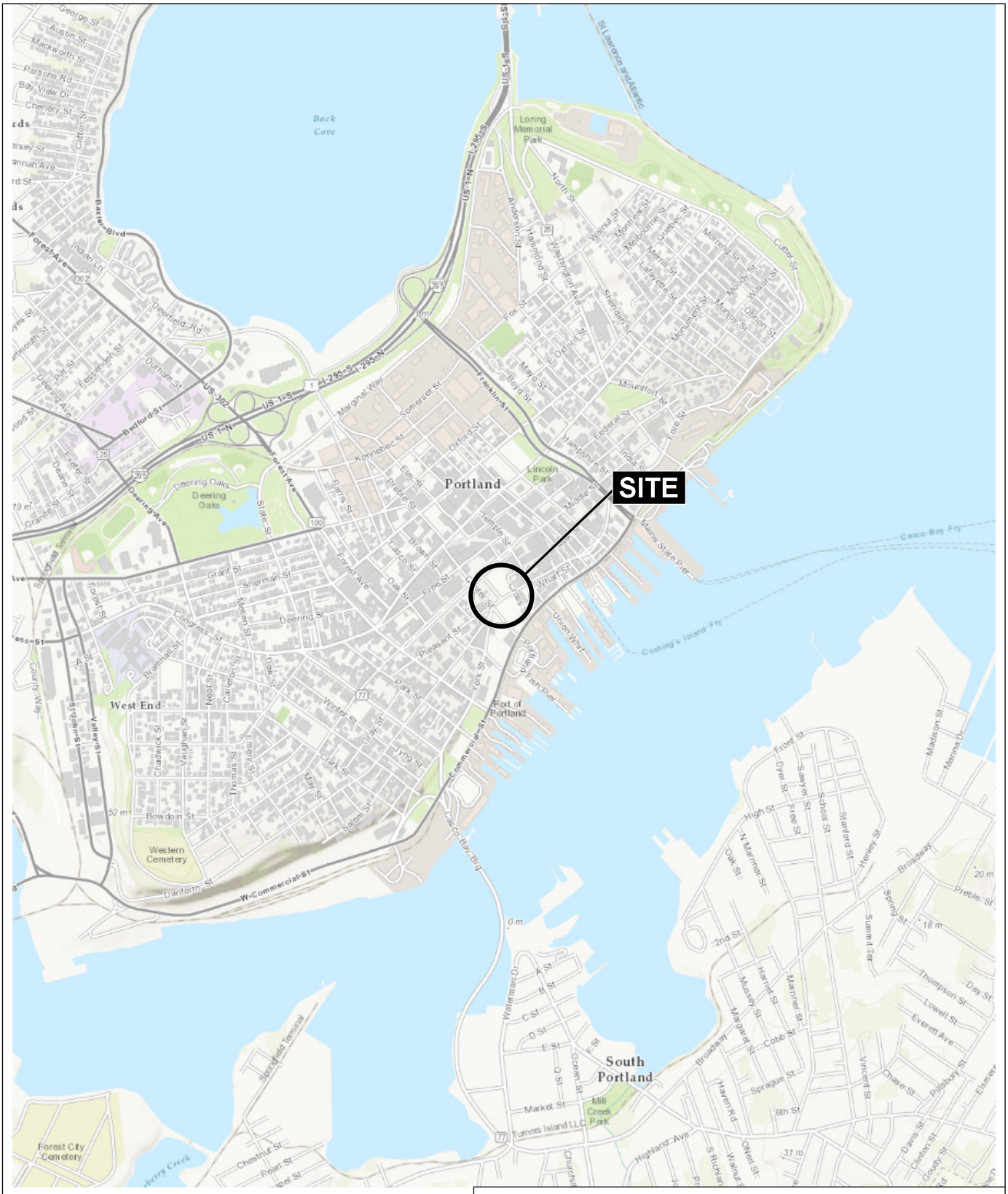
[4] "NE" indicates stratum was not encountered in test boring.

[5] "--" indicates test boring was not drilled deep enough to determine presence of stratum.

[6] "> 2.0" indicates test boring was not drilled deep enough to determine full thickness of stratum, which is greater than the value shown.

[7] Top of bedrock in test borings HA15-1(OW) through HA15-4(OW), HA16-5, HA16-9 and HA16-16 determined based on drill action and observation of wash water contents, coring/sampling not conducted.

	Individual	Date
Prepared By:	KAR	12/12/2016
Checked By:	BCS	12/21/2016
Reviewed By:	WAC	12/23/2016



MAP SOURCE: ESRI

SITE COORDINATES: 43°39'19"N, 70°15'23"W

HALEY ALDRICH

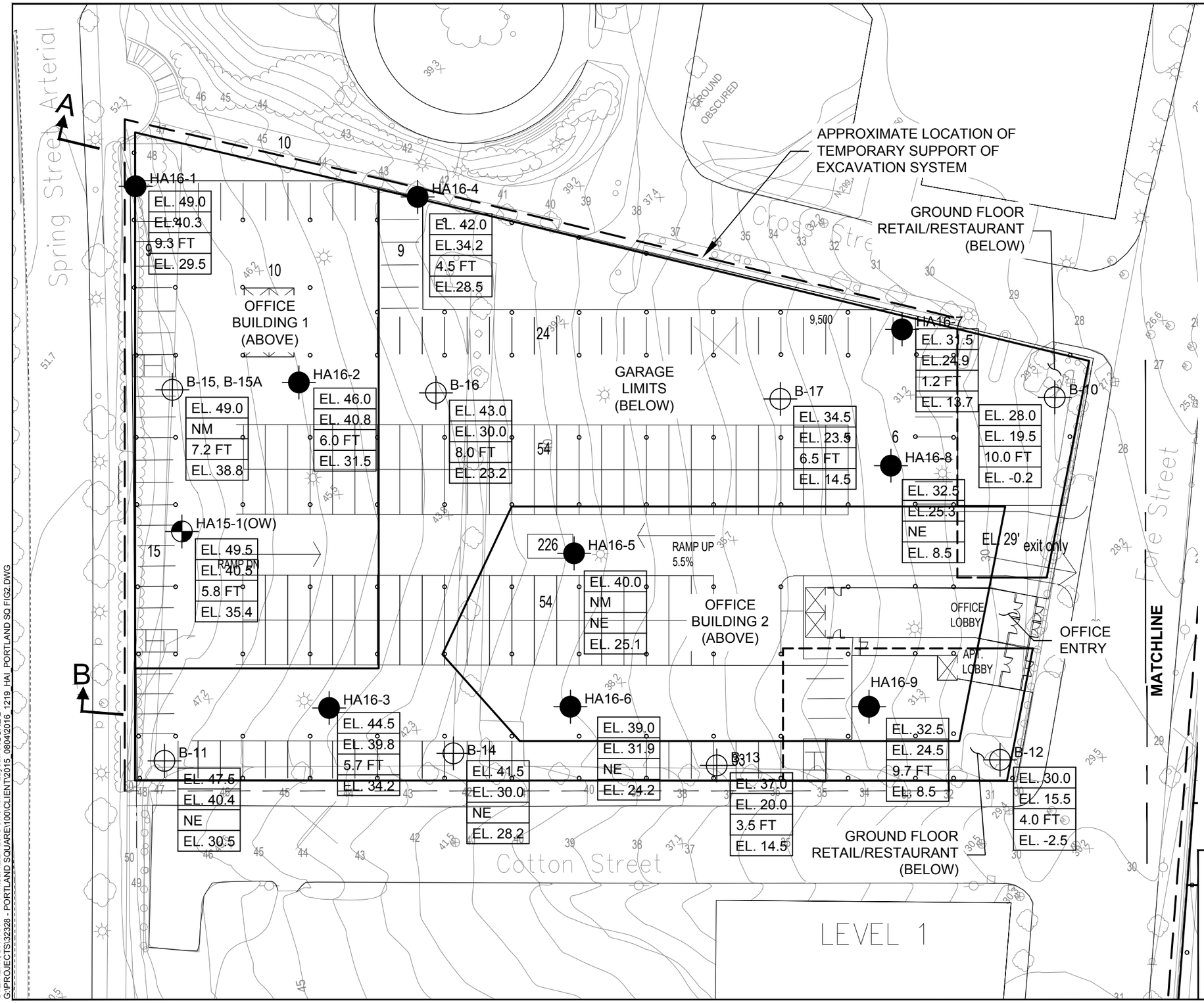
PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
DECEMBER 2016

FIGURE 1

32328-100_1_LOCUS.PDF



LEGEND

HA16-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF LONDONDERRY, NEW HAMPSHIRE DURING THE PERIOD 3-17 OCTOBER 2016 UNDER THE DIRECTION OF HALEY & ALDRICH
HA15-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF HERMON, MAINE DURING THE PERIOD 10-12 AUGUST 2015 UNDER THE DIRECTION OF HALEY & ALDRICH
B-10	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHEAST DIAMOND DRILLING COMPANY, INC. OF UNION, MAINE OR MAINE TEST BORINGS, INC. OF BREWER, MAINE ON 22 NOVEMBER 1985 AND 7-8 JULY AND 10 SEPTEMBER 1987.
(OW)	DENOTES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
NE	DENOTES STRATA NOT ENCOUNTERED
NM	DENOTES WATER LEVEL NOT MEASURED
EL. 49.5	APPROXIMATE GROUND SURFACE ELEVATION
EL. 40.4	APPROXIMATE WATER ELEVATION
5.8 FT	APPROXIMATE MARINE SILT/CLAY THICKNESS
EL. 30.5	APPROXIMATE TOP OF WEATHERED BEDROCK OR BEDROCK ELEVATION, WHICHEVER IS HIGHER
A A	DESIGNATION, LOCATION AND ORIENTATION OF SUBSURFACE PROFILE

NOTES

1. EXISTING SITE CONDITIONS, CONTOURS OF EXISTING GROUND SURFACE ELEVATIONS AND THE LOCATION AND ORIENTATION OF EXISTING AND PROPOSED SITE FEATURES ARE TAKEN FROM THE ELECTRONIC AUTOCAD FILE ENTITLED, "S1.1 L2 and L3.dwg." PROVIDED TO HALEY & ALDRICH, INC. BY WINTON SCOTT ARCHITECTS ON 4 AUGUST 2015.
2. THE PLAN LOCATION OF HISTORIC SUBSURFACE EXPLORATIONS IS APPROXIMATE AND WAS DETERMINED BY OVERLAYING HISTORIC TEST BORING LOCATION PLANS ON TO THE EXISTING CONDITIONS PLAN AND SHOULD BE CONSIDERED APPROXIMATE.
3. 2015 AND 2016 TEST BORING LOCATIONS SHOWN ARE APPROXIMATE AND WERE ESTIMATED BY HALEY & ALDRICH BY TAPING/PACING DISTANCES FROM EXISTING SITE FEATURES.
4. LIMITS AND PLAN LOCATION OF PROPOSED STRUCTURES TAKEN FROM PRELIMINARY CONCEPTUAL MASTER PLANS PROPOSED BY WINTON SCOTT ARCHITECTS DATED 21 AUGUST 2016 (SEE APPENDIX E).

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

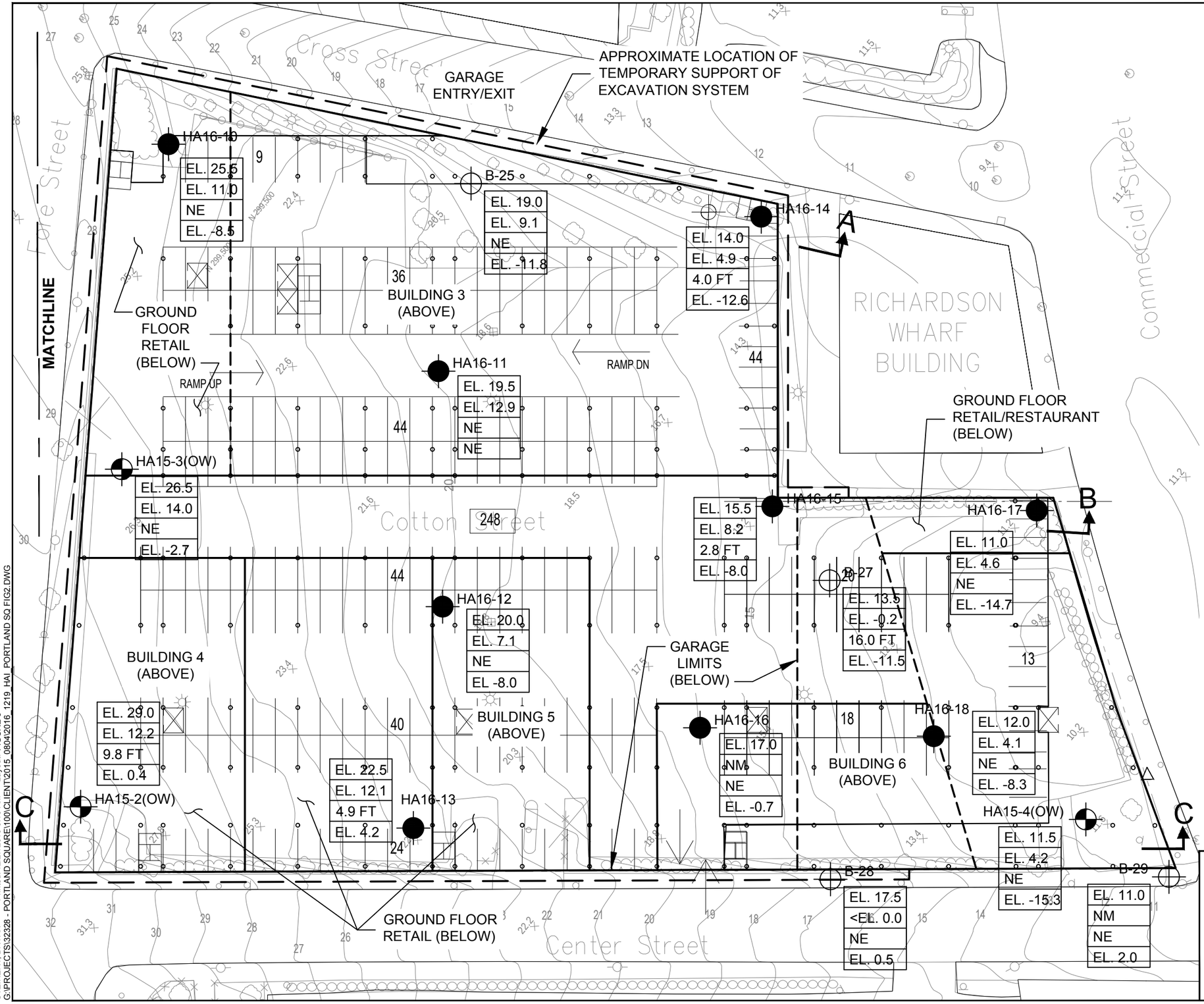
PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN UPPER LOT

SCALE: AS SHOWN
DECEMBER 2016

FIGURE 2

STEINERT, BRYAN Printed: 12/27/2016 9:15 AM Layout: FIGURE 2
G:\PROJECTS\32328 - PORTLAND SQUARE\100\CLIENT\2015_0804\2016_1219_HAI_PORTLAND SQ FIG2.DWG



LEGEND

HA16-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF LONDONDERRY, NEW HAMPSHIRE DURING THE PERIOD 3-17 OCTOBER 2016 UNDER THE DIRECTION OF HALEY & ALDRICH
HA15-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF HERMON, MAINE DURING THE PERIOD 10-12 AUGUST 2015 UNDER THE DIRECTION OF HALEY & ALDRICH
B-10	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NORTHEAST DIAMOND DRILLING COMPANY, INC. OF UNION, MAINE OR MAINE TEST BORINGS, INC. OF BREWER, MAINE ON 22 NOVEMBER 1985 AND 7-8 JULY AND 10 SEPTEMBER 1987.
(OW)	DENOTES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
NE	DENOTES STRATA NOT ENCOUNTERED
NM	DENOTES WATER LEVEL NOT MEASURED
EL. 49.5	APPROXIMATE GROUND SURFACE ELEVATION
EL. 40.4	APPROXIMATE WATER ELEVATION
5.8 FT	APPROXIMATE MARINE SILT/CLAY THICKNESS
EL. 30.5	APPROXIMATE TOP OF WEATHERED BEDROCK OR BEDROCK ELEVATION, WHICHEVER IS HIGHER
A A	DESIGNATION, LOCATION AND ORIENTATION OF SUBSURFACE PROFILE

NOTES

1. EXISTING SITE CONDITIONS, CONTOURS OF EXISTING GROUND SURFACE ELEVATIONS AND THE LOCATION AND ORIENTATION OF EXISTING AND PROPOSED SITE FEATURES ARE TAKEN FROM THE ELECTRONIC AUTOCAD FILE ENTITLED, "S1.1 L2 and L3.dwg." PROVIDED TO HALEY & ALDRICH, INC. BY WINTON SCOTT ARCHITECTS ON 4 AUGUST 2015.
2. THE PLAN LOCATION OF HISTORIC SUBSURFACE EXPLORATIONS IS APPROXIMATE AND WAS DETERMINED BY OVERLAYING HISTORIC TEST BORING LOCATION PLANS ON TO THE EXISTING CONDITIONS PLAN AND SHOULD BE CONSIDERED APPROXIMATE.
3. 2015 AND 2016 TEST BORING LOCATIONS SHOWN ARE APPROXIMATE AND WERE ESTIMATED BY HALEY & ALDRICH BY TAPING/PACING DISTANCES FROM EXISTING SITE FEATURES.
4. LIMITS AND PLAN LOCATION OF PROPOSED STRUCTURES TAKEN FROM PRELIMINARY CONCEPTUAL MASTER PLANS PROPOSED BY WINTON SCOTT ARCHITECTS DATED 21 AUGUST 2016 (SEE APPENDIX E).

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

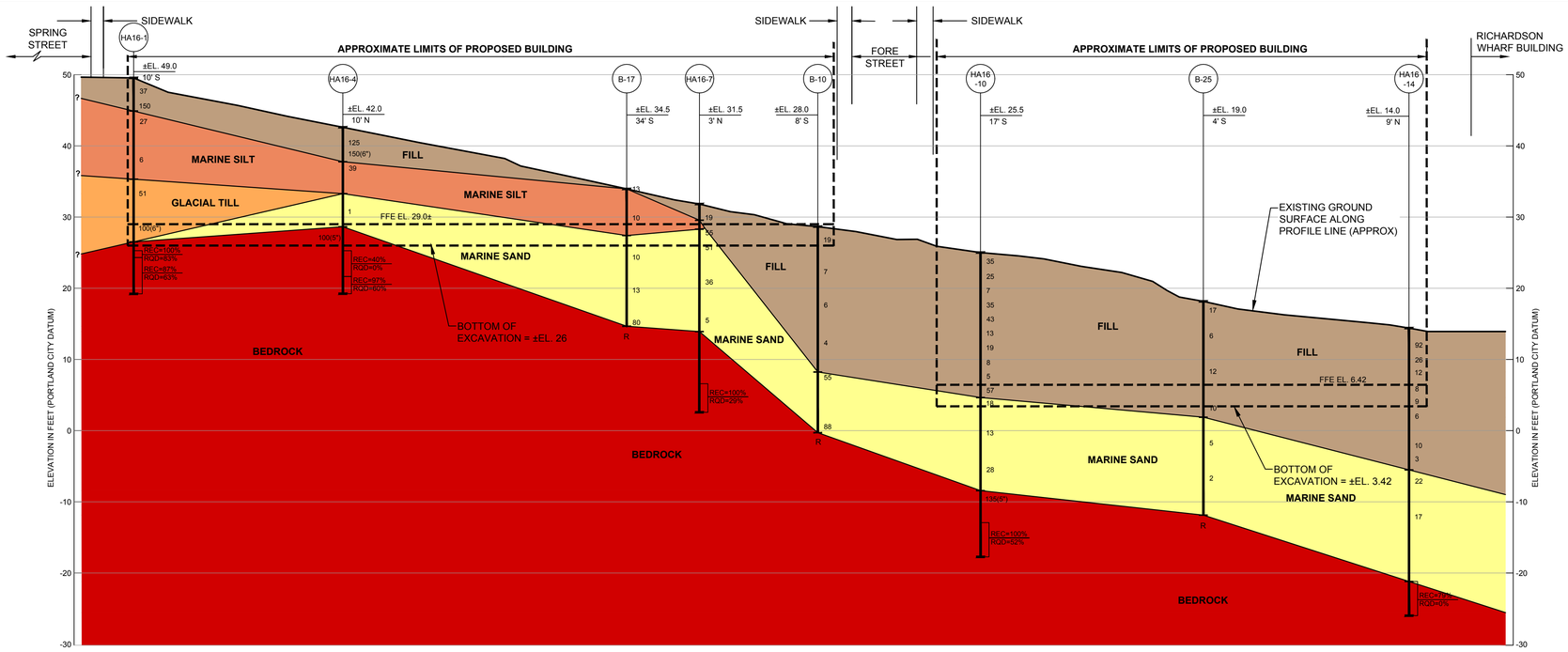
PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN LOWER LOT

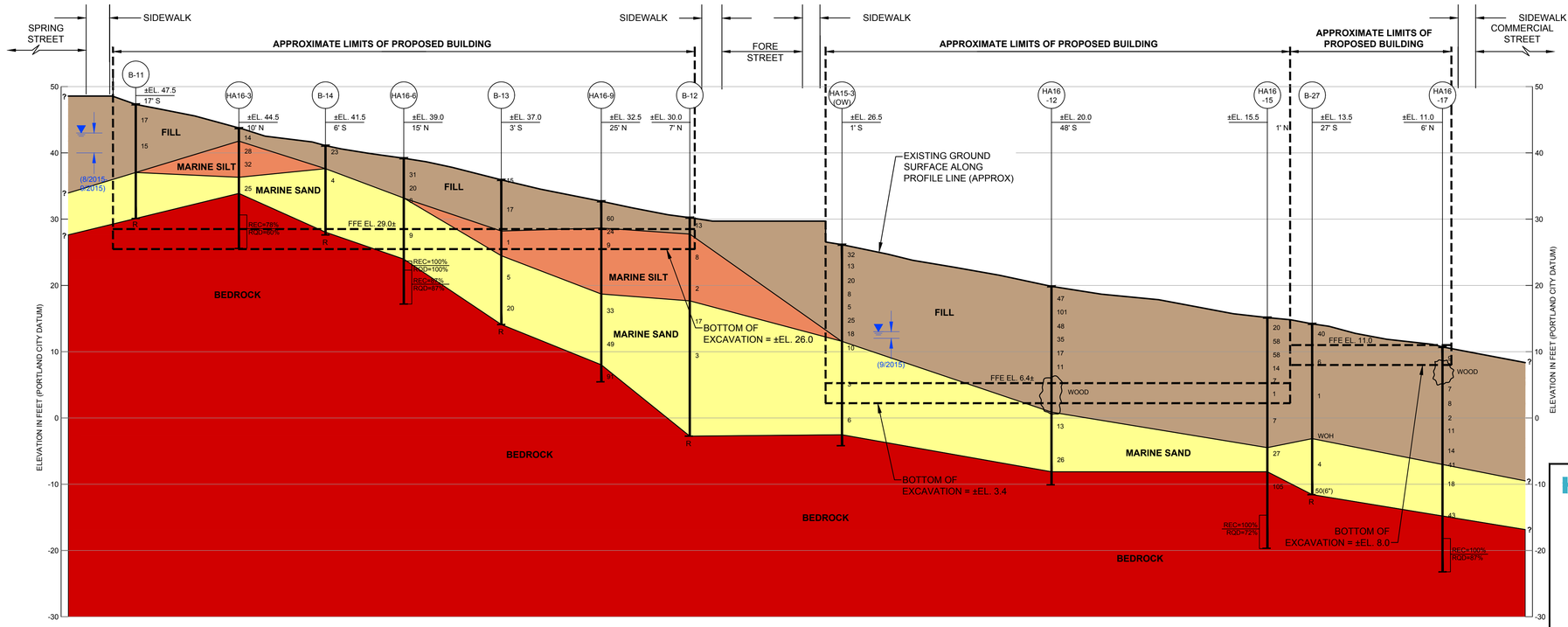
SCALE: AS SHOWN
DECEMBER 2016

FIGURE 3

STEINERT, BRYAN Printed: 12/27/2016 9:16 AM Layout: FIGURE 3
G:\PROJECTS\32328 - PORTLAND SQUARE\100\CLIENT\2015_0804\2016_1219_HAL_PORTLAND SQ FIG2.DWG



PROFILE A-A



PROFILE B-B

NOTES:

1. SEE FIGURES 2 AND 3 FOR PLAN LOCATION OF EXPLORATIONS SHOWN ON PROFILE AND FOR LOCATION / ORIENTATION OF SUBSURFACE PROFILE.
2. SEE FIGURE 6 FOR SUBSURFACE PROFILE LEGEND AND NOTES.
3. LIMITS AND PLAN LOCATION OF PROPOSED STRUCTURES TAKEN FROM PRELIMINARY CONCEPTUAL MASTER PLANS PREPARED BY WINTON SCOTT ARCHITECTS DATED 21 AUGUST 2016 (SEE APPENDIX E).

HORIZ. 0 40 80 120 160
VERT. 0 10 20 30 40
SCALE IN FEET

HALEY ALDRICH

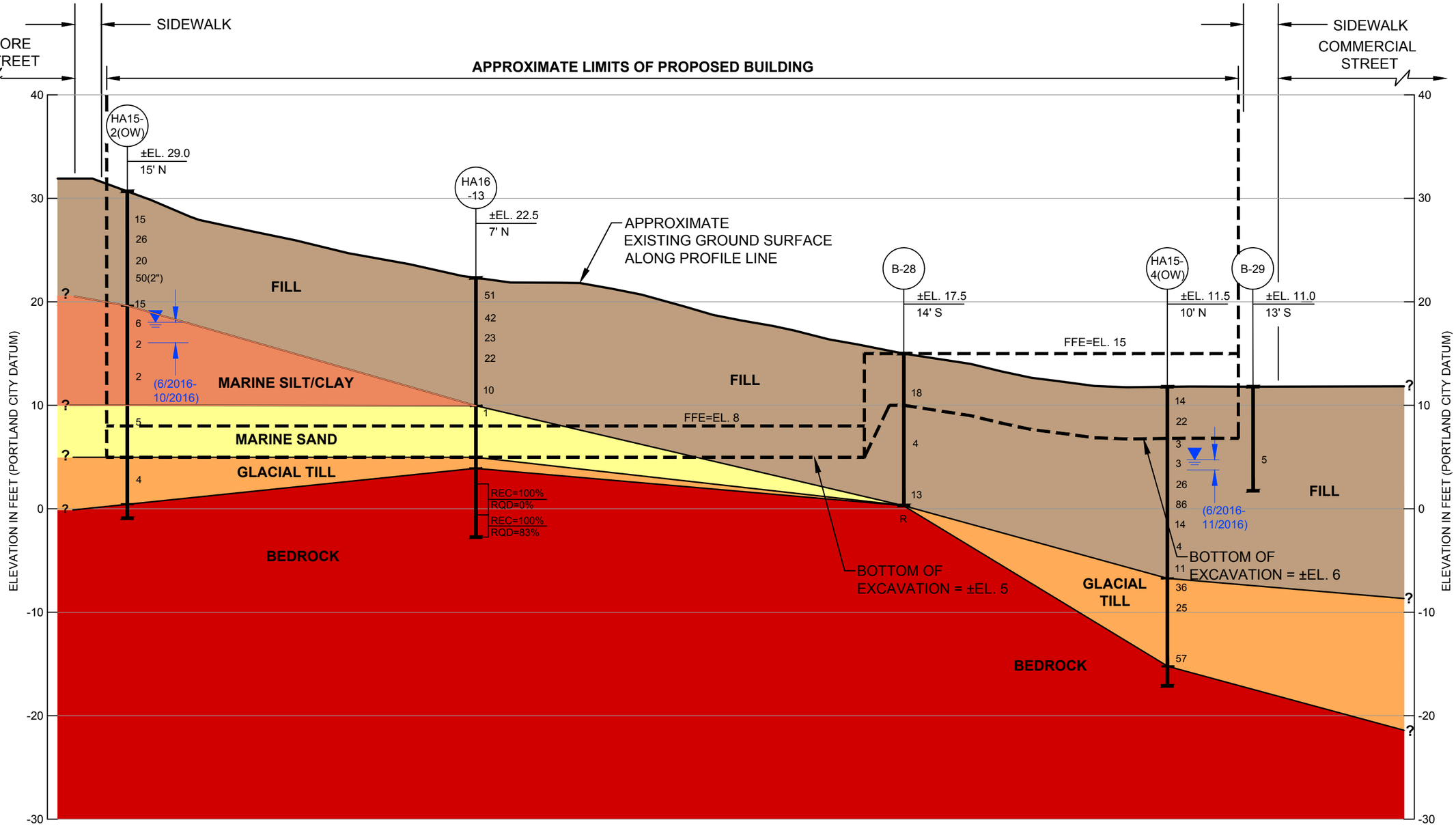
PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

SUBSURFACE PROFILES A-A AND B-B

SCALE: AS SHOWN
DECEMBER 2016

FIGURE 4

STACEY, MICHELLE Printed: 12/23/2016 4:21 PM Layout: SECTION A-A AND B-B
G:\PROJECTS\32328 - PORTLAND SQUARE\GLOBAL\CAD\32328-111 SECTIONS 2016-1221.DWG



NOTES:

1. SEE FIGURE 3 FOR PLAN LOCATION OF EXPLORATIONS SHOWN ON PROFILE AND FOR LOCATION / ORIENTATION OF SUBSURFACE PROFILE.
2. SEE FIGURE 6 FOR SUBSURFACE PROFILE LEGEND AND NOTES.
3. LIMITS AND PLAN LOCATION OF PROPOSED STRUCTURES TAKEN FROM PRELIMINARY CONCEPTUAL MASTER PLANS PREPARED BY WINTON SCOTT ARCHITECTS DATED 21 AUGUST 2016 (SEE APPENDIX E).

HORIZ. 0 40 80
VERT. 0 10 20
SCALE IN FEET

HALEY ALDRICH

PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

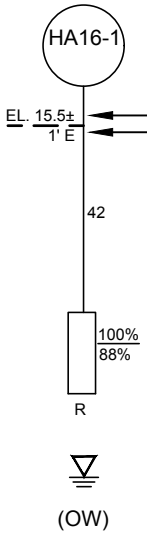
SUBSURFACE PROFILE C-C

SCALE: AS SHOWN
DECEMBER 2016

FIGURE 5

STACEY, MICHELLE Printed: 12/23/2016 4:14 PM Layout: SECTION C-C
G:\PROJECTS\32328 - PORTLAND SQUARE\GLOBAL\CAD\32328-111 SECTIONS 2016-1221.DWG

LEGEND:



DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED UNDER THE DIRECTION OF HALEY & ALDRICH, INC. IN 1985, 1987, 2015 AND 2016

APPROXIMATE GROUND SURFACE ELEVATION AT TEST BORING LOCATION DETERMINED BY INTERPOLATING BETWEEN ELEVATION CONTOURS

APPROXIMATE PERPENDICULAR OFFSET DISTANCE AND DIRECTION MEASURED FROM THE SUBSURFACE PROFILE LINE

STANDARD PENETRATION TEST (SPT) N-VALUE (BLOWS PER FOOT); WOR = WEIGHT OF RODS; WOH = WEIGHT OF HAMMER

PERCENT RECOVERY
PERCENT ROCK QUALITY DESIGNATION (RQD)

DENOTES SPLIT-SPOON OR AUGER REFUSAL ENCOUNTERED, JUDGED TO BE BEDROCK

GROUNDWATER LEVEL MEASURED IN COMPLETED BOREHOLE OR OBSERVATION WELL ON DATE SPECIFIED

DENOTES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE

NOTES:

1. SEE FIGURES 2 AND 3 FOR LOCATION AND ORIENTATION OF SUBSURFACE PROFILES.
2. EXISTING GROUND SURFACE ELEVATIONS AT TEST BORING LOCATIONS ARE APPROXIMATE AND WERE DETERMINED BY INTERPOLATION USING TOPOGRAPHIC CONTOUR INFORMATION PROVIDED BY WINTON SCOTT ARCHITECTS IN THE ELECTRONIC AUTOCAD FILE ENTITLED, "S1.1 L2 AND L3.dwg," ON 4 AUGUST 2015.
3. EXISTING AND PROPOSED SITE FEATURES AND CONTOURS OF EXISTING GROUND SURFACE ELEVATIONS ARE TAKEN FROM THE ELECTRONIC AUTOCAD FILE ENTITLED, "S1.1 L2 AND L3.dwg," PROVIDED BY WINTON SCOTT ARCHITECTS ON 4 AUGUST 2015.
4. LINES REPRESENTING CHANGES IN STRATA SHOWN ON THE SUBSURFACE PROFILES ARE BASED ON LINEAR INTERPOLATION BETWEEN SUBSURFACE EXPLORATIONS. THESE INTERPRETED STRATA LINES DO NOT REPRESENT ACTUAL FIELD CONDITIONS OTHER THAN AT SPECIFIC EXPLORATION LOCATIONS.
5. LOCATIONS OF THE 1958, 1987, 2015 AND 2016 TEST BORINGS ARE APPROXIMATE AND WERE DETERMINED IN THE FIELD BY TAPING/PACING DISTANCES FROM EXISTING SITE FEATURES.
6. ELEVATIONS ARE IN FEET AND REFERENCE PORTLAND CITY DATUM.
7. REFER TO APPENDIX A FOR LOGS OF THE 1985, 1987, 2015 AND 2016 TEST BORINGS COMPLETED UNDER THE DIRECTION OF HALEY & ALDRICH, INC.

HALEY ALDRICH

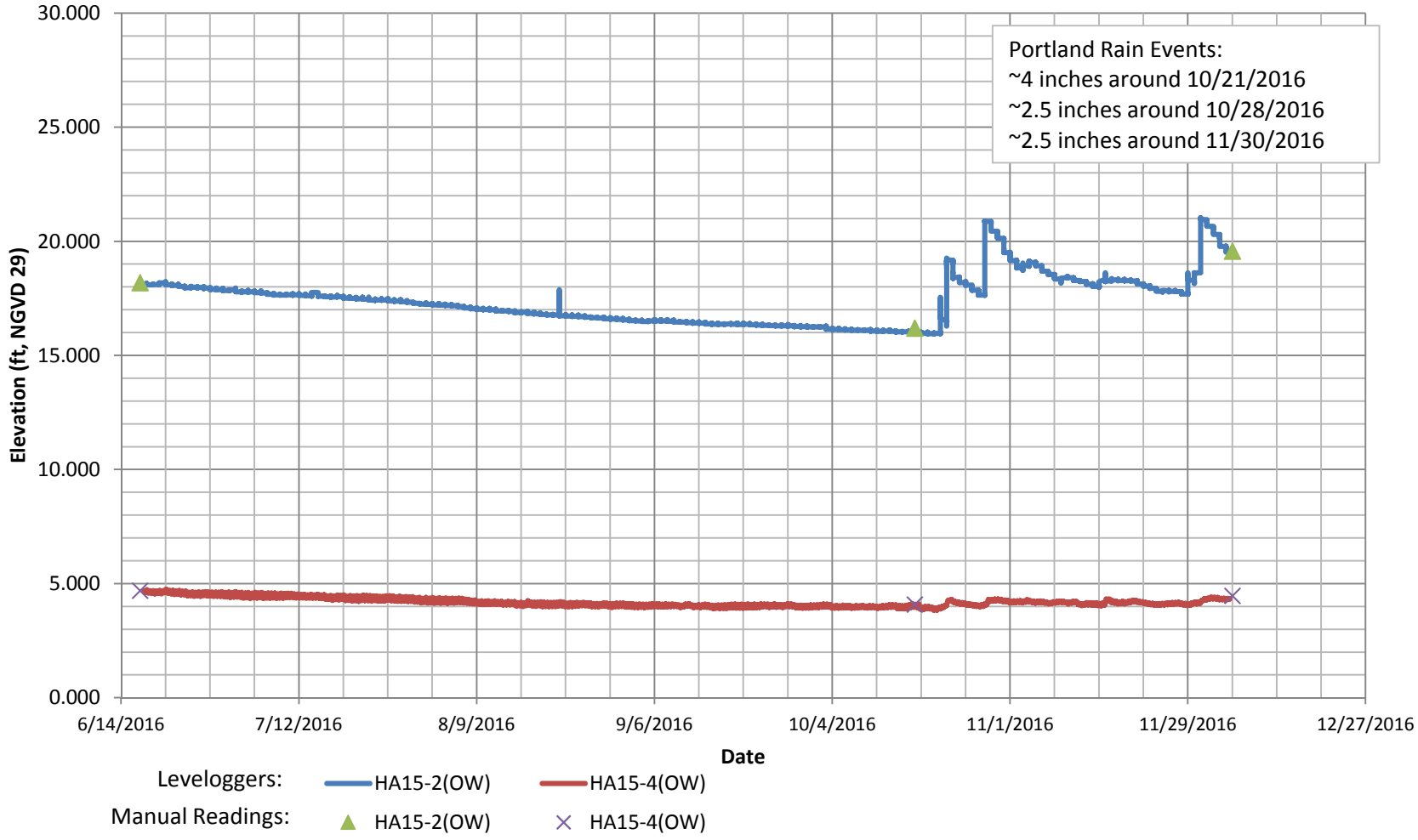
PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

LEGEND AND NOTES

SCALE: AS SHOWN
DECEMBER 2016

FIGURE 6

STEINERT, BRYAN Printed: 12/23/2016 2:12 PM Layout: HA-FIG-A-P
G:\PROJECTS\32328 - PORTLAND SQUARE\GLOBAL\CAD\LEGEND AND NOTES.DWG



HALEY ALDRICH

PRELIMINARY GEOTECHNICAL EVALUATION
PORTLAND SQUARE DEVELOPMENT
PORTLAND, MAINE

OBSERVATION WELL MONITORING DATA
17 JUNE 2016 TO 5 DECEMBER 2016

FILE NO.: 32328-111 **FIGURE 7**

APPENDIX A

Test Boring Logs

2016 Haley & Aldrich, Inc.
Test Boring Logs

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA16-1

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No.	32328-111
Sheet No.	1 of 3
Start	03 October 2016
Finish	03 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	49.0 +/-
Datum	Portland City
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 20.5 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3		-BITUMINOUS CONCRETE-										
	18 17 20 13	S1 12	1.0 3.0		SW	Dense brown to light brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry	5	10	20	35	30					
						-FILL-										
	11 100 50 10	S2 13	3.0 5.0	4.7	SW	Very dense light brown well graded SAND with gravel (SW), mps 1.375 in., no odor, moist, trace dark brown organic soil, contains glass fragments	10	5	20	35	25	5				
5	14 13 14 19	S3 13	5.0 7.0		ML	Very stiff olive-brown to gray SILT (ML), mps 1 mm, no odor, moist, mottled with occasional fine sand partings					10	90	S	L	L	L
						-MARINE DEPOSIT-										
10	4 4 2 1	S4 24	10.0 12.0		ML/SP	Medium stiff/loose olive-brown to gray interbedded SILT (ML) and poorly-graded SAND (SP), mps 0.5 in., no odor, wet				5	40	55	R	L	L	L
				14.0												
15	7 13 38 37	S5 6	15.0 17.0		SW	Very dense gray-brown well graded SAND with gravel (SW), mps 1.25 in., no odor, wet	10	15	25	25	20	5				
						-GLACIAL TILL-										
						Note: Drill action indicates stratum change at 19.5 ft.										
20				19.5												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/3/16	11:50	-	20.5	30.0	8.75

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	24.0
Rock Cored (ft)	6.0
Samples	6S, 2C

Boring No. HA16-1

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-1
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	100	S6 6	20.0 20.5		SM	Very dense olive-brown to gray silty SAND with gravel (SM), mps 0.75 in., no odor, wet, completely to highly weathered bedrock	5	15	25	20	15	20				
						-WEATHERED BEDROCK-										
				22.8		-BEDROCK-										
						Note: Advanced rollercone to 24.0 ft. Begin NX rock core at 24.0 ft.										
				24.0		SEE CORE BORING REPORT FOR ROCK DETAILS										
25																
30																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-1

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. **HA16-1**
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
25	1:35	C1	24.0 25.0	12 10	100 83	Fresh		Hard to moderately hard, fresh to slightly weathered, light gray, aphanitic to fine-grained PHYLLITE. Joints close to moderate. Primary joints moderately dipping. Secondary joints high angle to vertical, undulating, rough, slightly discolored to decomposed, tight to moderately wide, no infilling. Joints parallel to foliation.
	1:50	C2	25.0 30.0	52 38	87 63	Fresh to Moderate		Hard to moderately hard, fresh to slightly weathered, light gray, aphanitic to fine-grained PHYLLITE. Joints close to moderate. Primary joints moderately dipping. Secondary joints high angle to vertical, undulating, rough, slightly discolored to decomposed, tight to moderately wide, no infilling. Joints parallel to foliation.
	1:45							
	2:20							
	1:45							
	1:50							
30							30.0	BOTTOM OF EXPLORATION 30.0 FT
35								
40								
45								
50								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-2

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 18.7 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	04 October 2016
Finish	04 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation Datum	46.0 +/- Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3		BITUMINOUS CONCRETE-										
	32 30 26 10	S1 3	1.0 3.0		SW	Very dense brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry, occasional 6 in. cobbles -FILL-	20	15	15	25	20	5				
				2.5												
	16 25 16 13	S2 3	3.0 5.0		SP	Dense tan poorly-graded SAND (SP), mps 0.5 in., no odor, dry -FILL-		5	5	20	70					
5 ▽	6 5 10 12	S3 10	5.0 7.0		SP	Medium dense tan poorly-graded SAND (SP), mps 0.5 in., no odor, dry, contains brick pieces		5	5	20	70					
				6.6												
	50/0	NR	7.0 7.0		SM	Medium dense dark brown silty SAND with gravel (SM), mps 1.375 in., no odor, wet, occasional cobble -FILL- Note: Split spoon refusal on probable cobble at 7.0 ft.	10	10	15	20	25	20				
				8.5												
10	20 18 17 12	S4 19	9.0 11.0		ML/SM	Dense olive-brown to yellow-brown and gray-brown interbedded SILT (ML) and silty SAND with gravel (SM) -MARINE DEPOSIT- Note: Drill action indicates change at 14.5 ft.	10	5	10	20	25	30				
				14.5												
15	70 83 84 44	S5 12	15.0 17.0		SM	Very dense olive-brown to gray-brown silty SAND with gravel (SM), mps 1 in., no odor, wet, completely weathered bedrock -WEATHERED BEDROCK-	5	15	25	20	15	20				
				18.7												
20						Note: Advanced rollercone to 20.0 ft. Split spoon refusal at 20.0 ft. -BEDROCK-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/4/16	12:45	-	18.7	26.0	5.2

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	21.0
Rock Cored (ft)	5.0
Samples	5S, 1C

Boring No. HA16-2

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-2
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	50/0	NR	20.0 20.0	21.0		Note: Advanced rollercone to 21.0 ft. Begin NX rock core at 21.0 ft.										
						SEE CORE BORING REPORT FOR ROCK DETAILS										
25																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-2

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-2
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
25	1:50 1:55 1:45 1:35 2:10	C1	21.0 26.0	60 46	100 77	Fresh		Hard to moderately hard, fresh, light gray, aphanitic to fine-grained PHYLLITE. Joints very close to close, low angle to moderately dipping, planar to undulating, rough, fresh to slightly discolored, open to moderately wide, no infilling.
							26.0	BOTTOM OF EXPLORATION 26.0 FT
30								
35								
40								
45								
50								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-3

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 11.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	04 October 2016
Finish	05 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	44.5 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3		-BITUMINOUS CONCRETE-										
	6 5 9 11	S1 21	1.0 3.0		SW	Medium dense brown well graded SAND (SW), mps 1.25 in., no odor, dry	15	10	20	30	25					
				1.7	OL	-FILL-					10	90				
				2.3		Medium dense dark brown ORGANIC SOIL (OL), mps <1 mm, no odor, moist										
	9 13 15 17	S2 16	3.0 5.0		ML	-FILL-				5	10	85	S	L	L	L
						Very stiff gray-brown to olive-brown SILT (ML), mps 2 mm, no odor, moist, mottled										
5						-MARINE DEPOSIT-										
	17 16 16 14	S3 13	5.0 7.0		ML	Hard olive-brown to gray-brown SILT (ML), mps 2 mm, no odor, moist, occasional fine sand partings				5	15	80	S	L	L	L
				8.0												
	18 8 17 50/0"	S4 15	9.0 10.5		SM	Medium dense olive-gray silty SAND (SM), mps 0.75 in.		5	20	20	25	30				
10						-MARINE DEPOSIT-										
				10.3		Note: Split spoon refusal at 10.3 ft on moderately weathered bedrock.										
						-WEATHERED BEDROCK-										
						Note: Advanced rollercone to 13.5 ft. Begin NX rock core at 13.5 ft.										
				13.5		SEE CORE BORING REPORT FOR ROCK DETAILS										
15																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/5/16	9:40	-	11.0	18.3	3.5
10/5/16	9:50	-	Open	18.3	4.7

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	13.5
Rock Cored (ft)	4.8
Samples	4S, 1C

Boring No. HA16-3

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-3
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
15	3:05 3:15 4:05 7:10 7:00/10"	C1	13.5 18.3	57 35	98 60	Fresh		Hard to moderately hard, fresh to slightly weathered, light gray, aphanitic to fine-grained PHYLLITE. Joints very close to moderate, moderately dipping to vertical, undulating, rough, fresh to slightly discolored, open to moderately wide, no infilling.
							18.3	BOTTOM OF EXPLORATION 18.3 FT
20								
25								
30								
35								
40								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HA_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-4

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 15.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	03 October 2016
Finish	04 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation Datum	42.0 +/- Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3		-BITUMINOUS CONCRETE-										
	18 54 71 30	S1 8	1.0 3.0		SW	Very dense brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry, with occasional cobbles -FILL-	15	10	20	25	30					
	100 50/0	S2 6	3.0 3.5		SW	Very dense brown to light brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry, with occasional cobble Note: Wash through cobble, stratum change at 4.5 ft.	20	10	20	25	25					
5	13 16 23 32	S3 24	5.0 7.0	4.5	ML	Hard olive-brown to light brown SILT (ML), mps 2 mm, no odor, moist, mottled, possibly reworked -MARINE DEPOSIT-			5	5	10	80	S	L	L	L
				9.0												
10	1 WOH 1 WOH	S4 24	10.0 12.0		SM	Very loose olive-gray silty SAND (SM), mps 1 in., no odor, wet -MARINE DEPOSIT- Note: Drill action indicates stratum change at 13.5 ft.	5	5	10	25	30	25				
				13.5												
15	100/5'	S5 5	15.0 15.4		GM	Very dense olive-brown to gray silty GRAVEL (GM), mps 1.375 in., no odor, wet, completely to highly weathered bedrock. -WEATHERED BEDROCK- Note: Advanced rollercone to 17.0 ft. Begin NX rock core at 17.0 ft.										
				17.0		SEE CORE BORING REPORT FOR ROCK DETAILS										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/4/16	8:55	-	15.0	23.0	5.9
10/4/16	9:05	-	Open	23.0	7.8

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	17.0
Rock Cored (ft)	6.0
Samples	5S, 2C

Boring No. HA16-4

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-4
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
	1:10	C1	17.0	17	40	Fresh		Hard to moderately hard, fresh to slightly weathered, light gray, aphanitic to fine-grained PHYLLITE. Highly fractured zone. Note: Very poor recovery and RQD.
	2:20		20.5	0	0			
	1:55							
20	2:10/6"							
	2:10	C2	20.5	29	97	Fresh		
	2:45		23.0	18	60			Hard to moderately hard, fresh to slightly weathered, light gray, aphanitic to fine-grained PHYLLITE. Joints close to moderate, low angle to moderately dipping, undulating, rough, fresh to slightly discolored, tight to open, no infilling. Joints parallel to foliation. Very poor RQD.
	1:50/6"							
							23.0	BOTTOM OF EXPLORATION 23.0 FT
25								
30								
35								
40								
45								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-5

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No.	32328-111
Sheet No.	1 of 1
Start	05 October 2016
Finish	05 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	40.0 +/-
Datum	Portland City
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 14.7 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
						Dense brown well graded SAND with gravel (SW), mps 1 in., no odor, dry	10	10	20	35	25					
	15 15 24 25	S1 14	1.0 3.0	1.6	SM	-FILL-										
						Dense dark brown to brown silty SAND with gravel (SM), mps 1.375 in., no odor, dry to moist, with brick pieces	20	10	10	15	25	20				
	46 38 30 32	S2 14	3.0 5.0		SM	-FILL-										
						Very dense olive-brown silty SAND with gravel (SM), mps 1.25 in., slight musty odor, moist, possibly reworked naturally-deposited soil	10	10	15	20	30	15				
						-FILL-										
5	43 46 38 23	S3 11	5.0 7.0	5.0	SM	Very dense olive-brown silty SAND with gravel (SM), mps 1.375 in., strong musty odor, moist	10	10	15	20	30	15				
						-MARINE DEPOSIT-										
						Note: Drill action indicates stratum change at 8.5 ft.										
				8.5												
10	7 5 6 6	S4 20	10.0 12.0		SM	Medium dense gray-brown silty SAND with gravel (SM), mps 1.375 in., no odor, wet	10	10	15	20	30	15				
						-MARINE DEPOSIT-										
15				14.9		Note: Casing refusal at 14.9 ft. Advanced rollercone to 15.0 ft; slightly weathered bedrock chips in wash water return.										
				15.0		BOTTOM OF EXPLORATION 15.0 FT										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/5/16	14:30	--	Open	Caved @14.5	0.6
		Water level dropping slowly			

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	15.0
Rock Cored (ft)	0.0
Samples	4S

Boring No. HA16-5

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Plasticity**: N - Nonplastic L - Low M - Medium H - High
Toughness: L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-6

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 14.8 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	05 October 2016
Finish	05 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	39.0 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	18 21 10 7	S1 15	1.0 3.0			Dense brown well graded SAND with gravel (SW), mps 1 in., no odor, dry	5	15	25	30	25					
						-FILL-										
				2.0	SM	Medium dense dark brown silty SAND with gravel (SM), mps 1.375 in., no odor, moist, contains brick pieces	15	10	15	20	25	15				
				3.0	ML/OL	-FILL-										
	11 15 5 7	S2 12	3.0 5.0			Very stiff to stiff olive-brown to yellow-brown SILT with sand (ML) with layer of dark brown ORGANIC SOIL (OL), mps 1.25 in., slight organic odor, moist	5	5	5	10	10	65				
						-FILL-										
5	4 4 4 5	S3 9	5.0 7.0	5.0	ML	Medium stiff olive-brown to yellow-brown sandy SILT with gravel (ML), mps 1 in., no odor, moist to wet, possibly reworked naturally-deposited soil	10	5	5	10	20	50				
				6.5	SM	-FILL-										
						Loose gray silty SAND (SM), mps 2 mm, no odor, wet				10	60	30				
						-MARINE DEPOSIT-										
10	4 2 7 8	S4 17	10.0 12.0		SM	Loose to medium dense gray-brown silty SAND with gravel (SM), mps 1.25 in., no odor, wet	15	10	15	20	25	15				
						Note: Drill action indicates stratum change at 14.8 ft; moderately weathered bedrock observed in wash.										
15				14.8		-WEATHERED BEDROCK-										
				15.0		Note: Advanced rollercone to 15.0 ft. Begin NX rock core at 15.0 ft.										
						SEE CORE BORING REPORT FOR ROCK DETAILS										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/5/16	13:00	--	14.8	21.5	5.8
10/5/16	13:10	--	Open	Caved @14.2	7.1

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	15.0
Rock Cored (ft)	6.5
Samples	4S, 2C

Boring No. HA16-6

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-6
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
15	3:05	C1	15.0 16.5	18 18	100 100	Fresh		Hard to moderately hard, fresh, light gray to gray, aphanitic to fine-grained PHYLLITE. Joints moderate, moderately dipping to high angle primarily along foliation, undulating, rough, fresh, tight, no infilling. Easily broken along foliation planes.
	2:50							
	2:45	C2	16.5 21.5	52 52	87 87	Fresh		Hard to moderately hard, fresh, light gray to gray, aphanitic to fine-grained PHYLLITE. Joints moderate, moderately dipping to high angle primarily along foliation, undulating, rough, fresh, tight, no infilling. Easily broken along foliation planes.
	2:50							
	3:00							
	3:00							
20	3:10							
							21.5	BOTTOM OF EXPLORATION 21.5 FT
25								
30								
35								
40								
45								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-7

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 17.8 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	07 October 2016
Finish	07 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation Datum	31.5 +/- Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	15 9 10 10	S1 17	1.0 3.0			Medium dense brown well graded SAND with gravel (SW), mps 1 in., no odor, dry	10	10	20	30	30					
						-FILL-										
				2.1	ML	Very stiff yellow-brown to olive-brown and gray-brown SILT (ML), mps 1 mm, no odor, moist, mottled with frequent fine sand partings				5	10	85	S	L	L	L
	22 22 33 29	S2 14	3.0 5.0	3.3	SM	-MARINE DEPOSIT- Very dense yellow-brown to light brown and gray-brown silty SAND with gravel (SM), mps 1 in., slight musty odor, moist, mottled	5	10	15	25	20	25				
5	38 32 19 30	S3 4	5.0 7.0		SM	-MARINE DEPOSIT- Very dense yellow-brown to light brown and gray-brown silty SAND with gravel (SM), mps 1.375 in., slight musty odor, moist, slightly mottled	10	10	15	20	20	25				
				9.0		-MARINE DEPOSIT-										
10	20 19 17 26	S4 5	10.0 12.0		GW-GM	Dense gray-brown well graded GRAVEL with silt and sand (GW-GM), mps 1.375 in., no odor, wet	40	20	5	10	15	10				
						-MARINE DEPOSIT-										
15	6 2 3 6	S5 13	15.0 17.0		SM	Loose gray-brown silty SAND with gravel (SM), mps 1 in., no odor, wet	5	10	20	25	25	15				
				17.8		Note: Casing refusal at 17.8 ft.										
20						Note: Advanced rollercone to 25.0 ft; wash indicates highly to moderately weathered bedrock. -WEATHERED BEDROCK-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/7/16	10:45	--	17.8	29.0	6.6

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	25.0
Rock Cored (ft)	5.0
Samples	5S, 1C

Boring No. HA16-7

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA16-7
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						-WEATHERED BEDROCK-										
				24.3		-BEDROCK-										
25				25.0		SEE CORE BORING REPORT FOR ROCK DETAILS										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-7

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-7
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
25	2:45 3:10 4:00 4:10	C1	25.0 29.0	48 14	100 29	Moder-ate to Slight		Moderately hard to medium, moderately to slightly weathered, light brown and light gray to gray, aphanitic to fine-grained PHYLLITE. Joints very close to moderate, low angle to vertical, undulating, rough, highly discolored to disintegrated, open to very wide, some silt infilling, occasional quartz veins. Note: Core barrel blocking at 29.0 ft.
							29.0	BOTTOM OF EXPLORATION 29.0 FT
30								
35								
40								
45								
50								
55								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HA_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-8

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No.	32328-111
Sheet No.	1 of 3
Start	06 October 2016
Finish	06 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	32.5 +/-
Datum	Portland City
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 22.2 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	16 13 14 14	S1 19	1.0 3.0			Medium dense brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry	10	10	20	35	25					
				1.7	ML	-FILL-										
						Very stiff dark brown to red-brown SILT with sand (ML), mps 1 in., musty odor, moist, contains coal fragments				5	10	85	S	L	L	L
	12 14 24 25	S2 12	3.0 5.0	3.2	ML	-FILL-										
						Hard olive-gray to yellow-brown sandy SILT (ML), mps 1.25 in., slight musty odor, moist, contains wood particles, reworked naturally-deposited soil	5	5	5	10	20	55				
5				5.0		-FILL-										
	15 11 7 6	S3 6	5.0 7.0		SM	Medium dense gray-brown silty SAND with gravel (SM), mps 1 in., no odor, wet	10	10	15	25	25	15				
						-MARINE DEPOSIT-										
10	10 12 12 15	S4 7	10.0 12.0		SM	Medium dense gray-brown silty SAND with gravel (SM), mps 1.375 in., no odor, wet	5	10	15	30	20	20				
						-MARINE DEPOSIT-										
15	1 2 7 23	S5 18	15.0 17.0		SM	Loose gray-brown silty SAND with gravel (SM), mps 1.25 in., no odor, wet	10	10	15	25	20	20				
						-MARINE DEPOSIT-										
				16.7		-GLACIAL TILL-										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/6/16	14:30	--	21.2	31.0	7.2

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	25.0
Rock Cored (ft)	6.0
Samples	6S, 2C

Boring No. HA16-8

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-8
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	33 51 55 50/1"	S6 10	20.0 21.6		SW	Very dense gray-brown well graded SAND with gravel (SW), mps 1.375 in., no odor, moist, slightly bonded -GLACIAL TILL- Note: Casing refusal at 21.2 ft. Wash ahead to 25.0 ft. Drilling indicates strata change at 24.0 ft.	15	10	15	30	25	5				
				24.0		-WEATHERED BEDROCK-										
25	~~50/0"~~	~~S7~~	~~25.0~~	25.0		Note: Advanced rollercone to 25.0 ft. Begin NX rock core at 25.0 ft. SEE CORE BORING REPORT FOR ROCK DETAILS										
30																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-8

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-8
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
25	2:05	C1	25.0 26.0	10 8	83 67			Moderately hard to medium, slightly to moderately weathered, tan to light brown, aphanitic to fine-grained QUARTZITE. Joints very close, low angle to vertical, rough, undulating, discolored to decomposed, open to very wide, some silt infilling. Note: Very poor RQD, recovered core mostly rubble.
	1:45	C2	26.0 31.0	38 0	63 0			Moderately hard to medium, slightly to moderately weathered, tan to light brown, aphanitic to fine-grained QUARTZITE. Joints very close, low angle to vertical, rough, undulating, discolored to decomposed, open to very wide, some silt infilling. Note: Very poor RQD, recovered core mostly rubble.
	2:40							
	2:20							
	2:40							
30	2:50							
							31.0	BOTTOM OF EXPLORATION 31.0 FT
35								
40								
45								
50								
55								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-9

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 10.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	06 October 2016
Finish	06 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	32.5 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	23 41 19 10	S1 13	1.0 3.0			Very dense brown well graded SAND with gravel (SW), mps 1.25 in., no odor, dry	10	10	20	30	30					
				1.8		-FILL-										
					SP	Medium dense tan poorly-graded SAND (SP), mps 1 in., no odor, dry	5		5	15	70	5				
						-FILL-										
	9 9 15 9	S2 17	3.0 5.0	3.4	SM	Medium dense olive-brown to black silty SAND with gravel (SM), mps	5	10	15	25	25	20				
				3.8	ML/SM	0.75 in., no odor, moist, with coal fragments and ash					10	90	S	L	L	L
						-FILL-				10	70	20				
5	4 4 5 7	S3 22	5.0 7.0			Stiff olive-brown to yellow-brown SILT (ML) with frequent SAND seams (SM), mps 2 mm, no odor, moist										
					ML/SM	-MARINE DEPOSIT-					10	90	S	L	L	L
						Stiff gray-brown to gray interbedded SILT (ML) and silty SAND (SM), mps 2 mm, no odor, moist to wet				10	70	20				
						-MARINE DEPOSIT-										
10	WOR WOR WOH WOH	S4 24	10.0 12.0		ML/SM	Very soft gray-brown to gray interbedded sandy SILT (ML) to silty SAND (SM), mps 0.75 in., no odor, wet				10	10	80	S	L	L	L
								5	10	25	35	25				
						-MARINE DEPOSIT-										
				13.5												
15	9 13 20 8	S5 8	15.0 17.0		SM	Dense to medium dense gray-brown silty SAND with gravel (SM), mps 1.25 in., no odor, wet	10	10	15	20	30	15				
						-MARINE DEPOSIT-										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/6/16	9:35	--	10.0	26.7	7.2
10/6/16	9:50	--	Open	Caved @22.8	8.0

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	26.7
Rock Cored (ft)	0.0
Samples	7S

Boring No. HA16-9

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-9
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	22 20 29 19	S6 12	20.0 22.0		SM	Dense gray-brown silty SAND with gravel (SM), mps 1.375 in., no odor, wet -MARINE DEPOSIT- Note: Drill action indicates stratum change at 24.0 ft.	15	10	15	20	25	15				
				24.0												
25	33 45 46 100/2"	S7 6	25.0 26.7		GM	Very dense yellow-brown to gray-brown silty GRAVEL (GM), mps 1.375 in., no odor, wet, completely to highly weathered bedrock -WEATHERED BEDROCK- Note: Split-spoon refusal at 26.7 ft.	30	20	15	10	5	20				
				26.7		BOTTOM OF EXPLORATION 26.7 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-9

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-10

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 34.5 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	07 October 2016
Finish	10 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	25.5 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	12 16 19 21	S1 16	1.0 3.0		SW	Dense brown well-graded SAND with gravel (SW), mps 1.375 in., no odor, dry	10	10	20	35	25					
				2.6		-FILL-										
	26 14 11 11	S2 16	3.0 5.0		SW	Medium dense to dense dark brown to black well graded SAND with gravel (SW), mps 1.25 in., moderate organic odor, dry to moist, contains brick, coal and concrete fragments	5	10	25	35	20	5				
						-FILL-										
5	13 4 3 9	S3 12	5.0 7.0		SW	Loose brown to dark brown well graded SAND with gravel (SW), mps 1.375 in., slight organic odor, moist, contains brick, wood, coal and glass fragments	15	10	20	30	20	5				
	39 27 8 11	S4 9	7.0 9.0	7.0	GP	Dense dark brown poorly-graded GRAVEL with sand (GP), mps 1.375 in., no odor, moist, contains concrete and brick fragments	50	15	15	15	5					
						-FILL-										
	20 40 9 5	S5 12	9.0 11.0	8.7	SW	Dense medium brown to yellow-brown well graded SAND with gravel (SW), mps 1.375 in., no odor, moist, contains concrete, brick, coal and ceramic fragments	15	10	20	30	20	5				
10						-FILL-										
	8 7 6 8	S6 19	11.0 13.0	11.4	ML	Stiff olive-brown to brown SILT (ML), mps 0.75 in., no odor, moist, contains brick and coal particles		5		5	10	80	S	L	L	L
						-FILL-										
	29 7 12 7	S7 5	13.0 15.0	13.0	GW	Medium dense brown well graded GRAVEL with sand (GW), mps 1.375 in., no odor, wet, contains concrete and brick fragments	35	25	15	10	10	5				
						-FILL-										
15	7 4 4 7	S8 5	15.0 17.0		GW	Loose olive-brown to gray-brown well graded GRAVEL with silt and sand (GW), mps 1 in., no odor, wet, contains brick particles	20	30	20	10	10	10				
	4 2 3 3	S9 15	17.0 19.0	17.0	SM	Loose dark brown to gray-brown silty SAND (SM), mps 0.5 in., no odor, wet, contains brick, coal and glass particles, reworked naturally-deposited soil		10	20	25	25	20				
						-FILL-										
	6 30	S10 12	19.0 21.0		SM	Very dense dark brown silty SAND with gravel (SM), mps 1 in., no odor, wet, contains wood fragments and brick and glass particles	10	10	15	25	20	20				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/10/16	8:25	--	24.0	23.0	6.6
10/10/16	11:05	--	Open	Caved @33.0	14.5

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	38.5
Rock Cored (ft)	4.7
Samples	14S, 1C

Boring No. HA16-10

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-10
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	27 28															
	22 11 7 4	S11 8	21.0 23.0	21.0 21.5	GW SM	Dense yellow-brown well graded GRAVEL with sand (GW), mps 1.375 in., no odor, wet -MARINE DEPOSIT- Medium dense gray-brown silty SAND (SM), mps 0.25 in., no odor, wet	20	30	20 15	15 20	10 25	5 40				
25	6 5 8 6	S12 16	25.0 27.0		SM/ML	-MARINE DEPOSIT- Medium dense gray-brown silty SAND (SM) with occasional SILT (ML) layers, mps 0.75 in., no odor, wet		10	20	25 10	30 10	25 80				
				28.5		Note: Drill action indicates stratum change at 28.5 ft.										
30	13 11 17 23	S13 13	30.0 32.0		SM/ML/ SW	Medium dense gray-brown to olive-brown interbedded silty SAND with gravel (SM), SILT (ML), and well graded SAND with gravel (SW), mps 1.25 in., no odor, wet -MARINE DEPOSIT-	5 15	10 10	20 25	20 10 35	25 10 15	20 80 5				
				34.0		Note: Drill action indicates stratum change at 34.0 ft; casing refusal at 34.5 ft.										
35	135/5"	S14 5	35.0 35.4			Note: Split-spoon refusal at 35.4 ft on highly to moderately weathered bedrock. -WEATHERED BEDROCK-										
				38.5		Note: Advanced rollercone to 38.5 ft. Begin NX rock core at 38.5 ft. SEE CORE BORING REPORT FOR ROCK DETAILS										
40																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-10

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. **HA16-10**
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
40	1:40 2:30 1:35 6:50 3:20	C1	38.5 43.2	56 29	100 52	Fresh to Slight		Hard to medium, fresh to slightly weathered, light gray to gray, aphanitic to fine-grained PHYLLITE. Joints close to moderate, low to high angle, primarily moderately dipping, undulating, rough, slightly discolored to slightly decomposed, tight to moderately wide, no infilling. Joints primarily along foliation. Note: Core barrel blocked at 43.2 ft.
							43.2	BOTTOM OF EXPLORATION 43.2 FT
45								
50								
55								
60								
65								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-11

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 5.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	11 October 2016
Finish	12 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	19.5 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	9 11 22 21	S1 12	1.0 3.0			Dense brown well graded SAND with gravel (SW), mps 1 in., no odor, dry	10	15	20	25	30					
				2.2		-FILL-										
	20 30 25 190/5"	S2 21	3.0 4.9	3.0	SM/SW	Dense dark brown to light brown and gray-brown interbedded silty SAND with gravel (SM) and well graded SAND with gravel (SW), mps 1.25 in., no odor, moist, contains ceramic and brick fragments	15	10	15	20	20	20				
					SW/SM	-FILL-	15	10	15	20	20	20				
5				4.9		Very dense gray-brown to dark brown interbedded well graded SAND with gravel (SW) and silty SAND with gravel (SM), mps 1.375 in., no odor, moist, contains concrete, brick, and glass fragments -FILL- Note: Split-spoon refusal at 4.9 ft.										
	22 13 10 5	S3 6	6.5 8.5	6.5	SW/SM	Note: Advance rollercone through concrete to 6.5 ft. Encountered steel, probable rebar, unable to advance boring. Moved rig approximately 2 ft east and continued drilling. -CONCRETE-	15	10	15	20	25	15				
	6 10 13 12	S4 5	8.5 10.5		SW/SM	Medium dense dark brown to brown interbedded well graded SAND with gravel (SW) and silty SAND with gravel (SM), mps 1.357 in., slight organic odor, wet, contains brick and concrete fragments	15	10	15	20	20	20				
10						Medium dense dark brown to brown interbedded well graded SAND with gravel (SW) and silty SAND with gravel (SM), mps 1.357 in., slight organic odor, wet, contains brick and concrete fragments										
	13 15 19 21	S5 8	10.5 12.5		SW/SM	-FILL- Dense dark brown to brown interbedded well graded SAND with gravel (SW) and silty SAND with gravel (SM), mps 1.357 in., slight organic odor, wet, contains brick and concrete fragments	15	10	15	20	20	20				
	27 16 9 13	S6 9	12.5 14.5		SW/SM	Medium dense dark brown to brown interbedded well graded SAND with gravel (SW) and silty SAND with gravel (SM), mps 1.357 in., slight organic odor, wet, contains brick and concrete fragments	20	10	10	15	20	25				
15	15 6 4 14	S7 15	14.5 16.5		SM	Loose to medium dense dark brown silty SAND with gravel (SM), mps 1 in., no odor, wet, with shell fragments, contains brick	5	15	15	20	25	20				
				15.3	SM	Loose to medium dense gray-brown silty SAND (SM), mps 0.25 in., no odor, wet, contains brick and concrete particles, reworked naturally-deposited soil			20	30	25	25				
	9 6 5 9	S8 24	16.5 18.5		SM	-FILL- Medium dense gray-brown silty SAND (SM), mps 1.25 in., no odor, wet, contains wood and ash fragments	5	5	20	25	25	20				
				17.9	ML	Very stiff gray-brown to gray sandy SILT with gravel (ML), mps 1 in., no odor, wet, reworked naturally-deposited soil -FILL-	5	10	5	10	10	60	S	L	L	L
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/12/16	10:35	--	5.0	Caved @33.5	7.1

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	35.5
Rock Cored (ft)	0.0
Samples	10S

Boring No. HA16-11

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-11
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	28 21 17 55	S9 10	20.0 22.0	20.0	SM/OL	Dense dark brown to black silty SAND (SM) with ORGANIC SOIL (OL), mps 0.5 in., anaerobic odor, wet, with shells, contains brick, coal and rubber fragments and particles, reworked naturally-deposited soil -FILL- Note: Drill action indicates stratum change at 24.0 ft.		10	25	20	15	30				
25	5 6 5 7	S10 24	25.0 27.0	24.0	SM/ML/CL	Medium dense/stiff gray-brown to gray interbedded silty SAND (SM), SILT (ML), and lean CLAY (CL), mps 0.25 in., slight anaerobic odor, wet -MARINE DEPOSIT- Note: Wash ahead open hole with rollercone, hole collapsing, unable to take sample at 30.0 ft. Note: Attempted to wash ahead with rollercone to find bedrock refusal, losing drilling water at 35.5 ft.										
30																
35				35.5		BOTTOM OF EXPLORATION 35.5 FT (No Refusal) Note: Drilled three borings several feet apart, encountered concrete at 5 ft, and rebar at 6 ft at each location. Used 3-in. rollerbit to advance past rebar and drilled open hole in the third boring.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-11

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-12

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 25.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	10 October 2016
Finish	10 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation Datum	20.0 +/- Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	14 23 24 17	S1 22	1.0 3.0			Dense brown well graded SAND with gravel (SW), mps 1 in., no odor, dry	10	10	20	25	35					
				1.5	SP-SM	-FILL-										
						Dense dark brown to light brown interbedded poorly-graded SAND with gravel (SP) and silty SAND with gravel (SM), mps 1.375 in., no odor, moist, contains brick fragments	10 5	10 10	5 10	10 25	60 30	5 20				
				2.7	ML	-FILL-										
	17 11 90 29	S2 9	3.0 5.0			Hard olive-brown to dark brown SILT with sand (ML), mps 1 in., no odor, moist, contains brick, coal and ash particles	5	5	5	10	10	65	S	L	L	L
5						-FILL-										
	27 29 19 17	S3 14	5.0 7.0	5.0	SM/SW	Very dense dark brown to black interbedded silty SAND (SM) and well graded SAND with gravel (SW), mps 1.375 in., no odor, moist, contains concrete, wood, brick and slag fragments	15	5 10	20 20	25 30	30 20	20 5				
						-FILL-										
	35 18 17 12	S4 12	7.0 9.0	7.0	SM	Dense dark brown to black silty SAND with gravel (SM), mps 1.375 in., no odor, moist, contains brick, coal, and ceramic fragments	20	10	10	20	25	15				
						-FILL-										
	14 7 10 7	S5 7	9.0 11.0	9.0	SM	Medium dense dark brown silty SAND with gravel (SM), mps 1.25 in., slight organic odor, moist, contains brick and ceramic particles, trace organic soil	10	5	15	25	30	15				
10						-FILL-										
	6 4 7 6	S6 16	11.0 13.0		SM	Medium dense brown to dark brown silty SAND with gravel (SM), mps 1.375 in., slight wood ash odor, moist, contains wood, coal, brick, glass and ash fragments and particles	10	5	15	25	30	15				
						-FILL-										
				12.7	SP	Medium dense gray-brown poorly-graded SAND (SP), mps 4 mm, no odor, moist, contains brick particles, reworked naturally-deposited soil										
				14.0		-FILL-										
						Note: Wood encountered at 14.0 ft.										
15						-WOOD-										
	78 100/3"	S7 9	15.0 15.8													
				19.0		Note: Wash ahead with rollercone through wood at 19.0 ft. Wash at 19.0 ft turned gray-brown.										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/10/16	14:25	--	Open	Caved @26.5	12.9

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	30.0
Rock Cored (ft)	0.0
Samples	9S

Boring No. HA16-12

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-12
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	3 7 6 7	S8 22	20.0 22.0	20.4	SW ML/SM	Loose gray-brown well graded SAND with gravel (SW), mps 1.375 in., no odor, wet -MARINE DEPOSIT- Medium dense gray-brown to gray interbedded SILT (ML) and silty SAND (SM), mps 2 mm, no odor, wet -MARINE DEPOSIT-				5 15	15 70	80 15	R	L	N	N
25	7 11 15 21	S9 17	25.0 27.0		SM/SW	Medium dense gray-brown interbedded silty SAND (SM) and well graded SAND with gravel (SW), mps 1.25 in., no odor, wet	15	10	5 20	20 30	60 20	15 5				
				28.0		Note: Drill action and contents of wash water return indicates stratum change at 28.0 ft to highly weathered bedrock. -WEATHERED BEDROCK-										
30				30.0		BOTTOM OF EXPLORATION 30.0 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-12

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-13

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 19.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	11 October 2016
Finish	11 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation Datum	22.5 +/- Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	23 25 26 35	S1 11	1.0 3.0			Very dense brown well graded SAND with gravel (SW), mps 1 in., no odor, dry -FILL-	10	10	25	30	25					
	43 25 17 25	S2 14	3.0 5.0	2.3	SW	Very dense to dense dark brown to black well graded SAND with gravel (SW), mps 1.25 to 1.375 in., slight to strong petroleum-like odor, moist, contains asphalt, brick and ash fragments -FILL-	10	10	20	25	30	5				
5	12 10 13 9	S3 6	5.0 7.0	5.0	GW	Medium dense dark brown to black well graded GRAVEL with sand (GW), mps 1.375 in., strong petroleum-like odor, moist, contains asphalt, brick and slag fragments -FILL-	20	10	20	20	25	5				
	5 10 12 100/3"	S4 11	7.0 8.7	7.0	SW-SM	Medium dense dark brown to brown well graded SAND with silt and gravel (SW-SM), mps 1.375 in., strong petroleum-like odor, wet, contains concrete, brick and wood fragments -FILL-	35	20	10	15	15	5				
10	44 7 3 2	S5 10	10.0 12.0	10.0	SW-SM	Medium dense dark brown to brown well graded SAND with silt and gravel (SW-SM), mps 1.375 in., strong petroleum-like odor, wet, contains concrete, brick and wood fragments	20	15	15	20	20	10				
				10.7	OL					10	10	80				
				11.2	ML	Dark brown ORGANIC SOIL layer with wood -FILL-	5		5	10	10	70				
	1 WOH 1 WOH	S6 24	12.0 14.0	12.3	ML/SM	Medium stiff olive-brown to gray-brown SILT (ML), mps 1 in., no odor, wet, contains trace brick and ash, reworked naturally-deposited soil -FILL-				5 5	5 70	90 25	S	L	L	L
15						Very soft/very loose olive-gray to gray-brown interbedded SILT (ML) and silty SAND (SM), mps 2 mm, no odor, wet -MARINE DEPOSIT- Note: Drill action and wash indicates stratum change at 17.2 ft.										
				17.2	SW	Note: Gray-brown well graded SAND with gravel (SW) observed in wash water.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/11/16	11:15	--	19.0	25.0	8.4
10/11/16	11:30	--	Open	Caved @17.0	10.4

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	20.0
Rock Cored (ft)	5.0
Samples	6S, 1C

Boring No. HA16-13

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None **Toughness**: L - Low M - Medium H - High **Plasticity**: N - Nonplastic L - Low M - Medium H - High **Dry Strength**: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-13
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
				18.3		-PROBABLE GLACIAL TILL- Note: Drill action and wash indicates stratum change to moderately weathered bedrock at 18.3 ft.										
						-WEATHERED BEDROCK- Note: Advanced rollercone to 20.0 ft. Begin NX rock core at 20.0 ft.										
20				20.0		SEE CORE BORING REPORT FOR ROCK DETAILS										
25																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-13

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

CORE BORING REPORT

Boring No. HA16-13
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weathering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
20	2:55	C1A	20.0 23.0	36 0	100 0	Moder-ate to Slight		Moderately hard to medium, slightly to moderately weathered, gray, aphanitic to fine-grained PHYLLITE. Joints very close to close, low angle to high angle, undulating, rough, moderately discolored to decomposed, open to very wide, moderately pitted, some silt infilling. Highly fractured zone, very poor RQD.
	3:45							
	2:50							
	3:15	C1B	23.0 25.0	24 20	100 83	Fresh	23.0	Hard, fresh, light gray, aphanitic QUARTZITE. Joints moderate, moderately dipping, planar, smooth, fresh, tight, no infilling.
	3:20							
25							25.0	BOTTOM OF EXPLORATION 25.0 FT
30								
35								
40								
45								
50								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-14

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 31.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	14 October 2016
Finish	17 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	14.0 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE- Very dense brown well graded SAND with gravel (SW), mps 1.25 in., no odor, dry	10	10	20	30	30					
	20 34 58 26	S1 16	1.0 3.0	1.3	SW-SM	-FILL- Very dense brown to dark brown and black well graded SAND with silt and gravel (SW-SM), mps 1.375 in., no odor, dry, contains brick, coal and ash fragments	15	10	15	25	25	10				
	15 13 13 10	S2 15	3.0 5.0	3.0	SW	-FILL- Medium dense dark brown well graded SAND (SW), mps 1 in., slight burnt odor, dry to moist, contains concrete and brick fragments, glass, coal and wood particles	5	5	20	35	30	5				
5	13 8 4 2	S3 5	5.0 7.0		SW	-FILL- Medium dense to loose brown to dark brown well graded SAND with gavel (SW), mps 1.25 in., no odor, moist, contains concrete, brick and coal particles	10	10	25	35	20					
	1 3 5 5	S4 8	7.0 9.0	6.5	SM	Loose brown silty SAND (SM), mps 0.5 in., no odor, moist to wet, contains concrete, brick, glass and wood particles		5	15	25	30	25				
						-FILL-										
	5 3 6 6	S5 4	9.0 11.0	8.7	SP-SM	Loose gray-brown poorly-graded SAND with silt (SP-SM), mps 2 mm, no odor, wet				10	80	10				
10				9.0	SM	-FILL- Loose gray-brown to brown silty SAND (SM), mps 4 mm, no odor, wet			10	15	60	15				
						-FILL-										
	2 3 3 2	S6 8	11.0 13.0	11.0	SW-SM	Loose olive-brown to dark brown well graded SAND with silt and gravel (SW-SM), mps 1.25 in., slight burnt odor, wet, contains concrete, brick, slag and foam particles	15	15	15	20	25	10				
						-FILL-										
						Note: Drill action indicates stratum change at 14.0 ft.										
				14.0												
15	6 5 5 2	S7 16	15.0 17.0		ML	Stiff gray-brown to olive-gray SILT with sand (ML), mps 0.25 in., no odor, wet, contains brick and glass particles, reworked naturally-deposited soils			5	5	10	80				
						-FILL-										
	1 1 2 2	S8 17	17.0 19.0		ML	Soft gray-brown SILT with sand (ML), mps 0.75 in., no odor, wet, occasional brown sand layers, contains brick particles		5	10	10	15	60				
				19.5												
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/14/16	14:15	--	31.0	39.7	9.1

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	35.0
Rock Cored (ft)	4.7
Samples	10S, 1C

Boring No. HA16-14

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-14
File No. 32328-111
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Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	10 12 10 8	S9 19	20.0 22.0		ML/SW	Medium dense dark brown to gray-brown sandy SILT (ML), mps 0.5 in., slight anaerobic odor, wet, contains wood, brick and shell fragments, brown well graded sand layer		5	5 30	10 40	20 25	60 5				
						-MARINE DEPOSIT-										
						Note: Drill action indicates stratum change at 23.5 ft.										
				23.5												
25	9 8 9 14	S10 13	25.0 27.0		SM	Medium dense gray-brown silty SAND with gravel (SM), mps 1.25 in., no odor, wet, slightly bonded	10	15	15	25	20	15				
						-MARINE DEPOSIT-										
				26.6												
30	9 8 31 100	S11 15	30.0 32.0			Dense gray-brown WEATHERED ROCK with silt and well graded rock fragments	35	5	10	10	10	10				
35				35.0		SEE CORE BORING REPORT FOR ROCK DETAILS										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-14

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. **HA16-14**
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
35	2:20	C1	35.0	44	79			Hard to moderately hard, moderately to highly weathered, light brown to light gray, aphanitic to fine-grained QUARTZITE. Joints very close, low angle to vertical, undulating, rough, slightly decomposed to disintegrated, moderately wide to very wide, some pitting, some sand and silt infilling. Very poor RQD, highly fractured/jointed zone.
	2:30		39.7	0	0			
	2:45							
	2:50							
	3:00/0.7'							
							39.7	BOTTOM OF EXPLORATION 39.7 FT
40								
45								
50								
55								
60								
65								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-15

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No.	32328-111
Sheet No.	1 of 3
Start	13 October 2016
Finish	13 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	15.5 +/-
Datum	Portland City
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 27.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	2 6 14 43	S1 14	1.0 3.0			Medium dense brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry	15	10	20	30	25					
				1.9		-FILL-										
	47 33 25 16	S2 8	3.0 5.0		SW/SM	Very dense brown to dark brown interbedded well graded SAND with gravel (SW) and silty SAND with gravel (SM), mps 1.375 in., no odor, moist, contains brick particles	10	10	20	25	20	15				
					SW-SM	Very dense brown to dark brown well graded SAND with silt and gravel (SW-SM), mps 1 in., no odor, moist contains brick and wood particles	10	10	20	25	25	10				
						-FILL-										
5	24 27 31 23	S3 8	5.0 7.0		SW-SM	Very dense brown to dark brown well graded SAND with silt and gravel (SW-SM), mps 1.375 in., no odor, moist, contains brick fragments	10	5	20	30	25	10				
	15 9 5 7	S4 12	7.0 9.0	7.2	SP/SW	Medium dense yellow-brown to tan interbedded poorly-graded SAND (SP) and well graded SAND with gravel (SW), mps 1 in., no odor, moist, contains brick and ceramic fragments	10	10	15	25	35	5				
				8.8		-FILL-										
10	7 3 4 2	S5 18	9.0 11.0		SM	Loose gray-brown to dark brown silty SAND with gravel (SM), mps 0.75 in., slight anaerobic odor, wet, contains brick, metal, glass and ceramic fragments	5	10	15	20	20	30				
						-FILL-										
	1 WOH 1 WOH	S6 0	11.0 13.0		SM	No recovery, wash indicates similar to S5										
				14.0		Note: Drill action indicates stratum change at 14.0 ft.										
15	2 4 3 4	S7 4	15.0 17.0		GM	Loose gray-brown silty GRAVEL with sand (GW), mps 1 in., slight anaerobic odor, wet, contains occasional wood fragments, reworked naturally-deposited soil	40	20	10	5	5	20				
						-FILL-										
				18.0		Note: Drill wash water indicates stratum change at 18.0 ft. Dark brown wash water contains wood, brick and leather fragments.										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/13/16	12:00	--	27.0	35.0	7.3

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	30.0
Rock Cored (ft)	5.0
Samples	9S, 1C

Boring No. HA16-15

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-15
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	18 15 12 18	S8 15	20.0 22.0	20.7	SM/SW	Medium dense dark brown to gray-brown interbedded silty SAND (SM) and well graded SAND with gravel (SW), mps 1 in., slight anaerobic odor, wet, contains wood fragments and brick particles	15	10	15	20	20	20				
					ML/SM	Medium dense gray-brown interbedded SILT with sand (ML) and silty SAND (SM), mps 2 mm, no odor, wet -MARINE DEPOSIT-				5 5	10 65	85 30				
				23.5		Note: Drill action indicates stratum change at 23.5 ft.										
25	36 23 82 64	S9 15	25.0 27.0		GC	Very dense gray-brown clayey GRAVEL with sand (GC), mps 1.375 in., no odor, wet, completely to highly weathered bedrock (phyllite) -WEATHERED BEDROCK-	40	20	10	10	5	15				
30				30.0		Note: Advanced rollercone to 30.0 ft. Begin NX rock core at 30.0 ft. SEE CORE BORING REPORT FOR ROCK DETAILS										
35																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-15

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

HALEY ALDRICH

CORE BORING REPORT

Boring No. **HA16-15**
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
30	4:20 3:55 3:50 4:15 4:45	C1	30.0 35.0	60 43	100 72	Fresh to Slight		Hard, fresh to slightly weathered, light brown to light gray, aphanitic to fine-grained QUARTZITE. Joints close to wide, low to high angle, undulating, rough, slightly discolored to moderately disintegrated, partly open to moderately wide, moderate pitting from 30.0 to 30.8 ft, no infilling.
35							35.0	BOTTOM OF EXPLORATION 35.0 FT
40								
45								
50								
55								
60								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-16

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	--	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 14.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 2
Start	12 October 2016
Finish	12 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	17.0 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	8 40 57 31	S1 17	1.0 3.0			Medium dense brown well graded SAND with gravel (SW), mps 1.375 in., no odor, dry	15	10	20	25	30					
				1.5	SW	-FILL-										
						Very dense dark brown to brown well graded SAND with gravel (SW), mps 1 in., no odor, dry, contains brick, concrete and coal fragments	10	10	15	30	30	5				
	24 20 16 14	S2 6	3.0 5.0		SW	Dense brown well graded SAND (SW), mps 0.5 in., dry		5	25	35	30	5				
						-FILL-										
5				4.8	SM	Medium dense dark brown silty SAND (SM), mps 0.5 in., no odor, dry		5	15	25	35	20				
	14 200/5"	S3 11	5.0 5.9	5.5		-FILL-										
						-CONCRETE-										
						Note: Advanced rollercone to 7.0 ft.										
	12 24 50/0"	S4 8	7.0 8.0	7.0	GW	Dense gray-brown well graded GRAVEL with sand (GW), mps 1.375 in., no odor, dry, contains brick, concrete and coal fragments	50	25	10	10	5					
						-FILL-										
						Note: Drilled through obstruction at 8.0 ft with 6-in. rollerbit, possible cobble-stones (granite).										
10				10.0		Layer of red-brown oxidized iron fragments										
	27 10 5 5	S5 12	10.0 12.0	10.5	SM	Medium dense olive-brown to yellow-brown silty SAND (SM), mps 1.25 in., slight organic odor, wet	5	5	15	25	35	15				
	9 7 11 13	S6 12	12.0 14.0		SM	Medium dense olive-brown to brown silty SAND with gravel (SM), mps 1.25 in., no odor, wet, contains brick particles	5	10	15	25	30	15				
						-FILL-										
				13.7												
	22 10 18 40	S7 9	14.0 16.0		SW/ML	Dense to medium dense olive-brown to gray-brown and dark brown interbedded well graded SAND (SW) and SILT (ML), mps 1 in., slight anaerobic odor, wet, contains wood fragments and brick particles, reworked naturally-deposited soil	5	5	20	35	30	5				
15											10	90	S	L	L	L
						-FILL-										
						Note: Drill action indicates stratum change at 17.7 ft, highly weathered bedrock.										
				17.7												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/12/16	14:45	--	Open	Caved @11.3	2.4

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	20.0
Rock Cored (ft)	0.0
Samples	7S

Boring No. HA16-16

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-16
File No. 32328-111
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						-WEATHERED BEDROCK-										
						Note: Advanced rollercone to 20.0 ft into moderately weathered bedrock.										
20				20.0		BOTTOM OF EXPLORATION 20.0 FT										
						Note: Unable to core rock due to damaged casing shoe.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-16

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-17

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 21.0 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	17 October 2016
Finish	17 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	11.0 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	2 3 6 100/3"	S1 15	1.0 2.8	1.0	SW	Brown well graded SAND with gravel (SW), mps 1.5 in., no odor, dry	10	10	20	35	25		S	L	L	L
						-FILL-										
					ML	Stiff dark brown to gray-brown sandy SILT (ML), mps 1 in., slight organic odor, moist to wet, contains brick, concrete and glass particles										
				2.4		-FILL-										
						Note: Drive casing and wash through wood from 2.4 to 5.5 ft.										
5						-WOOD-										
	4 4 3 5	S2 0	5.5 7.5	5.5	SM	Note: Wash indicates loose dark brown to gray silty SAND (SM), contains wood and brick particles.										
	7 5 3 8	S3 1	7.5 9.5		SM	Loose gray-brown to gray silty SAND (SM), mps 4 mm, strong burnt wood/ash odor, wet, contains wood and brick particles			20	40	25	15				
						-FILL-										
10	6 1 1 1	S4 11	10.0 12.0		SM/OL	Very loose gray-brown to black interbedded silty SAND with gravel (SM) and ORGANIC SOIL (OL), mps 1.25 in., strong burnt wood/ash odor, wet, contains wood, ash and brick particles	10	5	10	30	25	20				
										10	10	80	S	L	L	L
	6 5 6 12	S5 24	12.0 14.0		SM/OL	Medium dense gray-brown to black interbedded silty SAND with gravel (SM) and ORGANIC SOIL (OL), mps 1.25 in., strong burnt wood/ash odor, wet, contains wood, ash and brick particles	10	5	10	30	25	20				
										10	10	80	S	L	L	L
				12.8	SP	Medium dense black to gray brown poorly-graded SAND (SP), mps 4 mm, moderate burnt wood/ash odor, wet, contains brick, wood and shell particles			5	15	75	5				
15	13 6 8 16	S6 12	15.0 17.0		SP/ML	Medium dense olive-brown to gray-brown and black interbedded poorly-graded SAND (SP) and sandy SILT (ML), mps 4 mm, moderate burnt wood/ash odor, wet to moist, contains brick and wood particles, reworked naturally-deposited soil			5	10	80	5				
									5	10	20	65				
						-FILL-(Reworked Marine Deposit)										
	18 16 25 13	S7 17	17.0 19.0		SP/ML	Dense gray-brown to black interbedded poorly-graded SAND with gravel (SP) and sandy SILT (ML), mps 1.25 in., moderate burnt wood/ash odor, wet to moist, contains brick, wood and shell particles	10	5	5	10	65	5				
				18.0					5	10	20	65				
					ML/SP	Dense gray to gray-brown interbedded sandy SILT (ML) and poorly-graded SAND (SP), mps 2 mm, no odor, moist to wet				10	10	80	S	L	L	L
										5	90	5				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/17/16	12:40	--	21.0	34.0	6.4
10/17/16	13:15	--	Open	Caved @22.1	6.4

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	29.0
Rock Cored (ft)	5.0
Samples	9S, 1C

Boring No. HA16-17

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-17
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						-MARINE DEPOSIT-										
20	11 9 9 8	S8 8	20.0 22.0	20.0	SW	Medium dense gray-brown well graded SAND with gravel (SW), mps 1.25 in., no odor, wet	10	25	30	20	15					
						-MARINE DEPOSIT-										
25	20 23 50/2"	S9 9	25.0 26.2	25.7	SW	Dense gray-brown well graded SAND with gravel (SW), mps 1.25 in., no odor, wet	20	15	15	25	20	5				
						Highly to moderately weathered BEDROCK										
						-WEATHERED BEDROCK-										
				29.0		Note: Advanced rollercone to 29.0 ft. Begin NX rock core at 29.0 ft.										
30						SEE CORE BORING REPORT FOR ROCK DETAILS										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

CORE BORING REPORT

Boring No. HA16-17
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
30	2:50 6:45 6:10 8:05 4:40	C1	29.0 34.0	60 52	100 87			Moderately hard to very hard, fresh to moderately weathered, light gray to gray, aphanitic to very coarse-grained PHYLLITE and QUARTZ. Joints close to moderate, high angle to vertical primarily along foliation, undulating, rough, fresh to slightly discolored, tight to open, no infilling.
							34.0	BOTTOM OF EXPLORATION 34.0 FT
35								
40								
45								
50								
55								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-18

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NX	Rig Make & Model: Acker Drill AD-II
Inside Diameter (in.)	4.0	1.375	1.875	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	16	30	-	Casing: HW Driven to 17.8 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: N/A

File No.	32328-111
Sheet No.	1 of 3
Start	13 October 2016
Finish	14 October 2016
Driller	M. D'Ambrosio
H&A Rep.	B. Estes
Elevation	12.0 +/-
Datum	Portland City
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3	SW	-BITUMINOUS CONCRETE-										
	4 12 15 16	S1 13	1.0 3.0			Medium dense brown well graded SAND with gravel (SW), mps 1.25 in., no odor, dry	15	10	20	30	25					
				2.0		-FILL-										
					SW	Dense dark brown well graded SAND with gravel (SW), mps 1.375 in., slight organic odor, moist, contains brick, concrete and coal fragments	10	10	20	30	30					
	13 6 5 4	S2 5	3.0 5.0	3.0	GW	-FILL- Medium dense dark brown to red-brown well graded GRAVEL with sand (GW), mps 1.375 in., no odor, moist, contains brick and concrete fragments	40	25	15	10	10					
5						-FILL-										
	2 3 2 14	S3 9	5.0 7.0	5.0	GW/OL	Loose tan to dark brown and yellow-brown well graded GRAVEL with sand (GW) with layer of ORGANIC SOIL (OL), mps 1.25 in., strong moldy odor, wet, contains brick concrete, coal and ash fragments	40	25	15	10	10					
						-FILL-					10	90				
	24 34 24 20	S4 8	7.0 9.0	7.0	GW	Very dense tan to brown well graded GRAVEL with sand (GW), mps 1.375 in., organic odor, wet, contains concrete, brick and wood fragments	40	30	15	10	5					
						-FILL-										
				9.0		Note: Advanced rollercone through wood layer from 9.0 to 10.0 ft.										
				10.0		-WOOD-										
10	6 4 4 5	S5 11	10.0 12.0		SP/SW/ ML	Loose black to gray-brown interbedded poorly-graded SAND (SP), well graded SAND (SW), and SILT (ML), mps 0.5 in., slight anaerobic odor, wet, reworked naturally-deposited soil		5	10 20	10 40	80 30	5				
						FILL-					10	90	S	L	L	L
	8 8 12 14	S6 13	12.0 14.0		SP/SW/ ML	Medium dense black to gray-brown interbedded poorly-graded SAND (SP), well graded SAND (SW), and SILT (ML), mps 0.75 in., slight anaerobic odor, wet, contains coal, slag and metal fragments, brick, ceramic and wood particles		5	10 20	10 40	80 30	5				
											10	90	S	L	L	L
15	11 10 9 17	S7 17	15.0 17.0		SW/ML/ OL	Medium dense black to gray-brown and olive-gray interbedded well-graded SAND (SW), SILT (ML), and ORGANIC SOIL (OL), mps 0.75 in., anaerobic odor, wet, contains brick, ceramic, coal and metal fragments, brick and wood particles	5	5	20	35 10	30 10	5 80	S	L	L	L
	20 28 22 18	S8 11	17.0 19.0	17.0	SW-SM	Dense gray-brown to dark brown well graded SAND with silt and gravel (SW-SM), mps 1.25 in., no odor, wet, contains brick, wood and metal particles, reworked naturally-deposited soil	20	10	15	20	25	10				
						-FILL-										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
10/14/16	10:00	--	21.0	30.0	7.9

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	25.0
Rock Cored (ft)	5.0
Samples	9S, 1C

Boring No. HA16-18

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAL_TB HA16-1_.GPJ 21 Dec 16

TEST BORING REPORT

Boring No. HA16-18
File No. 32328-111
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	57 100	S9 9	20.0 21.0	20.3		Highly weathered BEDROCK -WEATHERED BEDROCK- Note: Advanced rollercone to 25.0 ft. Begin NX rock core at 25.0 ft.										
25				25.0		SEE CORE BORING REPORT FOR ROCK DETAILS										
30																

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-18

H&A-TEST BORING-07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

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CORE BORING REPORT

Boring No. **HA16-18**
File No. 32328-111
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Elev./ Depth (ft)	Visual Description and Remarks
								SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
25	1:20 2:10 4:05 3:40 3:35	C1	25.0 30.0					Hard to moderately hard, fresh to slightly weathered, light gray, aphanitic to fine-grained QUARTZITE with quartz veins. Joints close to moderate, low angle to moderately dipping, planar to undulating, smooth to rough, tight to moderately wide, fresh to slightly discolored, no infilling.
30							30.0	BOTTOM OF EXPLORATION 30.0 FT
35								
40								
45								
50								
55								

H+A_CORE+WELL07-1 HA-LIB09-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\111\FIELD\GINT DATABASE\32328-111_HAI_TB HA16-1_.GPJ 21 Dec 16

2015 Haley & Aldrich, Inc.
Test Boring Logs

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA15-1(OW)

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No. 32328-100
Sheet No. 1 of 2
Start 11 August 2015
Finish 11 August 2015
Driller C. Dupuis
H&A Rep. K. Russ
Elevation 49.5
Datum Portland City Datum
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Mobile B53
Inside Diameter (in.)	3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: NW Drive to 14.1 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						49.2		-BITUMINOUS CONCRETE-										
	5 10 18	S1 10	0.5 2.2			0.3	SW	Medium dense brown well graded SAND (SW), mps 0.75 in., no odor, dry, contains several brick fragments -FILL-		10	20	30	35	5				
	13 8 7 5 5	S1A 3 S2 12	2.2 2.5 2.5 4.5			47.3 2.2	SM	Medium dense dark brown to black silty SAND (SM), mps 1 in., mulch-like odor, dry, contains wood, brick, glass, ash and coal -FILL-	5	5	15	15	45	15				
						45.0	SM	Medium dense dark brown silty SAND (SM), mps 1.25 in., sulfur-like odor, dry, contains wood, brick, glass and coal	5	5	5	10	50	25				
5	2 3 5 7	S3 7	4.5 6.5			4.5	ML	Medium stiff olive-gray SILT with sand (ML), mps 0.5 in., no odor, dry, probable reworked naturally-deposited soil -FILL-					15	85				
	10 10	S4 9	6.5 7.2			42.3	ML	Very stiff olive-brown sandy SILT (ML), mps 0.75 in., no odor, dry, contains brick fragments, probable reworked naturally-deposited soil		5	10	10	15	60				
	13 13	S4A 13	7.2 8.5			7.2	ML	Very stiff olive-gray SILT with sand (ML), mps 0.42 mm, no odor, dry, frequent fine sand layers (0.5 in. thick) -MARINE DEPOSIT-					25	75				
10	10 4 4 3	S5 15	10.0 12.0				ML	Medium stiff light brown to olive-gray SILT with sand (ML), mps 1.25 in., no odor, wet, frequent 1 in. fine sand layers, clay content increasing with depth	5				20	75				
						36.5 13.0		Note: Likely strata change at approximately 13.0 ft based on increased casing blows. -PROBABLE GLACIAL TILL- Note: Casing refusal at 14.1 ft. SEE CORE BORING REPORT FOR ROCK DETAILS										
15																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/11/15	13:30	0	--	14.0 In Well	6.8

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	14.1
Rock Cored (ft)	4.4
Samples	5S, 1C

Boring No. HA15-1(OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA15-1(OW)
File No. 32328-100
Sheet No. 2 of 2

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weathering	Well Diagram	Elev./ Depth (ft)	Visual Description and Remarks
									SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
15		C1	14.1 18.5	50 31	95 59	Fresh to Mod.		35.4 14.1	Hard to medium hard, fresh, greenish gray aphanitic PHYLLITE. Joints moderately dipping to high angle with depth, moderately close to close grading to extremely close from 18.0-18.5 ft, planar to undulating, smooth to rough, tight to open. Foliation parallel to high angle joints. Slight silt infilling on some joint surfaces.
								31.0 18.5	BOTTOM OF EXPLORATION 18.5 FT
20									Notes: 1. No elevated PID readings detected during drilling. 2. Observation well installed in completed borehole. See Groundwater Observation Well Installation Report HA15-1(OW) for details.
25									
30									
35									
40									

H+A_CORE+WELL07-1 HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

TEST BORING REPORT

Boring No. HA15-2(OW)

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No. 32328-100
Sheet No. 1 of 2
Start 11 August 2015
Finish 12 August 2015
Driller C. Dupuis
H&A Rep. K. Russ
Elevation 29.0
Datum Portland City Datum
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Mobile B53
Inside Diameter (in.)	3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: NW Drive to 28.6 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	1	S1	0.0			28.7	SM	Medium dense dark brown silty SAND (SM), mps 0.5 in.,			5	20	55	20				
	7	4	0.3			0.3	SW-SM	organic odor, wet, contains roots	5	10	15	40	20	10				
	8	S1A	0.3					-TOPSOIL-										
	9	12	2.0					Medium dense brown well graded SAND with silt and gravel (SW-SM), no odor, moist, single 1.5 in. lens of silt										
						27.0												
	13	S2	2.0			2.0	SM	-FILL-	10	5	5	15	35	30				
	15	17	4.0					Medium dense olive-brown silty SAND with gravel (SM), mps 1.5 in., sulfur-like odor, moist, contains large fragments of brick and occasional coal										
	11																	
	7																	
	5	S3	4.0				SW-SM	Medium dense olive-brown well graded SAND with silt and	15	10	20	25	20	10				
5	10	8	6.0					gravel (SW-SM), mps 1.5 in., petroleum-like odor, moist, contains brick, concrete, styrofoam and coal										
	10							-FILL-										
	6																	
	5	S4	6.0				SP-SM	Very dense olive-brown poorly-graded SAND with silt and	15	15	10	20	30	10				
	50/2"	7	6.8					gravel (SP-SM), mps 1.75 in., no odor, moist, contains brick and coal										
								Note: Augered from 6.8 to 8.2 ft with moderate resistance.										
		*S5	7.4					*Sample S5 taken from flights of auger with probable concrete in sample.										
			8.2															
	56	S6	8.2				GW	Medium dense olive-brown well graded GRAVEL with sand	35	25	20	10	5	5				
	12	6	9.2					(GW), mps 1.5 in., cement-like odor, wet, contains brick										
						19.8												
	3	S6A	9.2			9.2	ML	Stiff olive SILT (ML), mps 0.075 mm, slight chemical odor, wet						100				
	3	8	10.0															
10	4	S7	10.0				ML	Medium stiff olive SILT (ML), mps 4.75 mm, no odor, wet			5			95				
	3	1	12.0															
	3							-MARINE DEPOSIT-										
	2					17.5												
						11.5												
	WOH	S8	12.0				CL	Very soft olive-gray lean CLAY (CL), mps 0.42 mm, no odor,					5	95				
	WOH	24	14.0					wet, occasional 0.25 in. layers of fine sand										
	2																	
	1							-MARINE DEPOSIT-										
15																		
	1	S9	15.0				CL	Very soft olive-gray lean CLAY (CL), mps 0.42 mm, no odor,					5	95				
	1	2	17.0					wet										
	1																	
	1																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/12/15	16:50	0	--	18.0 In Well	10.7

Sample ID
O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	28.6
Rock Cored (ft)	0.0
Samples	11S

Boring No. HA15-2(OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

TEST BORING REPORT

Boring No. HA15-2(OW)
File No. 32328-100
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
								Note: Drill action indicates strata change at approximately 19.0 ft below ground surface.										
						10.0 19.0												
20	7 4	S10 7	20.0 20.6			8.4	SC	Loose olive-gray clayey SAND with gravel (SC), mps 0.75 in., no odor, wet	5	10	5	20	30	30				
	1 2	S10A 13	20.6 21.4			20.6	ML	-MARINE DEPOSIT- Medium stiff olive-gray SILT with sand (ML), mps 0.75 in., no odor, wet	5				25	70				
								-MARINE DEPOSIT-										
						5.0 24.0												
25	2 2 2 3	S11 10	25.0 27.0				SM	Very loose olive-gray silty SAND with gravel (SM), mps 1 in., no odor, wet, loosely bonded	10	5	10	15	30	30				
								-GLACIAL TILL-										
								Note: Casing refusal at 28.6 ft.										
						0.4 28.6		Note: Advanced roller bit through probable bedrock from 28.6 to 29.9 ft.										
						-0.9 29.9		-PROBABLE BEDROCK- BOTTOM OF EXPLORATION 29.9 FT										
								Notes: 1. No elevated PID readings detected during drilling. 2. Observation well installed in completed borehole. See Groundwater Observation Well Installation Report HA15-2(OW) for details.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA15-2(OW)

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

TEST BORING REPORT

Boring No. HA15-3(OW)

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No. 32328-100
Sheet No. 1 of 2
Start 12 August 2015
Finish 12 August 2015
Driller C. Dupuis
H&A Rep. K. Russ
Elevation 26.5
Datum Portland City Datum
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Mobile B53
Inside Diameter (in.)	3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: NW Drive to 29.2 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						26.1		-BITUMINOUS CONCRETE-										
	8 19	S1 10	0.5 1.3			0.4 25.2	SW	Dense brown well graded SAND with gravel (SW), mps 1.75 in., no odor, dry	10	5	15	30	40					
	13 13	S1A 6	1.3 2.5			1.3	SM	-FILL- / Dense dark brown silty SAND with gravel (SM), mps 1.5 in., no odor, dry, contains brick fragments	15	10	15	15	30	15				
	5 7	S2 11	2.5 3.4				SM	Medium dense dark brown silty SAND with gravel (SM), mps 1.75 in., slight sulfur-like odor, dry, contains brick and coal	10	15	20	20	15	20				
	6 8	S2A 6	3.4 4.5			23.1 3.4	ML	Stiff olive-brown sandy SILT (ML), mps 0.75 in., sulfur-like odor, dry, contains brick, ash, wood, and coal		5	5	10	20	60				
	3 11	S3 9	4.5 5.2				ML	-FILL- / Very stiff dark brown sandy SILT with gravel (ML), mps 1.25 in., sulfur-like odor, dry, contains iron, ash, brick, wood and coal	5	10	10	10	15	50				
5	9 5	S3A 7	5.2 6.5			21.3 5.2	SP	Medium dense red-brown poorly-graded SAND (SP), mps 0.5 in., no odor, dry			5	30	65					
	3 4 4 4	S4 15	6.5 8.5				SP	Loose brown poorly-graded SAND (SP), mps 1 in., no odor, dry, contains one wood fragment piece / -FILL-	5	5	5	25	55	5				
	2 2 3 5	S5 13	8.5 10.5			18.0 8.5	ML	Medium stiff olive-brown sandy SILT (ML), mps 1 in., no odor, moist, contains ceramic, wood, brick and concrete / -FILL-			5	5	15	75				
10	30	S6 7	10.5 11.1			16.0 10.5 15.4	GM	Dense dark brown silty GRAVEL with sand (GM), mps 1.5 in., creosol-like odor, wet, contains brick, concrete, ceramic, and wood	40	10	10	10	15	15				
	34 10 15	S6A 4 / S6B 5	11.1 11.4 / 11.4 12.3			11.1 15.1 11.4	ML	CONCRETE / Hard olive-brown SILT with gravel (ML), mps 1.25 in., sulfur-like odor, dry, contains ash, wood, shells, and brick	10	5	5		5	75				
	3 6 12 9	S7 6	12.5 14.5			14.0 12.5	SM	-FILL- / Medium dense brown silty SAND with gravel (SM), mps 1.25 in., no odor, wet, contains ceramics, brick, ash, and steel wire (1/8 in. diameter)	5	10	5	20	30	30				
15	4 4 6 7	S8 12	14.5 16.5			12.0 14.5	SM	-FILL- / Loose olive-gray silty SAND with gravel (SM), mps 2 in., no odor, wet, silt content decreases with depth	15	10	10	5	30	30				
								-MARINE DEPOSIT-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/12/15	17:50	0	--	18.0 In Well	11.4

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	29.2
Rock Cored (ft)	0.0
Samples	10S

Boring No. HA15-3(OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

***Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.**

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

TEST BORING REPORT

Boring No. HA15-3(OW)
File No. 32328-100
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	11 1 2 4	S9 16	20.0 22.0				SM	Very loose olive-gray silty SAND (SM), mps 1 in., no odor, wet	5	5			55	35				
								-MARINE DEPOSIT-										
25	1 2 4 4	S10 24	25.5 27.5				SM	Loose olive-gray silty SAND (SM), mps 1 in., no odor, wet Note: Drill wash becomes more coarse grained at approximately 27.0 ft.		5	5		55	35				
						-0.5 27.0		-PROBABLE GLACIAL TILL- Note: Casing refusal at 28.9 ft.										
						-2.4 28.9		-PROBABLE WEATHERED BEDROCK-										
30						-2.7 29.2		Note: Top of probable bedrock at 29.2 ft. Advanced roller bit to 30.3 ft.										
						-3.8 30.3		-PROBABLE BEDROCK- BOTTOM OF EXPLORATION 30.3 FT										

Notes:
1. No elevated PID readings detected during drilling.
2. Observation well installed in completed borehole. See Groundwater Observation Well Installation Report HA15-3(OW) for details.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA15-3(OW)

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

TEST BORING REPORT

Boring No. HA15-4(OW)

Project	Portland Square Development, Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors

File No. 32328-100
Sheet No. 1 of 2
Start 10 August 2015
Finish 10 August 2015
Driller C. Dupuis
H&A Rep. K. Russ
Elevation 11.5
Datum Portland City Datum
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Mobile B53
Inside Diameter (in.)	3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: NW Drive to 26.4 1 ft
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	5	S1	0.0	0.0		11.0	SM	Medium dense dark brown to brown silty SAND with gravel (SM), mps 0.75 in., no odor, dry, trace roots	10	5	5	5	60	15				
	7	6	0.5	1.7		0.5	SW	-TOPSOIL-	5	15	15	20	40	5				
	7	S1A	0.5					Medium dense brown well graded SAND with gravel (SW), mps 0.75 in., no odor, dry										
	6	8	2.0			9.5												
	10	S2	2.0	3.8		2.0	SP-SM	-FILL-	10	10	10	5	55	10				
	12	15	4.0					Medium dense brown poorly-graded SAND with silt and gravel (SP-SM), mps 1 in., no odor, dry, contains coal, ash, and brick										
	10																	
	11																	
	5	S3	4.0	0.0			SM	Very loose brown to red-brown silty SAND with gravel (SM), mps 1 in., no odor, dry, contains ash and brick	10	10	20	30	15	15				
5	2	16	6.0					-FILL-										
	1																	
	2																	
	6	S4	6.0	0.0			SM	Very loose dark brown silty SAND with gravel (SM), mps 1.5 in., no odor, wet, contains brick, ash, and iron oxide, 2 in. layer of silty fine sand at 7.5 ft	20	10	10	15	30	15				
	1	15	8.0															
	2																	
	3																	
	4	S5	8.0	6.0			SM	Medium dense brown silty SAND with gravel (SM), mps 0.75 in., no odor, wet, 2 in. layer of silt	5	10	10	10	25	40				
	19	3	9.2			2.3												
	7	S5A	9.2	0.1		9.2	SP-SM	Medium dense dark gray poorly-graded SAND with silt and gravel (SP-SM), mps 1.25 in., sulfur-like odor, wet, possible concrete, ash, and coal	10	5	10	40	25	10				
10	33	9	10.0															
	21	S6	10.0	1.0			SW-SM	Very dense black well graded SAND with silt and gravel (SW-SM), mps 1 in., sulfur-like odor, wet, possible concrete, ash and coal, 2 in. layer of silty fine sand at bottom of sample	5	20	20	25	20	10				
	56	15	12.0															
	30																	
	28																	
	13	S7	12.0	10.9			SW-SM	Medium dense black well graded SAND with silt and gravel (SW-SM), mps 1.5 in., sulfur-like odor, wet, contains coal throughout sample	15	10	30	20	15	10				
	7	11	14.0					-FILL-										
	7																	
	4																	
	5	S8	14.0	2.1			SM	Very loose black silty SAND with gravel (SM), mps 1 in., sulfur-like odor, wet, contains coal throughout sample	10	20	20	20	15	15				
15	2	6	16.0															
	2																	
	2																	
	2	S9	16.0	0.3			SM	Medium dense black silty SAND with gravel (SM), mps 1 in., sulfur-like odor, wet, contains coal and brick fragments	10	20	20	20	15	15				
	4	9	17.4															
	7					-5.9												
	13	S9A	17.4	0.0		17.4	SM	Medium dense olive-gray silty SAND (SM), mps 0.5 in., no		5	20	35	15	25				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
8/10/15	~12:00	0	8.0	8.0	7.0

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Split Spoon Sample

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	26.8
Rock Cored (ft)	0.0
Samples	12S

Boring No. HA15-4(OW)

Field Tests: **Dilatancy**: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*Note: Maximum particle size (mps) is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 25 Sep 15

TEST BORING REPORT

Boring No. HA15-4(OW)
File No. 32328-100
Sheet No. 2 of 2

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	PID Readings (ppm) (sample/bkgd)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
	22 20 16 21	8 S10 6	18.0 18.0 20.0			-6.5 18.0	SW-SM	odor, wet, probable reworked naturally-deposited soil -FILL- Dense olive-gray well graded SAND with silt and gravel (SW-SM), mps 1.5 in., no odor, wet, moderately to well bonded	20	10	10	20	30	10				
20	30 18 7 4	S11 8	20.0 22.0	0.3			SP-SM	Medium dense gray-brown poorly-graded SAND with silt (SP-SM), mps 0.5 in., no odor, wet, well bonded to loosely bonded with depth		5	10	5	70	10				
								-GLACIAL TILL-										
25	34 23 27/5"	S12 5	25.0 26.4	1.2			SP-SM	Dense gray-brown poorly-graded SAND with silt and gravel (SP-SM), mps 1.25 in., no odor, wet, medium to well bonded	15	10	10	5	50	10				
	50/5"	S12A 5	26.4 26.8			-14.9 26.4 -15.3 26.8		-WEATHERED BEDROCK- -PROBABLE BEDROCK-										
						-16.8 28.3		BOTTOM OF EXPLORATION 28.3 FT Notes: 1. No elevated PID readings detected during drilling. 2. Observation well installed in completed borehole. See Groundwater Observation Well Installation Report HA15-4(OW) for details.										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA15-4(OW)

H&A-TEST BORING-07-1 PID HA-LIB09.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 25 Sep 15

1985 and 1987 Haley & Aldrich, Inc.
Test Boring Logs

HALEY ALDRICH

NORTHEAST DIAMOND DRILLING CO., INC.

P. O. BOX 617 UNION, MAINE 04862

SHEET 1 OF 1
DATE 11-22-85
HOLE NO. B-10
LINE & STA.
OFFSET
SURF. ELEV.

TO Haley & Aldrich
PROJECT NAME Proposed Office Building
REPORT SENT TO
SAMPLES SENT TO Taken

ADDRESS Portland, Maine
LOCATION Portland, Maine
PROJ. NO.
OUR JOB NO. M-86-37

GROUND WATER OBSERVATIONS
At 3:10PM 11-22-85 8.5' after Hours
At after Hours

	CASING	SAMPLER	CORE BAR.
Type	BW	SS	
Size I.D.	2.5	1-5/8	
Hammer Wt.	300	140	
Hammer Fall	24	30	BIT

	Date	Time
START		
COMPLETE		
TOTAL HRS.		

BORING FOREMAN G Wright
INSPECTOR C Nickerson
SOILS ENGR.

LOCATION OF BORING:

DEPTH	Casing Blows per foot	Sample Depths From - To	Type of Sample	Blows per 6" on Sampler From 0-6	To 6-12	To 12-18	Moisture Density or Consist.	Strata Change Elev.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE No.	Pen	Rec
0	7	0-1.5	d	10	10	9	damp		Br sand& Gravel	1	1.5	1.0
	10											
	9											
	6											
5	4	5-6.5'	d	3	1	6	wet		Sand & Gravel brick Frag	2	1.5	.4
	3								sand ,silt small cobbles trace Clay			
	21											
	130											
	32											
10	26	10-11.5	d	3	3	3	moist		Gray Marine deposits sand silt	3	1.5	1.5
	2								small cobbles trace of clay			
	5											
	6											
	8											
15	6	15-16.5	d	4	2	2				4	1.5	1.5
	7											
	9											
	12											
	17											
20	23	20-21.5	d	16	22	33			Gray Br silt	5	1.5	1.5
	(Roller	Bit ahead)										
25												
		27.2-28.2	d	100	88				Br till or Decomposed Rock	6	1.5	8
									Refusal @ 28.2			
30												

GROUND SURFACE TO 27' USED BW "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY:
Earth Boring 27'
Rock Coring
Samples 6

HOLE NO. B-10

TOWN PRESS · EAST PROVIDENCE — (401) 434-4086

NORTHEAST DIAMOND DRILLING CO., INC.

P. O. BOX 617 UNION, MAINE 04862

SHEET 1 OF 1
DATE 11-22-85
HOLE NO. B-11
LINE & STA.
OFFSET
SURF. ELEV.

TO Haley & Aldrich
PROJECT NAME Proposed Office Building
REPORT SENT TO
SAMPLES SENT TO Taken

ADDRESS Portland, Maine
LOCATION Portland, Maine
PROJ. NO.
OUR JOB NO. M-86-37

GROUND WATER OBSERVATIONS
At 10:17 AM 11-22-85 after 7.1' Hours
At ____ after ____ Hours

	CASING	SAMPLER	CORE BAR.
Type	BW	SS	
Size I.D.	2.5	1-5/8	
Hammer Wt.	300	140	BIT
Hammer Fall	24	30	

	Date	Time
START	11-22-85	7:00
COMPLETE	11-22-85	10:30
TOTAL HRS.		
BORING FOREMAN	G Wright	
INSPECTOR	C Nickerson	
SOILS ENGR.		

LOCATION OF BORING:

DEPTH	Casing Blows per foot	Sample Depths From - To	Type of Sample	Blows per 6" on Sampler From 0-6	To 6-12	To 12-18	Moisture Density or Consist.	Strata Change Elev.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE No.	Pen	Re
0		1.4-2.9	d	12	10	7	damp		Drilled through Pavement with Roller bit- 0'-1.4'	1	1.5	.4
	5/6								Sand heavy Gray . Brick peices (Fill)			
	8											
	10											
5	10	5'-6.5	d	7	5	10				2	1.5	0
	16											
	10											
	8											
	4											
10	10	10'-11.5'	d				wet		Gray sand & Gravel Cobbles	3	1.5	1.
	14											
	23											
	18											
	19											
15	47	15'-16.5'	d						soft Grsy fine sand small Cobbles	4	1.5	1.
	7											
	4											
	10/0 pen								Refusal @ 17' 50 Blows no Pen			

GROUND SURFACE TO 17' USED BW "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-10	Loose	0-4	Soft
10-30	Med. Dense	4-8	M/Stiff
30-50	Dense	8-15	Stiff
50+	Very Dense	15-30	V-Stiff
		30+	Hard

SUMMARY:
Earth Boring 17'
Rock Coring
Samples 4

HOLE NO. B-11

TOWN PRESS • EAST PROVIDENCE — (401) 434-4086

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Northland	SHEET 1 OF 1 HOLE NO. B-12
DRILLER Darrel McKeen	PROJECT NAME Portland Square	LINE & STATION
M.T.B. JOB NUMBER 87-159	LOCATION Portland, Maine	OFFSET

GROUND WATER OBSERVATIONS

AT _____ FT. AFTER _____ HOURS

AT _____ FT. AFTER _____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/8/87 DATE FIN. 7/8/8

SURFACE ELEV. _____

GROUND WATER ELEV. _____

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		1.5	4	5	8		2.0	Brown silty gravelly sand w/trace of brick
	2D	2"	24"		6.0	2	3	4	4	8.0	Gray brown silty mottled clay
	3D	2"	18"		11.0	0	1	1		12.0	Gray silty clay w/sand layers
	4D	2"	18"		16.0	4	7	10			Gray silty sand w/trace of gravel trace of cla
	D	2"	24"	0	21.0	3	1	2	2		
	5D	2"	18"		23.8	3	4	5			
	6D	2"	18"		26.0	2	3	4		27.5	Brown coarse sand w/trace of silt
	7D	2"	18"		31.0	13	25	45		30.5	Brown gravelly sandy silt
	D	2"	0	0	32.5	50				32.5	Refusal @ 32.5' Water @ 14.5 w/auger Caved @ 10.5'

SAMPLES
- D = Split Spoon
- C = 2" Shelby Tube
- U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
- [X] Driller Visually
- [ ] Soil Technician Visually
- [ ] Laboratory Tests

REMARKS

HOLE NO. B-12

MTB-14

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Northland

SHEET 1 OF 1
HOLE NO. B-13

DRILLER: Darrel McKeen
M.T.B. JOB NUMBER: 87-159

PROJECT NAME: Portland Square
LOCATION: Portland, Maine

LINE & STATION:
OFFSET:

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT		140	
HAMMER FALL		30"	

DATE START 7/8/87 DATE FIN. 7/8/
SURFACE ELEV.
GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		1.5	2	4	11		0.5	Brown gravelly sand
	2D	2"	18"		6.0	4	9	8		8.5	Gray brown silty mottled clay
	3D	2"	18"		11.0	1	WOH	1		12.0	Gray sandy silty clay w/trace of gravel
	4D	2"	18"		16.0	2	2	3		22.5	Gray silty sand w/trace of gravel trace of cl
	5D	2"	18"		21.0	8	10	10			
	D	2"	0	0	22.5	50					Refusal @ 22.5' Water @ 17.0 w/auger Caved @ 6.5'

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-13

MTB-14

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Northland	SHEET 1 OF 1 HOLE NO. B-14
DRILLER Darrel McKeen	PROJECT NAME Portland Square	LINE & STATION
M.T.B. JOB NUMBER 87-159	LOCATION Portland, Maine	OFFSET

GROUND WATER OBSERVATIONS

AT _____ FT. AFTER _____ HOURS

AT _____ FT. AFTER _____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/7/87 DATE FIN 7/7/8

SURFACE ELEV. _____

GROUND WATER ELEV. _____

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	BLOWS PER 6" ON SAMPLER 6-12	BLOWS PER 6" ON SAMPLER 12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		1.5	10	11	12		3.5	Brown silty gravelly sand w/trace of black
	2D	2"	18"		6.0	1	2	2		13.2	Gray silty sand w/trace of gravel
	3D	2"	1"		13.3	50				13.3	Weathered rock

Refusal @ 13.3'
Water @ 11.7' w/auger
Caved @ 12.3'
Water @ 11.3' w/out auger

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS

HOLE NO. B-14

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Northland

SHEET 1 OF 1
HOLE NO. B-15

DRILLER: Darrel McKeen
M.T.B. JOB NUMBER: 87-159

PROJECT NAME: Portland Square
LOCATION: Portland, Maine

LINE & STATION:
OFFSET:

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/7/87 DATE FIN. 7/7/
SURFACE ELEV.
GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
										0.2	Pavement
	1D	2"	18"		2.5	3	4	7		3.0	Brown silty sandy gravel w/trace of black
	2D	2"	18"		6.0	5	7	11			Gray brown silty mottled clay w/fine sand lay
	D	2"	8"	0	10.2	3	52			10.2	
											Refusal @ 10.2'
											Caved @ 8.4'

SAMPLES
D = Split Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS

HOLE NO. B-15

MTB-14

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Northland	SHEET 1 OF 1 HOLE NO. B-15A
DRILLER Darrel McKeen	PROJECT NAME Portland Square	LINE & STATION
M.T.B. JOB NUMBER 87-159	LOCATION Portland, Maine	OFFSET

GROUND WATER OBSERVATIONS

AT _____ FT. AFTER _____ HOURS

AT _____ FT. AFTER _____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/7/87 DATE FIN. 7/7/8

SURFACE ELEV. _____

GROUND WATER ELEV. _____

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	BLOWS PER 6" ON SAMPLER 6-12	BLOWS PER 6" ON SAMPLER 12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
										0.2	Pavement
										3.5	Brown silty sandy gravel w/trace of black
										8.0	Gray brown silty mottled clay w/sand layers
	1D	2"	11"		10.4	3	53			10.4	Brown silty sand w/trace of gravel
											Refusal @ 10.4' Caved @ 7.7'

SAMPLES
D = Split Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-15A

MTB-14

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Northland

SHEET 1 OF 1
HOLE NO. B-16

DRILLER: Darrel McKeen
PROJECT NAME: Portland Square
LINE & STATION:
M.T.B. JOB NUMBER: 87-159
LOCATION: Portland, Maine
OFFSET:

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/7/87 DATE FIN. 7/7
SURFACE ELEV.
GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		1.5	10	10	17		0.5	Brown silty sandy gravel
										0.8	Brown fine to coarse sand
										1.0	Brick
										3.5	Brown silty sandy gravel
	2D	2"	18"		6.0	7	8	13			Brown gray silty mottled clay w/trace of sand
										9.0	
										11.5	Gray silty clay
	D	2"	36"		12.5	0 - 1	1	1	1 - 1		
	3D	2"	18"		14.0	3	1	2			Gray silty sand
	4D	2"	18"		16.0	16	35	39		16.5	
										19.0	Gray silty sandy gravel
	5D	2"	3"		19.8	68				19.8'	Weathered rock

Refusal @ 19.8'
Water @ 15.9' w/auger
Caved @ 11.0'
Water @ 10.0' w/out auger

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-16

MTB-14

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Northland

SHEET 1 OF 1
HOLE NO. B-17

DRILLER: Darrel McKeen
M.T.B. JOB NUMBER: 87-159
PROJECT NAME: Portland Square
LOCATION: Portland, Maine
LINE & STATION:
OFFSET:

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/8/87 DATE FIN. 7/8/
SURFACE ELEV.
GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		1.5	10	5	8		1.0	Brown silty gravelly sand
											Gray brown sandy silt w/mottled clay
	2D	2"	18"		6.0	6	4	6		7.5	
											Gray silty clayey sand
	3D	2"	18"		11.0	3	3	7		11.5	
											Gray silty sand w/trace of gravel
	4D	2"	18"		16.0	3	5	8		17.0	
										19.6	Brown coarse sand
	4D	2"	6"		20.0	80				20.0	Weathered rock
											Refusal @ 20.0' Water@ 10.6' w/auger Caved @ 15.0' Water@ 11.5' w/out auger

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-

MTB-14

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT: Northland

SHEET 1 OF 1
HOLE NO. B-25

DRILLER: Darrel McKeen
PROJECT NAME: Portland Square
LINE & STATION:
M.T.B. JOB NUMBER: 87-159
LOCATION: Portland, Maine
OFFSET:

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/8/87 DATE FIN. 7/8/
SURFACE ELEV.
GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		1.5	3	8	9			Brown silty sandy gravel Rubble
	–									5.5	
	2D	2"	18"		6.5	3	3	3			Gray brown sandy silty clayey gravel, brick
	3D	2"	18"		11.5	10	9	3			
	4D	2"	18"		16.5	2	3	7		16.5	
										17.0	Wood
	5D	2"	18"		21.5	2	1	4			Gray clayey silty sand w/trace of gravel
	6D	2"	18"		26.5	1	1	1			
										28.0	Gray silty sandy gravel
	7D	2"	9"		30.8	5	5			30.8'	
											Refusal @ 30.8' Water @ 11.0' w/auger Caved @ 14.7' Water @ 8.8' w/out auger

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-25

MTB-14

MAINE TEST BORINGS, INC. BREWER, MAINE 04412	CLIENT Northland	SHEET 1 OF 1 HOLE NO. B-27
DRILLER Darrel McKeen	PROJECT NAME Portland Square	LINE & STATION
M.T.B. JOB NUMBER 87-159	LOCATION Portland, Maine	OFFSET

GROUND WATER OBSERVATIONS

AT _____ FT. AFTER _____ HOURS

AT _____ FT. AFTER _____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 7/8/87 DATE FIN. 7/8/

SURFACE ELEV. _____

GROUND WATER ELEV. _____

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
										0.5	Brwon gravelly sand
	1D	2"	18"		1.5	3	20	20			
											Black silty sandy gravel w/trace of brick, wo
										4.0	
	2D	2"	18"		6.0	3	3	3			Brown silty sandy gravel
										9.0	
	3D	2"	18"		11.0	0	0	1			Brown sandy organic silt
										16.5	
	4D	2"	24"		17.0	WOH	WOH	WOH	3		
											Gray sandy silty clay w/trace of gravel
	5D	2"	18"		21.0	2	2	2			
	D	2"	0	0	25.0	50				25.0	
											Refusal @ 25.0' Water@ 21.4' w/auger Caved @ 9.6' Water @ 6.0' w/out auger

SAMPLES
D - Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS

HOLE NO. B-27

MTB-14

BREWER, MAINE 04412

Northland

HOLE NO. B-2B

DRILLER: Jim Goody

PROJECT NAME: Portland Square Project

LINE & STATION:

M.T.B. JOB NUMBER: 87-159A

LOCATION: Portland, Maine

OFFSET:

GROUND WATER OBSERVATIONS

AT ____ FT. AFTER ____ HOURS

AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 9/10/87 DATE FIN. 9/1(

SURFACE ELEV.

GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
											Brown black silty gravelly sand w/brick, ash, mixed fill
										4.0	
	1D	2"	18"		6.5	6	9	9			
	2D	2"	18"		11.5	3	2	2			Black silty gravelly sand w/ash and mixed fi
	3D	2"	18"		16.5	3	6	7			
										17.0	
											Refusal @ 17.0'
											Hole dry @ 17.0' w/augers
											Caved dry @ 7.0'

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-

MTB-14

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

Northland

HOLE NO. B-29

DRILLER: Jim Goody
M.T.B. JOB NUMBER: 87-159A
PROJECT NAME: Portland Square Project
LOCATION: Portland, Maine
LINE & STATION:
OFFSET:

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BARREL
TYPE	HS	SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.		140	
HAMMER FALL		30"	

DATE START 9/10/87 DATE FIN. 9/10/8
SURFACE ELEV.
GROUND WATER ELEV.

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE O.D.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	VANE READING	DEPTH	STRATUM DESCRIPTION
	1D	2"	18"		6.5	3	3	2			Black silty gravelly sand w/wood and mixed fi
										9.0	
											Refusal @ 9.0'

SAMPLES
D = Splite Spoon
C = 2" Shelby Tube
U = 3½" Shelby Tube

SOIL CLASSIFIED BY:
[X] Driller - Visually
[ ] Soil Technican - Visually
[ ] Laboratory Tests

REMARKS:

HOLE NO. B-2

MTB-14

APPENDIX B

Laboratory Test Results

GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York

www.geotesting.com

Transmittal

TO:

Bryan Steinert

Haley & Aldrich, Inc.

75 Washington Avenue, Suite 203

Portland, ME 04101-2617

DATE: 11/30/2016	GTX NO: 305581
RE: Portland Square Development	

COPIES	DATE	DESCRIPTION
	11/30/2016	**November 2016 Laboratory Test Report**

REMARKS:

SIGNED:

Jonathan Campbell, Assistant Laboratory Manager

CC:

APPROVED BY:

Ethan Marro, Assistant Laboratory Manager

GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geotesting.com

November 30, 2016

Bryan Steinert
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 203
Portland, ME 04101-2617

RE: Portland Square Development, Portland, ME (GTX-305581)

Dear Bryan:

Enclosed are the test results you requested for the above referenced project. GeoTesting Express, Inc. (GTX) received 16 samples from you on 11/4/2016. These samples were labeled as follows:

Boring	Sample	Depth
HA16-1	S1 + S2	1.0-5.0 ft
HA16-1	S3	5.0-7.0 ft
HA16-1	S4	10.0-12.0 ft
HA16-2	S4	9.0-11.0 ft
HA16-3	S2 + S3	3.0-7.0 ft
HA16-4	S1 + S2	1.0-3.5 ft
HA16-4	S3	5.0-7.0 ft
HA16-4	S4	10.0-12.0 ft
HA16-5	S4	10.0-12.0 ft
HA16-7	S2 + S3	3.0-7.0 ft
HA16-7	S5	15.0-17.0 ft
HA16-8	S5	15.0-17.0 ft
HA16-10	S2 + S3	3.0-7.0 ft
HA16-11	S2	3.0-4.9 ft
HA16-11	S5 + S6	10.5-14.5 ft
HA16-13	S2	3.0-5.0 ft

GTX performed the following test on each of these samples:

ASTM D422 - Grain Size Analysis - Sieve Only

A copy of your test request is attached.

The results presented in this report apply only to the items tested. This report shall not be reproduced except in full, without written approval from GeoTesting Express. The remainder of these samples will be retained for a period of sixty (60) days and will then be discarded unless otherwise notified by you. Please call me if you have any questions or require additional information. Thank you for allowing GeoTesting Express the opportunity of providing you with testing services. We look forward to working with you again in the future.

Respectfully yours,

Jonathan Campbell
Assistant Laboratory Manager

GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York

www.geotesting.com

Geotechnical Test Report **11/30/2016**

GTX-305581

Portland Square Development

Portland, ME

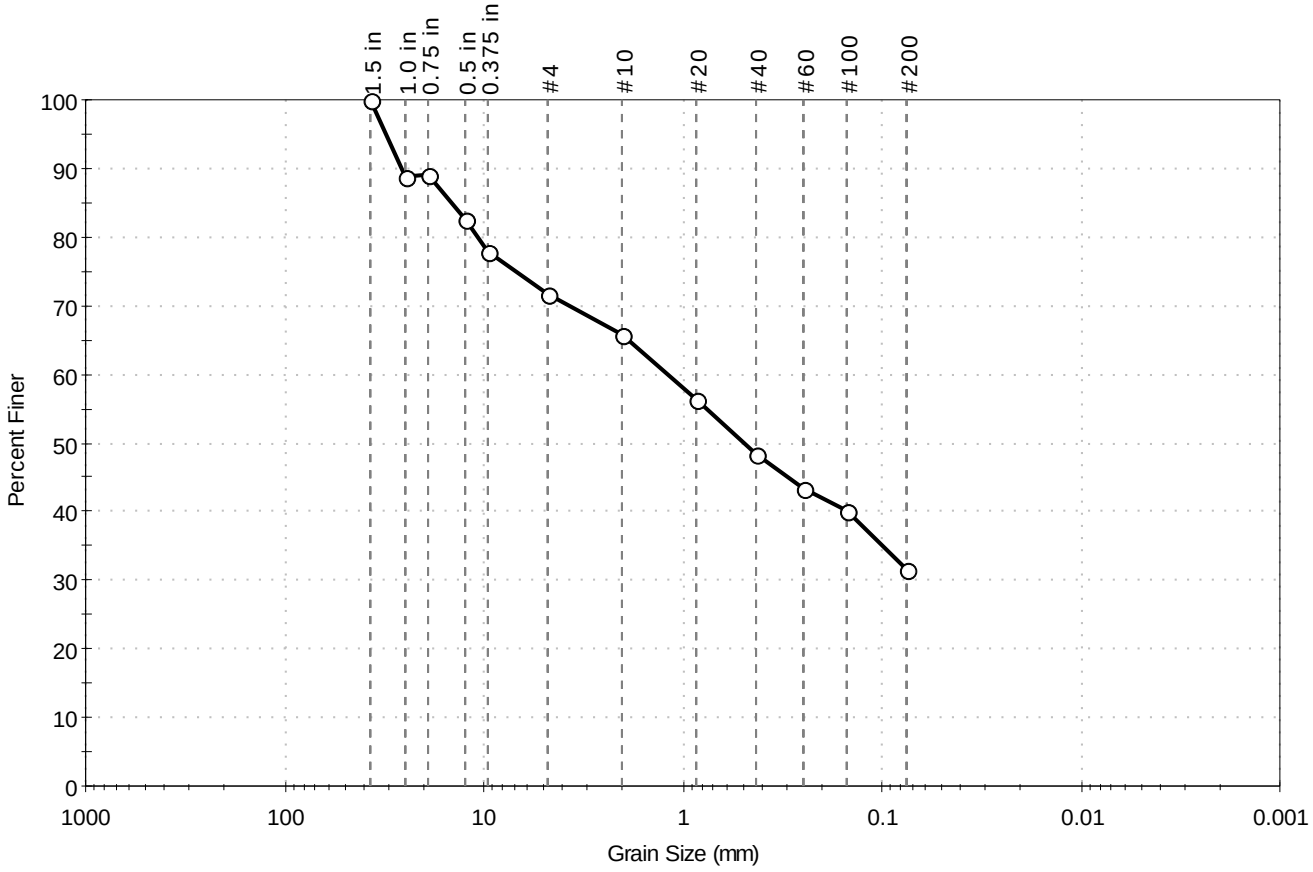
Client Project No.: 32328-111

Prepared for:

Haley & Aldrich, Inc.

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-1	Sample Type:	jar	Tested By:	GA
Sample ID:	S1 + S2	Test Date:	11/11/16	Checked By:	emm
Depth :	1.0-5.0 ft	Test Id:	397697		
Test Comment:	---				
Visual Description:	Moist, dark olive brown clayey sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	28.4	40.1	31.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1.0 in	25.00	89		
0.75 in	19.00	89		
0.5 in	12.50	83		
0.375 in	9.50	78		
#4	4.75	72		
#10	2.00	66		
#20	0.85	56		
#40	0.42	48		
#60	0.25	44		
#100	0.15	40		
#200	0.075	32		

Coefficients

D_{85} = 14.6438 mm D_{30} = N/A

D_{60} = 1.1816 mm D_{15} = N/A

D_{50} = 0.4932 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

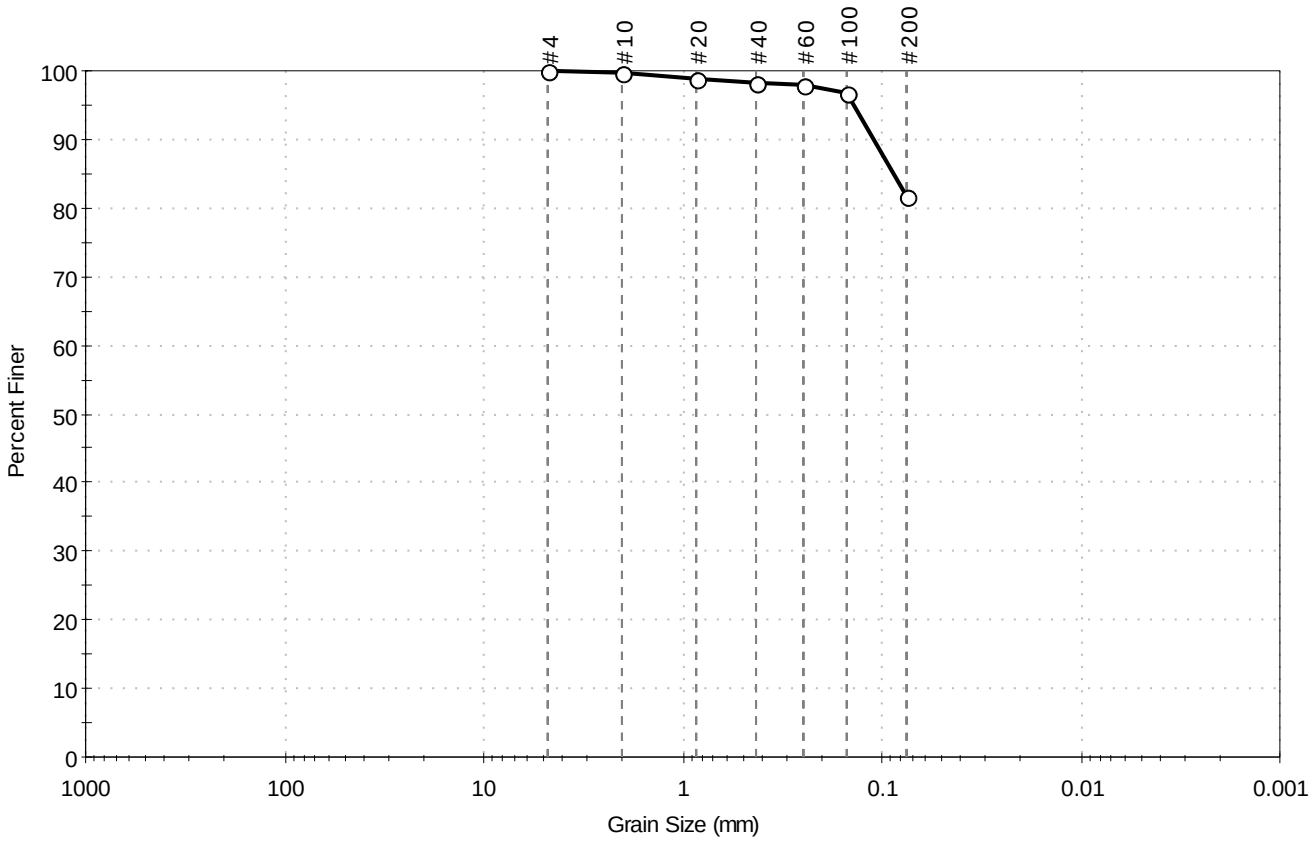
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-1	Sample Type:	jar	Tested By:	GA
Sample ID:	S3	Test Date:	11/11/16	Checked By:	emm
Depth :	5.0-7.0 ft	Test Id:	397706		
Test Comment:	---				
Visual Description:	Moist, olive gray clay with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	18.2	81.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	98		
#100	0.15	97		
#200	0.075	82		

Coefficients

D_{85} = 0.0871 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

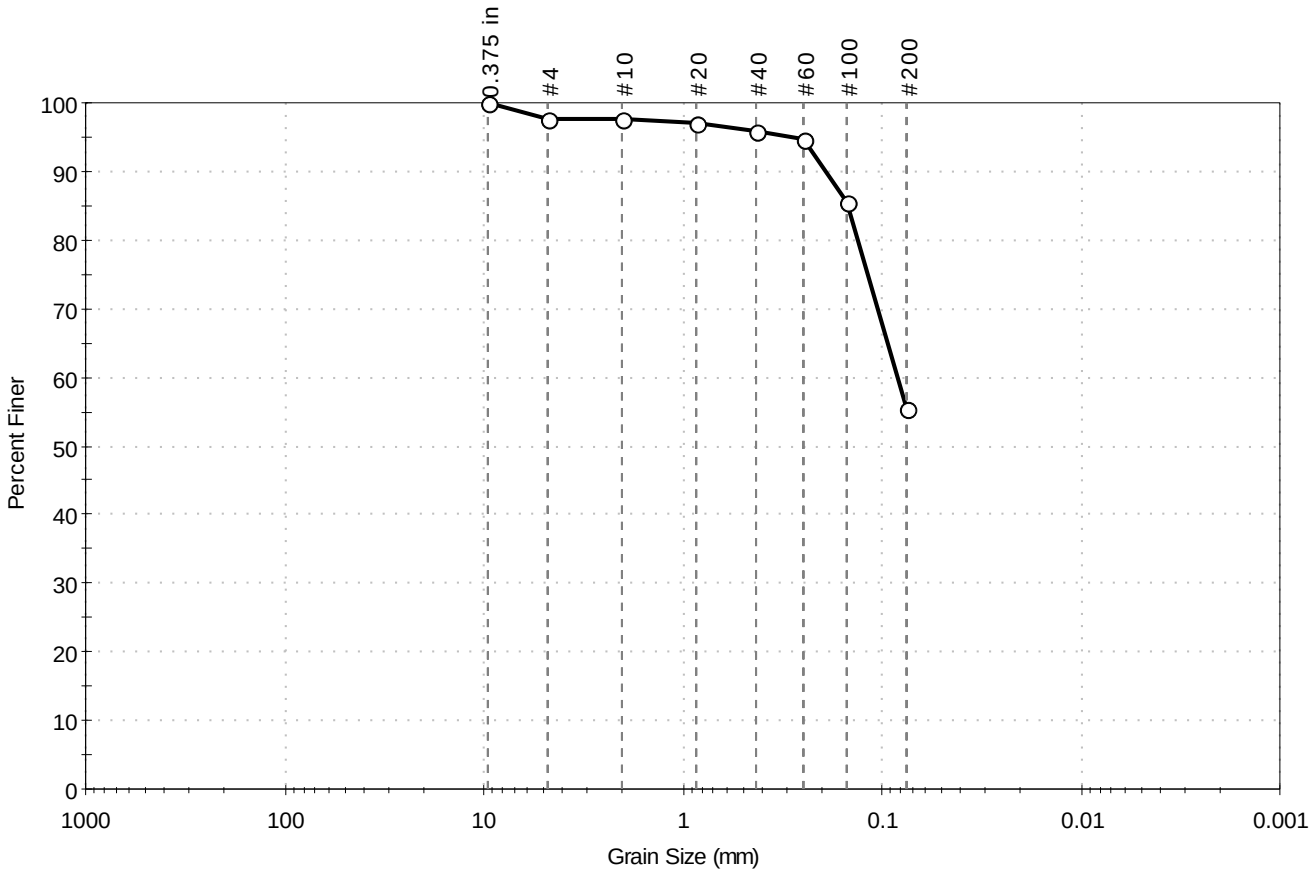
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-1	Sample Type:	jar	Tested By:	GA
Sample ID:	S4	Test Date:	11/11/16	Checked By:	emm
Depth :	10.0-12.0 ft	Test Id:	397696		
Test Comment:	---				
Visual Description:	Moist, olive gray sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	2.2	42.4	55.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	98		
#10	2.00	98		
#20	0.85	97		
#40	0.42	96		
#60	0.25	95		
#100	0.15	86		
#200	0.075	55		

Coefficients

D_{85} = 0.1477 mm	D_{30} = N/A
D_{60} = 0.0833 mm	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

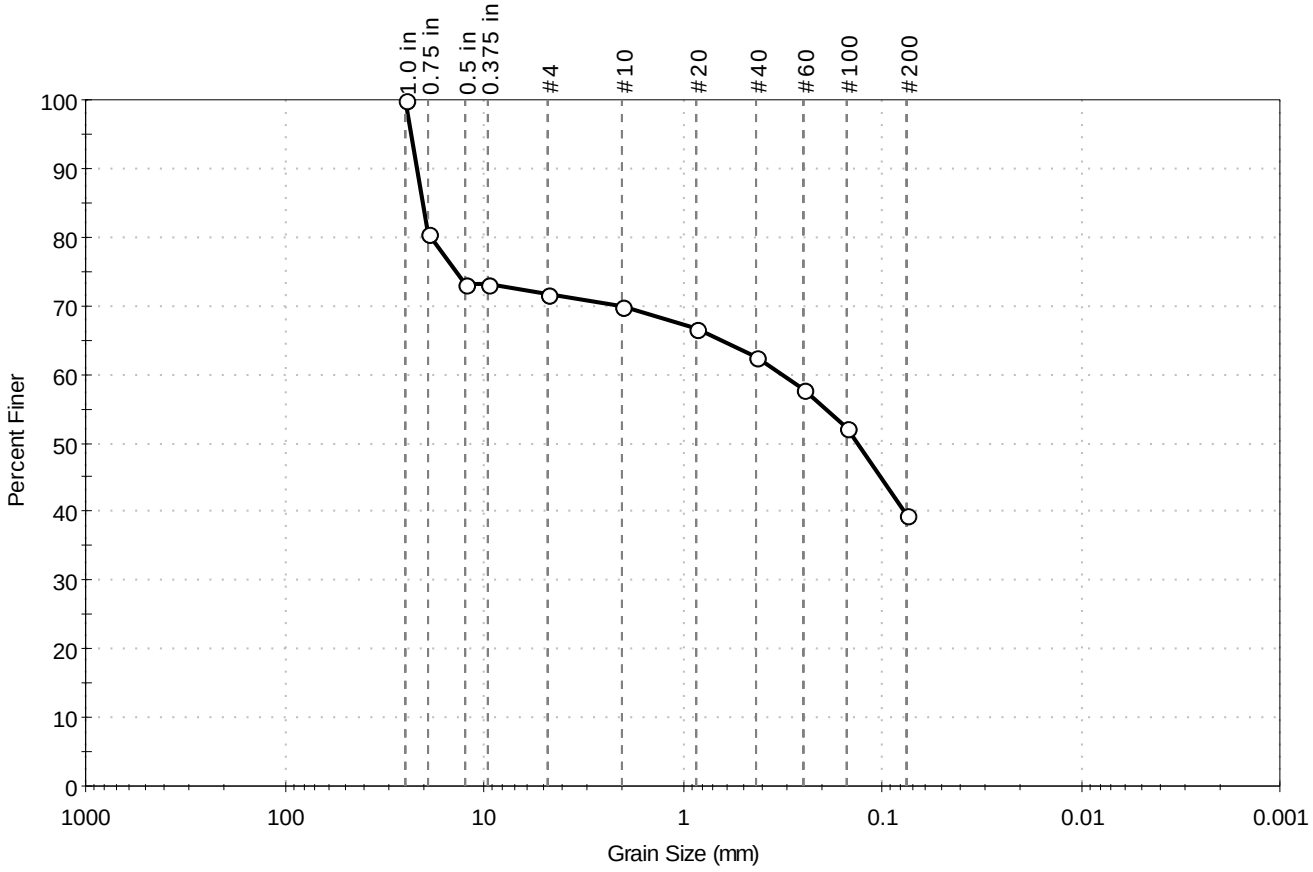
Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-2	Sample Type:	jar	Tested By:	GA
Sample ID:	S4	Test Date:	11/11/16	Checked By:	emm
Depth :	9.0-11.0 ft	Test Id:	397698		
Test Comment:	---				
Visual Description:	Moist, olive clayey sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	28.4	32.1	39.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.0 in	25.00	100		
0.75 in	19.00	81		
0.5 in	12.50	73		
0.375 in	9.50	73		
#4	4.75	72		
#10	2.00	70		
#20	0.85	67		
#40	0.42	63		
#60	0.25	58		
#100	0.15	52		
#200	0.075	39		

Coefficients

D_{85} = 20.2247 mm	D_{30} = N/A
D_{60} = 0.3170 mm	D_{15} = N/A
D_{50} = 0.1321 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

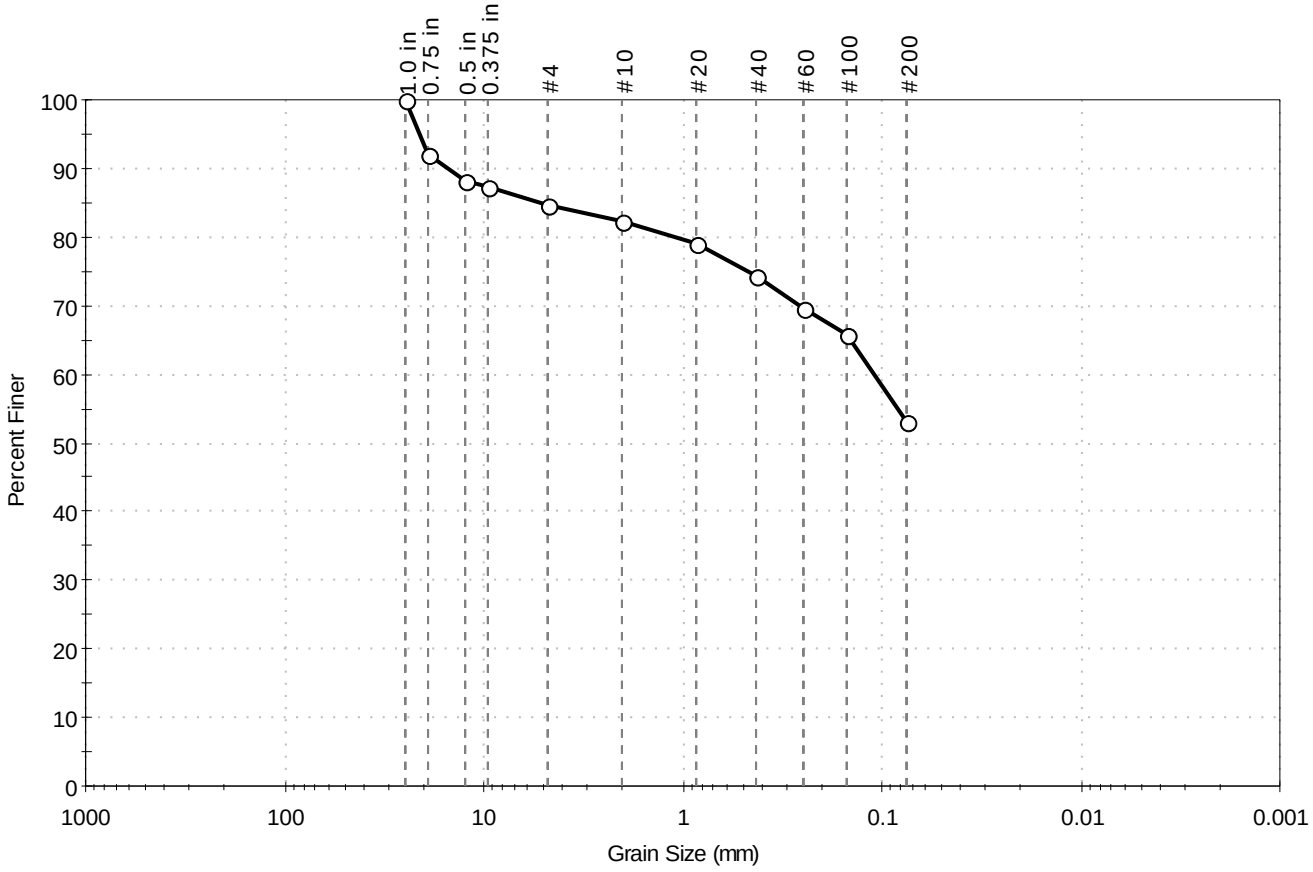
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-3	Sample Type:	jar	Tested By:	GA
Sample ID:	S2 + S3	Test Date:	11/11/16	Checked By:	emm
Depth :	3.0-7.0 ft	Test Id:	397707		
Test Comment:	---				
Visual Description:	Moist, dark olive gray sandy clay with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	15.4	31.5	53.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.0 in	25.00	100		
0.75 in	19.00	92		
0.5 in	12.50	88		
0.375 in	9.50	87		
#4	4.75	85		
#10	2.00	82		
#20	0.85	79		
#40	0.42	74		
#60	0.25	70		
#100	0.15	66		
#200	0.075	53		

Coefficients

D_{85} = 5.3336 mm D_{30} = N/A

D_{60} = 0.1097 mm D_{15} = N/A

D_{50} = N/A D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

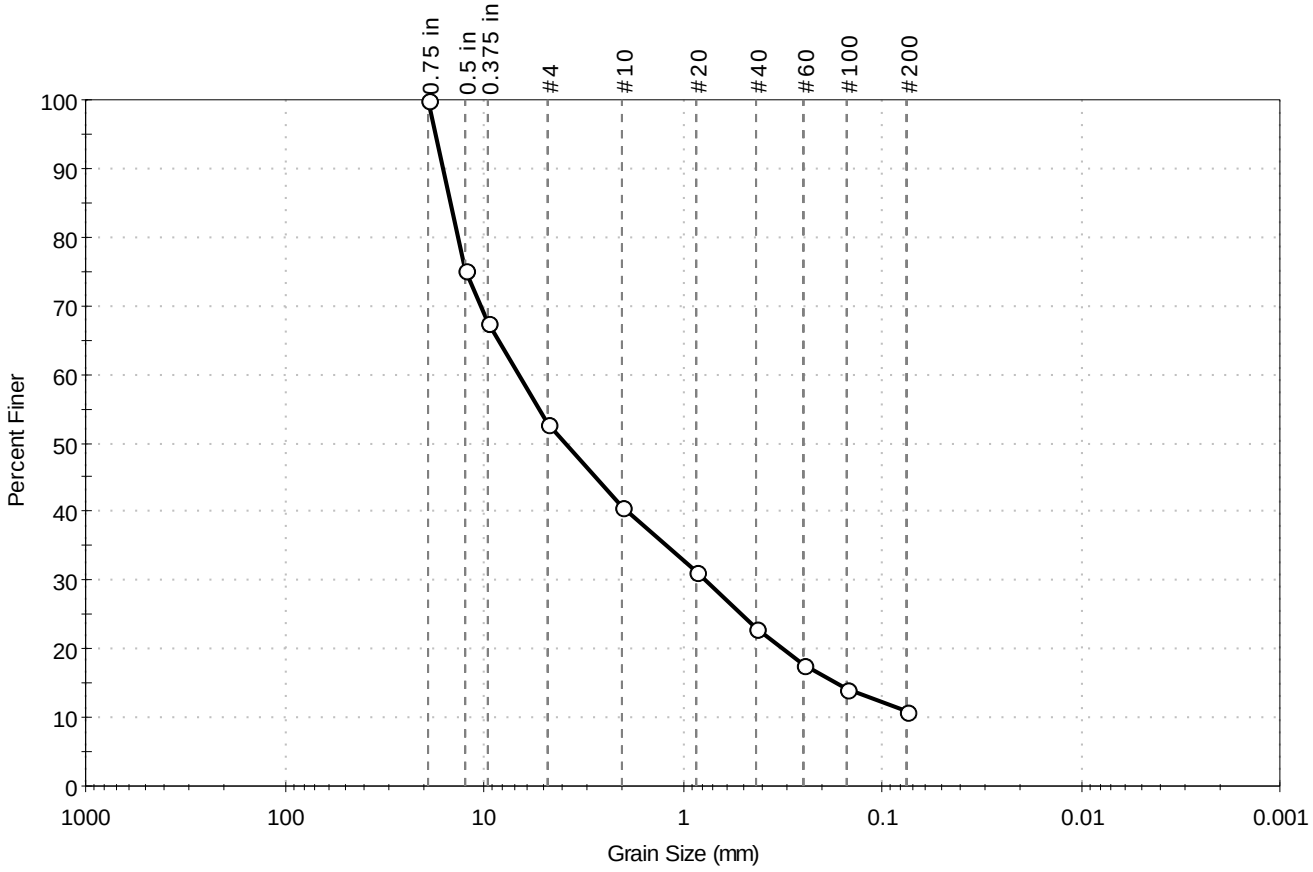
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-4	Sample Type:	jar	Tested By:	GA
Sample ID:	S1 + S2	Test Date:	11/11/16	Checked By:	emm
Depth :	1.0-3.5 ft	Test Id:	397708		
Test Comment:	---				
Visual Description:	Moist, gray gravel with silt and sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	47.3	41.9	10.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	75		
0.375 in	9.50	68		
#4	4.75	53		
#10	2.00	41		
#20	0.85	31		
#40	0.42	23		
#60	0.25	18		
#100	0.15	14		
#200	0.075	11		

Coefficients

D_{85} = 14.7454 mm D_{30} = 0.7642 mm

D_{60} = 6.6597 mm D_{15} = 0.1702 mm

D_{50} = 3.9077 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (0))

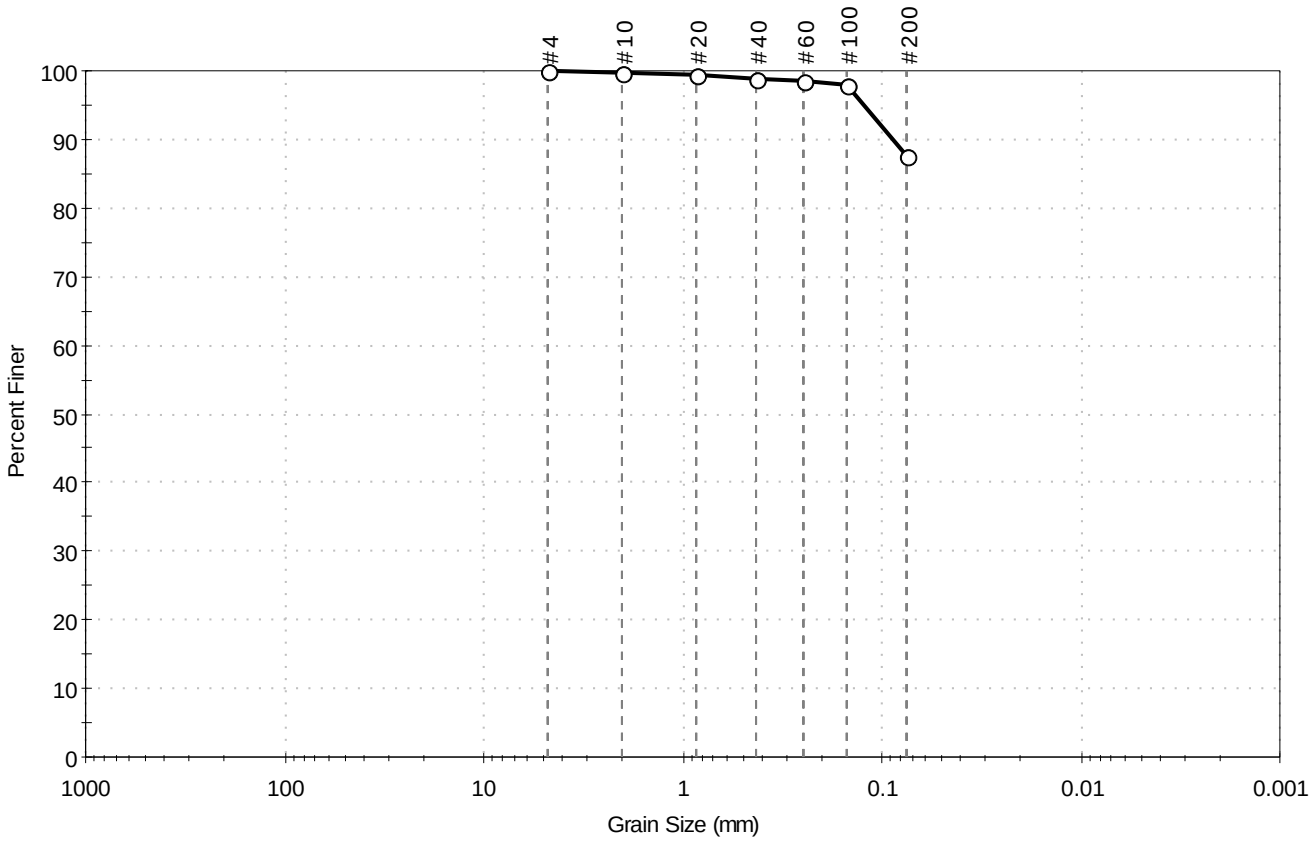
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-4	Sample Type:	jar	Tested By:	GA
Sample ID:	S3	Test Date:	11/11/16	Checked By:	emm
Depth :	5.0-7.0 ft	Test Id:	397709		
Test Comment:	---				
Visual Description:	Moist, olive gray clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	12.5	87.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	98		
#100	0.15	98		
#200	0.075	87		

Coefficients

D_{85} = N/A	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

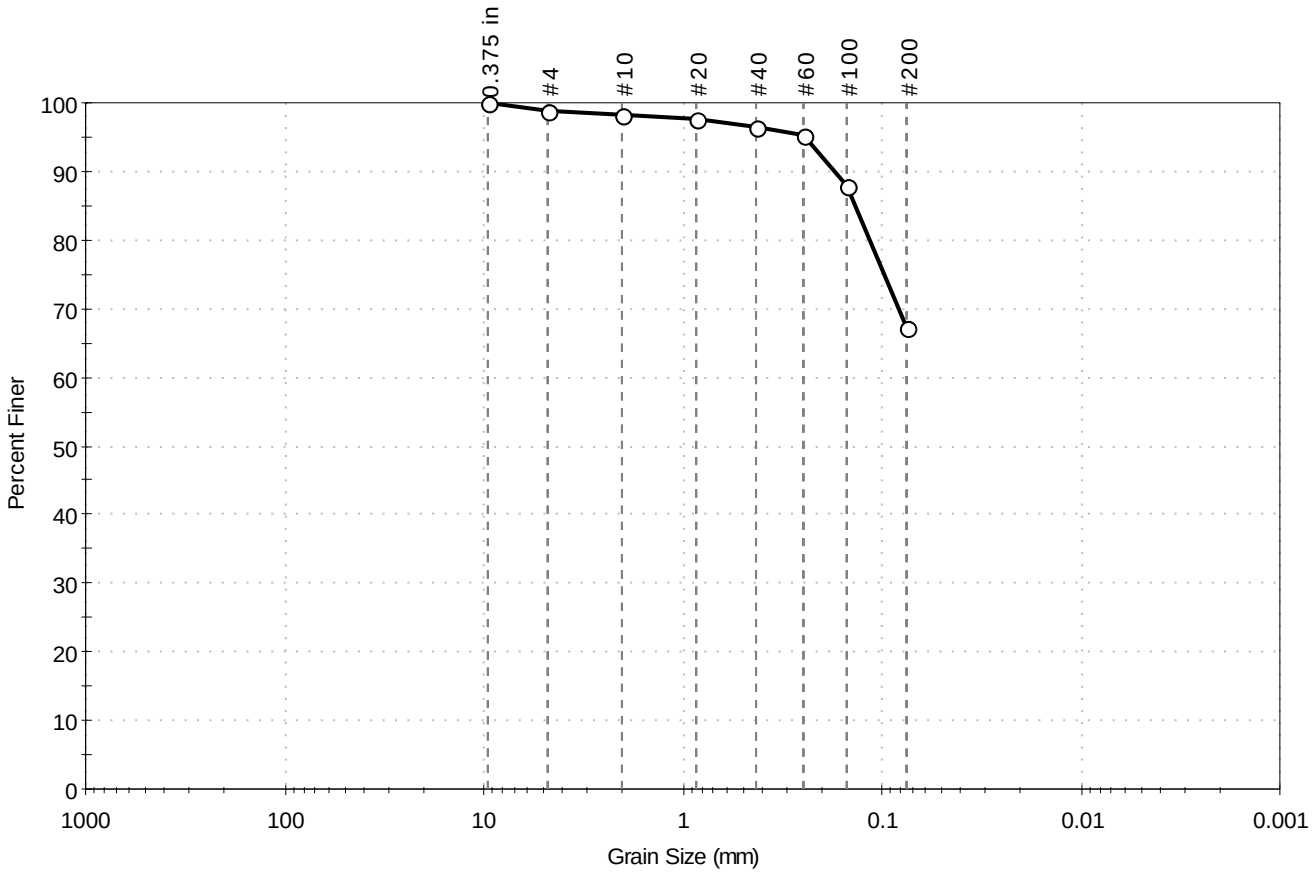
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-4	Sample Type:	jar	Tested By:	GA
Sample ID:	S4	Test Date:	11/11/16	Checked By:	emm
Depth :	10.0-12.0 ft	Test Id:	397699		
Test Comment:	---				
Visual Description:	Moist, gray sandy clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	1.1	31.6	67.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	98		
#20	0.85	98		
#40	0.42	97		
#60	0.25	95		
#100	0.15	88		
#200	0.075	67		

Coefficients

D_{85} = 0.1355 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

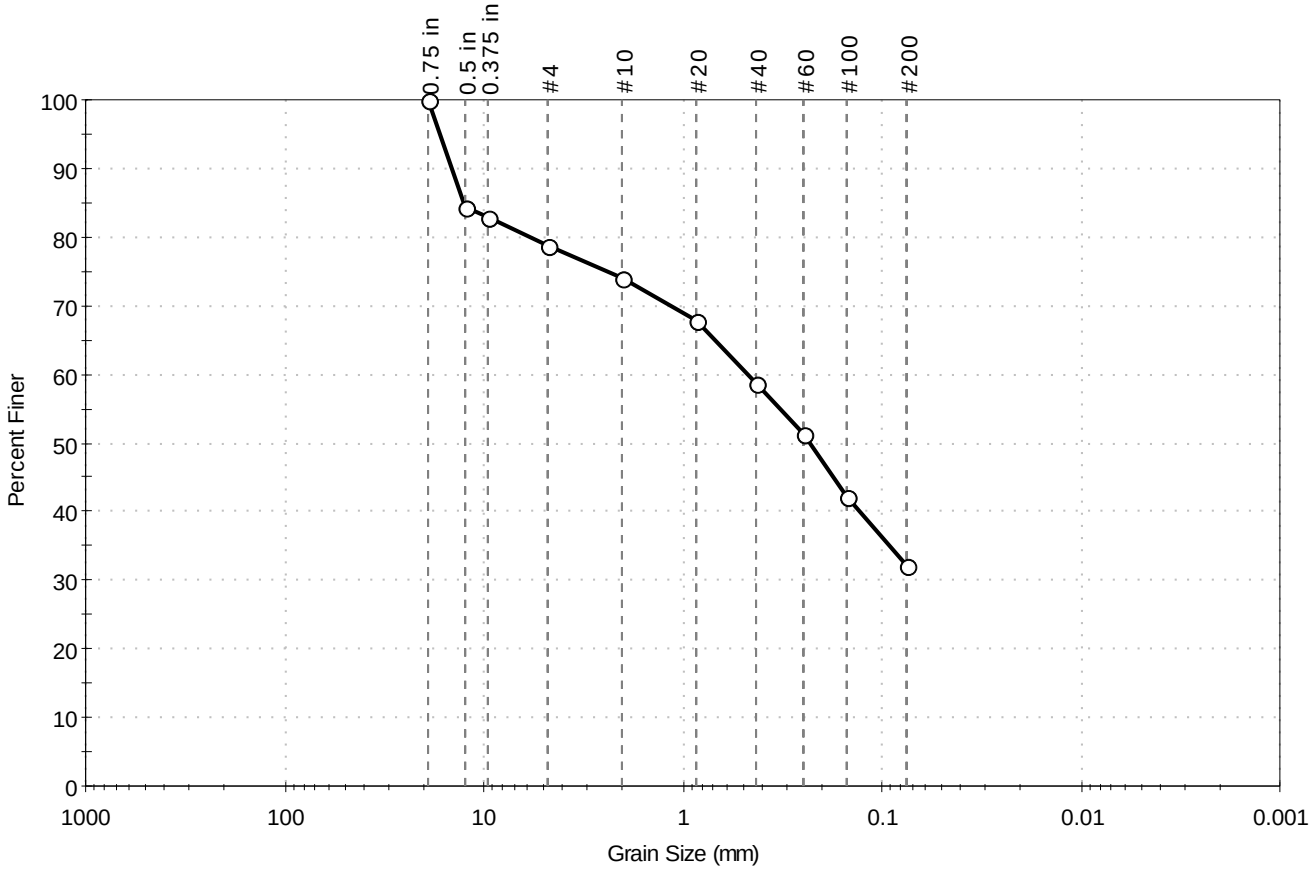
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-5	Sample Type:	jar	Tested By:	GA
Sample ID:	S4	Test Date:	11/11/16	Checked By:	emm
Depth :	10.0-12.0 ft	Test Id:	397700		
Test Comment:	---				
Visual Description:	Moist, gray silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	21.1	46.8	32.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	84		
0.375 in	9.50	83		
#4	4.75	79		
#10	2.00	74		
#20	0.85	68		
#40	0.42	59		
#60	0.25	51		
#100	0.15	42		
#200	0.075	32		

Coefficients

D_{85} = 12.7356 mm D_{30} = N/A

D_{60} = 0.4644 mm D_{15} = N/A

D_{50} = 0.2325 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

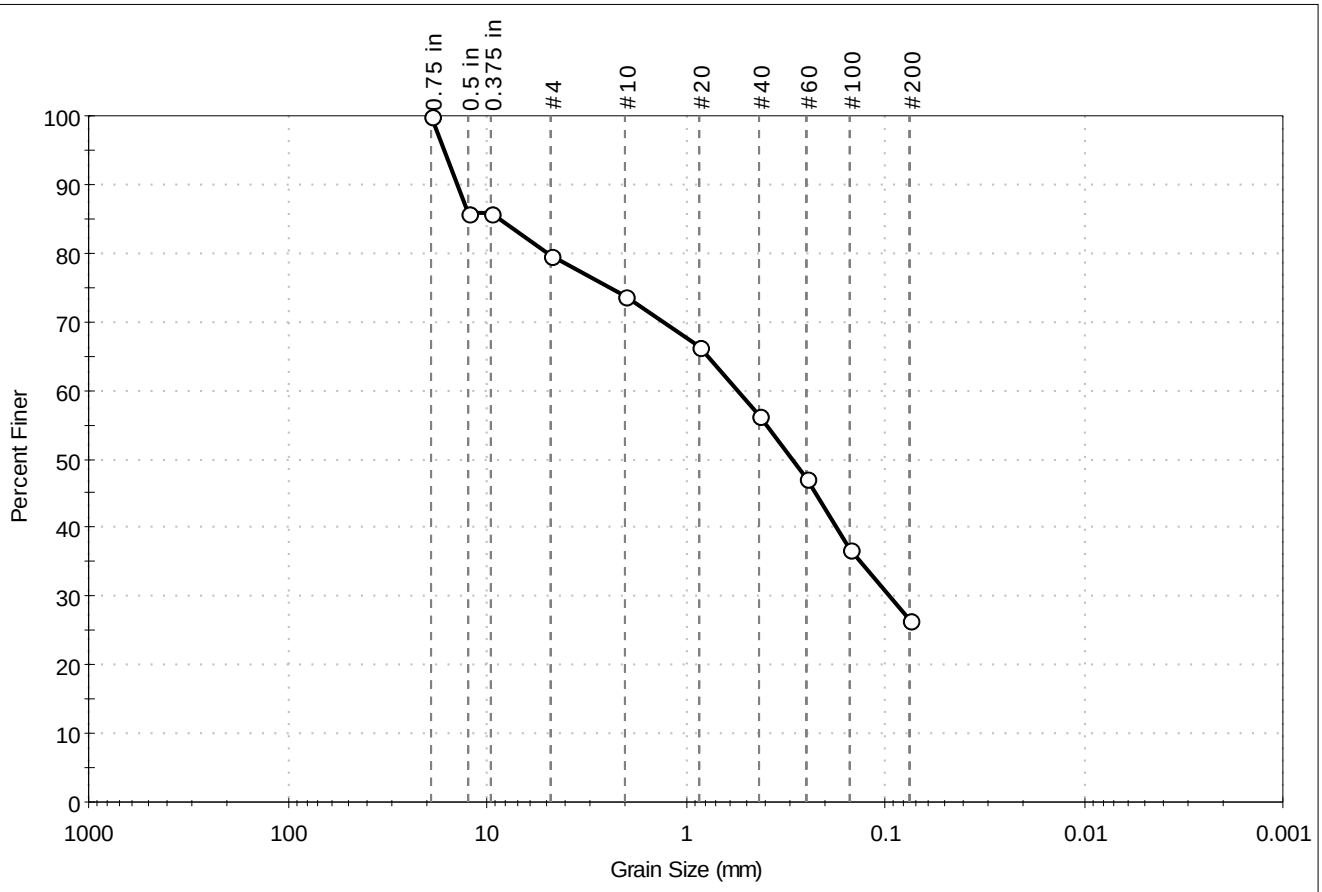
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-7	Sample Type:	jar	Tested By:	GA
Sample ID:	S2 + S3	Test Date:	11/11/16	Checked By:	emm
Depth :	3.0-7.0 ft	Test Id:	397711		
Test Comment:	---				
Visual Description:	Moist, dark olive brown clayey sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	20.5	53.0	26.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	86		
0.375 in	9.50	86		
#4	4.75	80		
#10	2.00	74		
#20	0.85	66		
#40	0.42	56		
#60	0.25	47		
#100	0.15	37		
#200	0.075	27		

Coefficients

D_{85} = 8.5801 mm D_{30} = 0.0949 mm

D_{60} = 0.5496 mm D_{15} = N/A

D_{50} = 0.2964 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

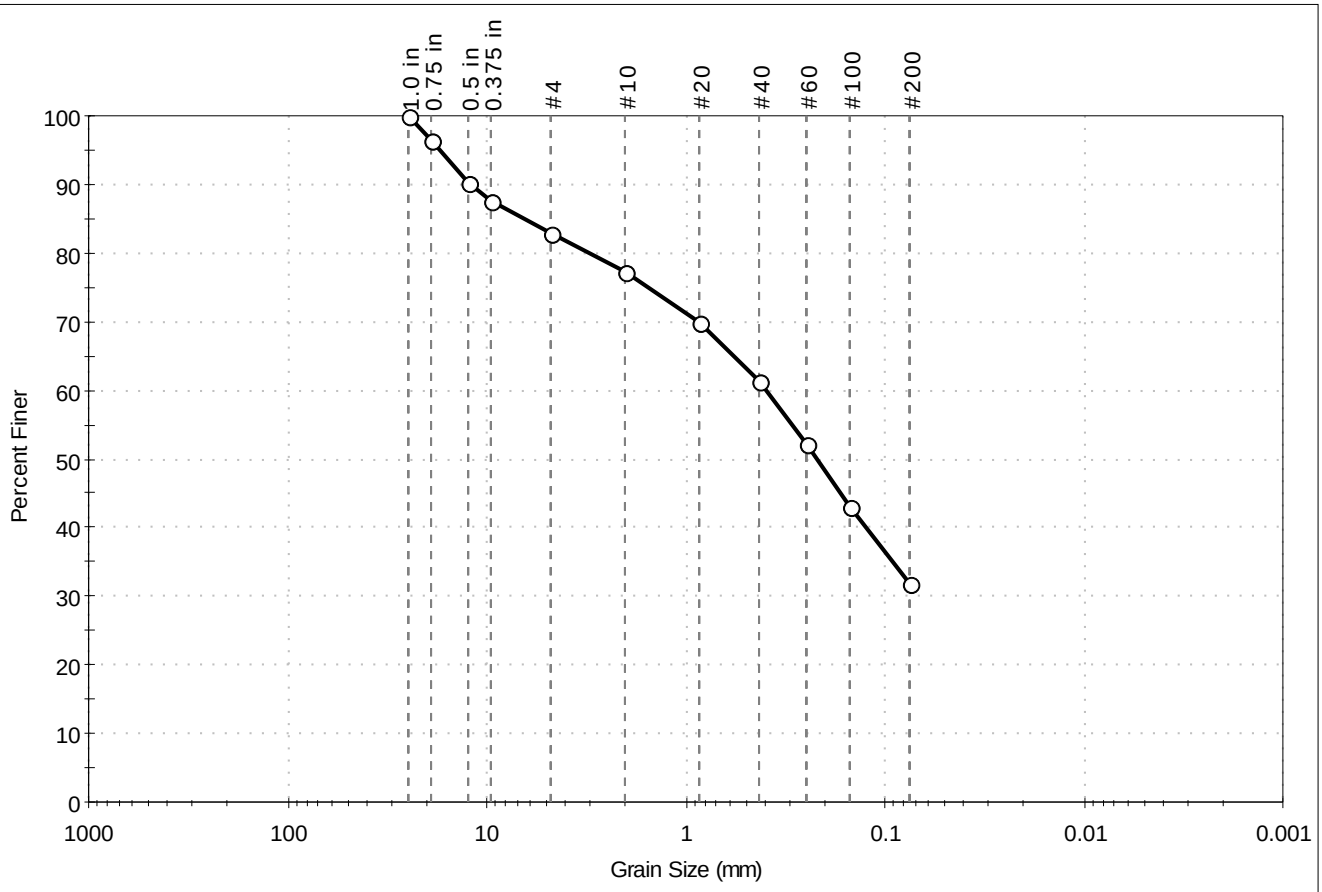
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-7	Sample Type:	jar	Tested By:	GA
Sample ID:	S5	Test Date:	11/11/16	Checked By:	emm
Depth :	15.0-17.0 ft	Test Id:	397710		
Test Comment:	---				
Visual Description:	Moist, gray silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	17.1	51.1	31.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.0 in	25.00	100		
0.75 in	19.00	96		
0.5 in	12.50	90		
0.375 in	9.50	88		
#4	4.75	83		
#10	2.00	77		
#20	0.85	70		
#40	0.42	61		
#60	0.25	52		
#100	0.15	43		
#200	0.075	32		

Coefficients

D_{85} = 6.4856 mm D_{30} = N/A

D_{60} = 0.3954 mm D_{15} = N/A

D_{50} = 0.2203 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

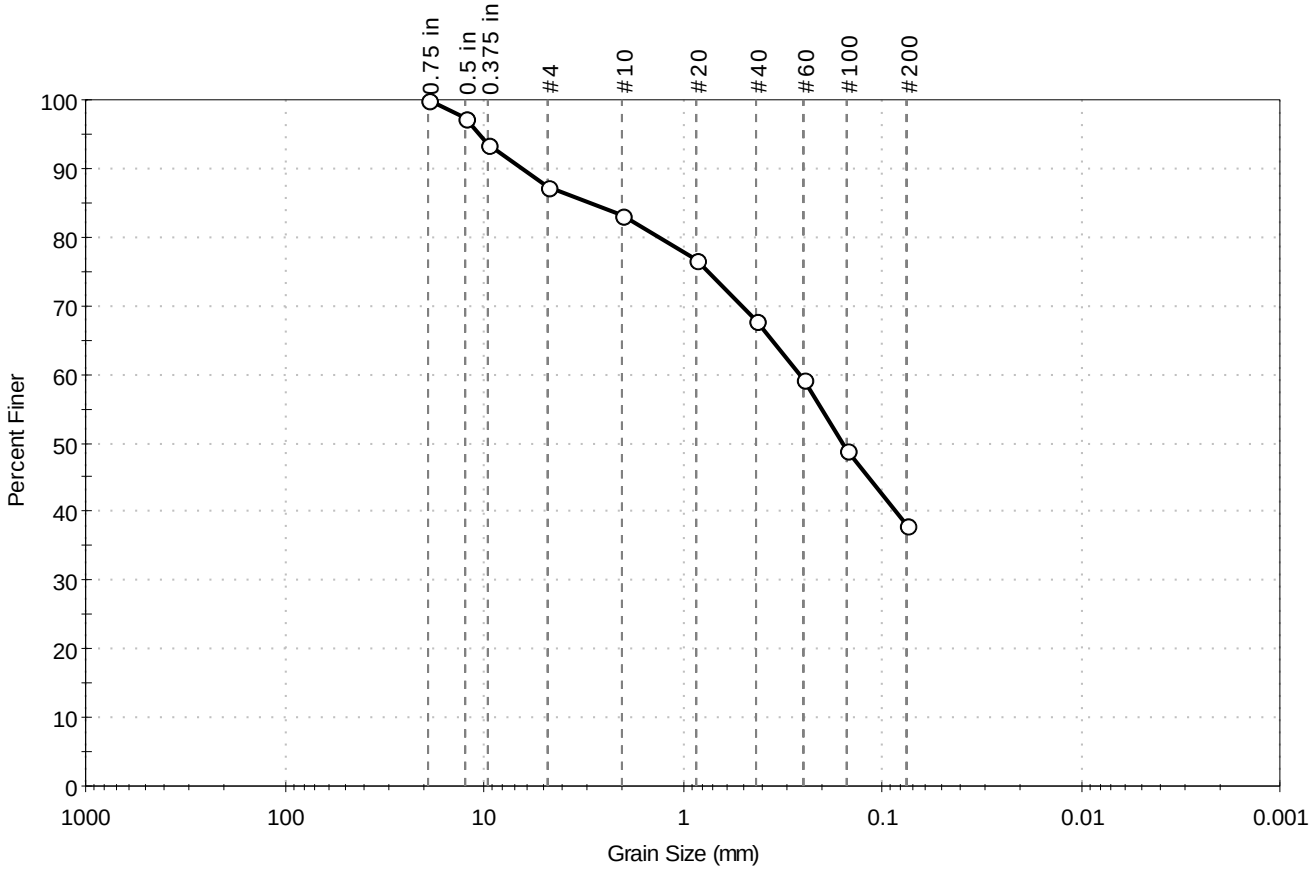
Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-8	Sample Type:	jar	Tested By:	GA
Sample ID:	S5	Test Date:	11/11/16	Checked By:	emm
Depth :	15.0-17.0 ft	Test Id:	397701		
Test Comment:	---				
Visual Description:	Moist, gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	12.7	49.3	38.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	97		
0.375 in	9.50	93		
#4	4.75	87		
#10	2.00	83		
#20	0.85	77		
#40	0.42	68		
#60	0.25	59		
#100	0.15	49		
#200	0.075	38		

Coefficients

D_{85} = 2.9536 mm D_{30} = N/A

D_{60} = 0.2633 mm D_{15} = N/A

D_{50} = 0.1580 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

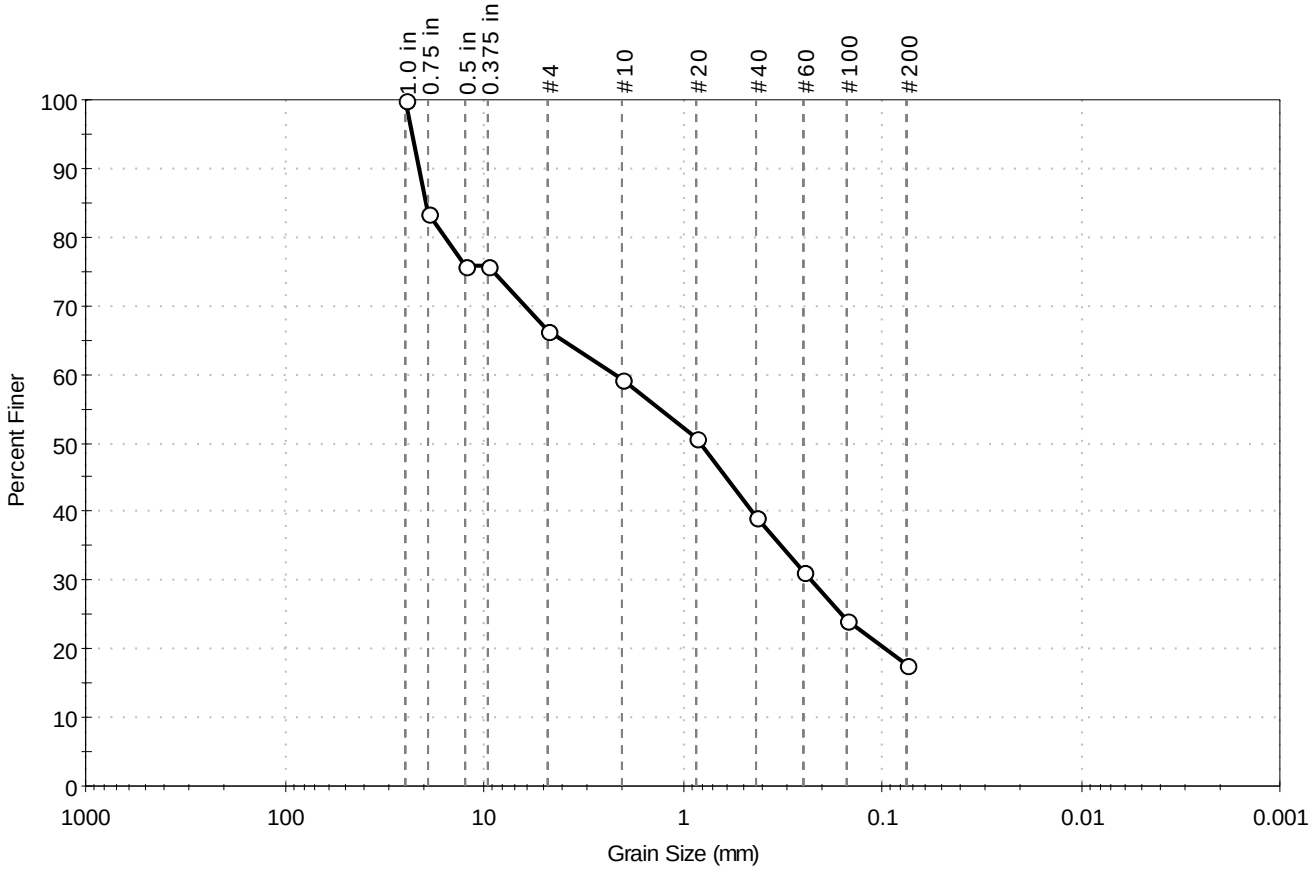
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	GA
Sample ID:	S2 + S3	Test Date:	11/11/16	Checked By:	emm
Depth :	3.0-7.0 ft	Test Id:	397702		
Test Comment:	---				
Visual Description:	Moist, very dark gray clayey sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	33.7	48.5	17.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.0 in	25.00	100		
0.75 in	19.00	84		
0.5 in	12.50	76		
0.375 in	9.50	76		
#4	4.75	66		
#10	2.00	59		
#20	0.85	51		
#40	0.42	39		
#60	0.25	31		
#100	0.15	24		
#200	0.075	18		

Coefficients

D_{85} = 19.4778 mm
D_{30} = 0.2285 mm
D_{60} = 2.1518 mm
D_{15} = N/A
D_{50} = 0.8121 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

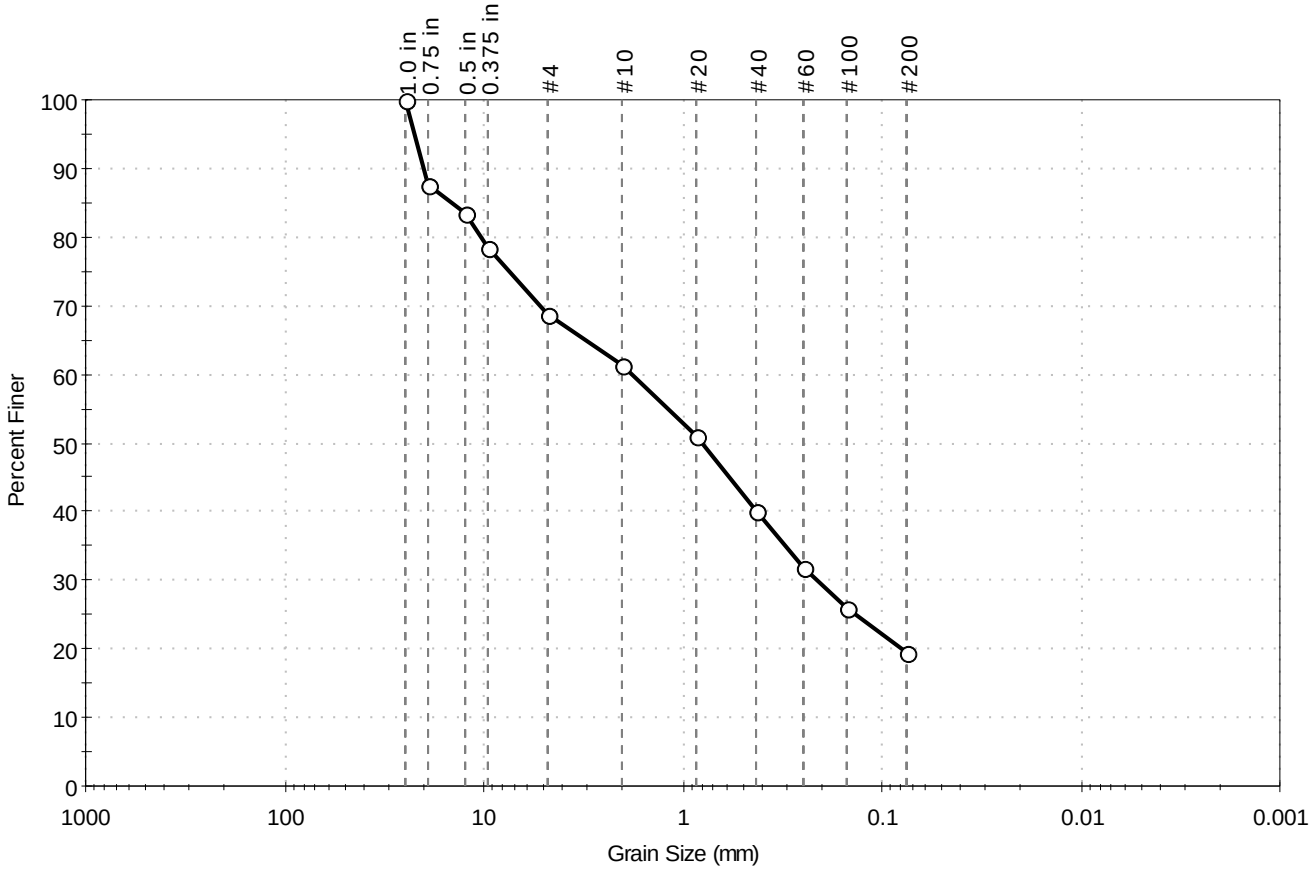
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-11	Sample Type:	jar	Tested By:	GA
Sample ID:	S2	Test Date:	11/11/16	Checked By:	emm
Depth :	3.0-4.9 ft	Test Id:	397705		
Test Comment:	---				
Visual Description:	Moist, brownish gray silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	31.1	49.4	19.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.0 in	25.00	100		
0.75 in	19.00	88		
0.5 in	12.50	83		
0.375 in	9.50	79		
#4	4.75	69		
#10	2.00	61		
#20	0.85	51		
#40	0.42	40		
#60	0.25	32		
#100	0.15	26		
#200	0.075	19		

Coefficients

D_{85} = 14.7198 mm D_{30} = 0.2144 mm

D_{60} = 1.8005 mm D_{15} = N/A

D_{50} = 0.7899 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

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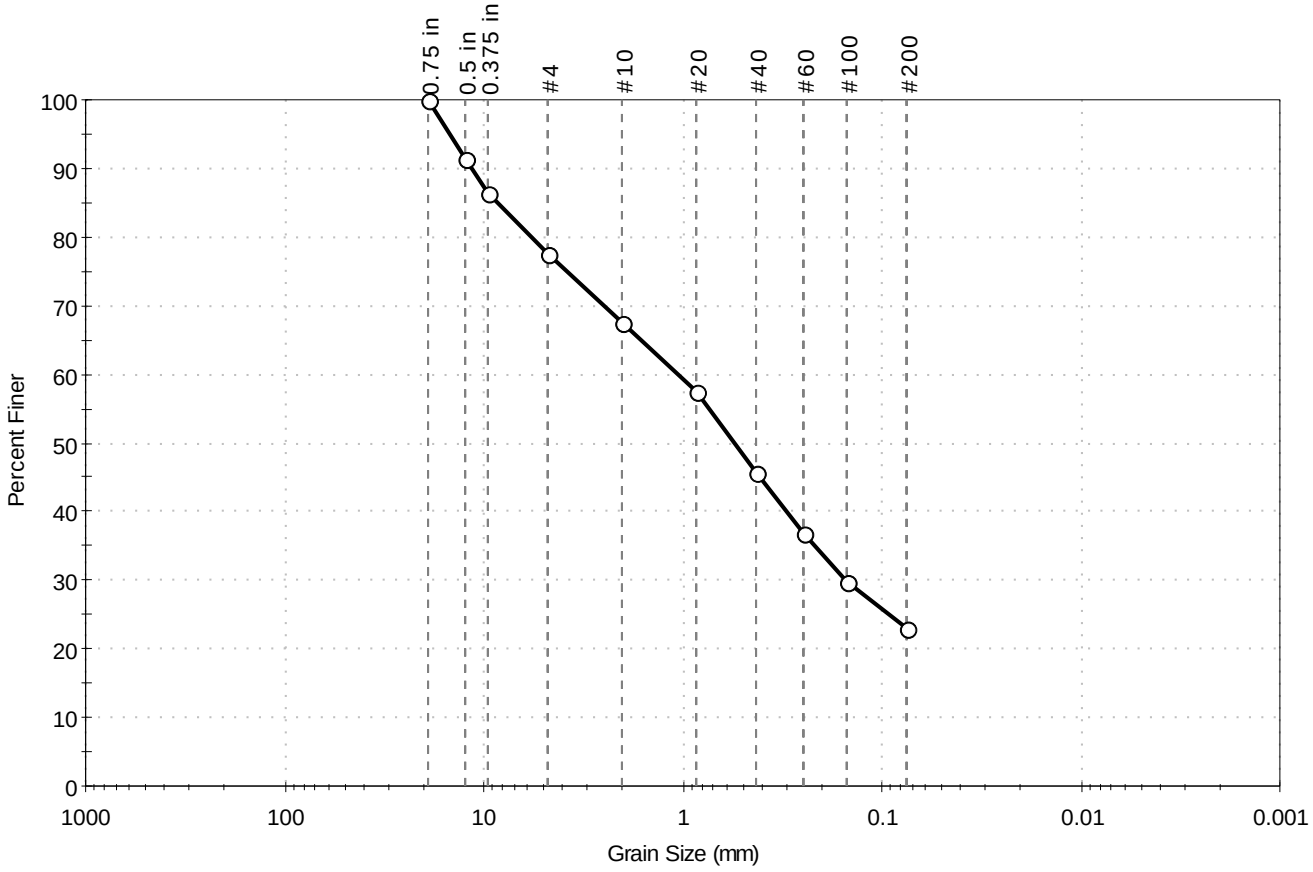
Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-11	Sample Type:	jar	Tested By:	GA
Sample ID:	S5 + S6	Test Date:	11/11/16	Checked By:	emm
Depth :	10.5-14.5 ft	Test Id:	397703		
Test Comment:	---				
Visual Description:	Moist, very dark gray clayey sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	22.4	54.6	23.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	91		
0.375 in	9.50	87		
#4	4.75	78		
#10	2.00	68		
#20	0.85	57		
#40	0.42	46		
#60	0.25	37		
#100	0.15	30		
#200	0.075	23		

Coefficients

D_{85} = 8.4315 mm
D_{30} = 0.1523 mm
D_{60} = 1.0562 mm
D_{15} = N/A
D_{50} = 0.5476 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

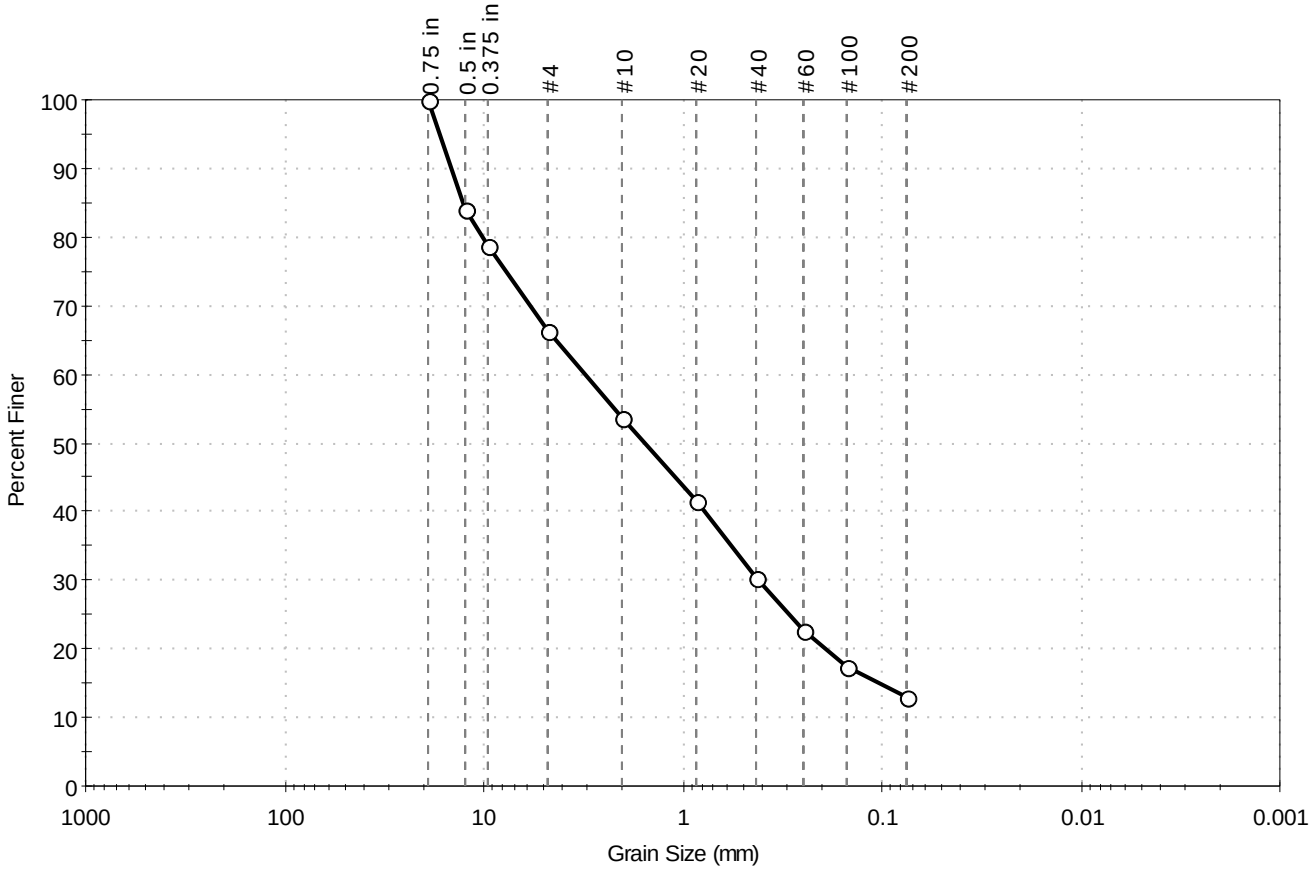
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Client:	Haley & Aldrich, Inc.				
Project:	Portland Square Development				
Location:	Portland, ME			Project No:	GTX-305581
Boring ID:	HA16-13	Sample Type:	jar	Tested By:	GA
Sample ID:	S2	Test Date:	11/11/16	Checked By:	emm
Depth :	3.0-5.0 ft	Test Id:	397704		
Test Comment:	---				
Visual Description:	Moist, very dark gray silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	33.6	53.6	12.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	84		
0.375 in	9.50	79		
#4	4.75	66		
#10	2.00	54		
#20	0.85	42		
#40	0.42	30		
#60	0.25	23		
#100	0.15	17		
#200	0.075	13		

Coefficients

D_{85} = 12.8354 mm
D_{30} = 0.4118 mm
D_{60} = 3.0747 mm
D_{15} = 0.1037 mm
D_{50} = 1.5425 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

WARRANTY and LIABILITY

GeoTesting Express (GTX) warrants that all tests it performs are run in general accordance with the specified test procedures and accepted industry practice. GTX will correct or repeat any test that does not comply with this warranty. GTX has no specific knowledge as to conditioning, origin, sampling procedure or intended use of the material.

GTX may report engineering parameters that require us to interpret the test data. Such parameters are determined using accepted engineering procedures. However, GTX does not warrant that these parameters accurately reflect the true engineering properties of the *in situ* material. Responsibility for interpretation and use of the test data and these parameters for engineering and/or construction purposes rests solely with the user and not with GTX or any of its employees.

GTX's liability will be limited to correcting or repeating a test which fails our warranty. GTX's liability for damages to the Purchaser of testing services for any cause whatsoever shall be limited to the amount GTX received for the testing services. GTX will not be liable for any damages, or for any lost benefits or other consequential damages resulting from the use of these test results, even if GTX has been advised of the possibility of such damages. GTX will not be responsible for any liability of the Purchaser to any third party.

Commonly Used Symbols

A	pore pressure parameter for $\Delta\sigma_1 - \Delta\sigma_3$
B	pore pressure parameter for $\Delta\sigma_3$
CAI	CERCHAR Abrasiveness Index
CIU	isotropically consolidated undrained triaxial shear test
CR	compression ratio for one dimensional consolidation
CSR	cyclic stress ratio
C_c	coefficient of curvature, $(D_{30})^2 / (D_{10} \times D_{60})$
C_u	coefficient of uniformity, D_{60}/D_{10}
C_c	compression index for one dimensional consolidation
C_α	coefficient of secondary compression
c_v	coefficient of consolidation
c	cohesion intercept for total stresses
c'	cohesion intercept for effective stresses
D	diameter of specimen
D	damping ratio
D_{10}	diameter at which 10% of soil is finer
D_{15}	diameter at which 15% of soil is finer
D_{30}	diameter at which 30% of soil is finer
D_{50}	diameter at which 50% of soil is finer
D_{60}	diameter at which 60% of soil is finer
D_{85}	diameter at which 85% of soil is finer
d_{50}	displacement for 50% consolidation
d_{90}	displacement for 90% consolidation
d_{100}	displacement for 100% consolidation
E	Young's modulus
e	void ratio
e_c	void ratio after consolidation
e_o	initial void ratio
G	shear modulus
G_s	specific gravity of soil particles
H	height of specimen
H_R	Rebound Hardness number
i	gradient
I_S	Uncorrected point load strength
$I_{S(50)}$	Size corrected point load strength index
H_A	Modified Taber Abrasion
H_T	Total hardness
K_o	lateral stress ratio for one dimensional strain
k	permeability
LI	Liquidity Index
m_v	coefficient of volume change
n	porosity
PI	plasticity index
P_c	preconsolidation pressure
p	$(\sigma_1 + \sigma_3) / 2$, $(\sigma_v + \sigma_h) / 2$
p'	$(\sigma'_1 + \sigma'_3) / 2$, $(\sigma'_v + \sigma'_h) / 2$
p'_c	p' at consolidation
Q	quantity of flow
q	$(\sigma_1 - \sigma_3) / 2$
q_f	q at failure
q_o, q_i	initial q
q_c	q at consolidation
S_r	Post cyclic undrained shear strength
T	temperature
t	time
U, UC	unconfined compression test
UU, Q	unconsolidated undrained triaxial test
u_a	pore gas pressure
u_e	excess pore water pressure
u, u_w	pore water pressure
V	total volume
V_g	volume of gas
V_s	volume of solids
V_s	shear wave velocity
V_v	volume of voids
V_w	volume of water
V_o	initial volume
v	velocity
W	total weight
W_s	weight of solids
W_w	weight of water
w	water content
w_c	water content at consolidation
w_f	final water content
w_l	liquid limit
w_n	natural water content
w_p	plastic limit
w_s	shrinkage limit
w_o, w_i	initial water content
α	slope of q_f versus p_f
α'	slope of q_f versus p_f'
γ_t	total unit weight
γ_d	dry unit weight
γ_s	unit weight of solids
γ_w	unit weight of water
ε	strain
ε_{vol}	volume strain
ε_h, ε_v	horizontal strain, vertical strain
μ	Poisson's ratio, also viscosity
σ	normal stress
σ'	effective normal stress
σ_c, σ'_c	consolidation stress in isotropic stress system
σ_h, σ'_h	horizontal normal stress
σ_v, σ'_v	vertical normal stress
σ'_{vc}	Effective vertical consolidation stress
σ_1	major principal stress
σ_2	intermediate principal stress
σ_3	minor principal stress
τ	shear stress
φ	friction angle based on total stresses
φ'	friction angle based on effective stresses
φ'_r	residual friction angle
φ_{ult}	φ for ultimate strength

APPENDIX C

Observation Well Installation and Groundwater Monitoring Reports

HALEY ALDRICH

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

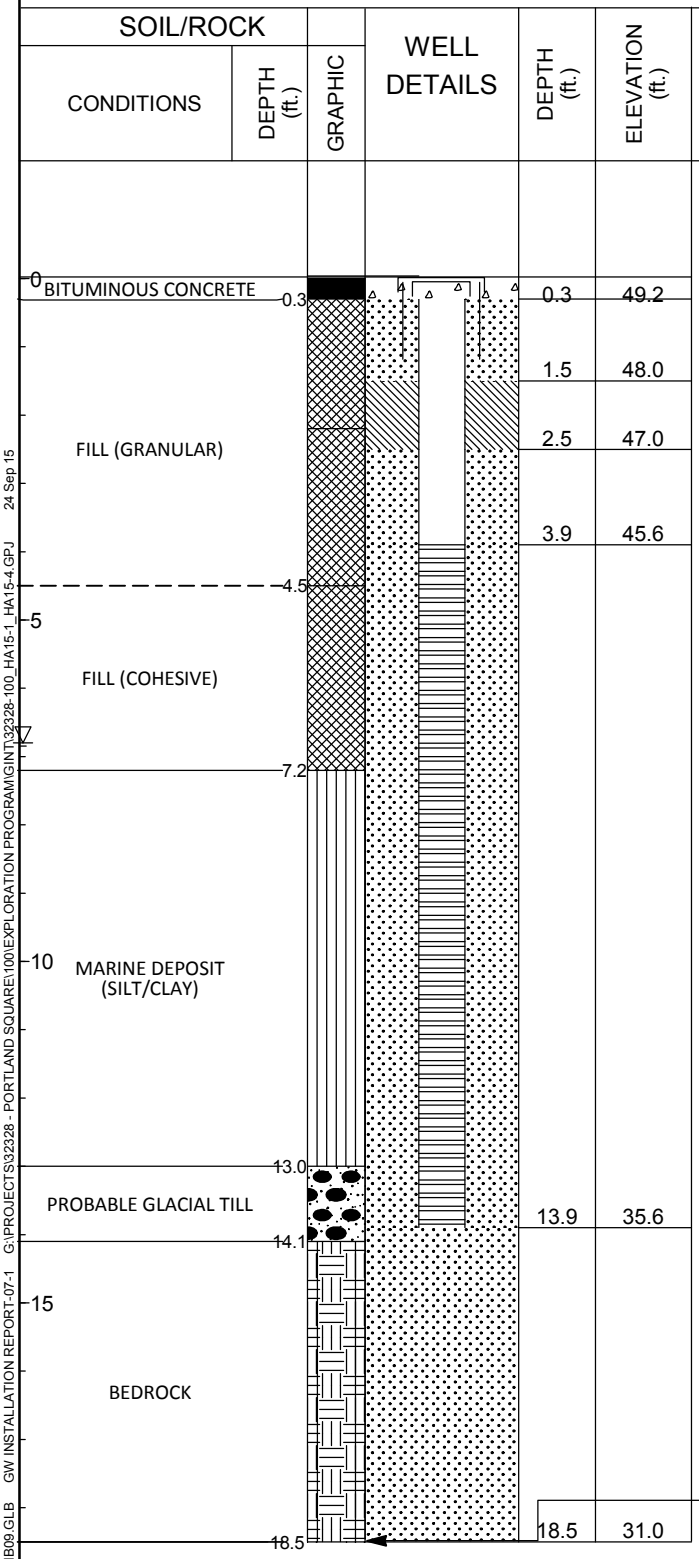
Well No. HA15-1(OW)
Boring No. HA15-1(OW)

Project	Portland Square Development
Location	Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors
Driller	C. Dupuis
Initial Water Level (depth bgs)	6.8 ft

Well Diagram: Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

File No. 32328-100
Date Installed 11 Aug 2015
H&A Rep. K. Russ
Location See Plan

Ground El. 49.5
Datum Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	EMCO Hex. Bolt
Depth of Roadway Box below ground surface	0.0 ft
Depth of top of riser below ground surface	0.6 ft
Type of protective casing	Roadway Box
Length	0.8 ft
Inside diameter	6.0 in.
Depth of bottom of Roadway Box	0.8 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	1.0 in.
Depth of bottom of riser pipe	3.9 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Cold Patch	0.0	0.3
Bentonite	1.5	1.0
	-	-
	-	-

Diameter of borehole	3.0 in.
Depth to top of well screen	3.9 ft
Type of screen	Machine slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	1.0 in.
Type of Backfill around Screen	Filter Sand
Depth to bottom of well screen	13.9 ft
Bottom of silt trap	0.0 ft
Depth of bottom of borehole	18.5 ft

COMMENTS:

HA-LIB09.GLB GW INSTALLATION REPORT-07-1 G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

HALEY ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA15-1(OW)

PROJECT	Portland Square Development	**H&A FILE NO.**	32328-100
LOCATION	Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	Winton Scott Architects	**FIELD REP.**	K. Russ
CONTRACTOR	New England Boring Contractors	**DATE**	8/11/2015

ELEVATION OF REFERENCE POINT 49.5 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
8/11/2015	13:30	0	6.8	42.7		KAR
8/12/2015	9:29	1	9.3	40.2		KAR
8/12/2015	18:49	1	9.3	40.2		KAR
9/1/2015	7:35	21	9.7	39.8		MLS
9/14/2015	11:44	34	9.8	39.7		KAR
6/17/2016	14:57	311	8.8	40.7		KAR
10/3/2016	15:10	419	10.4	39.2		RAE
10/10/2016	15:20	426	10.5	39.1		RAE
10/17/2016	8:04	433	10.5	39.0		RAE
12/6/2016	13:55	483	8.7	40.8		KAR

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

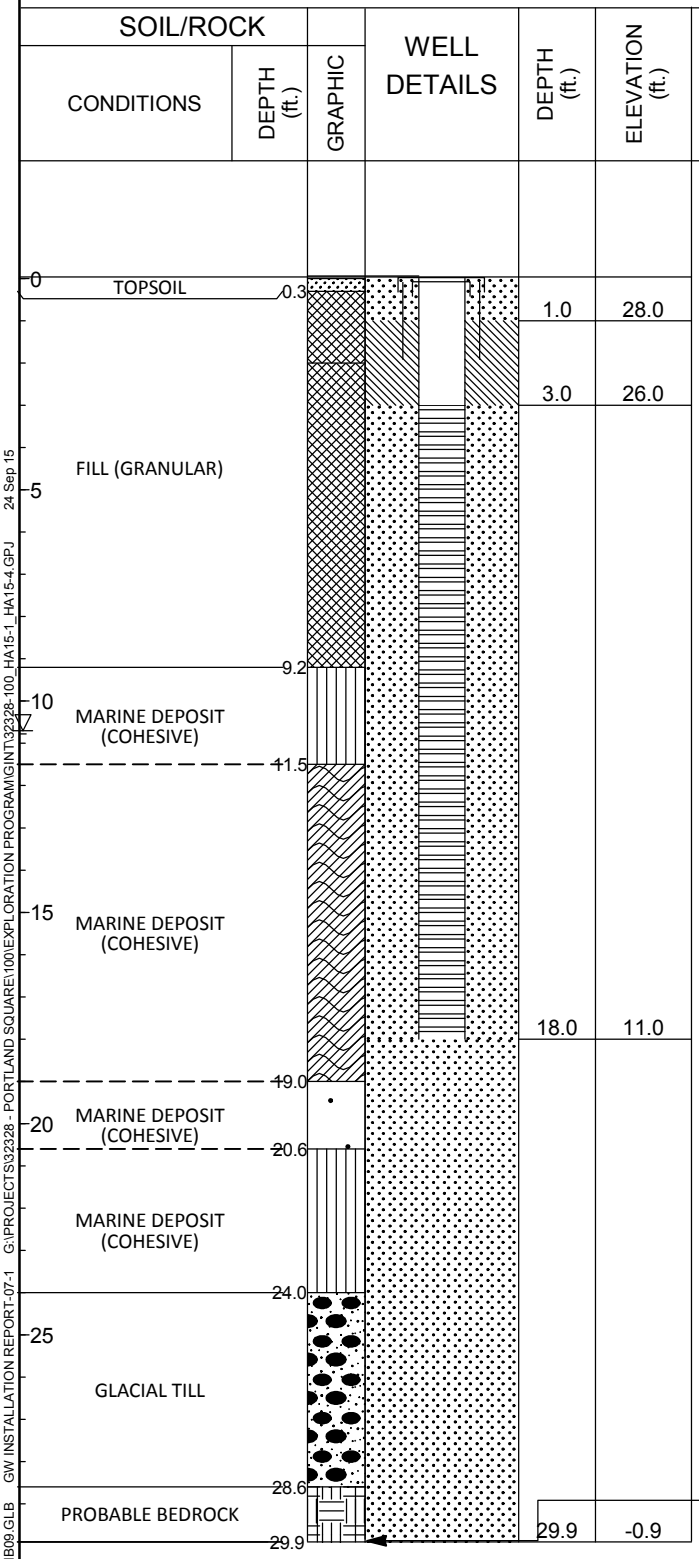
Well No. HA15-2(OW)
Boring No. HA15-2(OW)

Project	Portland Square Development
Location	Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors
Driller	C. Dupuis
Initial Water Level (depth bgs)	10.7 ft

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

File No. 32328-100
Date Installed 12 Aug 2015
H&A Rep. K. Russ
Location See Plan

Ground El. 29.0
Datum Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	EMCO Hex. Bolt
Depth of Roadway Box below ground surface	0.0 ft
Depth of top of riser below ground surface	0.2 ft
Type of protective casing	Roadway Box
Length	0.8 ft
Inside diameter	6.0 in.
Depth of bottom of Roadway Box	0.8 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	1.0 in.
Depth of bottom of riser pipe	3.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite	1.0	2.0
	-	-
	-	-
	-	-

Diameter of borehole	3.0 in.
Depth to top of well screen	3.0 ft
Type of screen	Machine slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	1.0 in.
Type of Backfill around Screen	Filter Sand
Depth to bottom of well screen	18.0 ft
Bottom of silt trap	0.0 ft
Depth of bottom of borehole	29.9 ft

COMMENTS:

HA-LIB09.GLB GW INSTALLATION REPORT-07-1 G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

HALEY ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA15-2(OW)

PROJECT	Portland Square Development	**H&A FILE NO.**	32328-100
LOCATION	Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	Winton Scott Architects	**FIELD REP.**	K. Russ
CONTRACTOR	New England Boring Contractors	**DATE**	8/12/2015

ELEVATION OF REFERENCE POINT 29.0 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
8/12/2015	11:45	0	9.8	19.2	Initial reading after installation	KAR
8/12/2015	16:50	0	10.7	18.3		KAR
9/1/2015	7:20	20	12.2	16.8		MLS
9/14/2015	11:24	33	12.2	16.8		KAR
6/17/2016	14:27	310	10.8	18.2	level logger installed	KAR
10/3/2016	16:22	418	12.7	16.3		RAE
10/10/2016	15:28	425	12.8	16.2		RAE
10/17/2016	8:10	432	12.8	16.2		RAE
12/6/2016	13:40	482	9.4	19.6	level logger removed	KAR

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

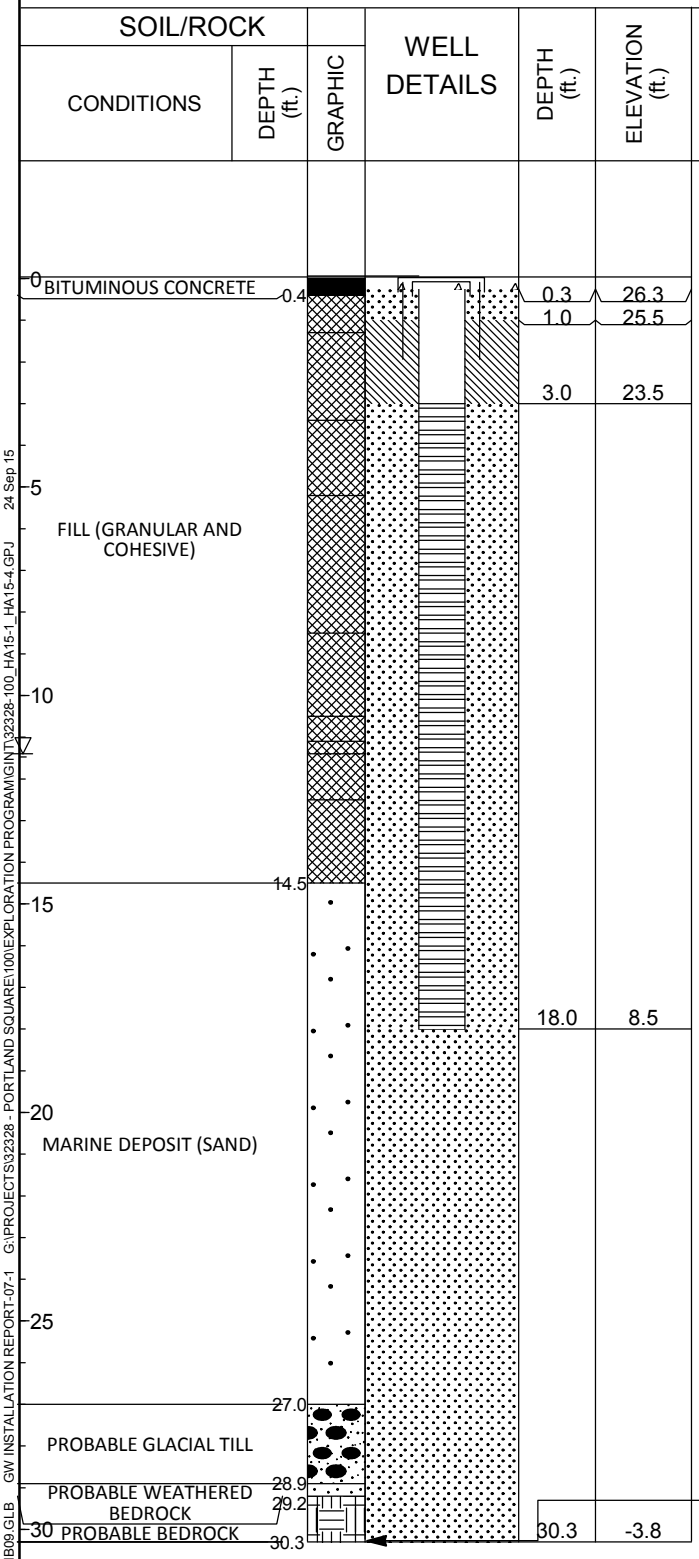
Well No. HA15-3(OW)
Boring No. HA15-3(OW)

Project	Portland Square Development
Location	Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors
Driller	C. Dupuis
Initial Water Level (depth bgs)	11.4 ft

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

File No. 32328-100
Date Installed 12 Aug 2015
H&A Rep. K. Russ
Location See Plan

Ground El. 26.5
Datum Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	EMCO Hex. Bolt
Depth of Roadway Box below ground surface	0.0 ft
Depth of top of riser below ground surface	0.3 ft
Type of protective casing	Roadway Box
Length	0.8 ft
Inside diameter	6.0 in.
Depth of bottom of Roadway Box	0.8 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	1.0 in.
Depth of bottom of riser pipe	3.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Cold Patch	0.0	0.3
Bentonite	1.0	2.0
	-	-
	-	-

Diameter of borehole	3.0 in.
Depth to top of well screen	3.0 ft
Type of screen	Machine slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	1.0 in.
Type of Backfill around Screen	Filter Sand
Depth to bottom of well screen	18.0 ft
Bottom of silt trap	0.0 ft
Depth of bottom of borehole	30.3 ft

COMMENTS:

HA-LIB09.GLB GW INSTALLATION REPORT-07-1 G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

HALEY ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA15-3(OW)

PROJECT	Portland Square Development	**H&A FILE NO.**	32328-100
LOCATION	Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	Winton Scott Architects	**FIELD REP.**	K. Russ
CONTRACTOR	New England Boring Contractors	**DATE**	8/12/2015

ELEVATION OF REFERENCE POINT 26.5 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
8/12/2015	17:50	0	11.4	15.1	Initial reading after installation	KAR
9/1/2015	7:15	20	13.8	12.7		MLS
9/14/2015	11:32	33	14.0	12.5		KAR
6/17/2016	14:22	310	13.0	13.6		KAR
10/3/2016	15:51	418	14.3	12.2		RAE
10/10/2016	15:39	425	14.0	12.5		RAE
10/17/2016	8:14	432	14.1	12.4		RAE
12/6/2016	13:45	482	13.1	13.4		KAR

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

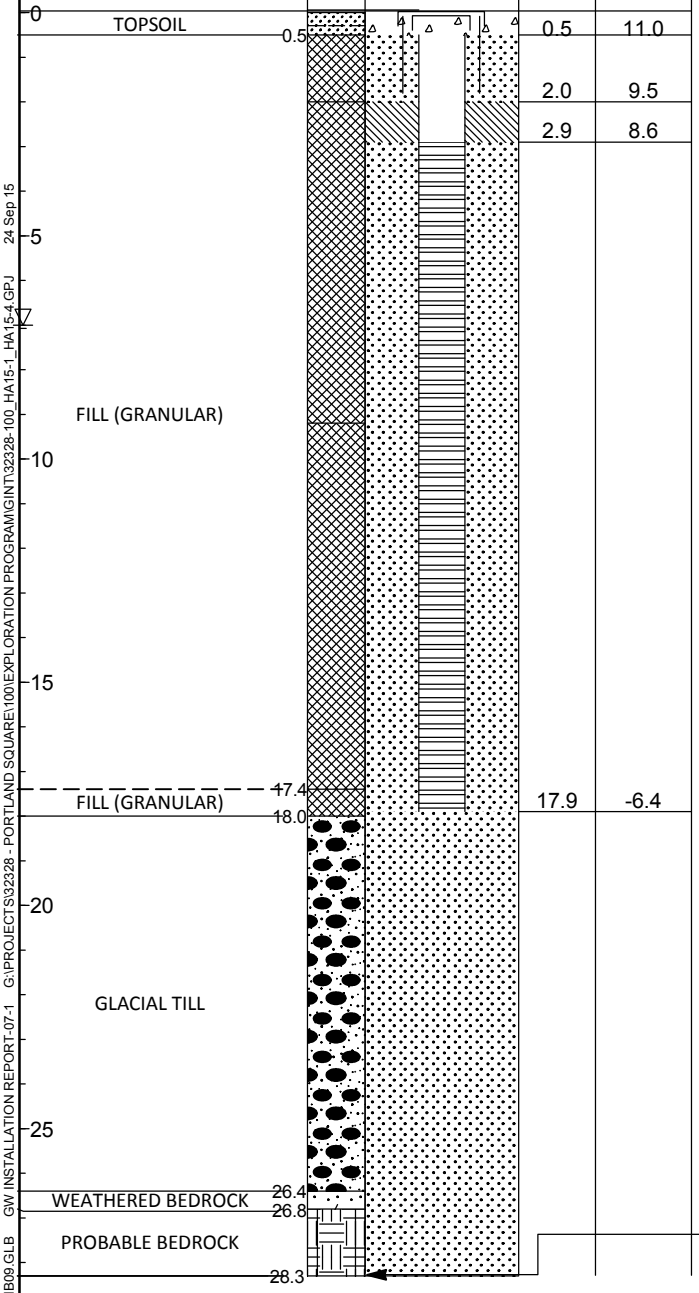
Well No. HA15-4(OW)
Boring No. HA15-4(OW)

Project	Portland Square Development
Location	Portland, Maine
Client	Winton Scott Architects
Contractor	New England Boring Contractors
Driller	C. Dupuis
Initial Water Level (depth bgs)	11.5 ft

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

File No. 32328-100
Date Installed 10 Aug 2015
H&A Rep. K. Russ
Location See Plan

Ground El. 11.5
Datum Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	EMCO Hex. Bolt
Depth of Roadway Box below ground surface	0.0 ft
Depth of top of riser below ground surface	0.2 ft
Type of protective casing	Roadway Box
Length	0.8 ft
Inside diameter	6.0 in.
Depth of bottom of Roadway Box	0.8 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	1.0 in.
Depth of bottom of riser pipe	2.9 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	0.5
Bentonite	2.0	1.0
	-	-
	-	-

Diameter of borehole	3.0 in.
Depth to top of well screen	2.9 ft
Type of screen	Machine slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	1.0 in.
Type of Backfill around Screen	Filter Sand
Depth to bottom of well screen	17.9 ft
Bottom of silt trap	0.0 ft
Depth of bottom of borehole	28.3 ft

COMMENTS:

HA-LIB09.GLB GW INSTALLATION REPORT-07-1 G:\PROJECTS\32328 - PORTLAND SQUARE\100\EXPLORATION PROGRAM\GINT\32328-100_HA15-1_HA15-4.GPJ 24 Sep 15

HALEY ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA15-4(OW)

PROJECT	Portland Square Development	**H&A FILE NO.**	32328-100
LOCATION	Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	Winton Scott Architects	**FIELD REP.**	K. Russ
CONTRACTOR	New England Boring Contractors	**DATE**	8/11/2015

ELEVATION OF REFERENCE POINT 11.5 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
8/11/2015	7:50	0	7.2	4.3		KAR
8/11/2015	13:40	0	7.1	4.4		KAR
8/11/2015	15:45	0	7.1	4.4	Rainy day	KAR
8/12/2015	9:12	1	7.1	4.4	Rainy day	KAR
8/12/2015	18:32	1	7.1	4.4		KAR
9/1/2015	7:45	21	7.4	4.1		MLS
9/14/2015	11:15	34	7.4	4.2		KAR
6/17/2016	14:02	311	6.81	4.7	level logger installed	KAR
10/3/2016	16:05	419	7.3	4.2		RAE
10/10/2016	15:49	426	7.4	4.1		RAE
10/17/2016	8:17	433	7.4	4.1		RAE
12/6/2016	13:30	483	7.0	4.5	level logger removed	KAR

APPENDIX D

Historic Sanborn Maps

Portland Square Development
Center Street-Cross Street Block
Portland, ME 04101

Inquiry Number: 4348218.1
July 08, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

7/08/15

Site Name:
Portland Square Development
Center Street-Cross Street
Portland, ME 04101

Client Name:
Haley & Aldrich, Inc.
75 Washington Ave.
Portland, ME 04101-2617

EDR Inquiry # 4348218.1

Contact: Dave Dearden

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Haley & Aldrich, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Portland Square Development
Address: Center Street-Cross Street Block
City, State, Zip: Portland, ME 04101
Cross Street:
P.O. # 32328-970
Project: Portland Square Development
Certification # 0A61-488A-B3E4

Maps Provided:

1988	1896
1986	1886
1980	
1954	
1949	
1909	

Sanborn® Library search results
Certification # 0A61-488A-B3E4

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

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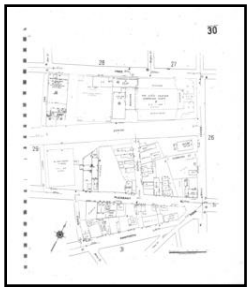
Volume 1, Sheet 26



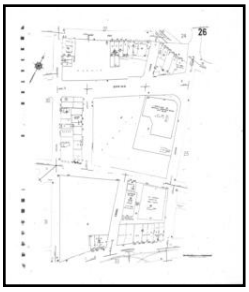
Volume 1, Sheet 30

Volume 1, Sheet 31

1986 Source Sheets

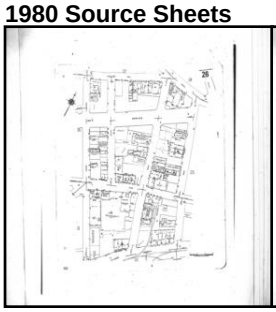
Volume 1, Sheet 30

Volume 1, Sheet 31



Volume 1, Sheet 26

1980 Source Sheets



Volume 1, Sheet 26

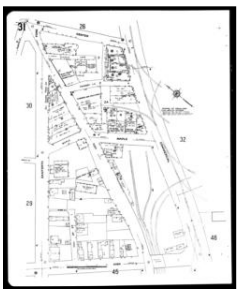
Volume 1, Sheet 30

Volume 1, Sheet 31

1954 Source Sheets

Volume 1, Sheet 26

Volume 1, Sheet 30



Volume 1, Sheet 31

1949 Source Sheets

Volume 1, Sheet 26

Volume 1, Sheet 30

Volume 1, Sheet 31

1909 Source Sheets

Volume 1, Sheet 26

Volume 1, Sheet 30

Volume 1, Sheet 31

1896 Source Sheets

Volume 1, Sheet 22

Volume 1, Sheet 23

Volume 1, Sheet 24

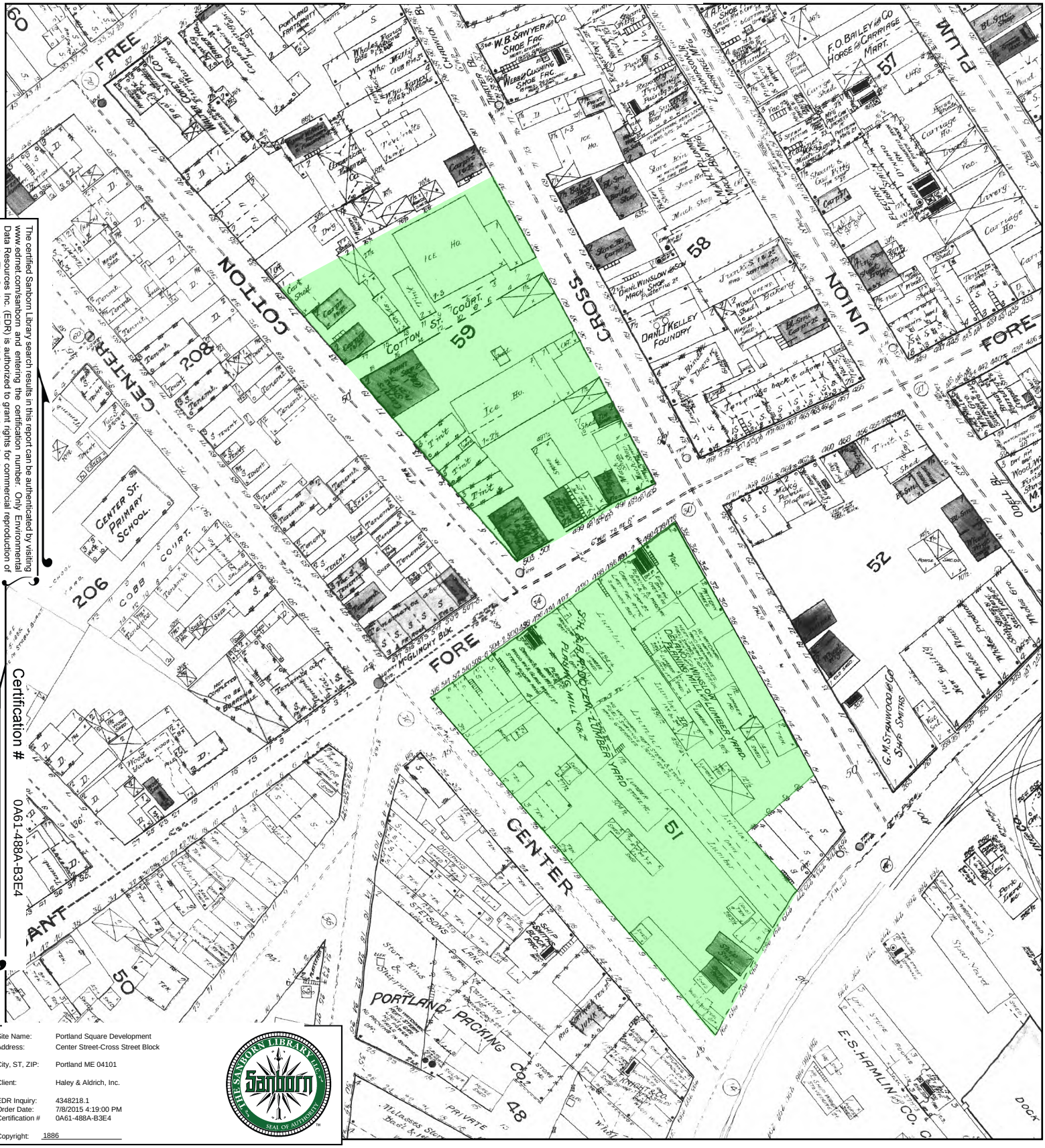
1886 Source Sheets

Volume 1, Sheet 8

Volume 1, Sheet 9

Volume 1, Sheet 23

1886 Certified Sanborn Map



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Certification # 0A61-488A-B3E4

Site Name:	Portland Square Development
Address:	Center Street-Cross Street Block
City, ST, ZIP:	Portland ME 04101
Client:	Haley & Aldrich, Inc.
EDR Inquiry:	4348218.1
Order Date:	7/8/2015 4:19:00 PM
Certification #	0A61-488A-B3E4
Copyright:	1886

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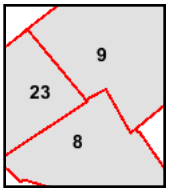

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Volume 1, Sheet 23

0 Feet 150 300 600

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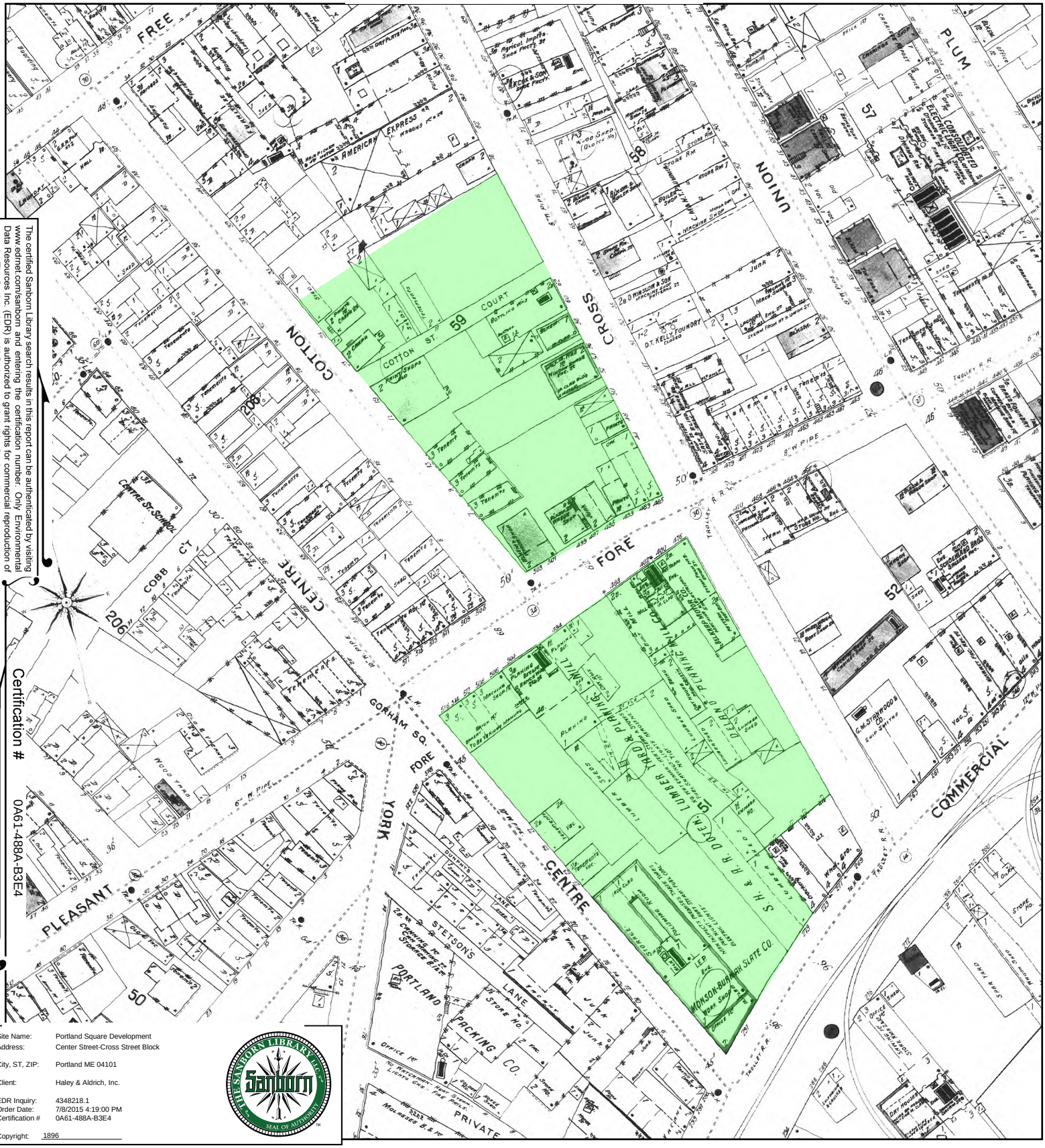
1896 Certified Sanborn Map



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Certification # 0A61-488A-B3E4

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Address:	Center Street-Cross Street Block
City, ST, ZIP:	Portland ME 04101
Client:	Haley & Aldrich, Inc.
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Order Date:	7/8/2015 4:19:00 PM
Certification #	0A61-488A-B3E4
Copyright:	1896

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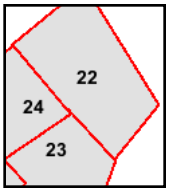

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Volume 1, Sheet 24

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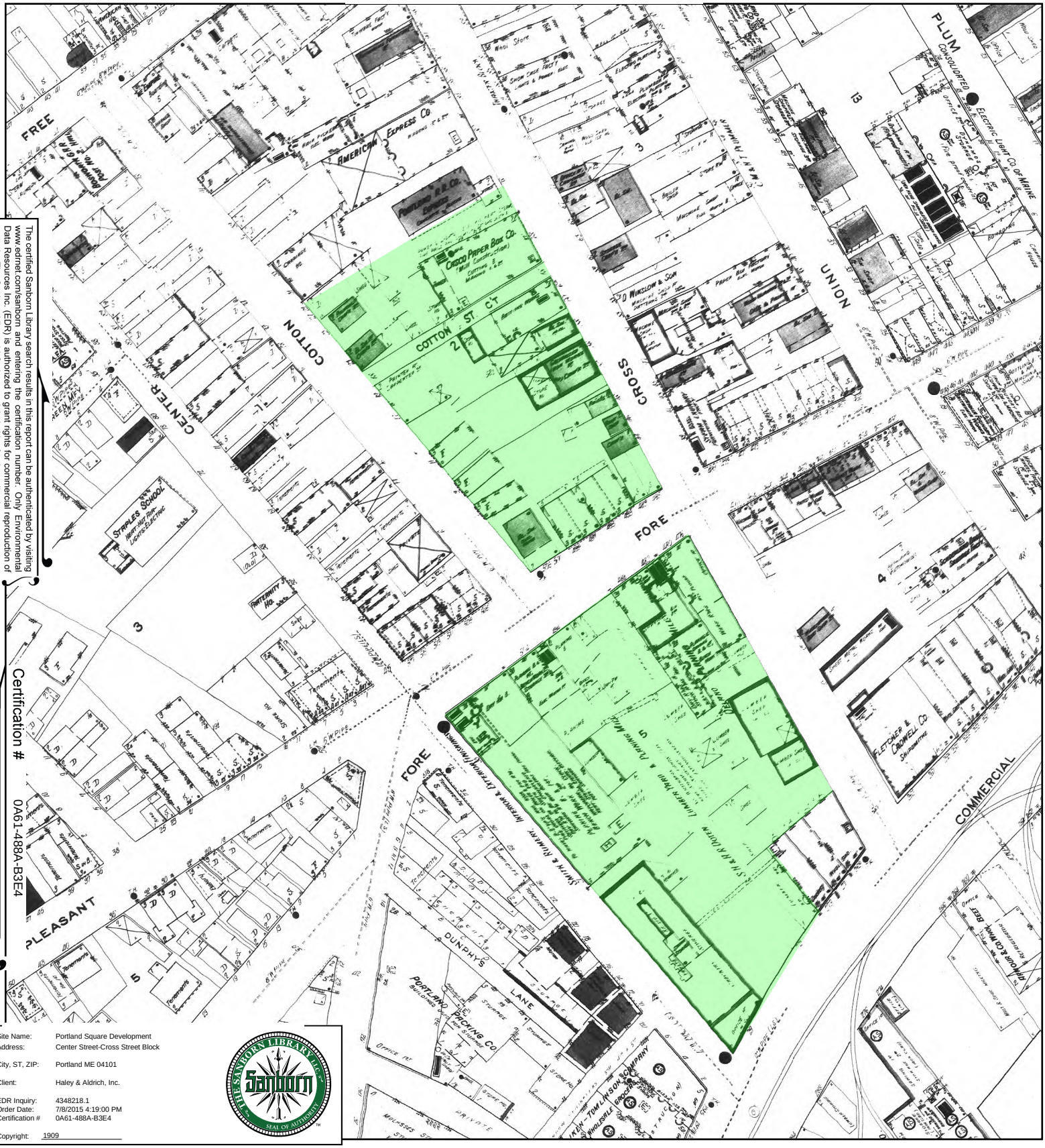
1909 Certified Sanborn Map



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Address:	Center Street-Cross Street Block
City, ST, ZIP:	Portland ME 04101
Client:	Haley & Aldrich, Inc.
EDR Inquiry:	4348218.1
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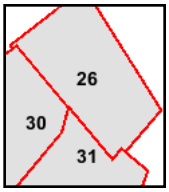

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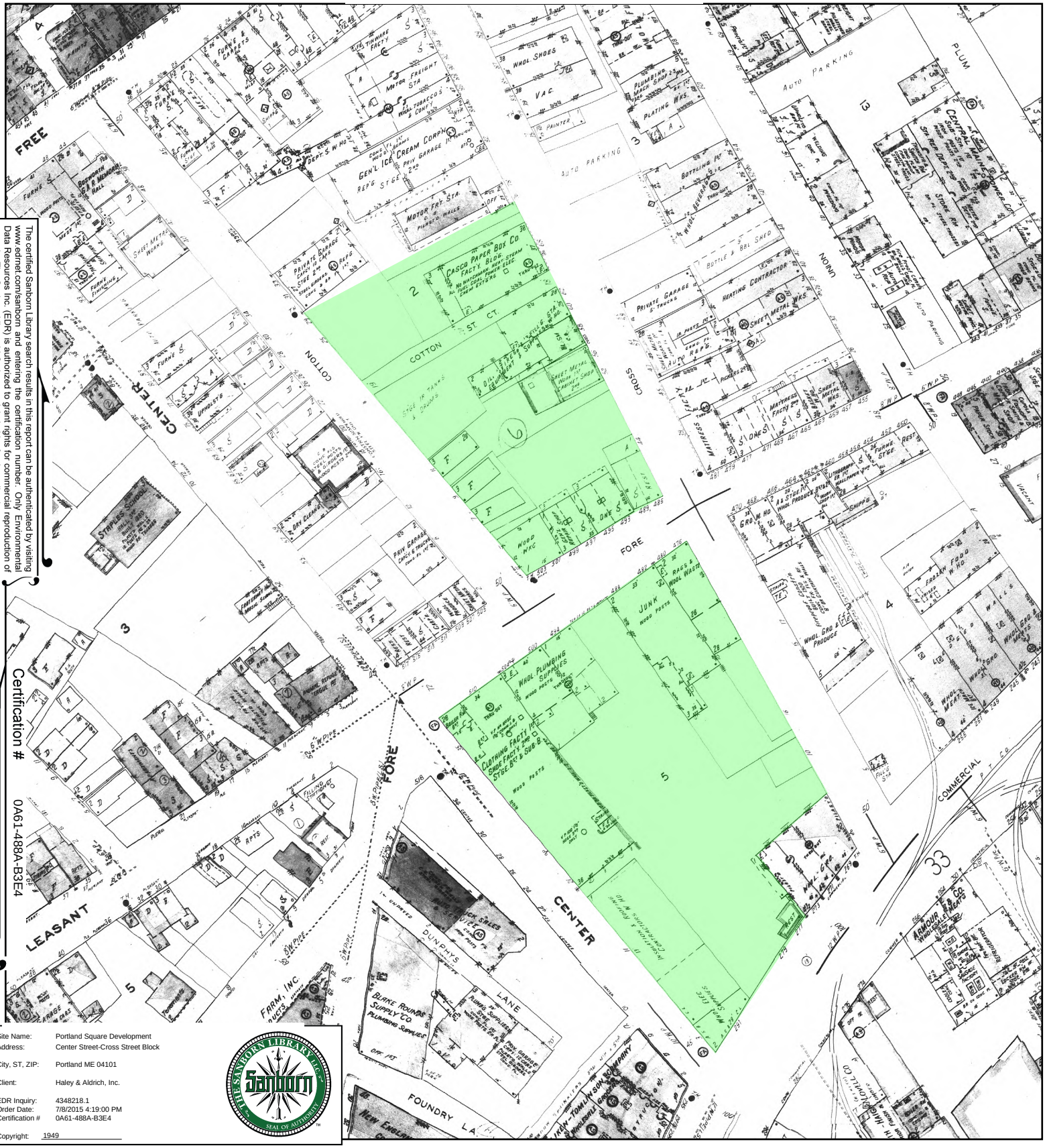
Volume 1, Sheet 30
Volume 1, Sheet 31

0 Feet 150 300 600

N

1949 Certified Sanborn Map



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Certification # 0A61-488A-B3E4

Site Name:	Portland Square Development
Address:	Center Street-Cross Street Block
City, ST, ZIP:	Portland ME 04101
Client:	Haley & Aldrich, Inc.
EDR Inquiry:	4348218.1
Order Date:	7/8/2015 4:19:00 PM
Certification #	0A61-488A-B3E4
Copyright:	1949

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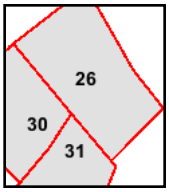

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Volume 1, Sheet 30
Volume 1, Sheet 31

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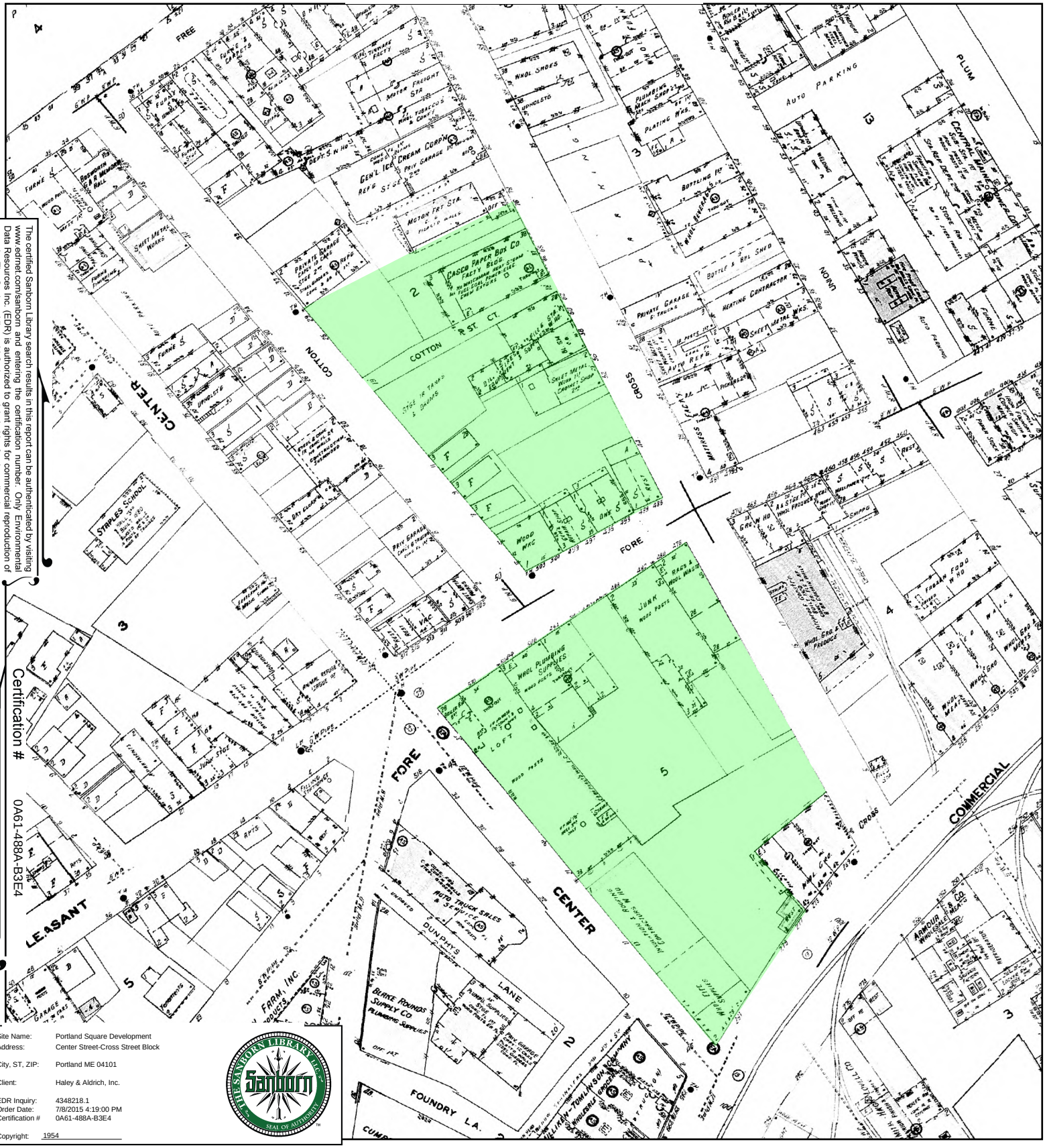
N

1954 Certified Sanborn Map



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Certification # 0A61-488A-B3E4

Site Name:	Portland Square Development
Address:	Center Street-Cross Street Block
City, ST, ZIP:	Portland ME 04101
Client:	Haley & Aldrich, Inc.
EDR Inquiry:	4348218.1
Order Date:	7/8/2015 4:19:00 PM
Certification #	0A61-488A-B3E4
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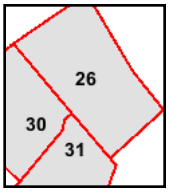

Volume 1, Sheet 26
Volume 1, Sheet 30
Volume 1, Sheet 31

0 Feet 150 300 600

N

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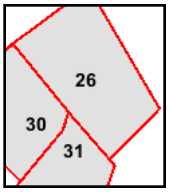

Volume 1, Sheet 26
Volume 1, Sheet 30
Volume 1, Sheet 31

0 Feet 150 300 600

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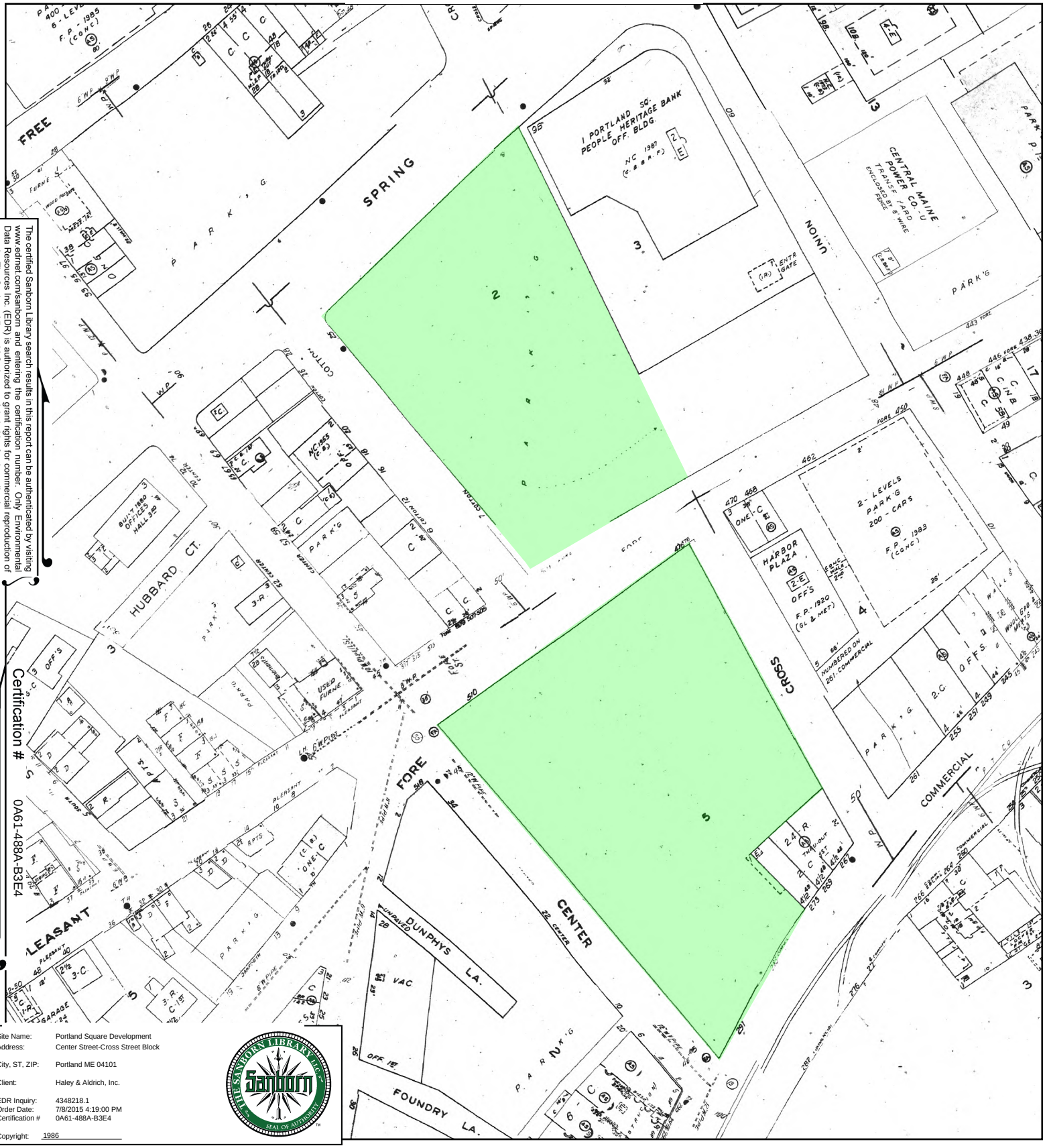
1986 Certified Sanborn Map



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EDR Inquiry:	4348218.1
Order Date:	7/8/2015 4:19:00 PM
Certification #	0A61-488A-B3E4
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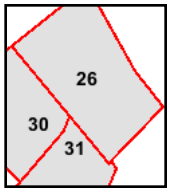

Volume 1, Sheet 30
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Volume 1, Sheet 26

0 Feet 150 300 600

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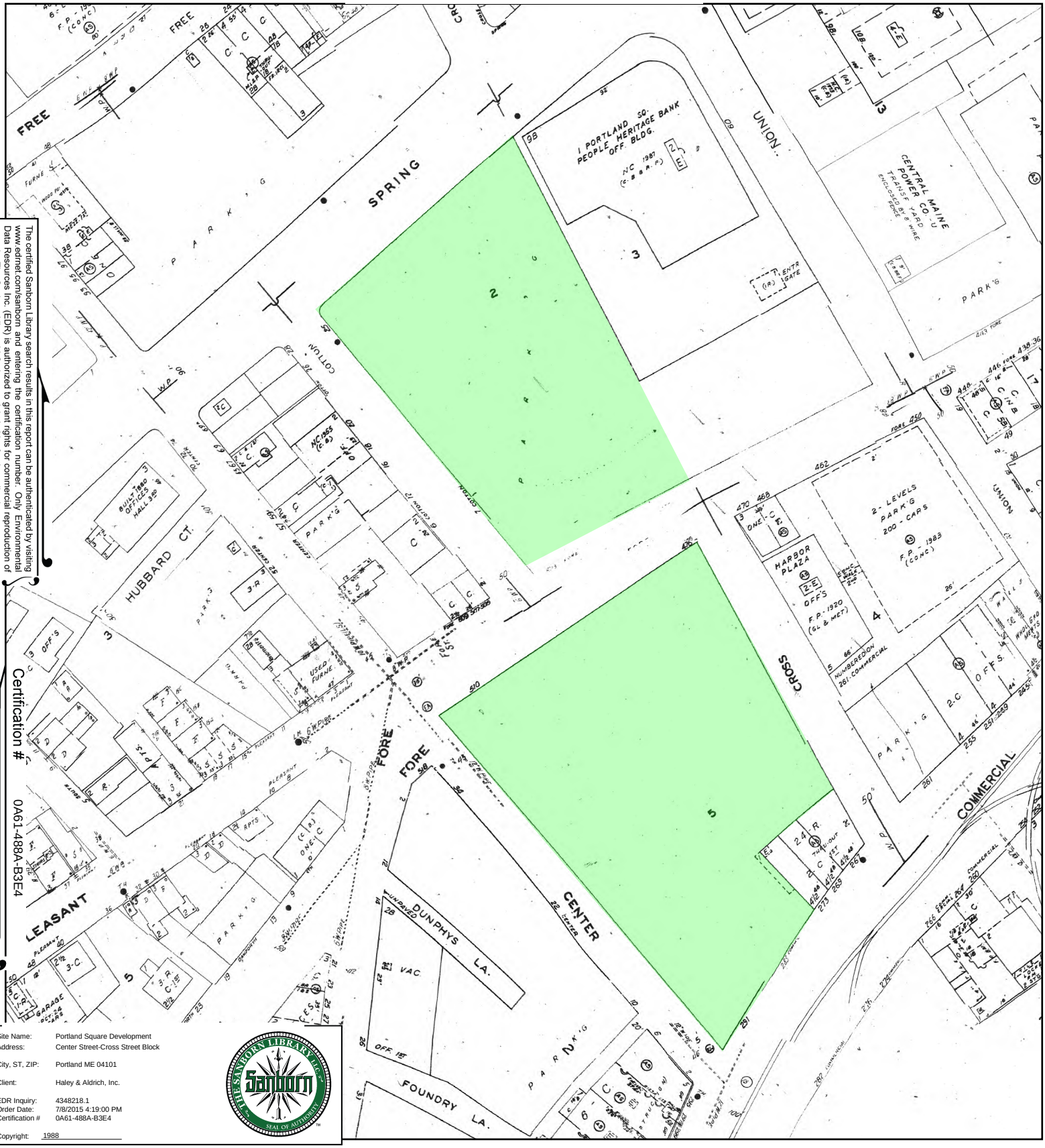
1988 Certified Sanborn Map



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Certification # 0A61-488A-B3E4

Site Name:	Portland Square Development
Address:	Center Street-Cross Street Block
City, ST, ZIP:	Portland ME 04101
Client:	Haley & Aldrich, Inc.
EDR Inquiry:	4348218.1
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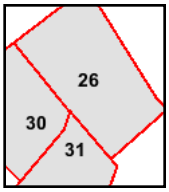

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Volume 1, Sheet 31

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12. STORMWATER

12.1 NARRATIVE

The proposed project complies with Section 5 of the City of Portland Technical Manual, Chapter 32 of the City of Portland Code of Ordinances, and the Maine DEP Chapter 500 Rules for water quality, stormwater management, and erosion control standards pursuant to Site Law for redevelopment projects.

12.2 EXISTING CONDITIONS

The 23,795 +/- square foot existing property, located in a highly developed urban environment, currently consists of a paved parking lot surrounded by a landscaped esplanade containing shrubs and trees. The site slopes from northwest to southeast towards Commercial Street, from approximately elevation 20' down to 11'.

In general, runoff from the entire Portland Square parcel drains via sheet flow in a southerly direction to a series of four catch basins that ultimately discharge to the separated storm drain in Center Street. Stormwater from the project site drains via sheet flow into an existing catch basin along the southern property line. This catch basin is the last structure in the drainage network of the larger parcel prior to discharge into the Center Street storm drain. There is no existing stormwater treatment on the site.

The separated storm drain located in Center Street connects to the combined sewer system located in Commercial Street (Lower Fore River Interceptor). The Lower Fore River Interceptor flows northeast through the Long Wharf Diversion Structure to the India Street Pumping Station where flow is pumped to the Portland Wastewater Treatment Plant.

12.3 PROPOSED DEVELOPMENT

The proposed hotel covers almost the entire site, as required per zoning setbacks. The site layout is shown in the Design Drawings attached to Section 1. The siting of the building will eliminate the landscaped esplanade space around the perimeter of the parking lot. An approximately 5,000 square-foot green roof is proposed on the northeastern corner of the hotel's ground floor. The landscaped design of the green roof is shown on the landscape plan included in the Design Drawings attached to Section 1. While some existing perimeter landscaping will be removed, a greater area of new landscaping is proposed to provide an improved landscaped space on the redeveloped property. Due to the addition of a green roof, the project will result a net reduction of impervious area by approximately 2,200 square feet. The proposed project will not disturb more than one acre of area. The following table provides a breakdown of the impervious and pervious surfaces.

Table 12-1: Center Street Hotel Surface Cover Breakdown

	Pervious Surface (SF)	Impervious Surface (SF)			Total Area (SF)
		Roof	Non-Roof	Total	
Existing	4,875	0	21,845	21,845	26,720
Proposed	5,090	18,050	3,580	21,630	26,720

Stormwater runoff generated from the roof of the hotel will be conveyed by roof drains to a subsurface stormwater storage system consisting of R-Tanks. The R-Tanks will release this stormwater to a proprietary stormwater treatment system called a Kraken. The proposed subsurface stormwater treatment and storage systems will be installed off the hotel property on the adjacent access easement driveway and are discussed in further detail in the following sections.

12.3.1 Portland Square Interim Drainage

Parking restriping, lighting and drainage improvements are proposed on the adjacent parcel as a result of the proposed hotel construction in order to maintain functionality of the existing surface parking lot, as shown on the design drawings attached to Section 1. Construction access easements will be procured prior to commencement of this work on the lower lot of Portland Square.

Drainage patterns for the western portion of the lower lot of Portland Square will remain similar to pre-development conditions, except that drainage from the parking lot will not be allowed to continue onto the hotel property. Runoff from the western portion of the lot will be captured by an existing catch basin and a new catch basin to be installed adjacent to the proposed hotel parcel. The proposed catch basin will tie into an existing manhole in the separated storm drain in Center Street. This drainage system will also collect runoff from an area of land located northeast of the hotel. This area will be disturbed during construction of the hotel and restored with loam and seed and catch basins to collect the runoff.

Runoff from the eastern portion of the lower lot of Portland Square will be captured by two existing catch basins; stormwater from this portion of the lot will be redirected into a new manhole to the separated storm drain in Cross Street. This manhole will be strategically positioned for potential future connection from the lower lot's stormwater management system. Therefore, runoff from the eastern portion of the lower lot that previously sheet flowed toward the combined sewer on Commercial Street will be captured and redirected to a separated storm sewer on Cross Street.

12.4 STORMWATER STANDARDS

The project will comply with the Basic, General, and Flooding standards as outlined in Maine DEP Chapter 500 Stormwater Management Rules. The project is not located within the watershed of an Urban Impaired Stream and will not be subject to that standard. The following sections describe the proposed compliance with applicable stormwater standards.

12.4.1 Basic Standard

Erosion and sedimentation control measures will be utilized during construction to ensure that the work will not result in the release of sediment off-site. Details for all proposed erosion and sedimentation control measures are included in the engineering plan set submitted with this application. The plans include a narrative and construction details describing the plan for all temporary and permanent erosion control techniques to be utilized on this project in accordance with MaineDEP Erosion Control Best Management Practices. The Erosion and Sedimentation Control Plan for the proposed project is summarized in further detail in Section 14 of this Report.

12.4.2 General Standard

An impact analysis was conducted for the proposed redevelopment project to determine treatment requirements based on land use and pollutant rankings provided in Table 2 of Maine DEP Chapter 500 Rules. The existing site is largely comprised of a high use paved surface parking lot (pollutant ranking 5). The proposed site will primarily be comprised of flat building roof and green roof landscaping (pollutant ranking 3). The ranked impact change is -1.86, and the project is being permitted under Site Law; therefore, 50 percent of the developed area must be treated in accordance with Table 3 in Chapter 500. A Kraken filter system with below-grade R-Tanks for water quality volume storage has been selected as the water quality treatment BMP for the Site.

Alternative stormwater management methods were considered, including green roof. The green roof option was eliminated due to significant structural design and building cost implications. Above-grade storage systems, like

underdrained soil filters and rain gardens, were ruled out as there is limited available space on the Site due to zoning setback requirements.

R-Tank

Adequate provisions have been made to direct stormwater runoff from the building roof, and the paved sidewalk and driveway to the underground R-Tank storage system. The R-Tanks will be installed in the service driveway next to the hotel. The R-Tanks will store the water quality volume, but have been sized to pass all stormwater from the building roof and adjacent sidewalk and driveway. We have been working with ACF Environmental to determine the appropriate size and layout that is required for the site. This design is shown on the drawings.

Kraken Stormwater Filter

The Kraken Filter is a proprietary system which is similar to other systems that have been approved for use by the MaineDEP but is not currently an approved BMP. We have been communicating with Aubrey Strause from the Maine DEP about the potential use of this system on the project, and we understand that it can be considered as an "innovative treatment option" and will be reviewed by the City's peer review engineer, Wright-Pierce with some guidance from the DEP.

The proposed Kraken Filter has been sized to meet the MaineDEP standards to treat a minimum Water Quality Volume of 1-inch runoff from a minimum 50 percent of the redeveloped area. The KF-4-4 model with 16 cartridges was selected, which has the treatment flow capacity of 0.3 CFS. The attached HyrdoCAD sizing model uses a 1-inch storm event, and assumes treatment of impervious surface, showing that the system will treat 14,900 SF of area, which is approximately 56% of the site.

While treatment will be provided for this flow, all of the site's flow will be directed through the system, which has an integrated bypass weir. BioClean provided Woodard & Curran with hydraulic grade line/discharge rate data for the proposed Kraken, and this was used to model the system in HydroCAD. Please see attached HydroCAD analysis and documentation from BioClean demonstrating that the filter has been adequately sized to treat the required Water Quality Volume.

12.4.3 Flooding Standard

The proposed project is not required to meet Flooding Standards per SLOD requirements for redevelopment project, however, it will still meet the Standard's intent of not increasing water quantity. We have evaluated the stormwater flow, however, as the interim condition will direct stormwater to Cross Street that was previously directed to Center Street. The model information will be used to confirm with the Department of Public Works that this change can be made. The HydroCAD model considers three study points: the stormwater systems in Center Street and Cross Street, as well as the combined system in Commercial Street. As shown below, while the flow to Cross Street increases, the overall stormwater flow from the site to the downstream system in Commercial Street will be decreased due to the proposed work.

Table 12-2: Pre- vs. Post- Stormwater Comparison

	2-Year Storm		10-Year Storm		25-Year Storm	
Flow (cfs):	Pre	Post	Pre	Post	Pre	Post
Center St	5.73	1.07	8.95	1.96	11.5	3.02
Cross St	0.00	2.10	0.00	3.17	0.04	4.02
Commercial St	5.73	3.16	8.95	5.13	11.5	7.07

Pre- and Post-development HydroCAD models and figures are attached.

12.5 INSPECTION AND MAINTENANCE OF STORMWATER SYSTEMS

General inspection and maintenance during and after construction must take place in accordance with the requirements outlined in Chapter 500, Stormwater Management, Appendix B, Inspection and Maintenance and Stormwater Management, Maine Department of Environmental Protection Publication No. DEPLW0738. During construction, the contractor will be responsible for inspection and maintaining the Site. Upon completion, the property owner will be responsible for implementing the maintenance and inspection requirements for the stormwater management system associated with the new development. The responsible party will ensure that stormwater management facilities are properly maintained and inspected in accordance with the Stormwater Inspection and Maintenance Plan provided in this section.

12.6 LIST OF ATTACHMENTS

- Impact Analysis and Treatment Area Summary Excel Document;
- Kraken Design Information
- Pre- and Post- Development Stormwater Management Plans;
- Pre- and Post- Development HydroCAD Calculations;
- Stormwater Inspections & Maintenance Plan

IMPACT ANALYSIS

Land Use	Pollutant Ranking	Area (SF)	
		Pre	Post
Roads where idling may occur periodically due to traffic volume and intersections; High use parking lots	5	21068	
Other roads; Medium use parking lots	4		
Other parking lots and driveways; Flat asphalt rooftops; Roofs on an industrial facility	3		16300
Other rooftops; Bikeways; Grassed areas mowed more than twice per year; Walkways/foot traffic-only pavement	2		7495
Non-grass landscaped areas; Stormwater treatment/storage systems (except buffers)	1	2727	
Forest; Meadow mowed no more than twice per year	0		

Total Area (SF)	23795	23795
Weighted Impact Rating	108067	63890
Weighted Impact Rating/Total Area	4.54	2.69
Treatment Level	**-1.86**	
Treatment Required	**50%**	

TREATMENT SUMMARY

	Treatment Summary		
	Area (SF)	WQV (CF)	Treated (%)
Required	11898	992	50
Provided	11940	995	50.2

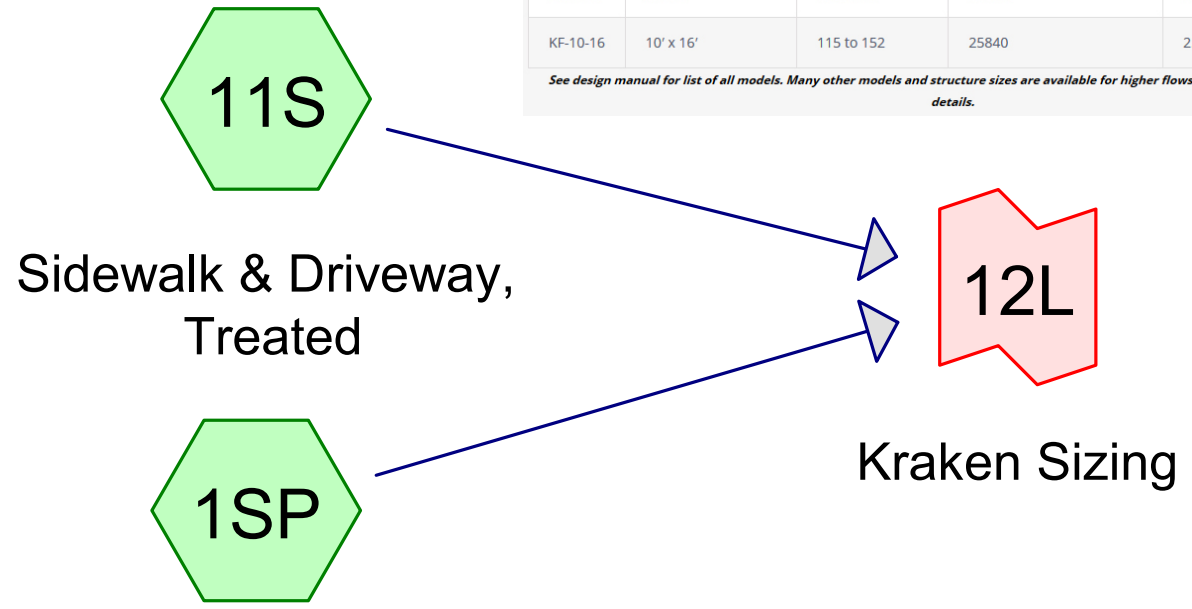
Total Area	23795 SF
Treatment Provided	50.2 %

Kraken Treatment Sizing

Model Sizing

Model #	Structure Size (ft. x ft.)	Cartridge Capacity	Max Media Surface Area (sq. ft.)	Treatment Flow Capacity (CFS)
KF-2.5-4	2.5′ x 4′	4 to 8	1360	0.15
KF-4-4	4′ x 4′	9 to 16	2720	0.30
KF-4-6	4′ x 6′	17 to 24	4080	0.46
KF-4-8	4′ x 8′	25 to 32	5440	0.61
KF-8-8	8′ x 8′	33 to 48	8160	0.91
KF-8-10	8′ x 10′	49 to 65	11220	1.25
KF-8-12	8′ x 12′	67 to 78	13260	1.48
KF-8-14	8′ x 14′	79 to 96	16320	1.82
KF-8-16	8′ x 16′	97 to 114	19380	2.16
KF-10-16	10′ x 16′	115 to 152	25840	2.88

See design manual for list of all models. Many other models and structure sizes are available for higher flows. Please contact us for more details.



Subcat Reach Pond Link

Routing Diagram for Treatment sizing
Prepared by Woodard Curran, Printed 6/2/2019
HydroCAD® 10.00-21 s/n 01204 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Area Treated Runoff Area=13,480 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.27 cfs 888 cf

Subcatchment 11S: Sidewalk & Driveway, Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.03 cfs 94 cf

Link 12L: Kraken Sizing Inflow=0.30 cfs 982 cf
Primary=0.30 cfs 982 cf

Total Runoff Area = 14,900 sf Runoff Volume = 982 cf Average Runoff Depth = 0.79"
0.00% Pervious = 0 sf 100.00% Impervious = 14,900 sf

Summary for Subcatchment 1SP: Building Area Treated

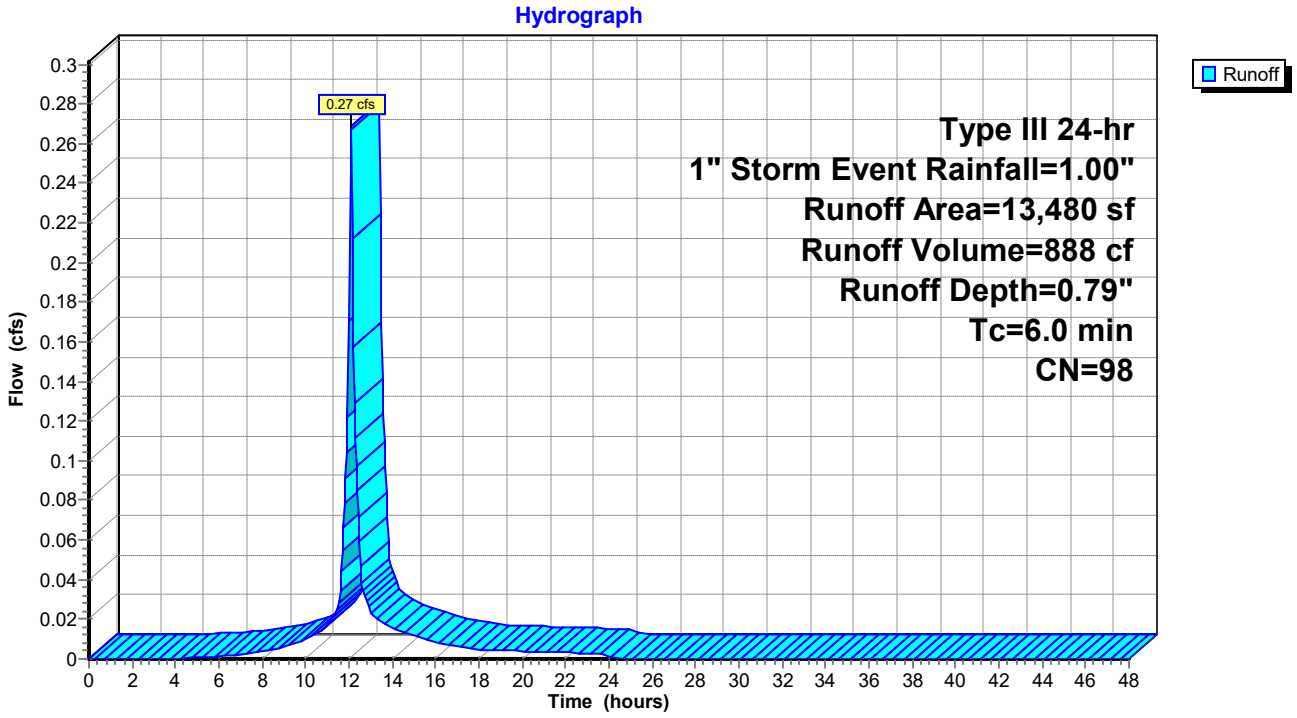
Runoff = 0.27 cfs @ 12.09 hrs, Volume= 888 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	13,480	98	Impervious
	13,480		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building Area Treated



Summary for Subcatchment 11S: Sidewalk & Driveway, Treated

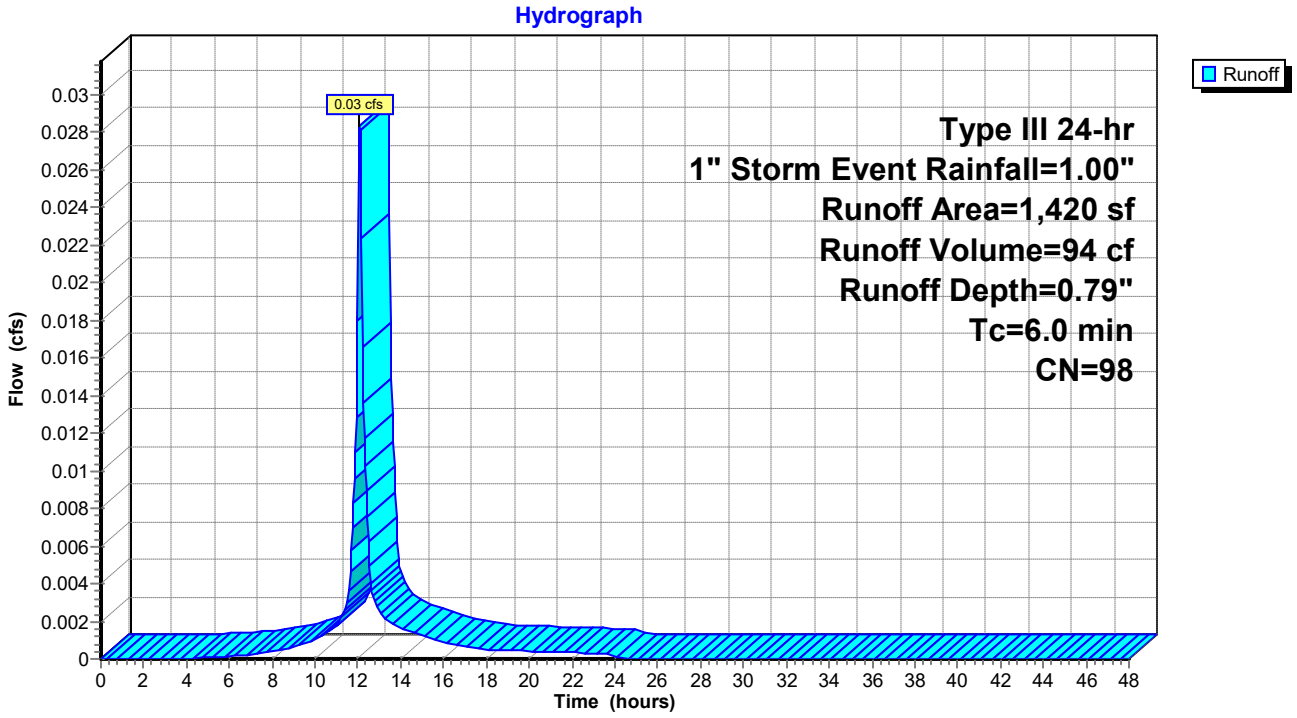
Runoff = 0.03 cfs @ 12.09 hrs, Volume= 94 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 11S: Sidewalk & Driveway, Treated

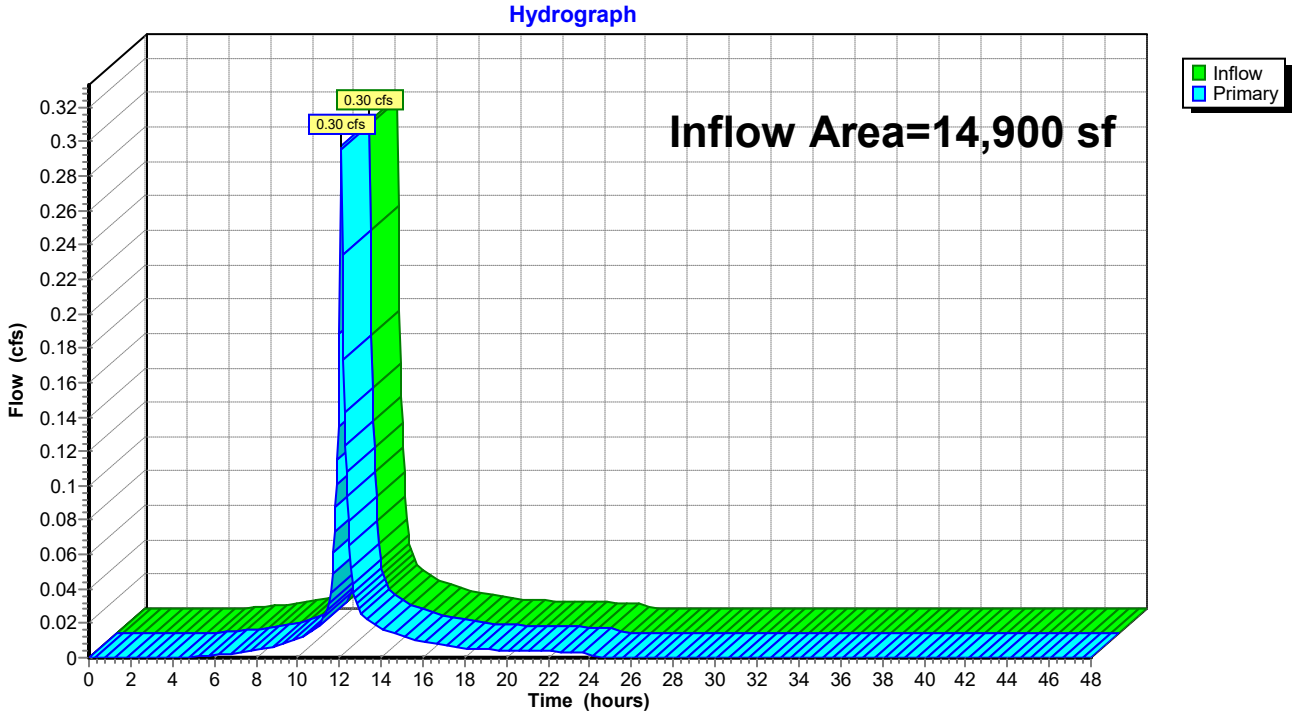


Summary for Link 12L: Kraken Sizing

Inflow Area = 14,900 sf,100.00% Impervious, Inflow Depth = 0.79" for 1" Storm Event event
Inflow = 0.30 cfs @ 12.09 hrs, Volume= 982 cf
Primary = 0.30 cfs @ 12.09 hrs, Volume= 982 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 12L: Kraken Sizing



Date: May 17th, 2019

Project: Center Street Hotel in Portland, ME

To Whom It May Concern,

The Kraken Filter will be sized in accordance with its NJCAT approval. The system is approved at a loading rate of 0.05 gpm/sq ft of surface area provided for each membrane filter cartridge. The Kraken Filter is approved for 80% TSS and 50% phosphorous and dissolved metal removal rates. For this project design, sizing and loading rate will be reviewed by a Bio Clean representative for final approval to ensure the system is sized accordingly.

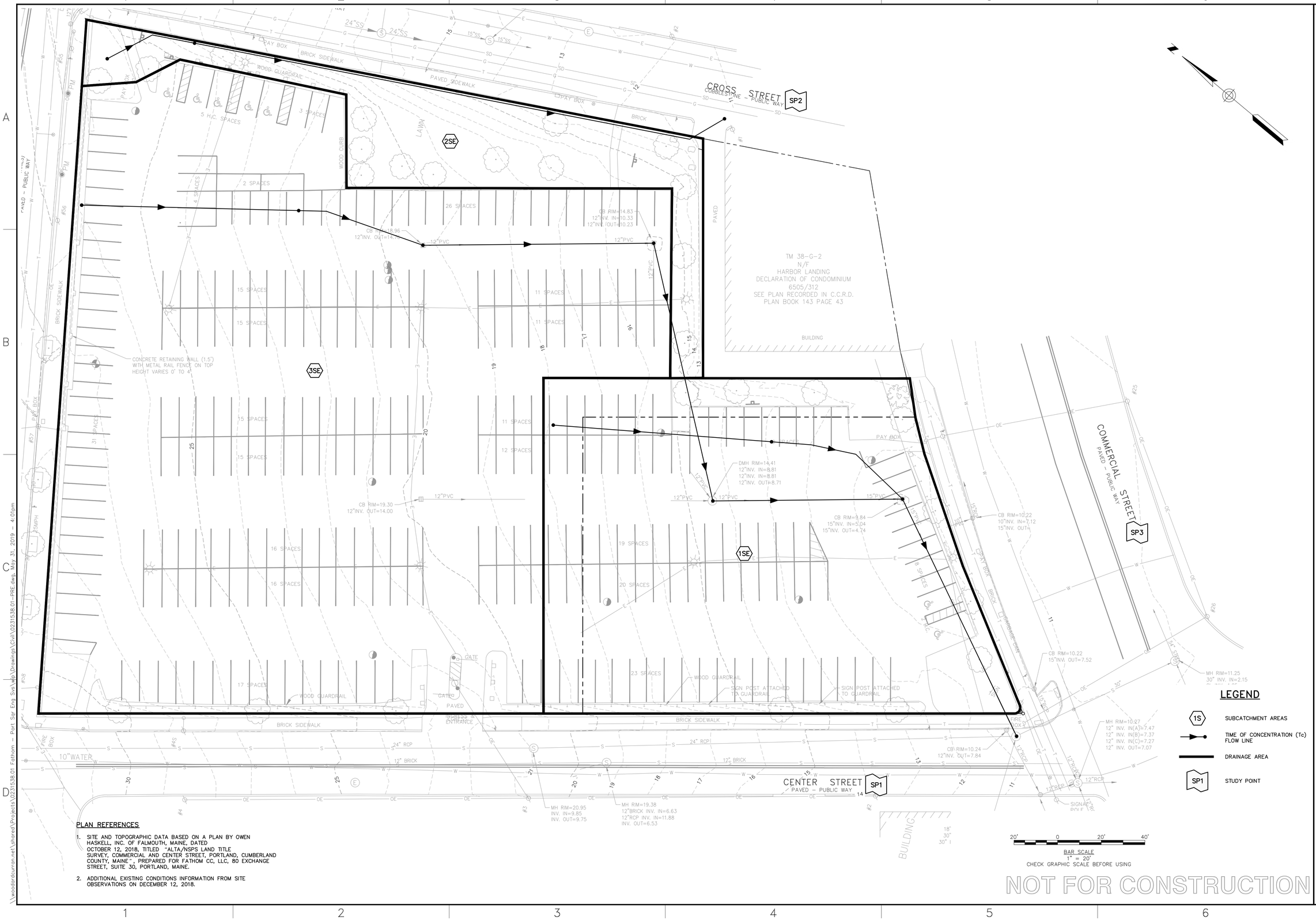
For the Center Street Hotel in Portland, ME, the Kraken Filter is design for a water quality flow rate of 0.30 cfs. Each cartridge has capacity to treat 8.5 gpm or 0.019 cfs. This will require 16 cartridges to meet or exceed the require treatment rate. The Kraken 4-4 is sufficient per the water quality treatment rate.

If you have any questions, please feel free to contact us at your convenience.

Sincerely,

Touyia Lee, EIT
Stormwater Engineer
Bio Clean
A Forterra Company

22x34 SHEET
1:1



LEGEND

- 1S — SUBCATCHMENT AREAS
- TIME OF CONCENTRATION (Tc) FLOW LINE
- DRAINAGE AREA
- SP1 — STUDY POINT

20' 0 20' 40'
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

NOT FOR CONSTRUCTION

PLAN REFERENCES

1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY OWEN HASKELL, INC. OF FALMOUTH, MAINE, DATED OCTOBER 12, 2018, TITLED "ALTA/NSPS LAND TITLE SURVEY, COMMERCIAL AND CENTER STREET, PORTLAND, CUMBERLAND COUNTY, MAINE", PREPARED FOR FATHOM CC, LLC, 80 EXCHANGE STREET, SUITE 30, PORTLAND, MAINE.
2. ADDITIONAL EXISTING CONDITIONS INFORMATION FROM SITE OBSERVATIONS ON DECEMBER 12, 2018.

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Portland, Maine 04102
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REV	DESCRIPTION	DATE

DESIGNED BY: LJS | CHECKED BY: LJS
DRAWN BY: JBC/LJS | 0231538.01-PRE.dwg

PRE-DEVELOPMENT STORMWATER PLAN

FATHOM CC, LLC
80 EXCHANGE STREET, SUITE 400
PORTLAND, MAINE 04101

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET
PORTLAND, MAINE 04101

JOB NO.: 0231538.01
DATE: 5/31/19
SCALE: 1" = 20'
SHEET: 1 OF 2

PRE

\\woodardcurran.net\shared\Projects\0231538.01 Fathom - Port Sqr Eng Svs\wip\Drawings\Civil\0231538.01-PRE.dwg, May 31, 2019 - 4:01pm

22x34 SHEET
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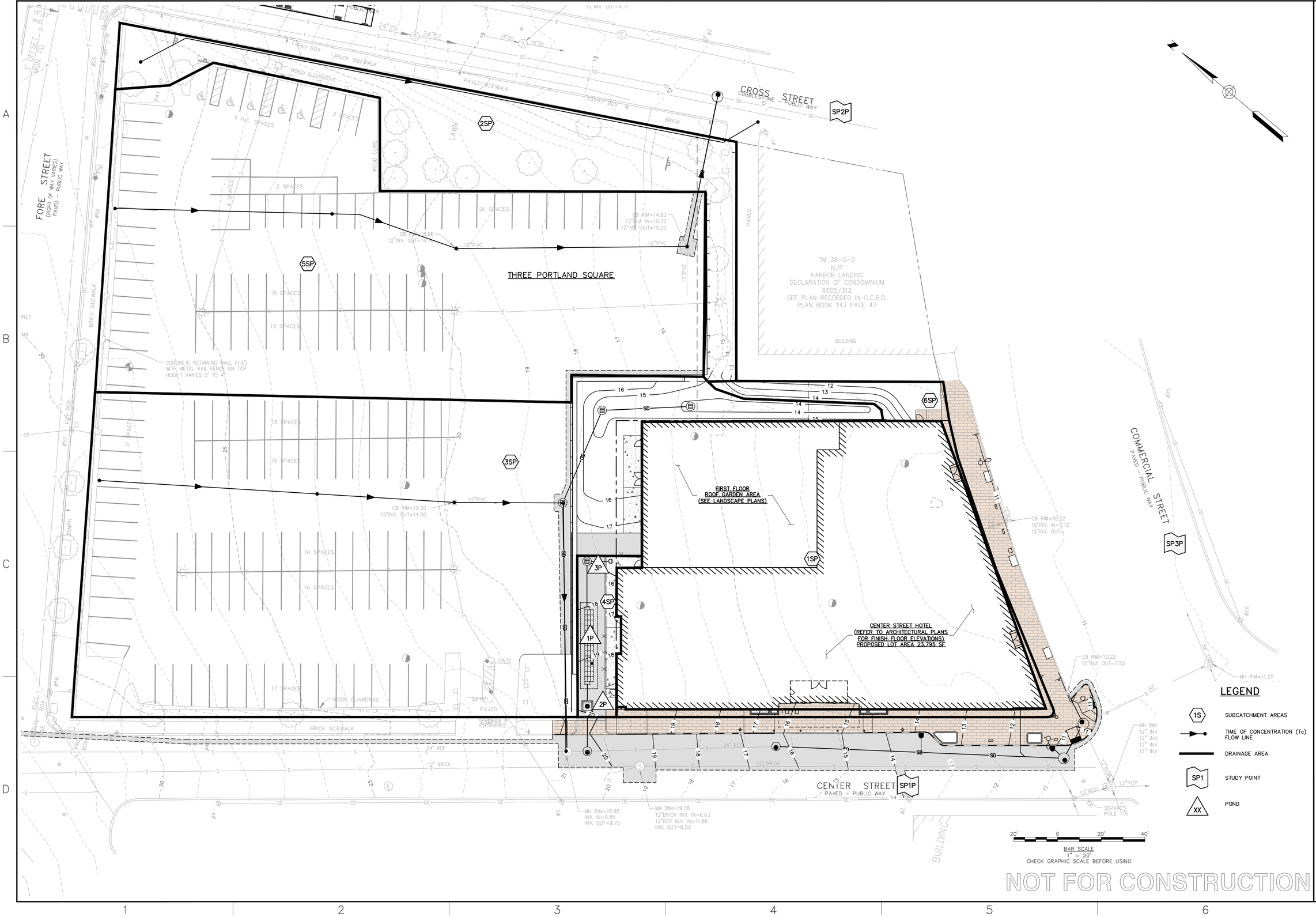

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REV	DESCRIPTION	DATE

DESIGNED BY: LJS
DRAWN BY: JBC/LJS
CHECKED BY: LJS

POST-DEVELOPMENT STORMWATER MANAGEMENT PLAN

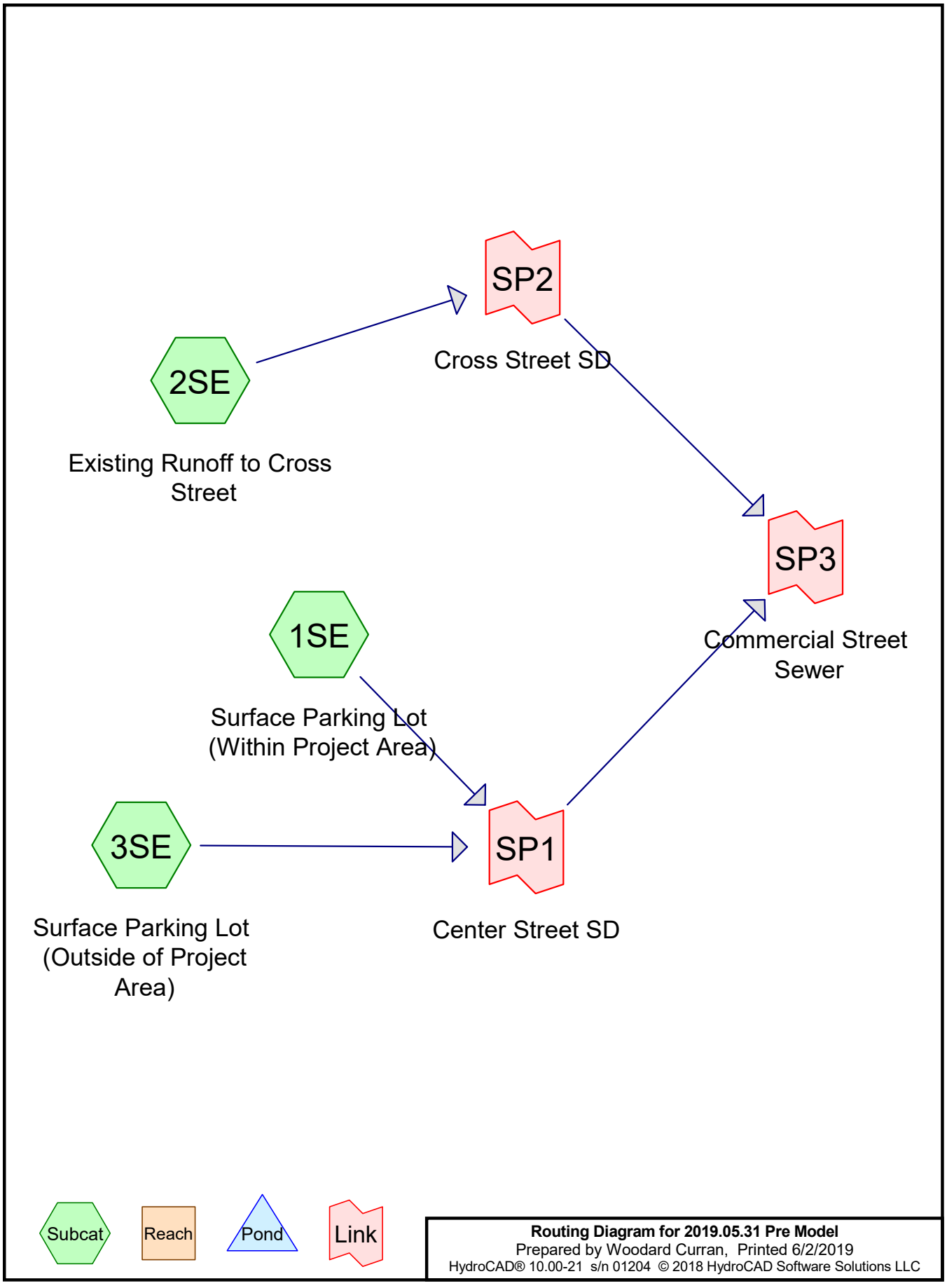
FATHOM CC, LLC
80 EXCHANGE STREET, SUITE 400
PORTLAND, MAINE 04101

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET
PORTLAND, MAINE 04101

JOB NO.: 0231538.01
DATE: 5/31/19
SCALE: 1" = 20'
SHEET: 2 OF 2

POST

\\woodardcurran.net\shared\Projects\0231538.01 Fathom - Port Sqr Eng Svs\wip\Drawings\Civil\0231538.01-POST.dwg, May 31, 2019 - 5:48pm



Routing Diagram for 2019.05.31 Pre Model
Prepared by Woodard Curran, Printed 6/2/2019
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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SE: Surface Parking Lot Runoff Area=28,918 sf 85.27% Impervious Runoff Depth=1.99"
Flow Length=290' Tc=6.0 min CN=89 Runoff=1.51 cfs 4,797 cf

Subcatchment 2SE: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.00"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 1 cf

Subcatchment 3SE: Surface Parking Lot Runoff Area=64,990 sf 97.12% Impervious Runoff Depth=2.65"
Flow Length=595' Tc=6.0 min CN=96 Runoff=4.23 cfs 14,355 cf

Link SP1: Center Street SD Inflow=5.73 cfs 19,152 cf
Primary=5.73 cfs 19,152 cf

Link SP2: Cross Street SD Inflow=0.00 cfs 1 cf
Primary=0.00 cfs 1 cf

Link SP3: Commercial Street Sewer Inflow=5.73 cfs 19,152 cf
Primary=5.73 cfs 19,152 cf

Total Runoff Area = 103,272 sf Runoff Volume = 19,152 cf Average Runoff Depth = 2.23"
14.54% Pervious = 15,020 sf 85.46% Impervious = 88,252 sf

Summary for Subcatchment 1SE: Surface Parking Lot (Within Project Area)

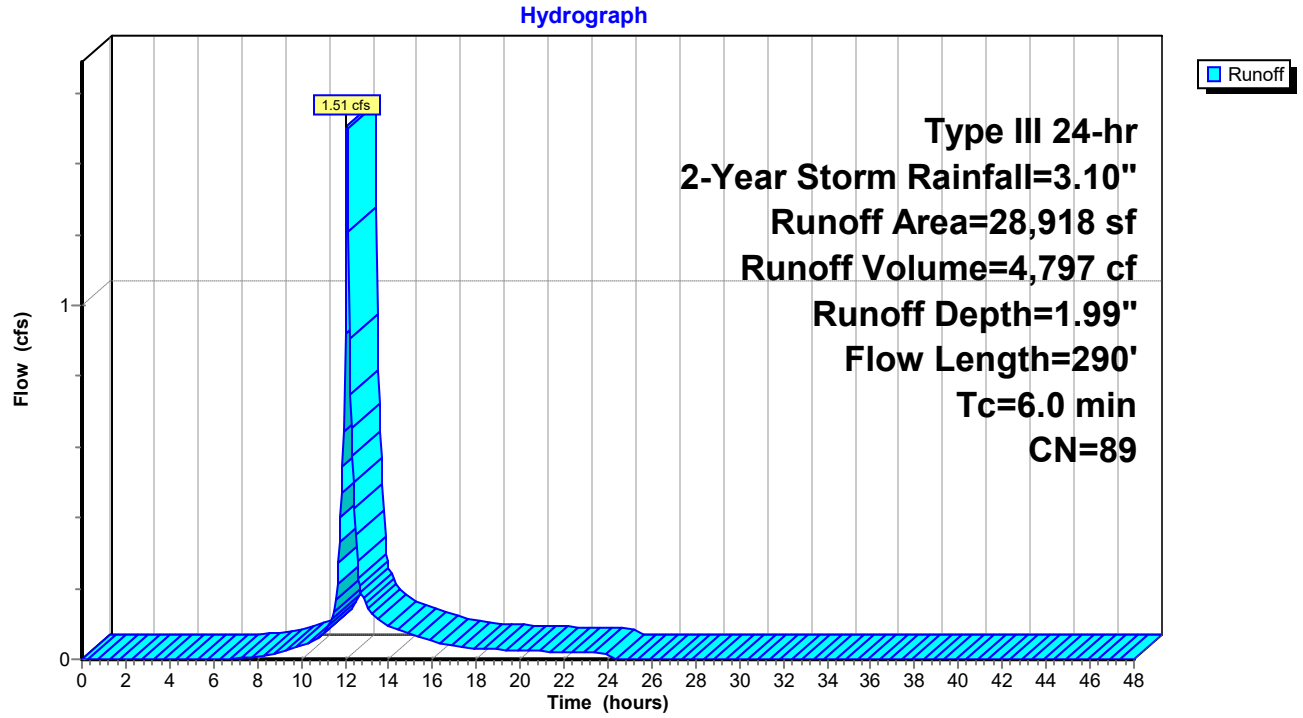
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 4,797 cf, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	24,658	98	Impervious
	4,260	39	>75% Grass cover, Good, HSG A
	28,918	89	Weighted Average
	4,260		14.73% Pervious Area
	24,658		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	70	0.0430	4.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.3	120	0.0100	6.84	8.40	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.5					**Direct Entry, Direct**
6.0	290	Total			

Subcatchment 1SE: Surface Parking Lot (Within Project Area)



Summary for Subcatchment 2SE: Existing Runoff to Cross Street

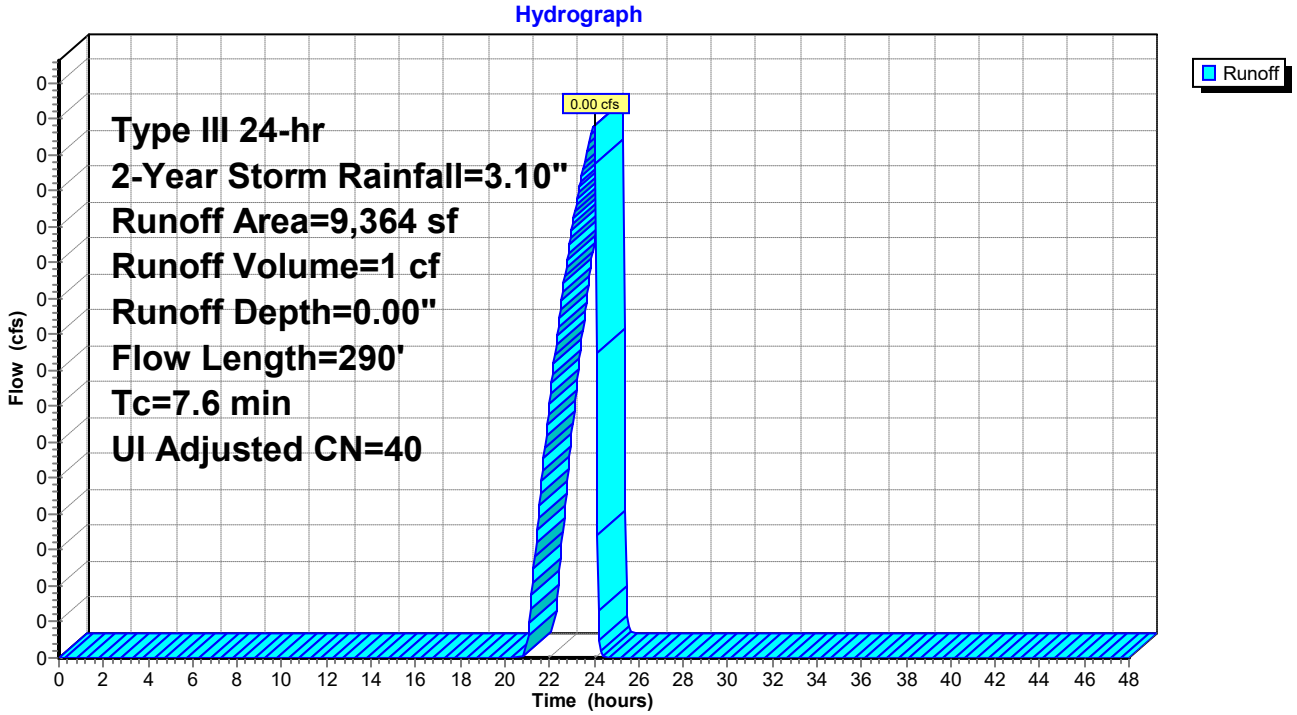
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 1 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SE: Existing Runoff to Cross Street



Summary for Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

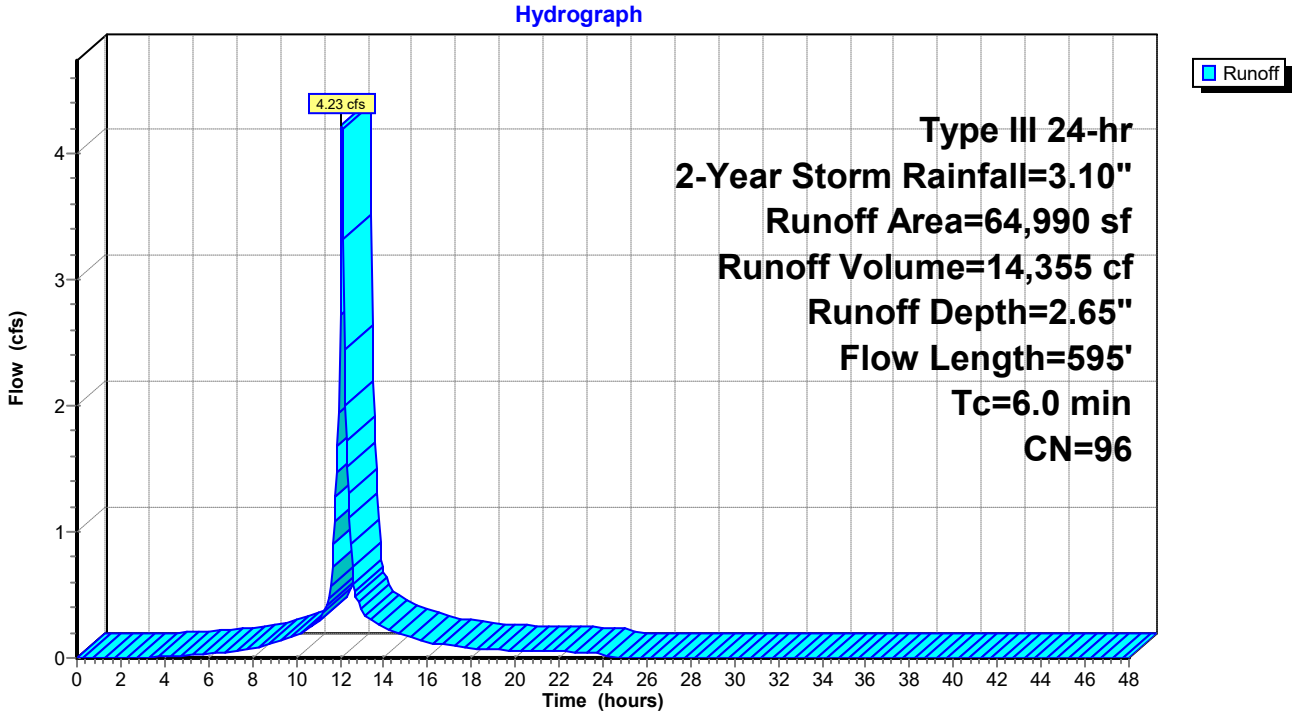
Runoff = 4.23 cfs @ 12.09 hrs, Volume= 14,355 cf, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
63,120	98	Paved parking, HSG D
1,870	39	>75% Grass cover, Good, HSG A
64,990	96	Weighted Average
1,870		2.88% Pervious Area
63,120		97.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0450	1.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0120	6.46	5.07	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	90	0.0400	11.79	9.26	**Pipe Channel, E-F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0100	6.84	8.40	**Pipe Channel, F-G** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.1					**Direct Entry, Direct Entry**
6.0	595	Total			

Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

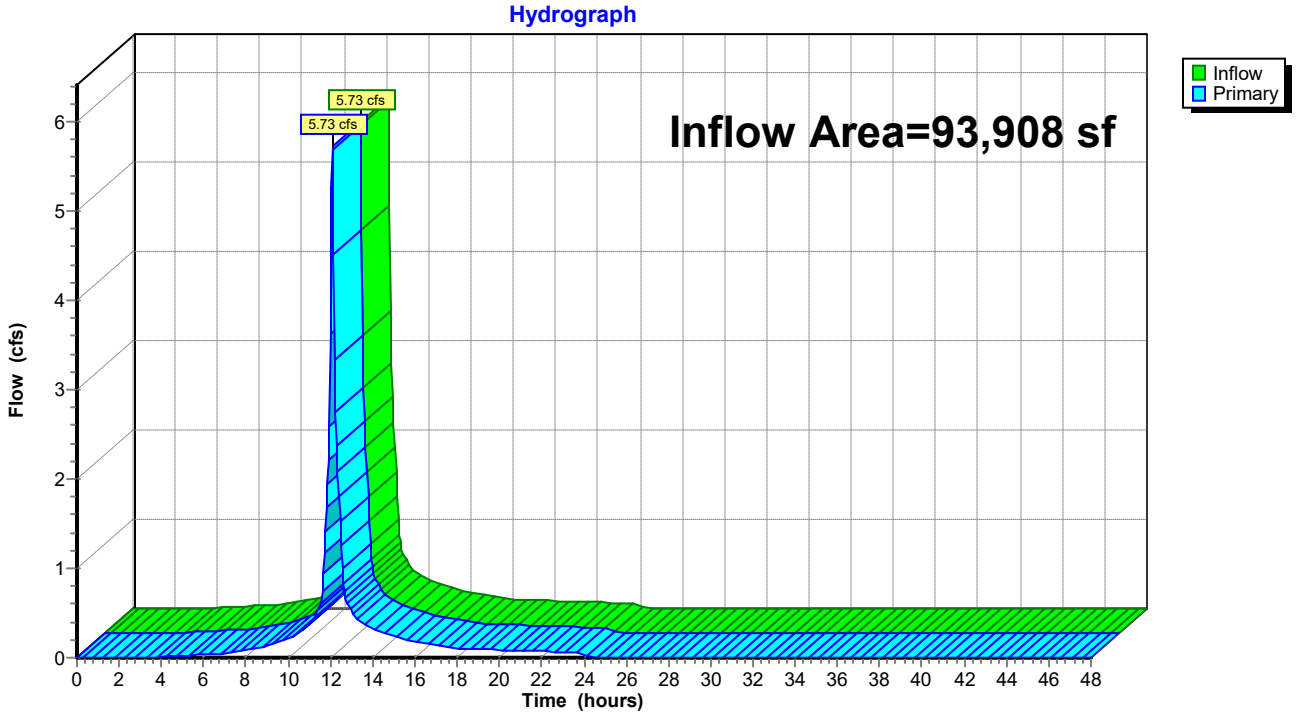


Summary for Link SP1: Center Street SD

Inflow Area = 93,908 sf, 93.47% Impervious, Inflow Depth = 2.45" for 2-Year Storm event
Inflow = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf
Primary = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1: Center Street SD

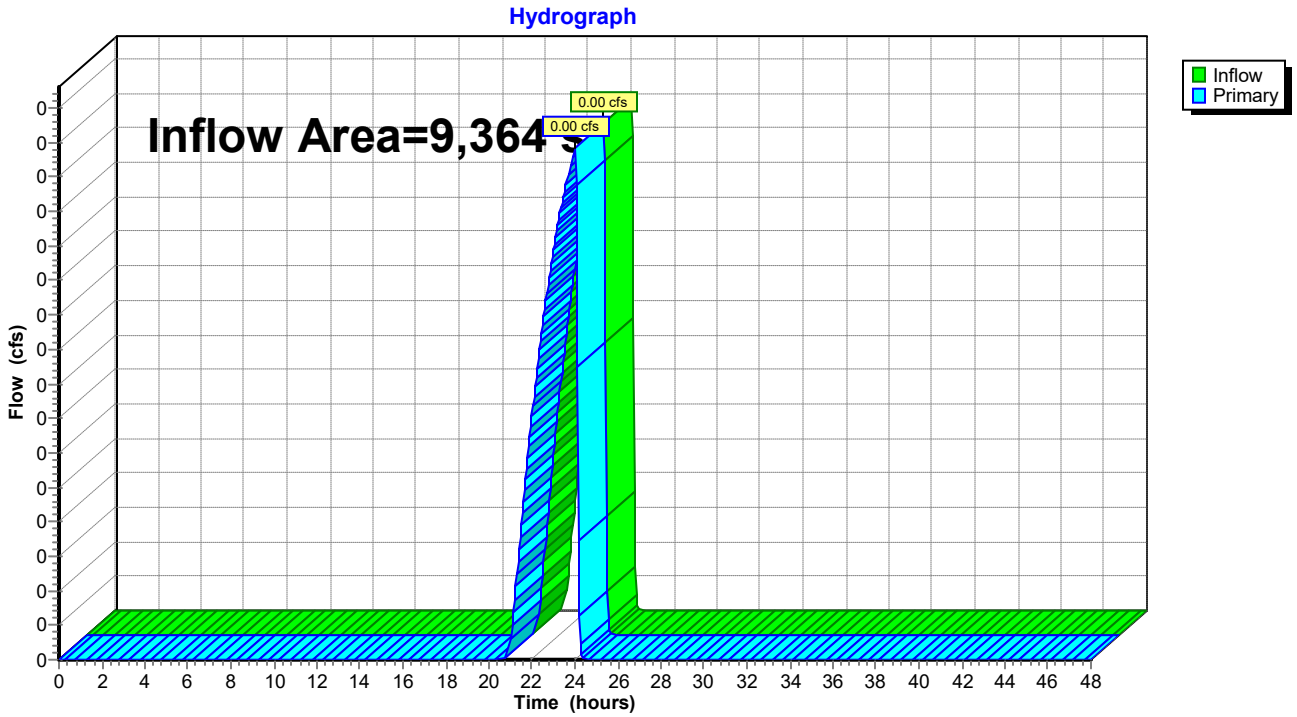


Summary for Link SP2: Cross Street SD

Inflow Area = 9,364 sf, 5.06% Impervious, Inflow Depth = 0.00" for 2-Year Storm event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 1 cf
Primary = 0.00 cfs @ 24.00 hrs, Volume= 1 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2: Cross Street SD

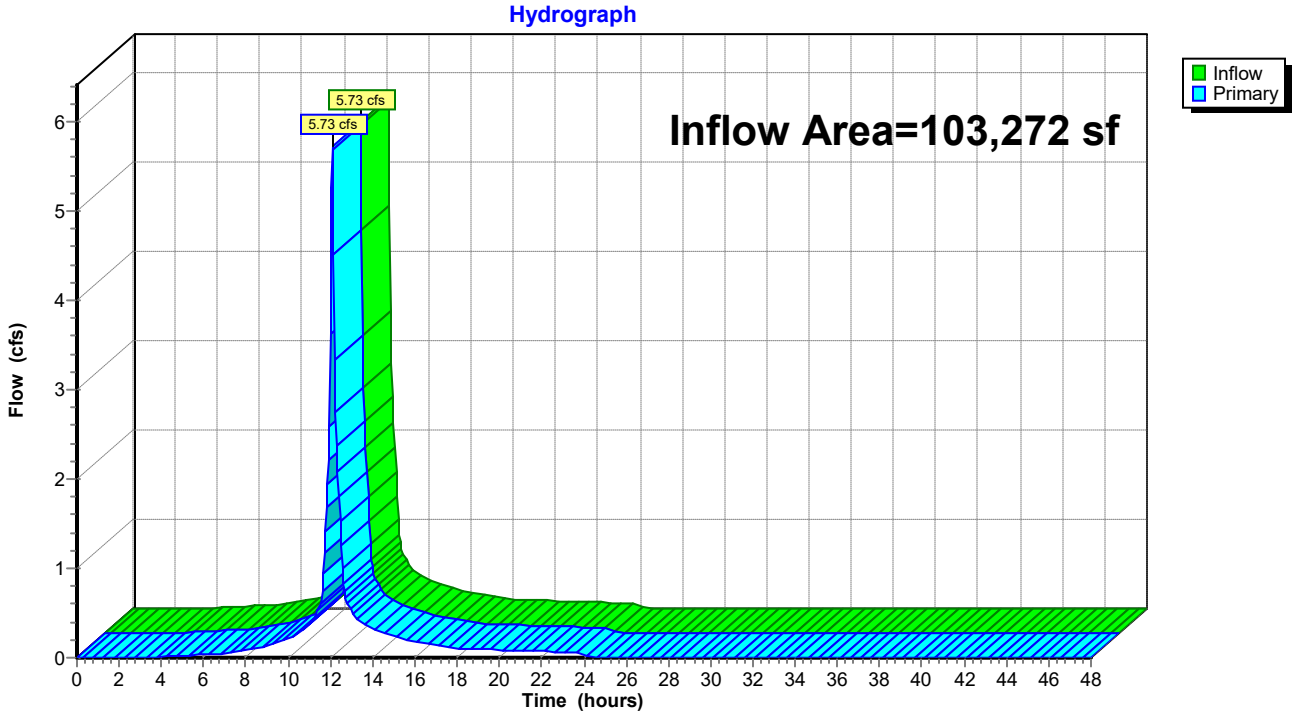


Summary for Link SP3: Commercial Street Sewer

Inflow Area = 103,272 sf, 85.46% Impervious, Inflow Depth = 2.23" for 2-Year Storm event
Inflow = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf
Primary = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SE: Surface Parking Lot Runoff Area=28,918 sf 85.27% Impervious Runoff Depth=3.39"
Flow Length=290' Tc=6.0 min CN=89 Runoff=2.52 cfs 8,170 cf

Subcatchment 2SE: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.15"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 120 cf

Subcatchment 3SE: Surface Parking Lot Runoff Area=64,990 sf 97.12% Impervious Runoff Depth=4.14"
Flow Length=595' Tc=6.0 min CN=96 Runoff=6.43 cfs 22,396 cf

Link SP1: Center Street SD Inflow=8.95 cfs 30,565 cf
Primary=8.95 cfs 30,565 cf

Link SP2: Cross Street SD Inflow=0.00 cfs 120 cf
Primary=0.00 cfs 120 cf

Link SP3: Commercial Street Sewer Inflow=8.95 cfs 30,686 cf
Primary=8.95 cfs 30,686 cf

Total Runoff Area = 103,272 sf Runoff Volume = 30,686 cf Average Runoff Depth = 3.57"
14.54% Pervious = 15,020 sf 85.46% Impervious = 88,252 sf

Summary for Subcatchment 1SE: Surface Parking Lot (Within Project Area)

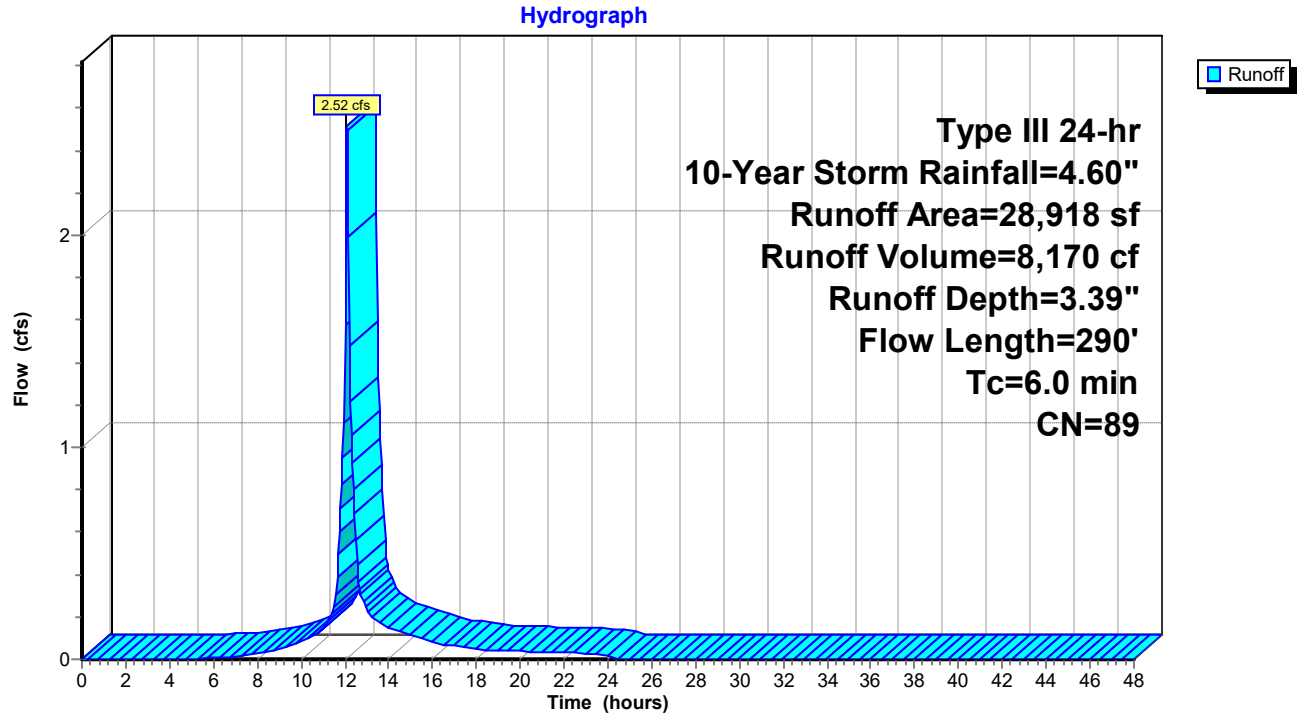
Runoff = 2.52 cfs @ 12.09 hrs, Volume= 8,170 cf, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	24,658	98	Impervious
	4,260	39	>75% Grass cover, Good, HSG A
	28,918	89	Weighted Average
	4,260		14.73% Pervious Area
	24,658		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	70	0.0430	4.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.3	120	0.0100	6.84	8.40	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.5					**Direct Entry, Direct**
6.0	290	Total			

Subcatchment 1SE: Surface Parking Lot (Within Project Area)



Summary for Subcatchment 2SE: Existing Runoff to Cross Street

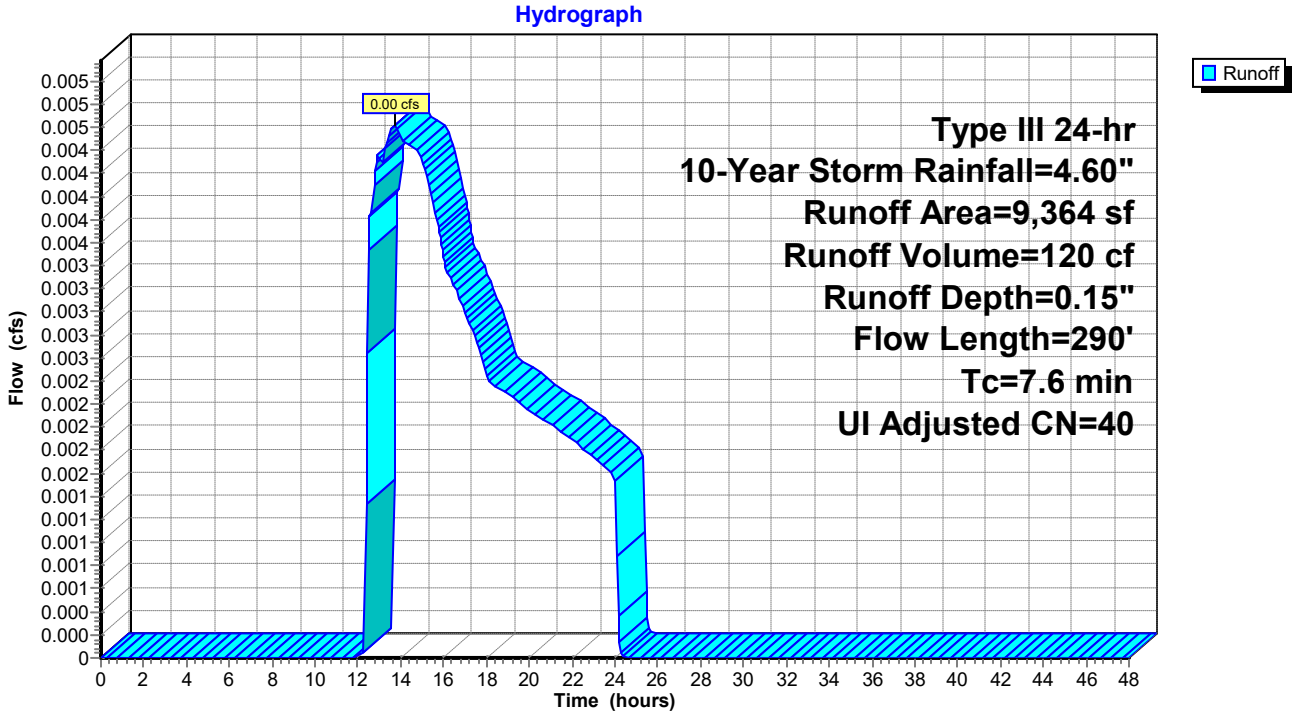
Runoff = 0.00 cfs @ 13.70 hrs, Volume= 120 cf, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SE: Existing Runoff to Cross Street



Summary for Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

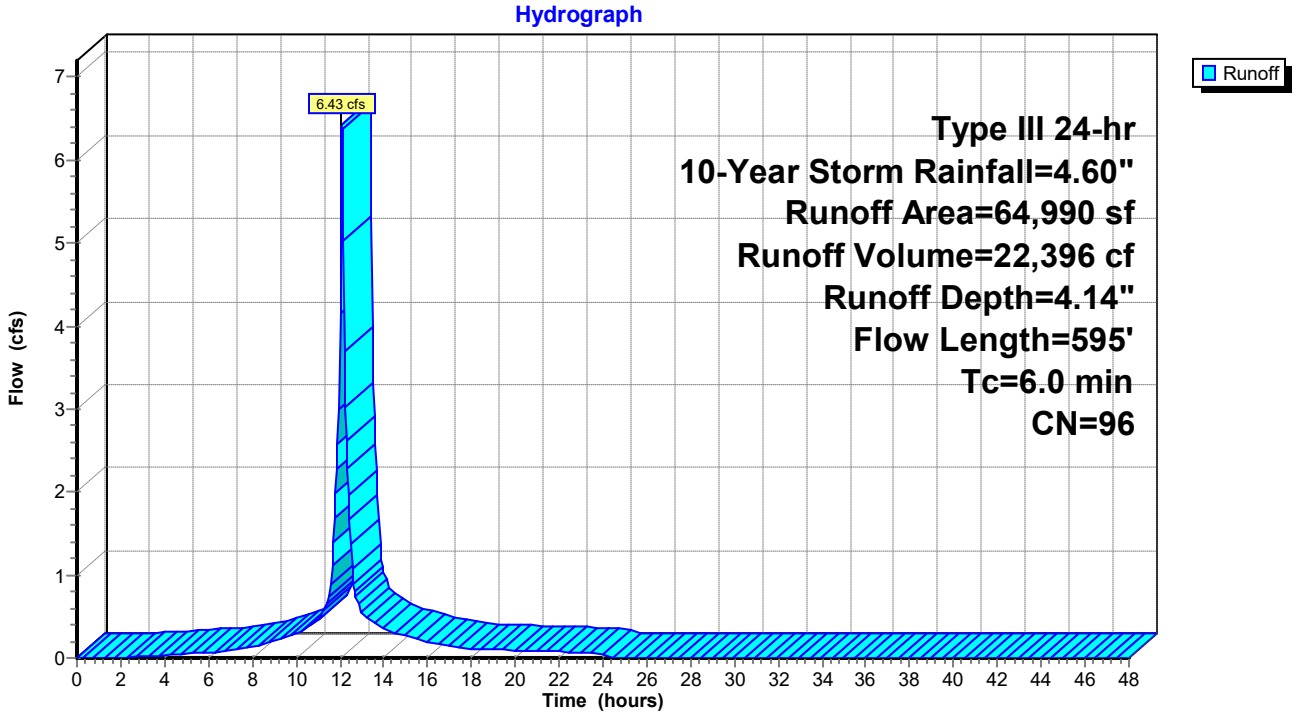
Runoff = 6.43 cfs @ 12.09 hrs, Volume= 22,396 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
63,120	98	Paved parking, HSG D
1,870	39	>75% Grass cover, Good, HSG A
64,990	96	Weighted Average
1,870		2.88% Pervious Area
63,120		97.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0450	1.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0120	6.46	5.07	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	90	0.0400	11.79	9.26	**Pipe Channel, E-F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0100	6.84	8.40	**Pipe Channel, F-G** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.1					**Direct Entry, Direct Entry**
6.0	595	Total			

Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

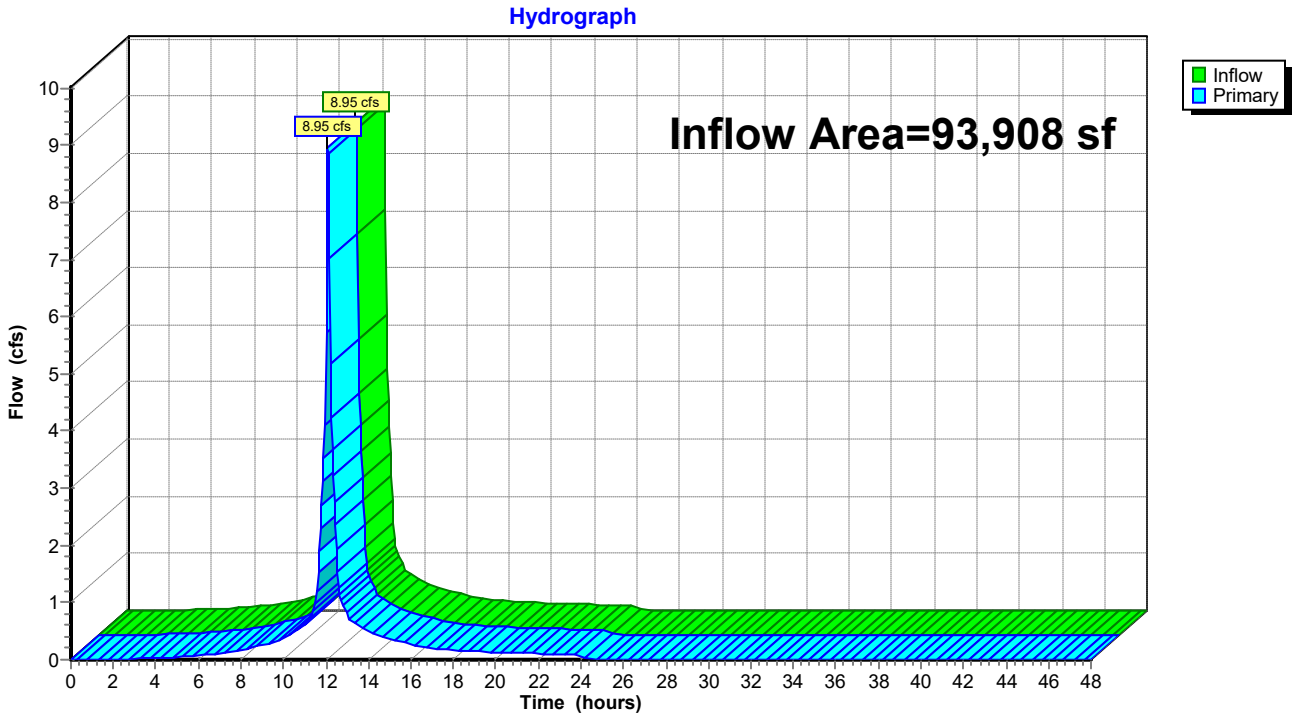


Summary for Link SP1: Center Street SD

Inflow Area = 93,908 sf, 93.47% Impervious, Inflow Depth = 3.91" for 10-Year Storm event
Inflow = 8.95 cfs @ 12.09 hrs, Volume= 30,565 cf
Primary = 8.95 cfs @ 12.09 hrs, Volume= 30,565 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1: Center Street SD

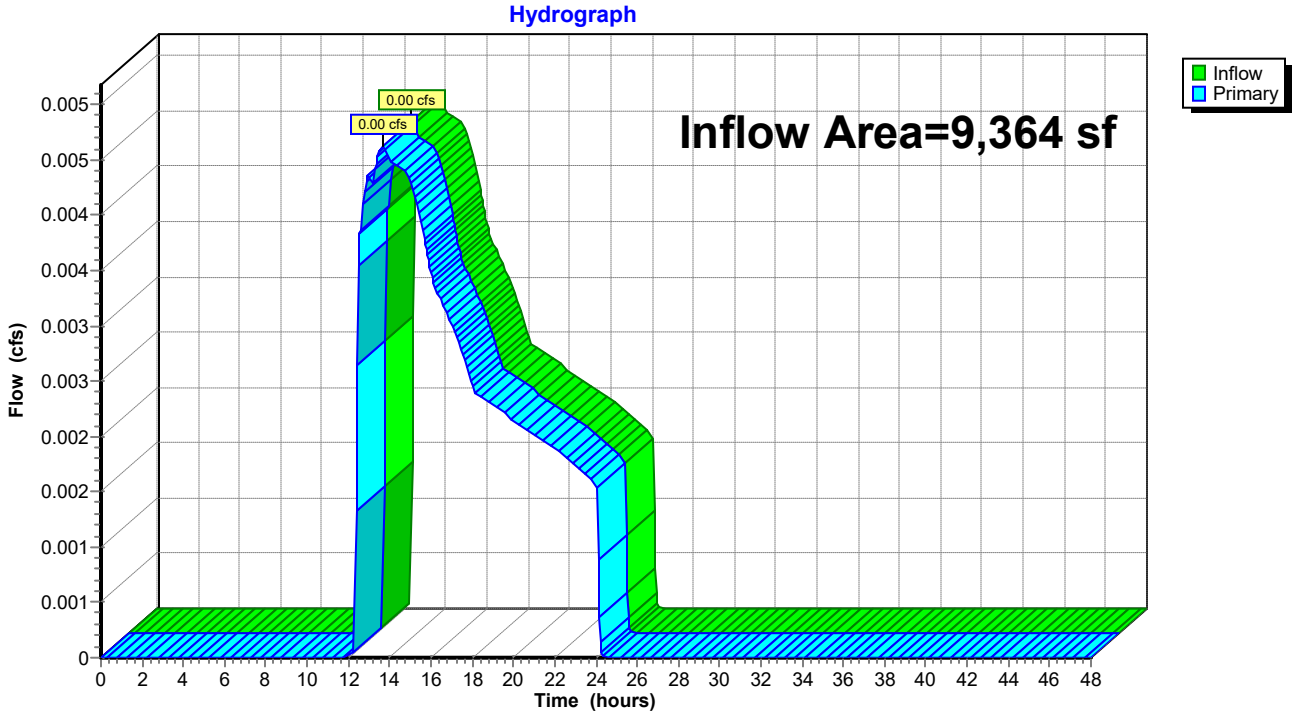


Summary for Link SP2: Cross Street SD

Inflow Area = 9,364 sf, 5.06% Impervious, Inflow Depth = 0.15" for 10-Year Storm event
Inflow = 0.00 cfs @ 13.70 hrs, Volume= 120 cf
Primary = 0.00 cfs @ 13.70 hrs, Volume= 120 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2: Cross Street SD

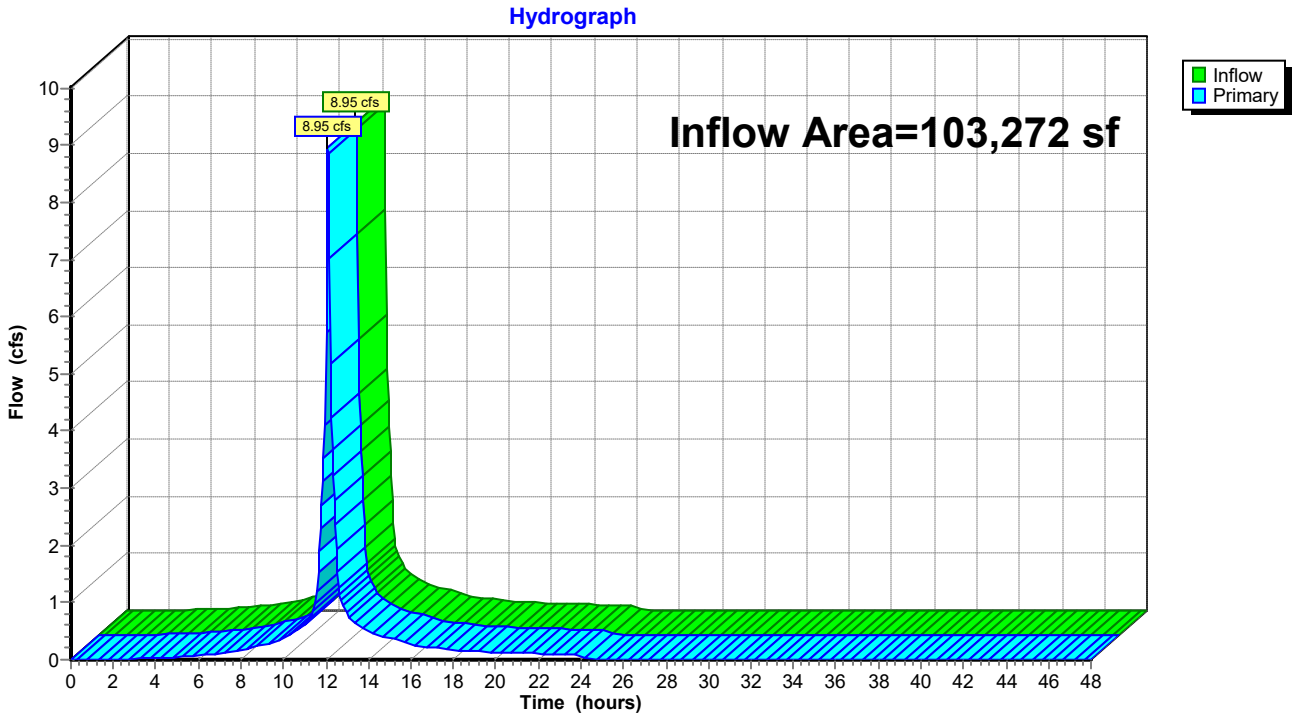


Summary for Link SP3: Commercial Street Sewer

Inflow Area = 103,272 sf, 85.46% Impervious, Inflow Depth = 3.57" for 10-Year Storm event
Inflow = 8.95 cfs @ 12.09 hrs, Volume= 30,686 cf
Primary = 8.95 cfs @ 12.09 hrs, Volume= 30,686 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SE: Surface Parking Lot Runoff Area=28,918 sf 85.27% Impervious Runoff Depth=4.54"
Flow Length=290' Tc=6.0 min CN=89 Runoff=3.32 cfs 10,945 cf

Subcatchment 2SE: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.44"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.04 cfs 344 cf

Subcatchment 3SE: Surface Parking Lot Runoff Area=64,990 sf 97.12% Impervious Runoff Depth=5.33"
Flow Length=595' Tc=6.0 min CN=96 Runoff=8.18 cfs 28,857 cf

Link SP1: Center Street SD Inflow=11.50 cfs 39,802 cf
Primary=11.50 cfs 39,802 cf

Link SP2: Cross Street SD Inflow=0.04 cfs 344 cf
Primary=0.04 cfs 344 cf

Link SP3: Commercial Street Sewer Inflow=11.50 cfs 40,146 cf
Primary=11.50 cfs 40,146 cf

Total Runoff Area = 103,272 sf Runoff Volume = 40,146 cf Average Runoff Depth = 4.66"
14.54% Pervious = 15,020 sf 85.46% Impervious = 88,252 sf

Summary for Subcatchment 1SE: Surface Parking Lot (Within Project Area)

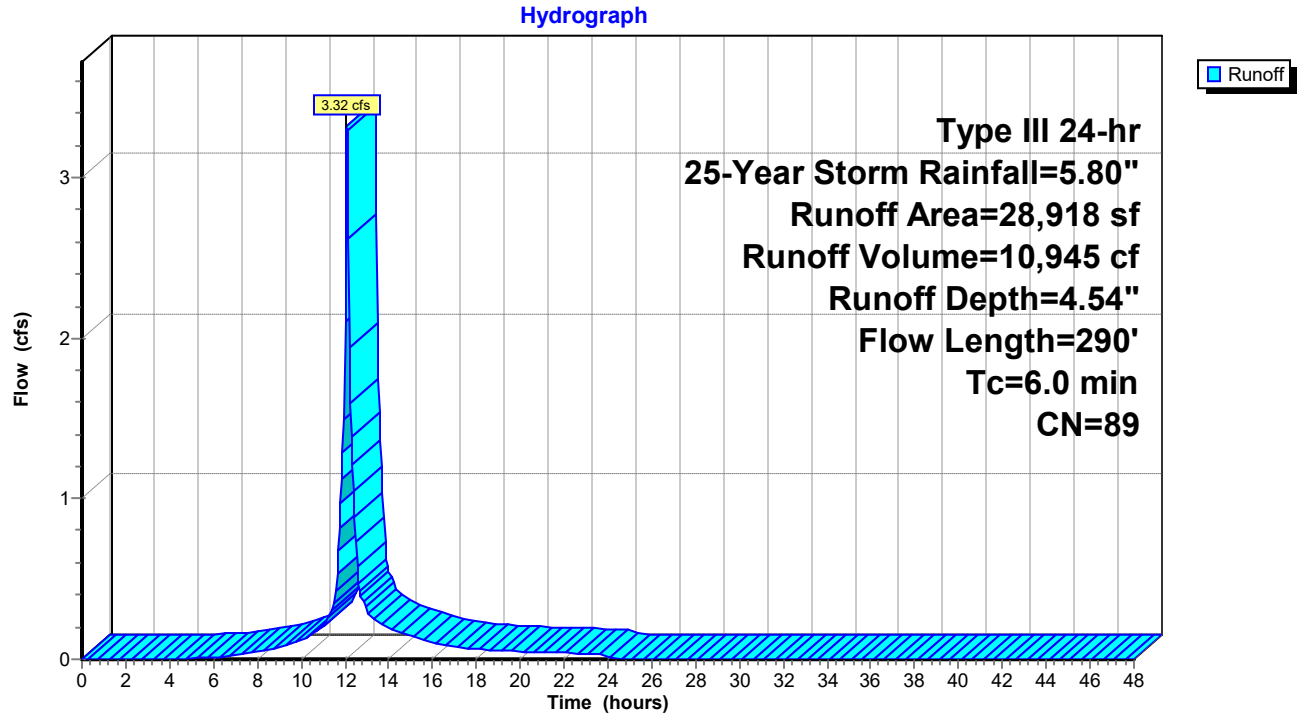
Runoff = 3.32 cfs @ 12.09 hrs, Volume= 10,945 cf, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	24,658	98	Impervious
	4,260	39	>75% Grass cover, Good, HSG A
	28,918	89	Weighted Average
	4,260		14.73% Pervious Area
	24,658		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	70	0.0430	4.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.3	120	0.0100	6.84	8.40	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.5					**Direct Entry, Direct**
6.0	290	Total			

Subcatchment 1SE: Surface Parking Lot (Within Project Area)



Summary for Subcatchment 2SE: Existing Runoff to Cross Street

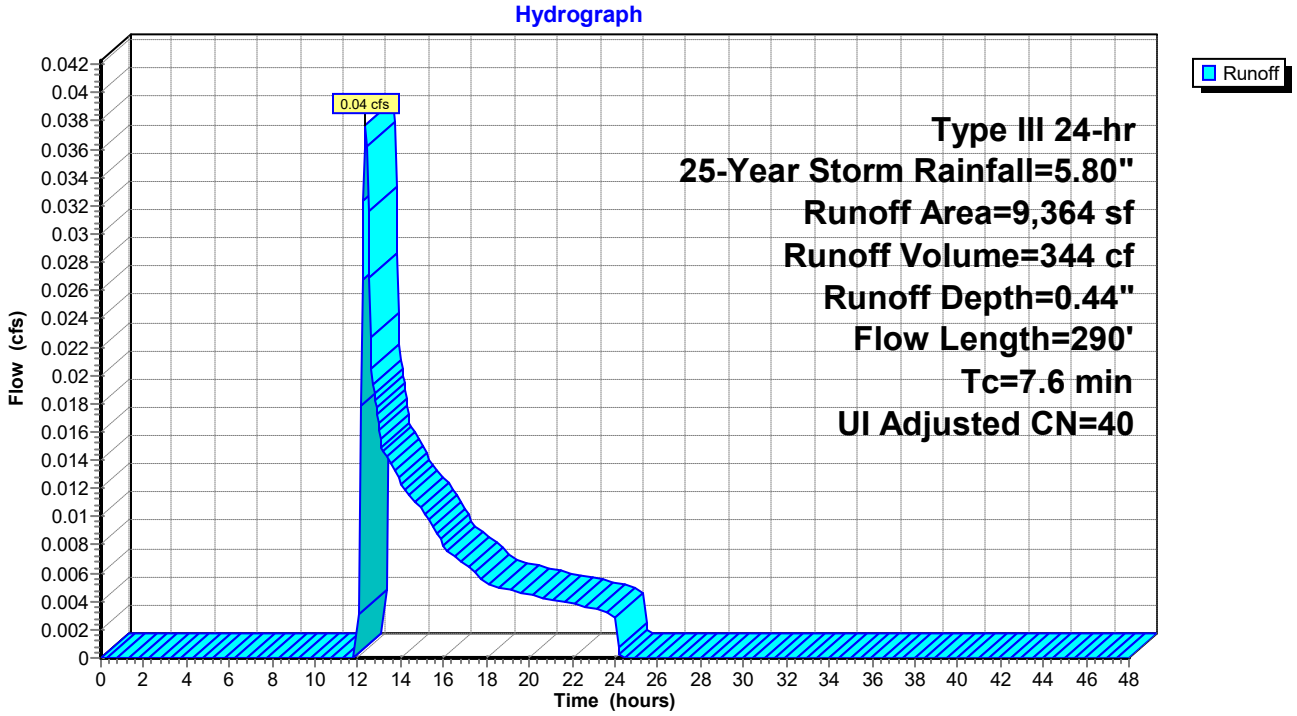
Runoff = 0.04 cfs @ 12.37 hrs, Volume= 344 cf, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SE: Existing Runoff to Cross Street



Summary for Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

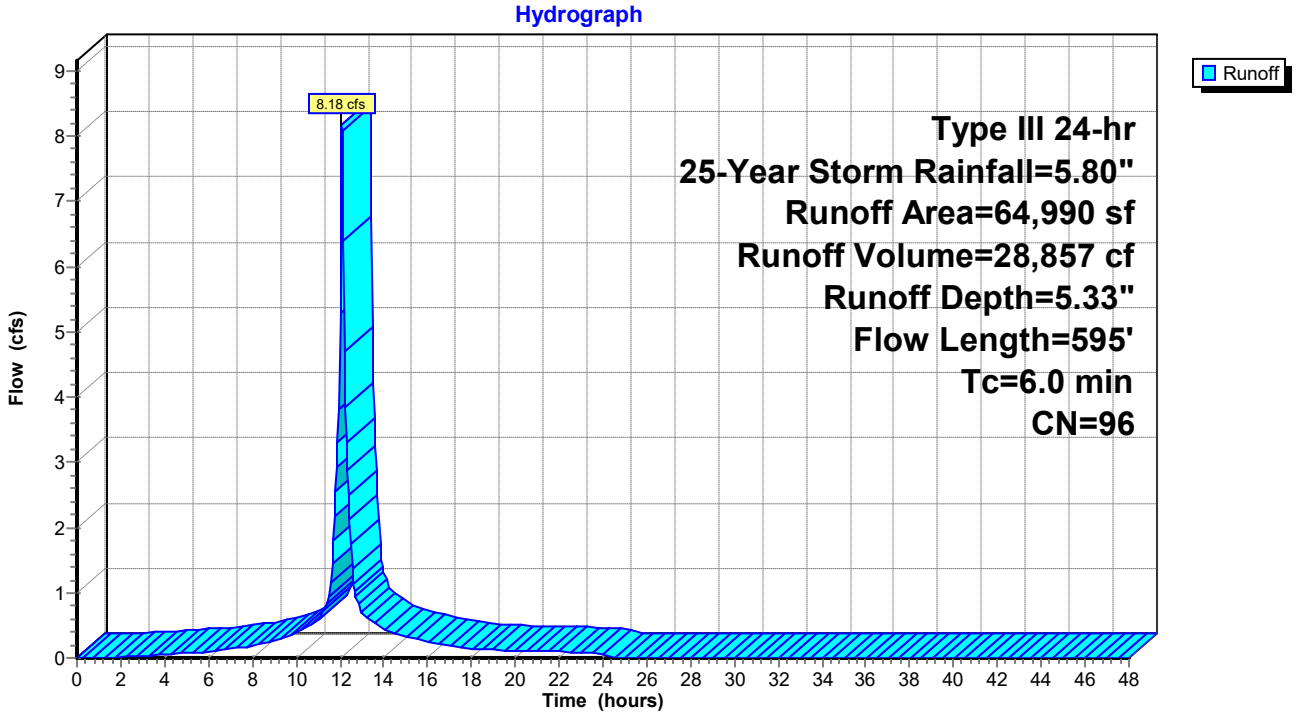
Runoff = 8.18 cfs @ 12.09 hrs, Volume= 28,857 cf, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
63,120	98	Paved parking, HSG D
1,870	39	>75% Grass cover, Good, HSG A
64,990	96	Weighted Average
1,870		2.88% Pervious Area
63,120		97.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0450	1.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0120	6.46	5.07	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	90	0.0400	11.79	9.26	**Pipe Channel, E-F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0100	6.84	8.40	**Pipe Channel, F-G** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.1					**Direct Entry, Direct Entry**
6.0	595	Total			

Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

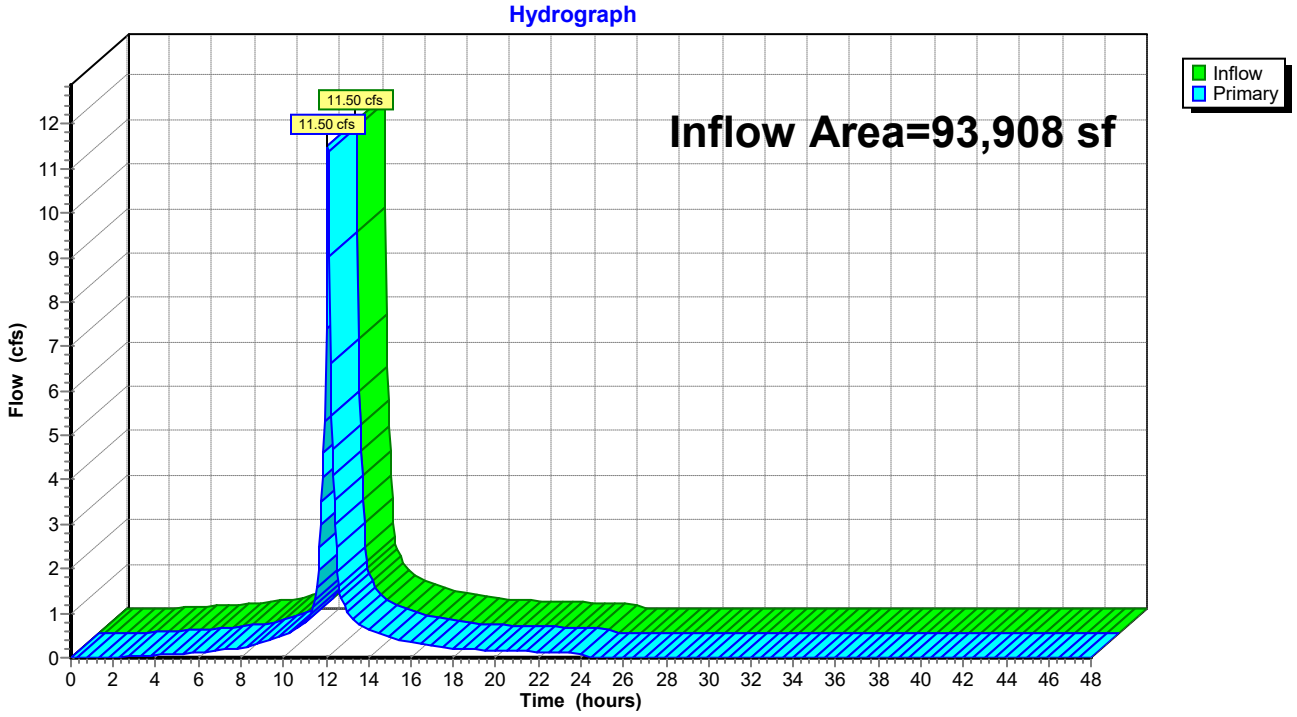


Summary for Link SP1: Center Street SD

Inflow Area = 93,908 sf, 93.47% Impervious, Inflow Depth = 5.09" for 25-Year Storm event
Inflow = 11.50 cfs @ 12.09 hrs, Volume= 39,802 cf
Primary = 11.50 cfs @ 12.09 hrs, Volume= 39,802 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1: Center Street SD

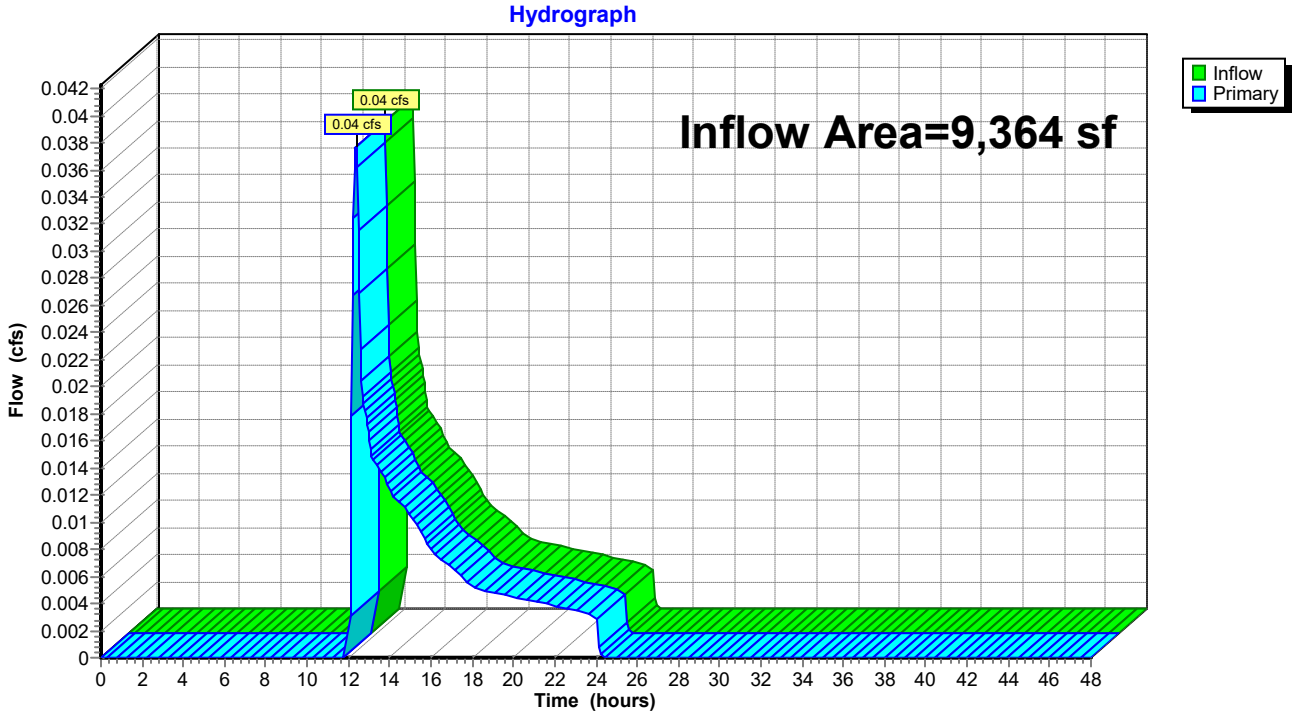


Summary for Link SP2: Cross Street SD

Inflow Area = 9,364 sf, 5.06% Impervious, Inflow Depth = 0.44" for 25-Year Storm event
Inflow = 0.04 cfs @ 12.37 hrs, Volume= 344 cf
Primary = 0.04 cfs @ 12.37 hrs, Volume= 344 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2: Cross Street SD

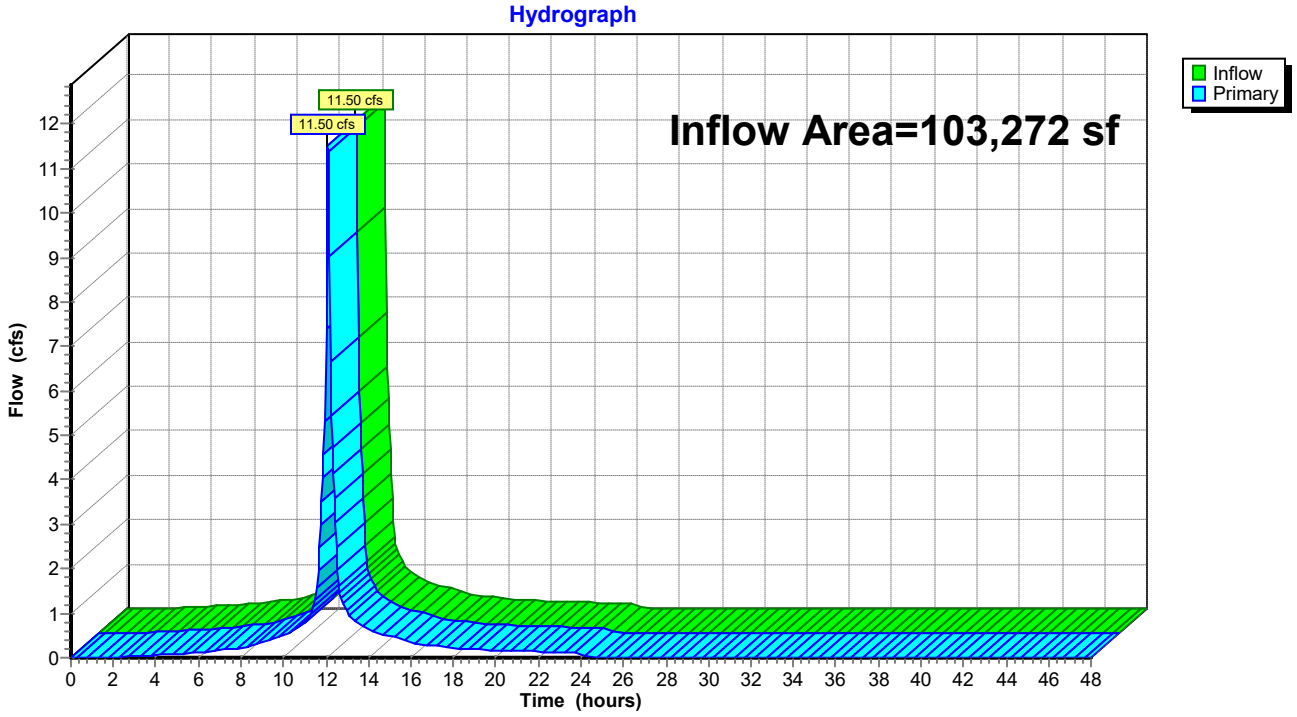


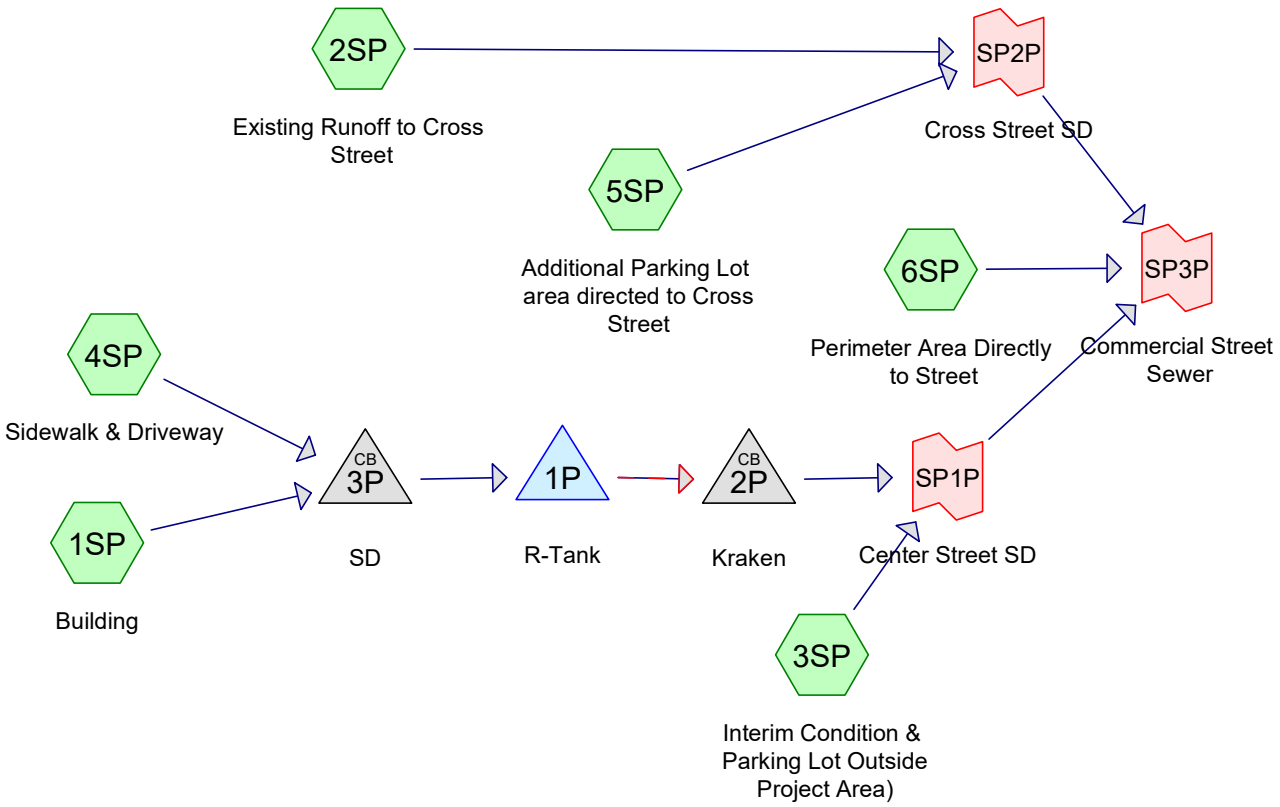
Summary for Link SP3: Commercial Street Sewer

Inflow Area = 103,272 sf, 85.46% Impervious, Inflow Depth = 4.66" for 25-Year Storm event
Inflow = 11.50 cfs @ 12.09 hrs, Volume= 40,146 cf
Primary = 11.50 cfs @ 12.09 hrs, Volume= 40,146 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3: Commercial Street Sewer





Subcat Reach Pond Link

Routing Diagram for 2019.05.31 Post Model
Prepared by Woodard Curran, Printed 6/2/2019
HydroCAD® 10.00-21 s/n 01204 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Runoff Area=21,960 sf 79.53% Impervious Runoff Depth=1.75"
Tc=6.0 min CN=86 Runoff=1.01 cfs 3,200 cf

Subcatchment 2SP: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.00"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 1 cf

Subcatchment 3SP: Interim Condition & Runoff Area=37,040 sf 13.85% Impervious Runoff Depth=0.06"
Flow Length=319' Tc=6.0 min CN=47 Runoff=0.01 cfs 182 cf

Subcatchment 4SP: Sidewalk & Driveway Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.10 cfs 339 cf

Subcatchment 5SP: Additional Parking Lot Runoff Area=31,680 sf 98.81% Impervious Runoff Depth=2.76"
Flow Length=331' Tc=6.0 min CN=97 Runoff=2.10 cfs 7,280 cf

Subcatchment 6SP: Perimeter Area Directly Runoff Area=1,808 sf 41.92% Impervious Runoff Depth=0.51"
Tc=6.0 min CN=64 Runoff=0.02 cfs 77 cf

Pond 1P: R-Tank Peak Elev=11.01' Storage=178 cf Inflow=1.11 cfs 3,539 cf
12.0" Round Culvert n=0.010 L=7.0' S=0.0000 '/' Outflow=1.07 cfs 3,509 cf

Pond 2P: Kraken Peak Elev=11.36' Inflow=1.07 cfs 3,509 cf
Outflow=1.07 cfs 3,509 cf

Pond 3P: SD Peak Elev=14.14' Inflow=1.11 cfs 3,539 cf
12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=1.11 cfs 3,539 cf

Link SP1P: Center Street SD Inflow=1.07 cfs 3,691 cf
Primary=1.07 cfs 3,691 cf

Link SP2P: Cross Street SD Inflow=2.10 cfs 7,280 cf
Primary=2.10 cfs 7,280 cf

Link SP3P: Commercial Street Sewer Inflow=3.16 cfs 11,048 cf
Primary=3.16 cfs 11,048 cf

Total Runoff Area = 103,272 sf Runoff Volume = 11,078 cf Average Runoff Depth = 1.29"
45.24% Pervious = 46,723 sf 54.76% Impervious = 56,549 sf

Summary for Subcatchment 1SP: Building

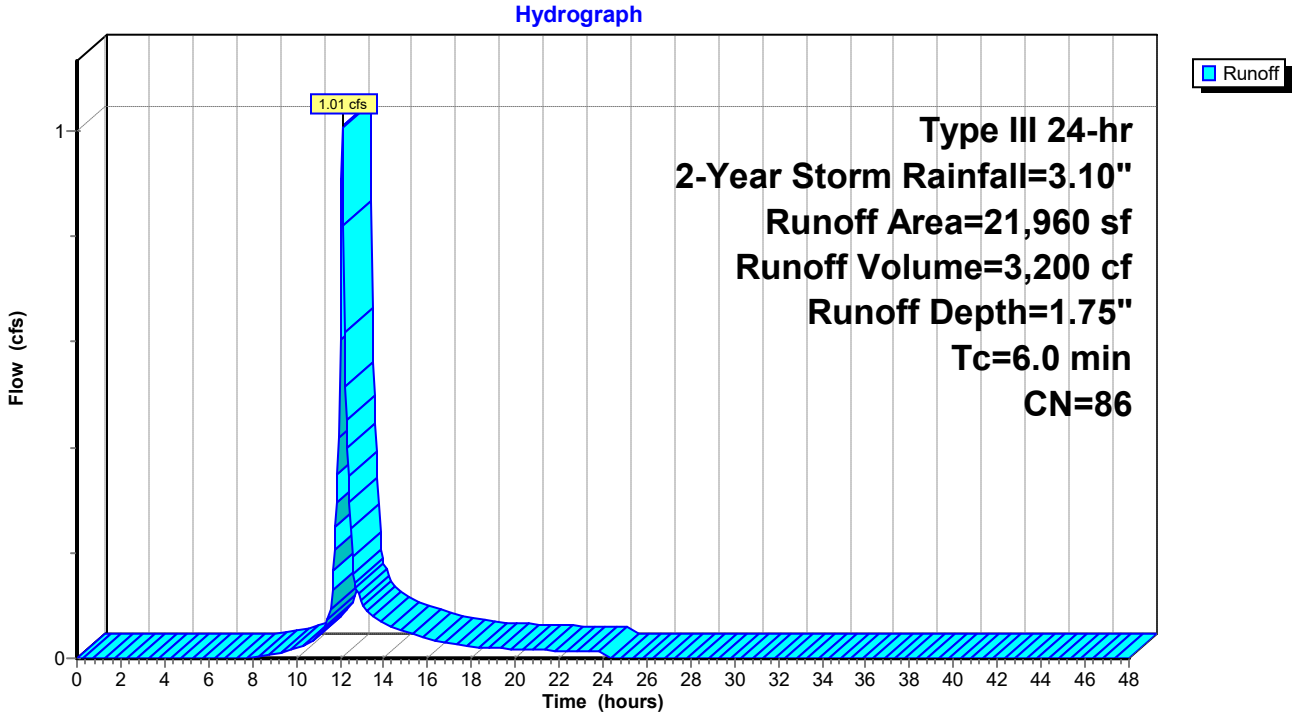
Runoff = 1.01 cfs @ 12.09 hrs, Volume= 3,200 cf, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	17,465	98	Impervious
	4,495	39	>75% Grass cover, Good, HSG A
	21,960	86	Weighted Average
	4,495		20.47% Pervious Area
	17,465		79.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building



Summary for Subcatchment 2SP: Existing Runoff to Cross Street

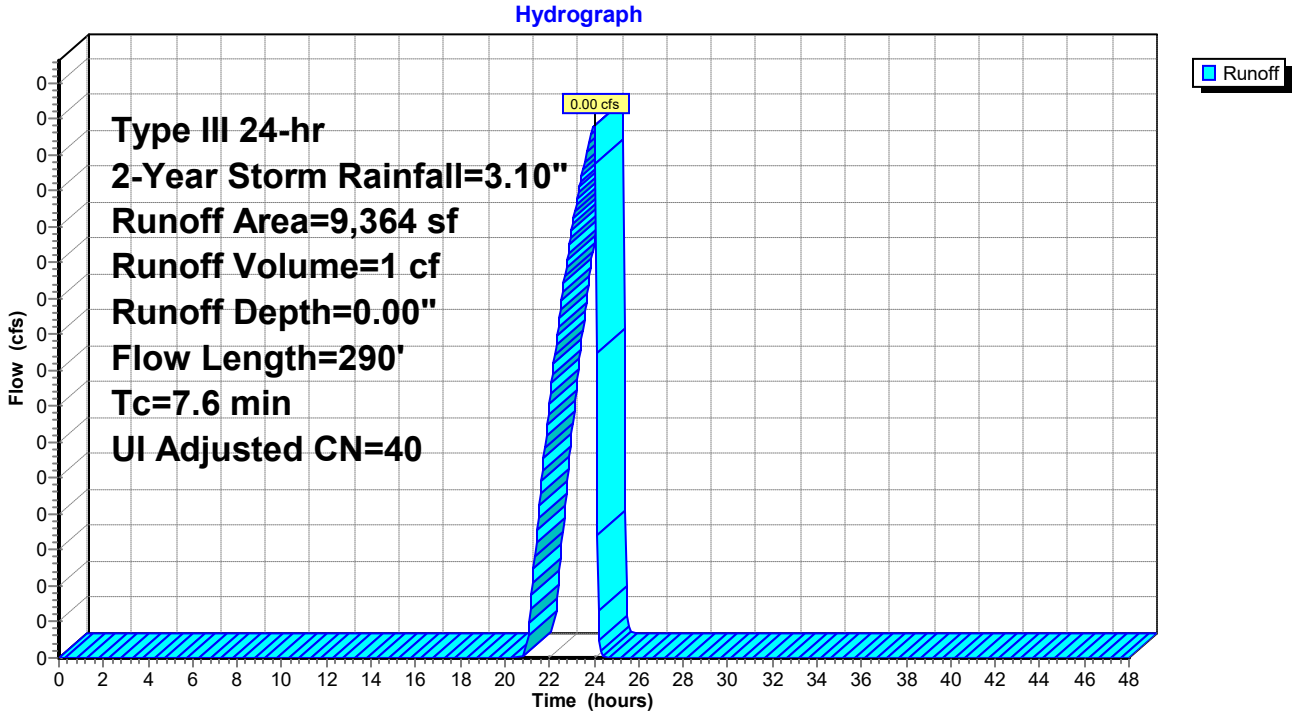
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 1 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SP: Existing Runoff to Cross Street



Summary for Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)

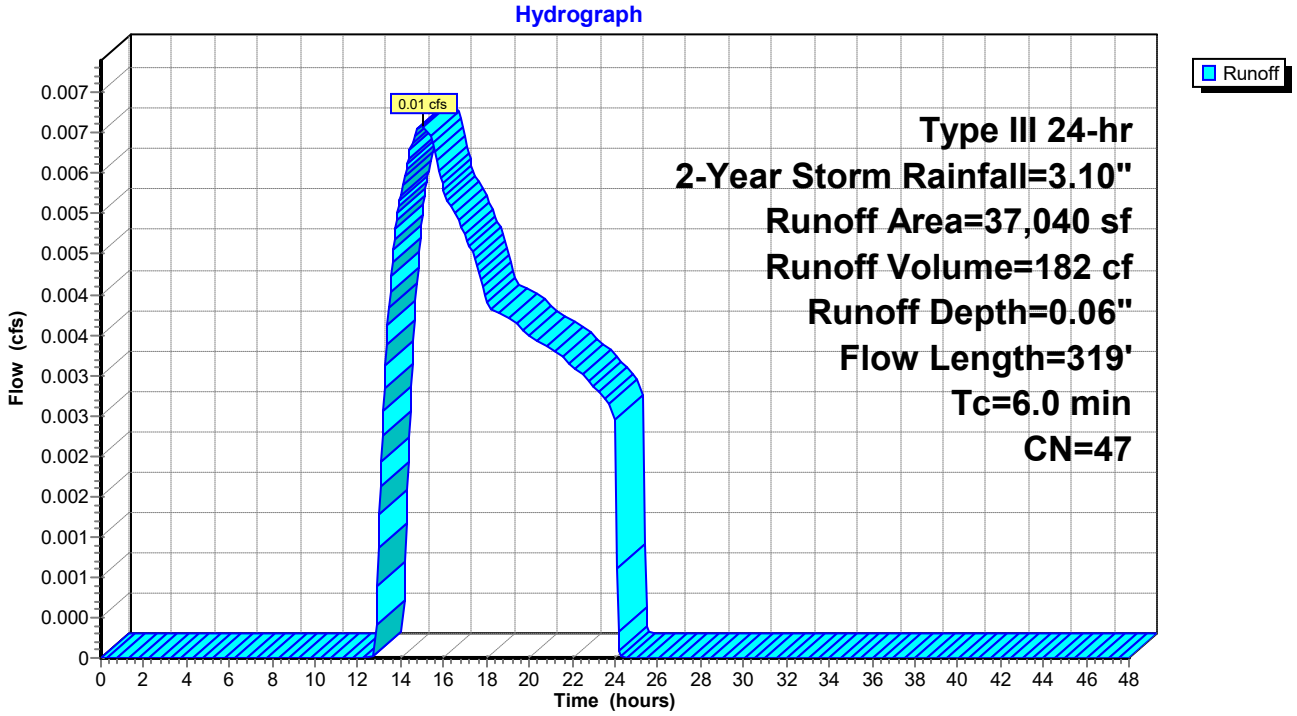
Runoff = 0.01 cfs @ 15.00 hrs, Volume= 182 cf, Depth= 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	5,130	98	Impervious,
	31,910	39	>75% Grass cover, Good, HSG A
	37,040	47	Weighted Average
	31,910		86.15% Pervious Area
	5,130		13.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.2	50	0.0390	4.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	109	0.0500	4.54		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.3					**Direct Entry, Direct**
6.0	319	Total			

Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)



Summary for Subcatchment 4SP: Sidewalk & Driveway

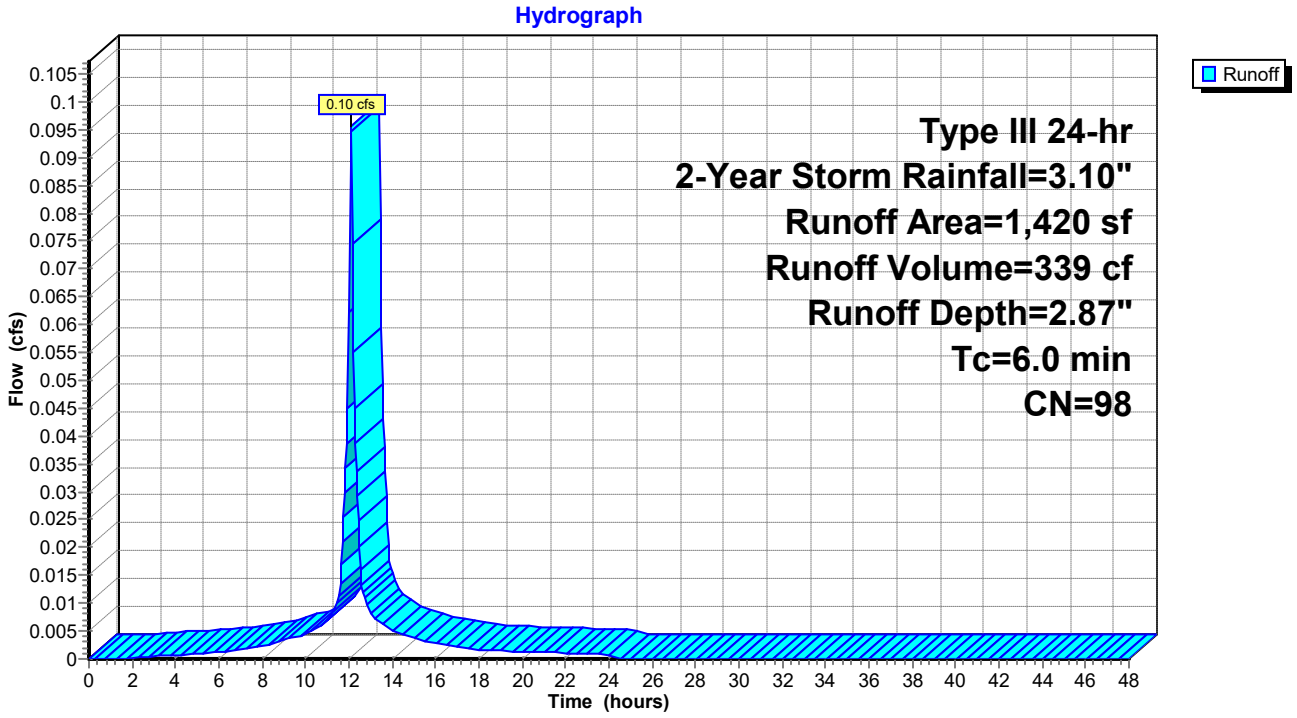
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 339 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4SP: Sidewalk & Driveway



Summary for Subcatchment 5SP: Additional Parking Lot area directed to Cross Street

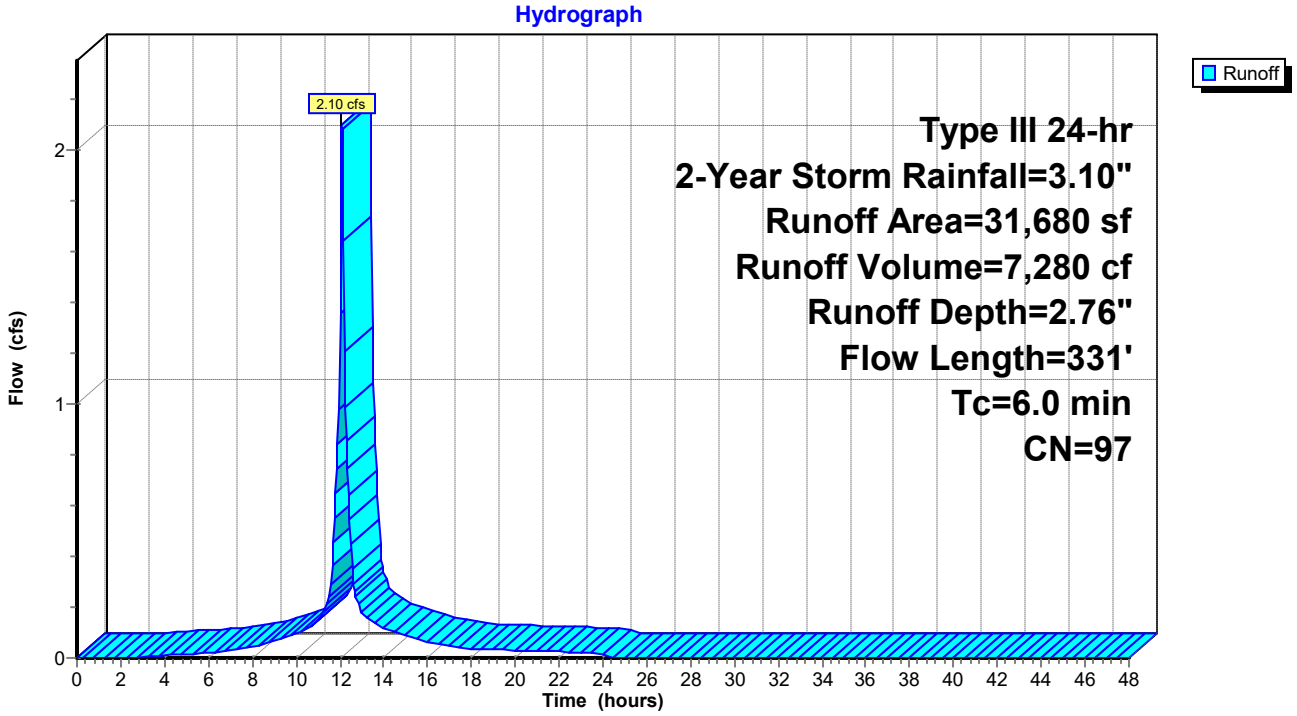
Runoff = 2.10 cfs @ 12.09 hrs, Volume= 7,280 cf, Depth= 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
378	39	>75% Grass cover, Good, HSG A
31,302	98	Paved parking, HSG A
31,680	97	Weighted Average
378		1.19% Pervious Area
31,302		98.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	66	0.0510	13.32	10.46	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
4.7					**Direct Entry,**
6.0	331	Total			

Subcatchment 5SP: Additional Parking Lot area directed to Cross Street



Summary for Subcatchment 6SP: Perimeter Area Directly to Street

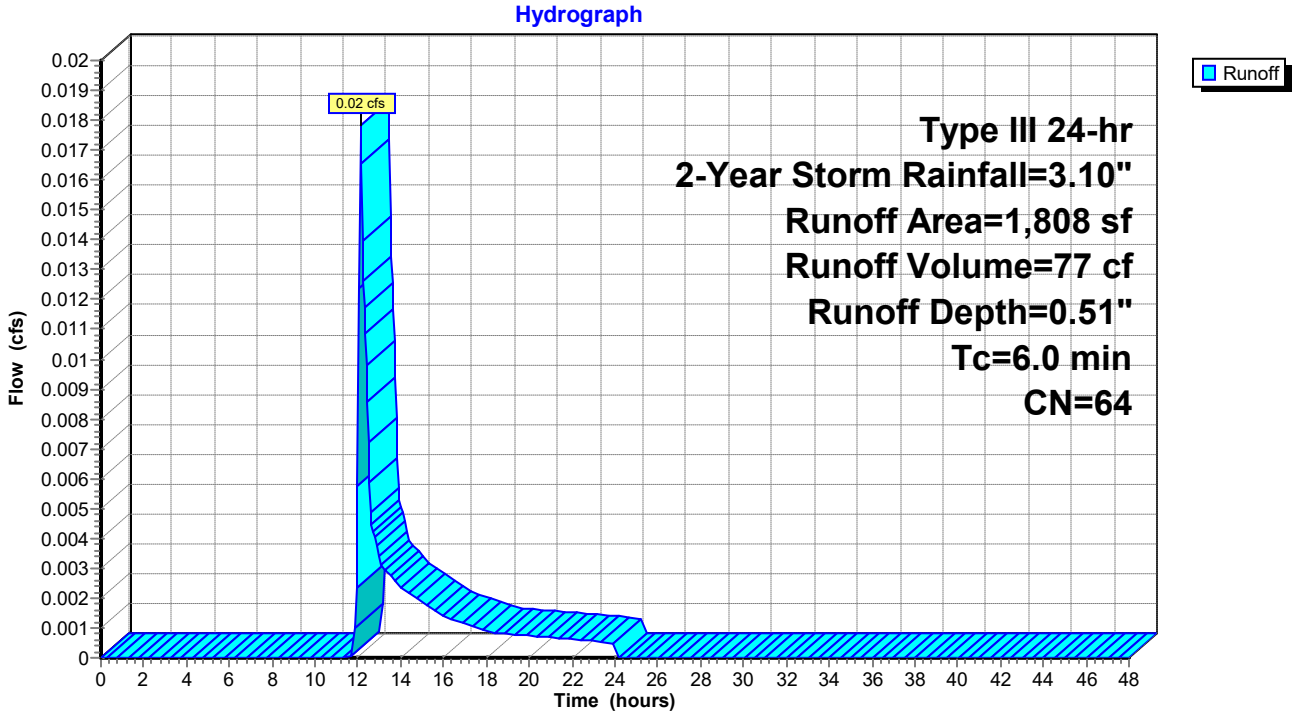
Runoff = 0.02 cfs @ 12.12 hrs, Volume= 77 cf, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
758	98	Unconnected roofs, HSG D
1,050	39	>75% Grass cover, Good, HSG A
1,808	64	Weighted Average
1,050		58.08% Pervious Area
758		41.92% Impervious Area
758		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct**

Subcatchment 6SP: Perimeter Area Directly to Street



Summary for Pond 1P: R-Tank

Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 1.82" for 2-Year Storm event
Inflow = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf
Outflow = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf, Atten= 3%, Lag= 1.3 min
Primary = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.01' @ 12.11 hrs Surf.Area= 300 sf Storage= 178 cf

Plug-Flow detention time= 17.1 min calculated for 3,509 cf (99% of inflow)
Center-of-Mass det. time= 11.5 min (829.0 - 817.5)

Volume	Invert	Avail.Storage	Storage Description
#1	10.03'	405 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 1,635 cf Overall - 622 cf Embedded = 1,013 cf x 40.0% Voids
#2	10.28'	591 cf	**R-Tank Triple Modules (Prismatic)** Listed below (Recalc) Inside #1 622 cf Overall x 95.0% Voids
		996 cf	Total Available Storage

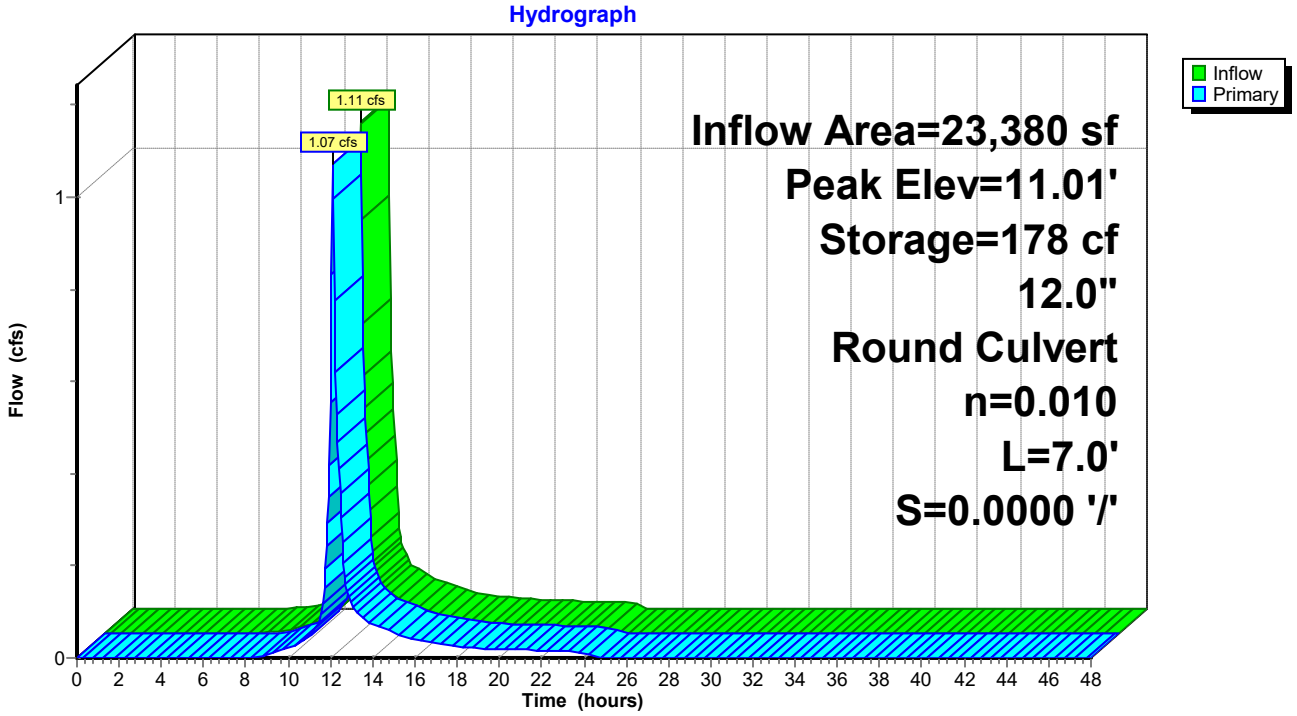
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.03	300	0	0
15.48	300	1,635	1,635

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.28	148	0	0
14.48	148	622	622

Device	Routing	Invert	Outlet Devices
#1	Primary	10.28'	**12.0" Round Culvert** L= 7.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 10.28' / 10.28' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.11 hrs HW=11.00' (Free Discharge)
1=Culvert (Barrel Controls 1.04 cfs @ 2.40 fps)

Pond 1P: R-Tank



Summary for Pond 2P: Kraken

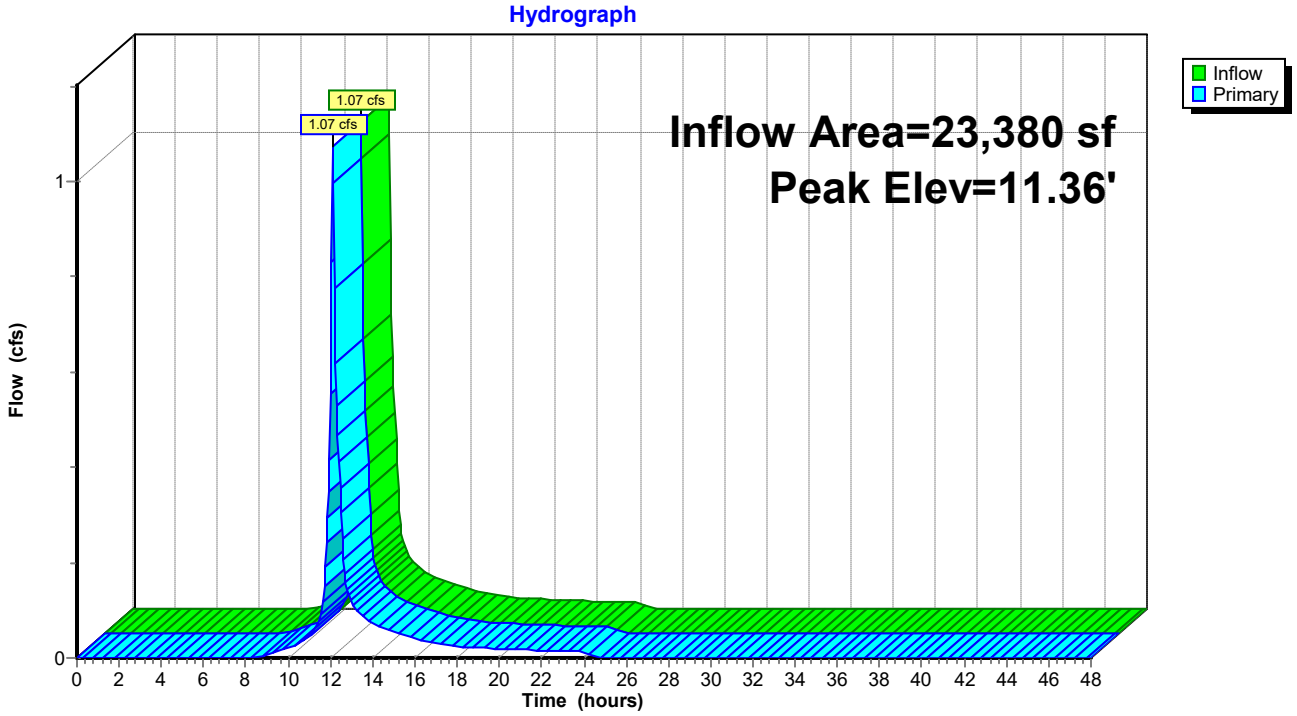
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 1.80" for 2-Year Storm event
Inflow = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf
Outflow = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.36' @ 12.11 hrs
Flood Elev= 19.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.78'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.78' / 9.68' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	7.78'	**Kraken HGL Discharged Rate** Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.012 0.024 0.036 0.048 0.061 0.073 0.085 0.097 0.109 0.121 0.133 0.145 0.158 0.170 0.182 0.194 0.206 0.218 0.230 0.242 0.255 0.267 0.279 0.291 0.303
#3	Device 1	10.96'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.04 cfs @ 12.11 hrs HW=11.35' (Free Discharge)
└**1=Culvert** (Passes 1.04 cfs of 3.09 cfs potential flow)
  ├**2=Kraken HGL Discharged Rate** (Custom Controls 0.30 cfs)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.74 cfs @ 2.04 fps)

Pond 2P: Kraken



Summary for Pond 3P: SD

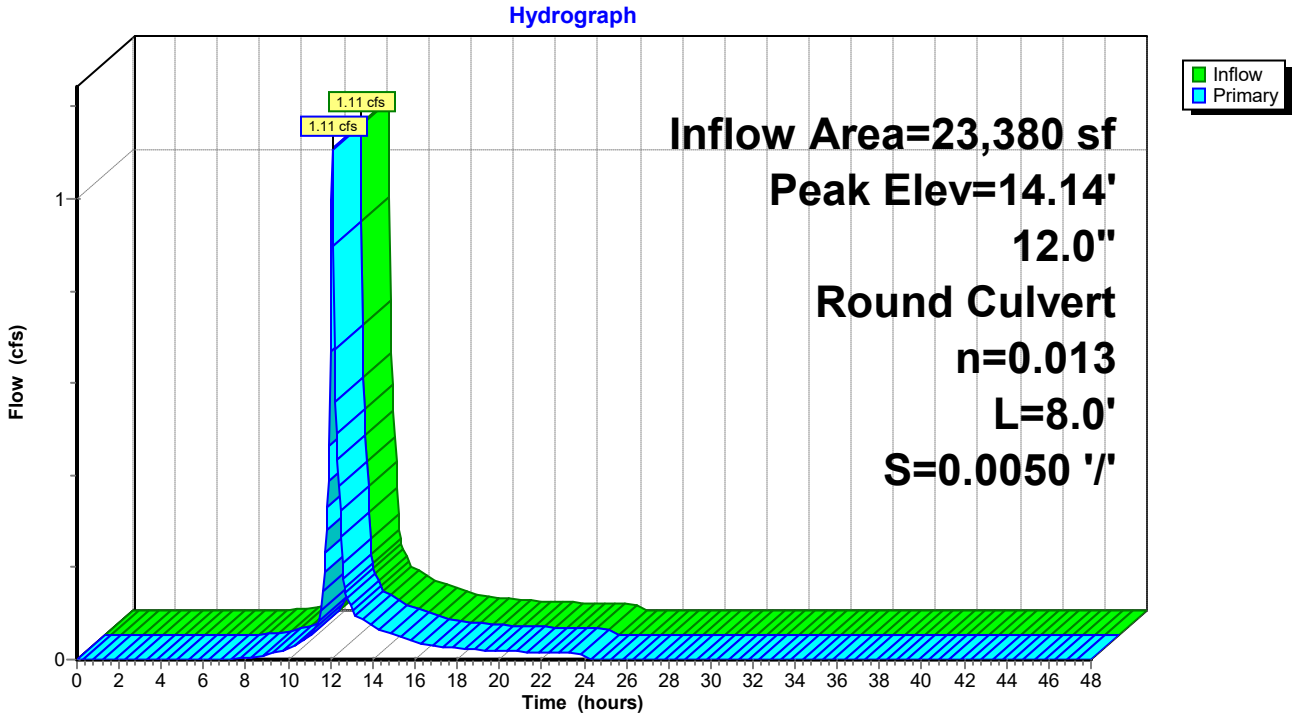
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 1.82" for 2-Year Storm event
Inflow = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf
Outflow = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 14.14' @ 12.09 hrs
Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.42'	**12.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.42' / 13.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 12.09 hrs HW=14.13' (Free Discharge)
1=Culvert (Barrel Controls 1.09 cfs @ 2.56 fps)

Pond 3P: SD

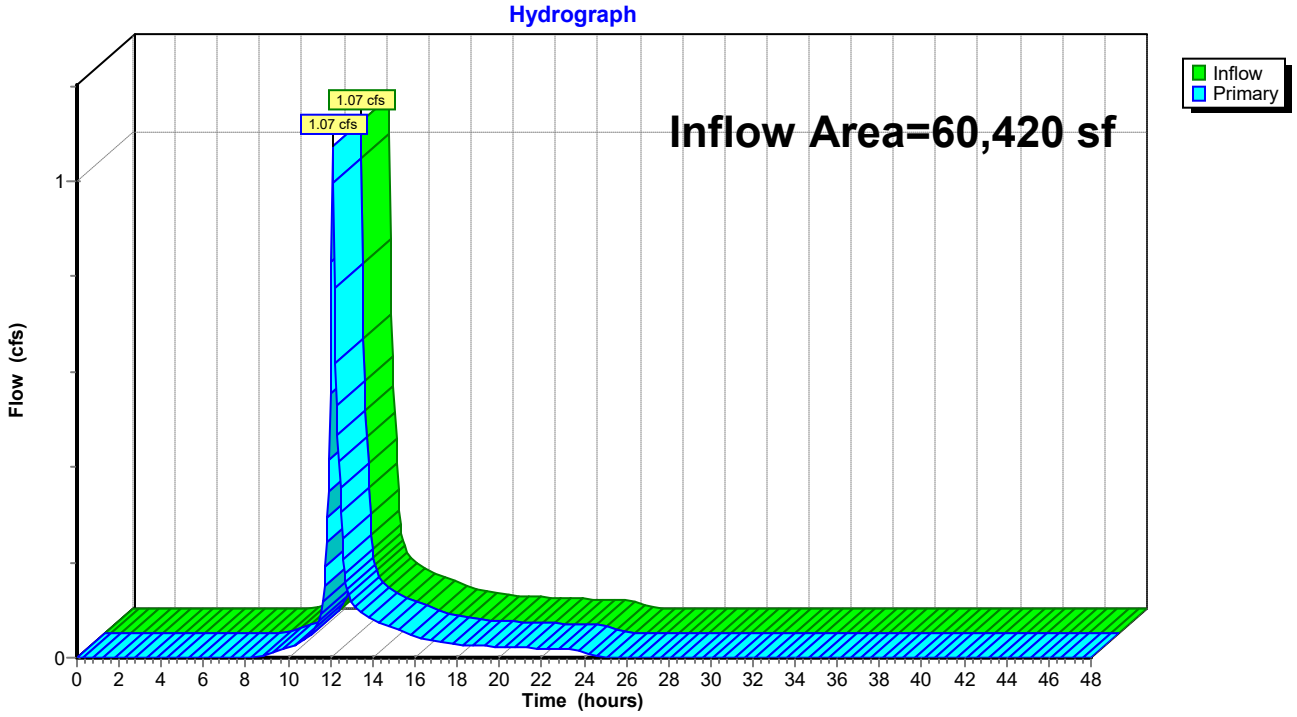


Summary for Link SP1P: Center Street SD

Inflow Area = 60,420 sf, 39.75% Impervious, Inflow Depth = 0.73" for 2-Year Storm event
Inflow = 1.07 cfs @ 12.11 hrs, Volume= 3,691 cf
Primary = 1.07 cfs @ 12.11 hrs, Volume= 3,691 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1P: Center Street SD

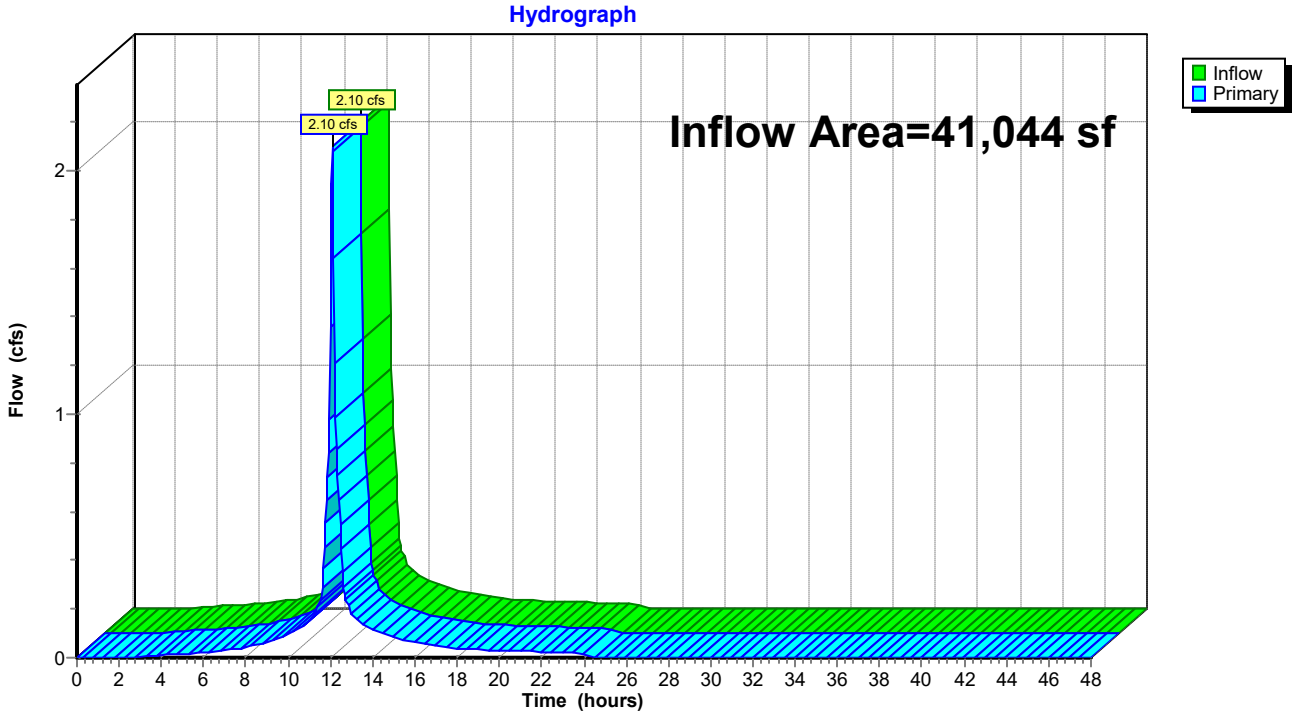


Summary for Link SP2P: Cross Street SD

Inflow Area = 41,044 sf, 77.42% Impervious, Inflow Depth = 2.13" for 2-Year Storm event
Inflow = 2.10 cfs @ 12.09 hrs, Volume= 7,280 cf
Primary = 2.10 cfs @ 12.09 hrs, Volume= 7,280 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2P: Cross Street SD

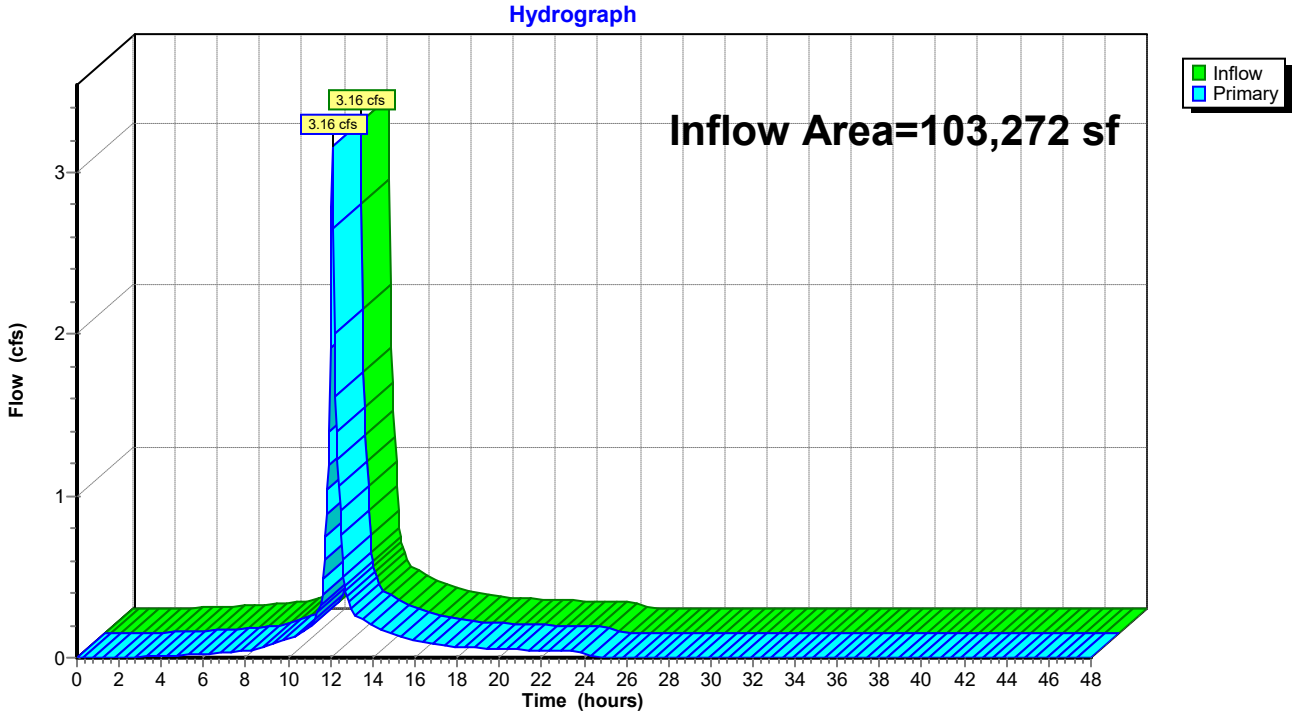


Summary for Link SP3P: Commercial Street Sewer

Inflow Area = 103,272 sf, 54.76% Impervious, Inflow Depth = 1.28" for 2-Year Storm event
Inflow = 3.16 cfs @ 12.10 hrs, Volume= 11,048 cf
Primary = 3.16 cfs @ 12.10 hrs, Volume= 11,048 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3P: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Runoff Area=21,960 sf 79.53% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=86 Runoff=1.77 cfs 5,665 cf

Subcatchment 2SP: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.15"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 120 cf

Subcatchment 3SP: Interim Condition & Runoff Area=37,040 sf 13.85% Impervious Runoff Depth=0.40"
Flow Length=319' Tc=6.0 min CN=47 Runoff=0.15 cfs 1,246 cf

Subcatchment 4SP: Sidewalk & Driveway Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.14 cfs 516 cf

Subcatchment 5SP: Additional Parking Lot Runoff Area=31,680 sf 98.81% Impervious Runoff Depth=4.25"
Flow Length=331' Tc=6.0 min CN=97 Runoff=3.17 cfs 11,216 cf

Subcatchment 6SP: Perimeter Area Directly Runoff Area=1,808 sf 41.92% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=64 Runoff=0.06 cfs 200 cf

Pond 1P: R-Tank Peak Elev=11.31' Storage=237 cf Inflow=1.92 cfs 6,181 cf
12.0" Round Culvert n=0.010 L=7.0' S=0.0000 '/' Outflow=1.87 cfs 6,151 cf

Pond 2P: Kraken Peak Elev=11.63' Inflow=1.87 cfs 6,151 cf
Outflow=1.87 cfs 6,151 cf

Pond 3P: SD Peak Elev=14.43' Inflow=1.92 cfs 6,181 cf
12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=1.92 cfs 6,181 cf

Link SP1P: Center Street SD Inflow=1.96 cfs 7,397 cf
Primary=1.96 cfs 7,397 cf

Link SP2P: Cross Street SD Inflow=3.17 cfs 11,337 cf
Primary=3.17 cfs 11,337 cf

Link SP3P: Commercial Street Sewer Inflow=5.13 cfs 18,934 cf
Primary=5.13 cfs 18,934 cf

Total Runoff Area = 103,272 sf Runoff Volume = 18,964 cf Average Runoff Depth = 2.20"
45.24% Pervious = 46,723 sf 54.76% Impervious = 56,549 sf

Summary for Subcatchment 1SP: Building

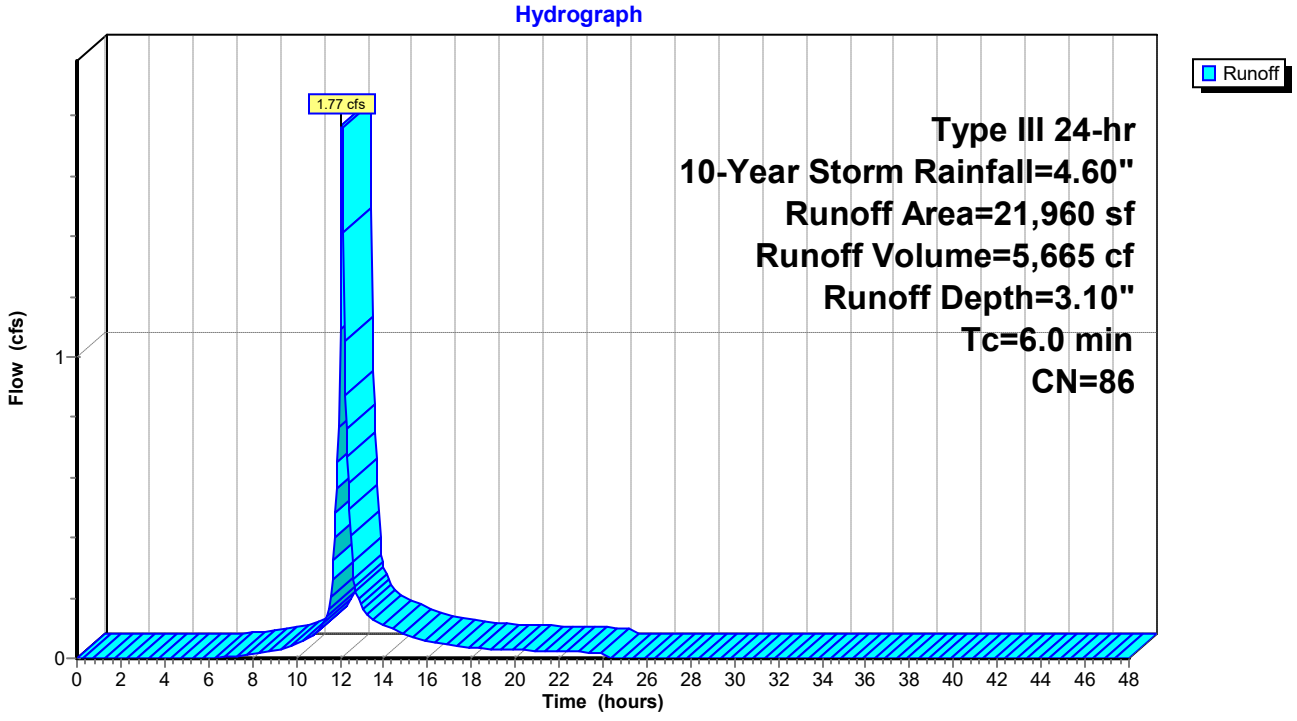
Runoff = 1.77 cfs @ 12.09 hrs, Volume= 5,665 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	17,465	98	Impervious
	4,495	39	>75% Grass cover, Good, HSG A
	21,960	86	Weighted Average
	4,495		20.47% Pervious Area
	17,465		79.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building



Summary for Subcatchment 2SP: Existing Runoff to Cross Street

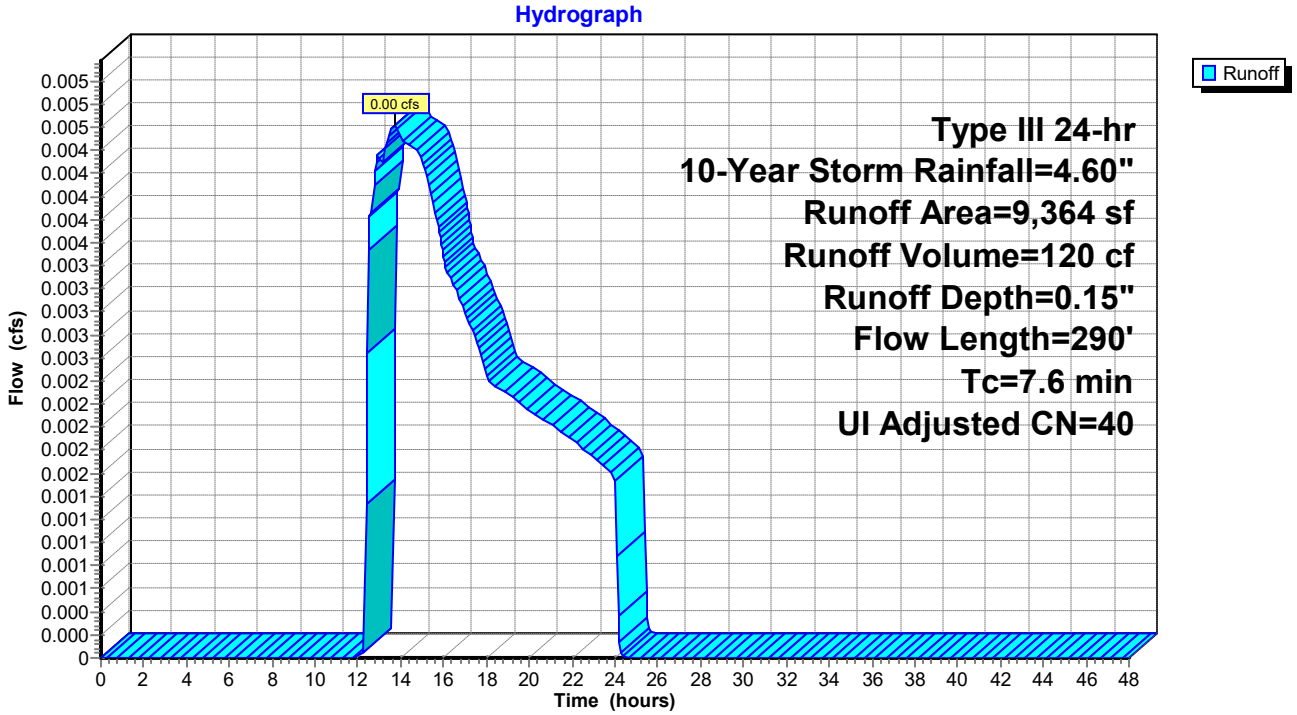
Runoff = 0.00 cfs @ 13.70 hrs, Volume= 120 cf, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SP: Existing Runoff to Cross Street



Summary for Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)

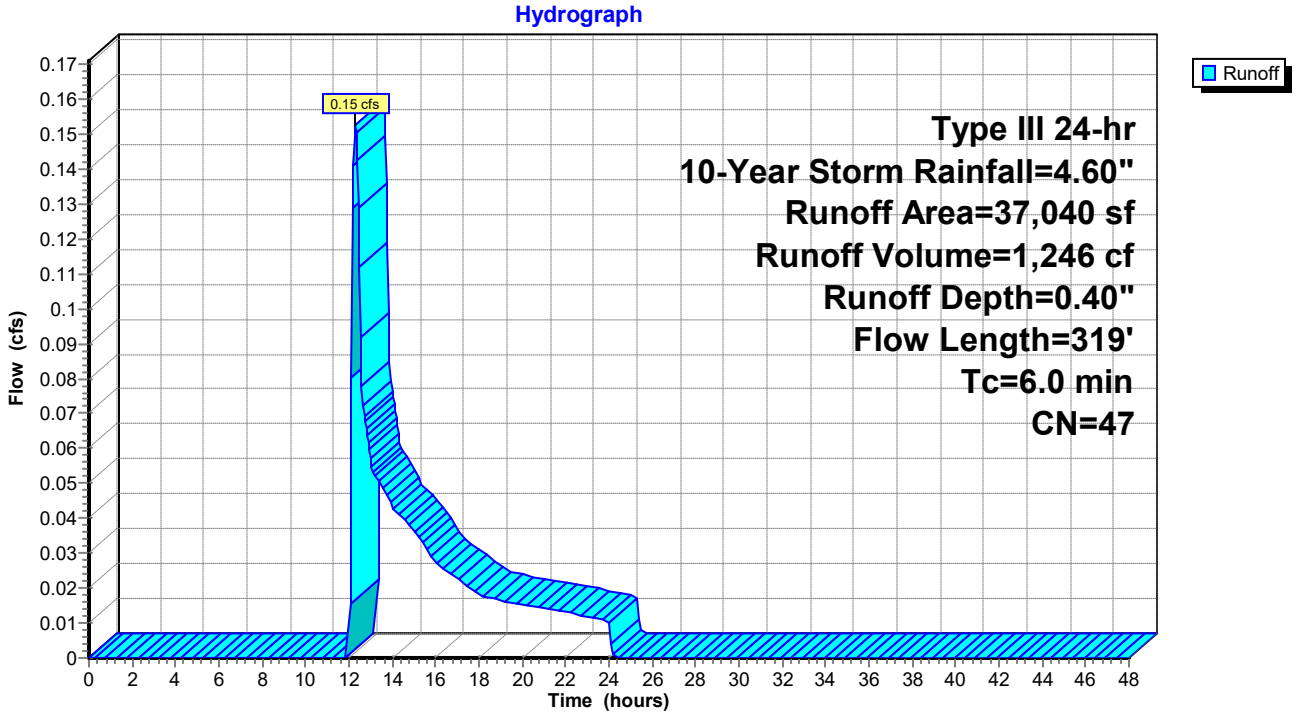
Runoff = 0.15 cfs @ 12.31 hrs, Volume= 1,246 cf, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	5,130	98	Impervious,
	31,910	39	>75% Grass cover, Good, HSG A
	37,040	47	Weighted Average
	31,910		86.15% Pervious Area
	5,130		13.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.2	50	0.0390	4.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	109	0.0500	4.54		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.3					**Direct Entry, Direct**
6.0	319	Total			

Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)



Summary for Subcatchment 4SP: Sidewalk & Driveway

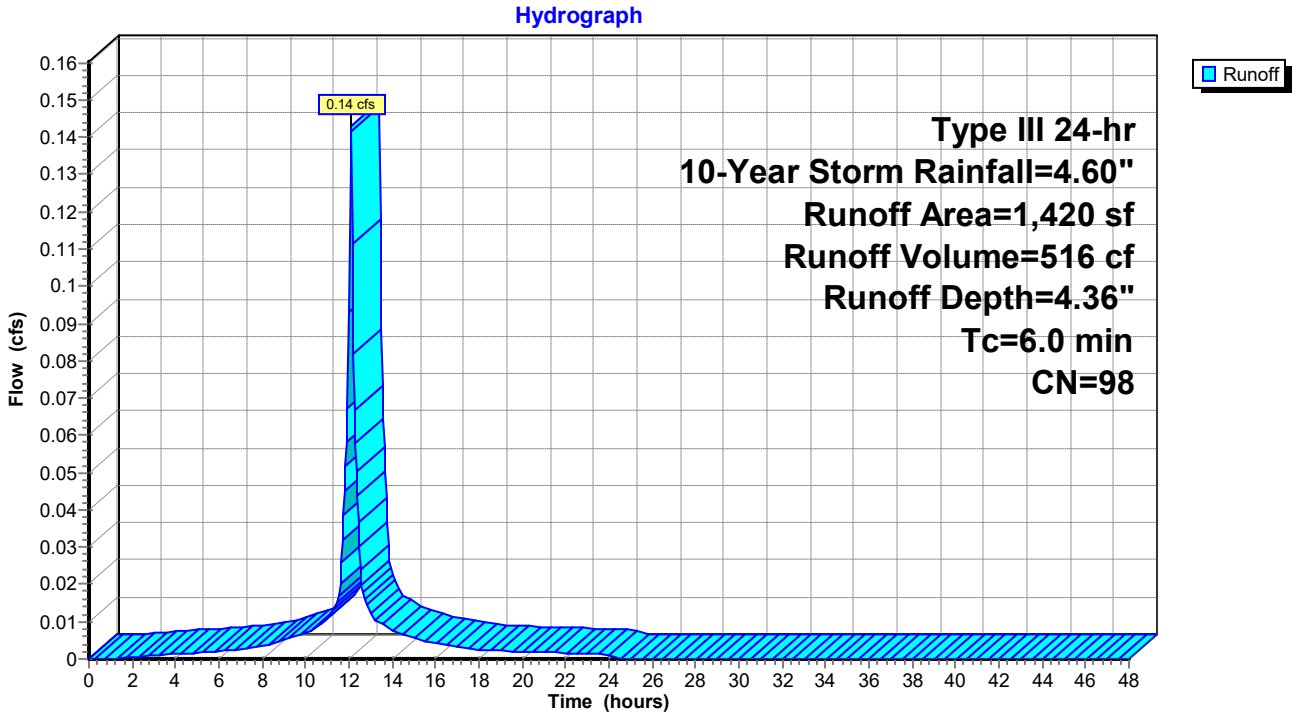
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 516 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4SP: Sidewalk & Driveway



Summary for Subcatchment 5SP: Additional Parking Lot area directed to Cross Street

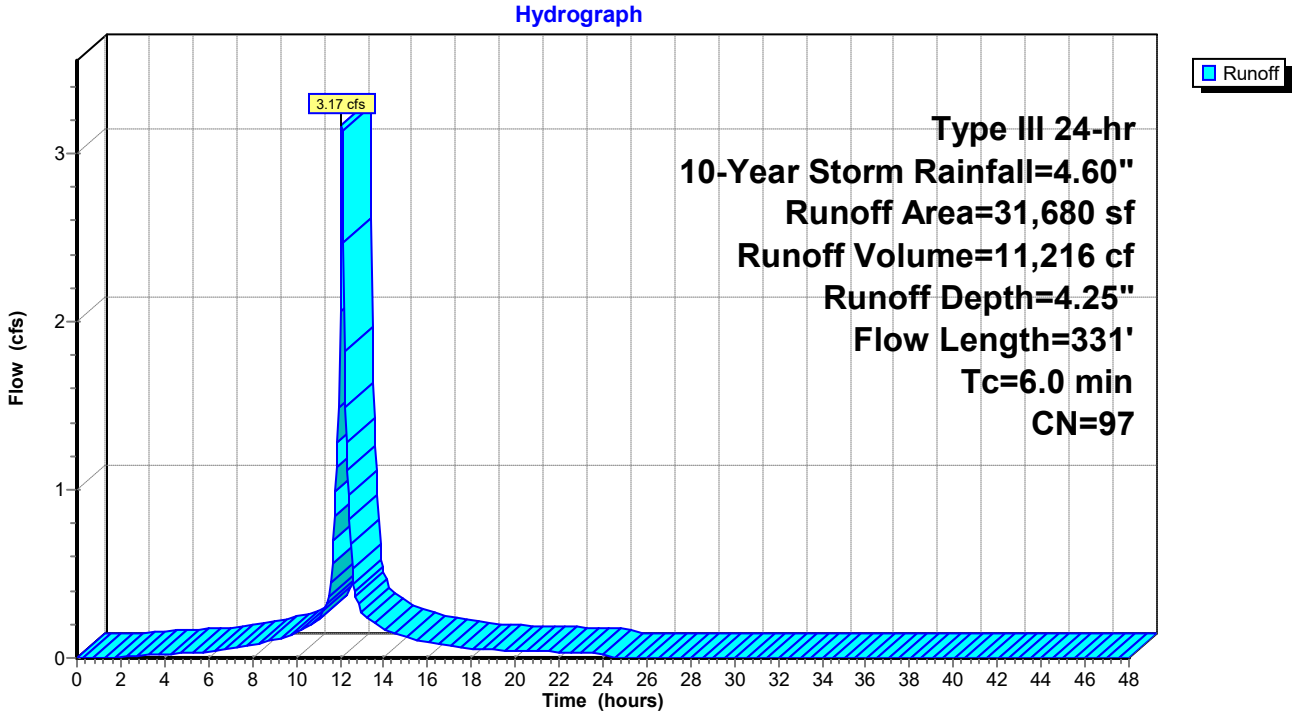
Runoff = 3.17 cfs @ 12.09 hrs, Volume= 11,216 cf, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
378	39	>75% Grass cover, Good, HSG A
31,302	98	Paved parking, HSG A
31,680	97	Weighted Average
378		1.19% Pervious Area
31,302		98.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	66	0.0510	13.32	10.46	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
4.7					**Direct Entry,**
6.0	331	Total			

Subcatchment 5SP: Additional Parking Lot area directed to Cross Street



Summary for Subcatchment 6SP: Perimeter Area Directly to Street

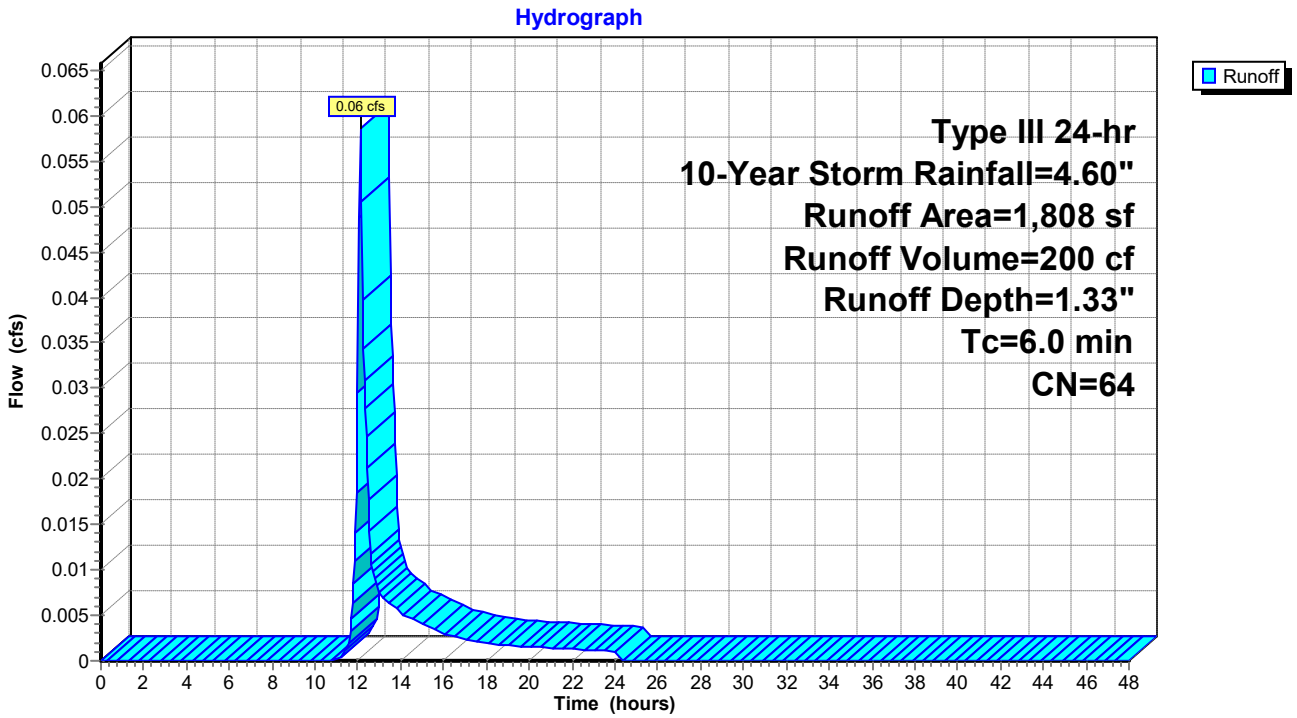
Runoff = 0.06 cfs @ 12.10 hrs, Volume= 200 cf, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
758	98	Unconnected roofs, HSG D
1,050	39	>75% Grass cover, Good, HSG A
1,808	64	Weighted Average
1,050		58.08% Pervious Area
758		41.92% Impervious Area
758		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct**

Subcatchment 6SP: Perimeter Area Directly to Street



Summary for Pond 1P: R-Tank

Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 3.17" for 10-Year Storm event
Inflow = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf
Outflow = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf, Atten= 3%, Lag= 1.2 min
Primary = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.31' @ 12.11 hrs Surf.Area= 300 sf Storage= 237 cf

Plug-Flow detention time= 12.1 min calculated for 6,151 cf (100% of inflow)
Center-of-Mass det. time= 8.6 min (811.4 - 802.8)

Volume	Invert	Avail.Storage	Storage Description
#1	10.03'	405 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 1,635 cf Overall - 622 cf Embedded = 1,013 cf x 40.0% Voids
#2	10.28'	591 cf	**R-Tank Triple Modules (Prismatic)** Listed below (Recalc) Inside #1 622 cf Overall x 95.0% Voids
		996 cf	Total Available Storage

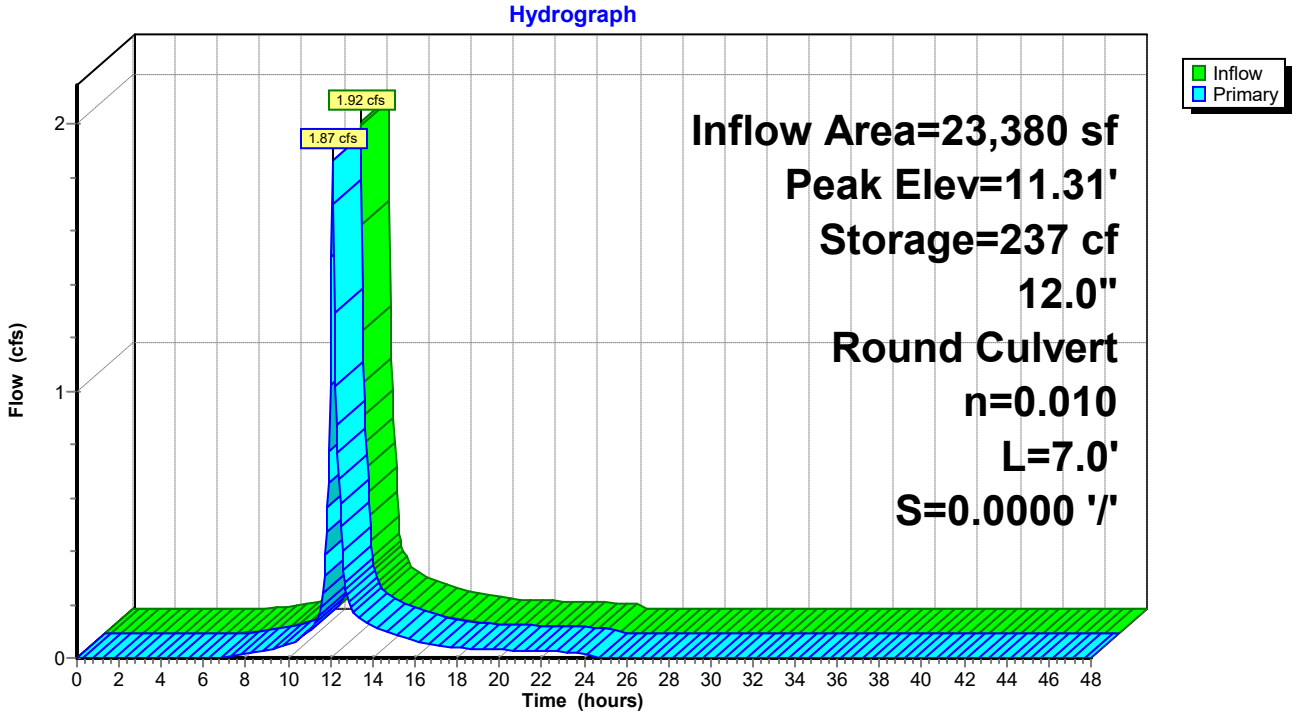
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.03	300	0	0
15.48	300	1,635	1,635

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.28	148	0	0
14.48	148	622	622

Device	Routing	Invert	Outlet Devices
#1	Primary	10.28'	**12.0" Round Culvert** L= 7.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 10.28' / 10.28' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.83 cfs @ 12.11 hrs HW=11.29' (Free Discharge)
1=Culvert (Barrel Controls 1.83 cfs @ 2.85 fps)

Pond 1P: R-Tank



Summary for Pond 2P: Kraken

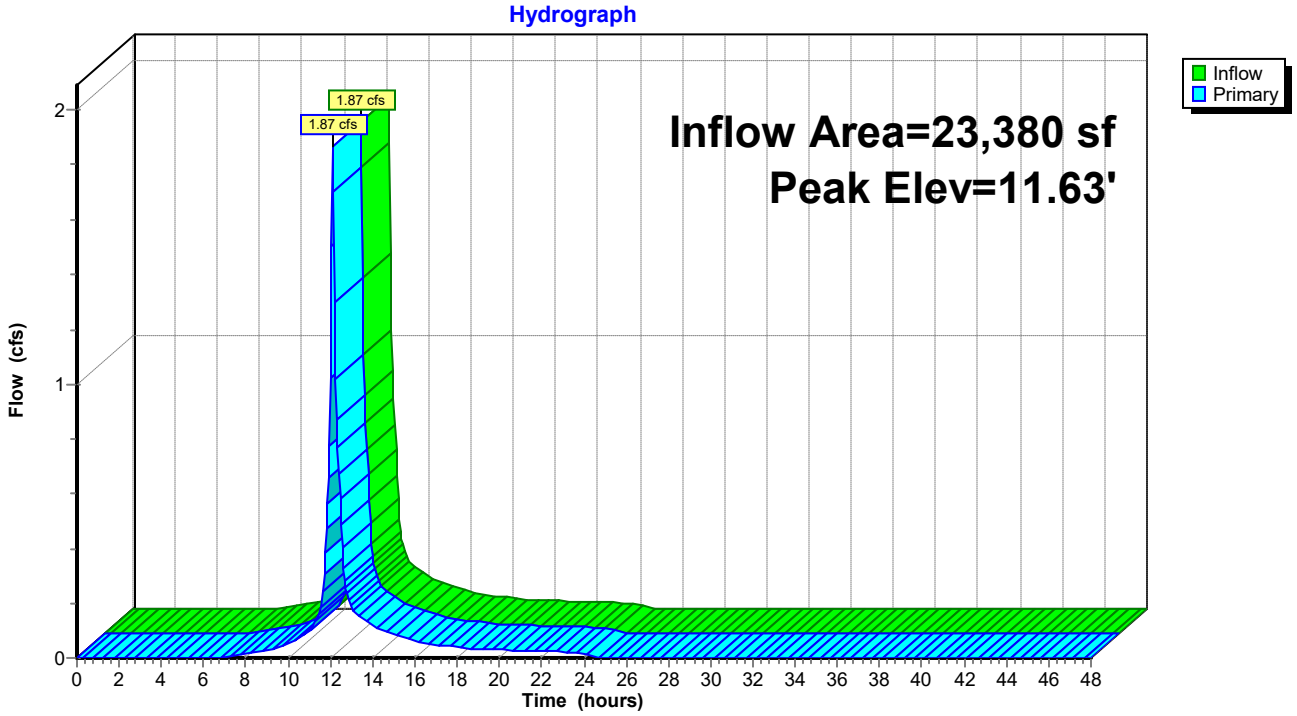
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 3.16" for 10-Year Storm event
Inflow = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf
Outflow = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.63' @ 12.11 hrs
Flood Elev= 19.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.78'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.78' / 9.68' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	7.78'	**Kraken HGL Discharged Rate** Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.012 0.024 0.036 0.048 0.061 0.073 0.085 0.097 0.109 0.121 0.133 0.145 0.158 0.170 0.182 0.194 0.206 0.218 0.230 0.242 0.255 0.267 0.279 0.291 0.303
#3	Device 1	10.96'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.82 cfs @ 12.11 hrs HW=11.62' (Free Discharge)
└**1=Culvert** (Passes 1.82 cfs of 3.46 cfs potential flow)
  ├**2=Kraken HGL Discharged Rate** (Custom Controls 0.30 cfs)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.52 cfs @ 2.66 fps)

Pond 2P: Kraken



Summary for Pond 3P: SD

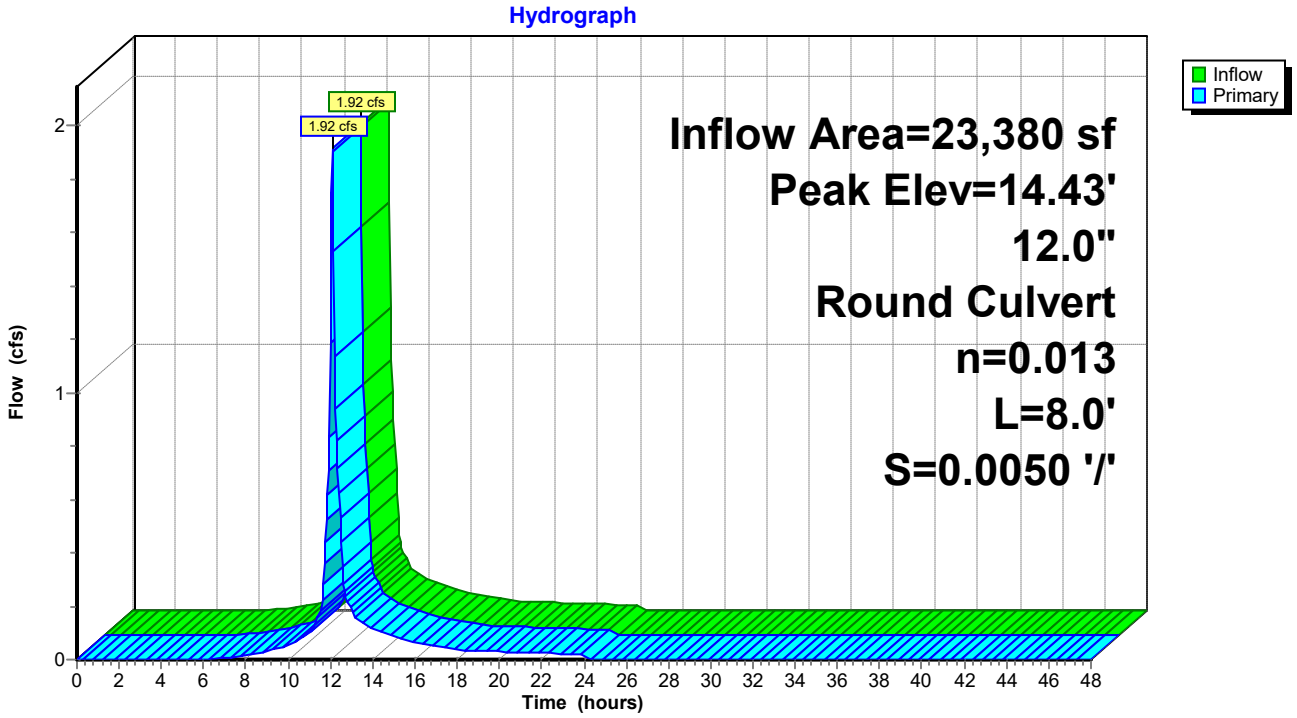
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 3.17" for 10-Year Storm event
Inflow = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf
Outflow = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 14.43' @ 12.09 hrs
Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.42'	**12.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.42' / 13.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.87 cfs @ 12.09 hrs HW=14.42' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.87 cfs @ 2.98 fps)

Pond 3P: SD

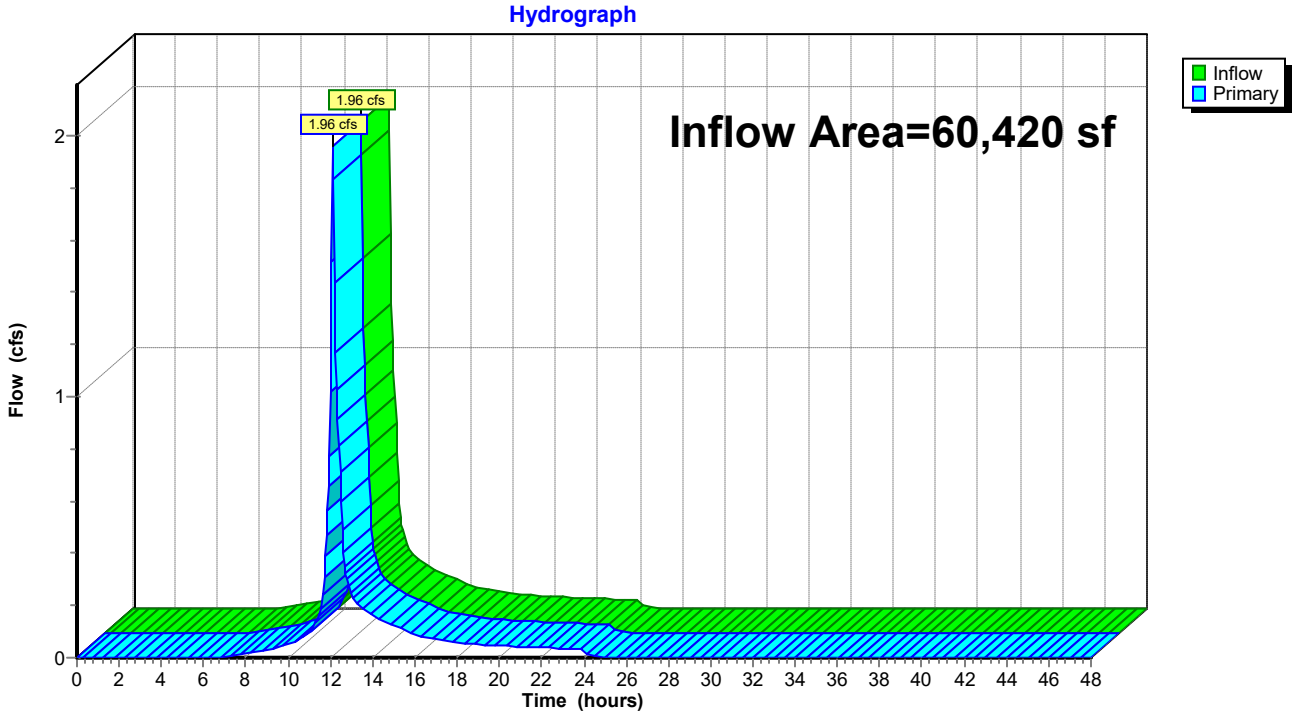


Summary for Link SP1P: Center Street SD

Inflow Area = 60,420 sf, 39.75% Impervious, Inflow Depth = 1.47" for 10-Year Storm event
Inflow = 1.96 cfs @ 12.11 hrs, Volume= 7,397 cf
Primary = 1.96 cfs @ 12.11 hrs, Volume= 7,397 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1P: Center Street SD

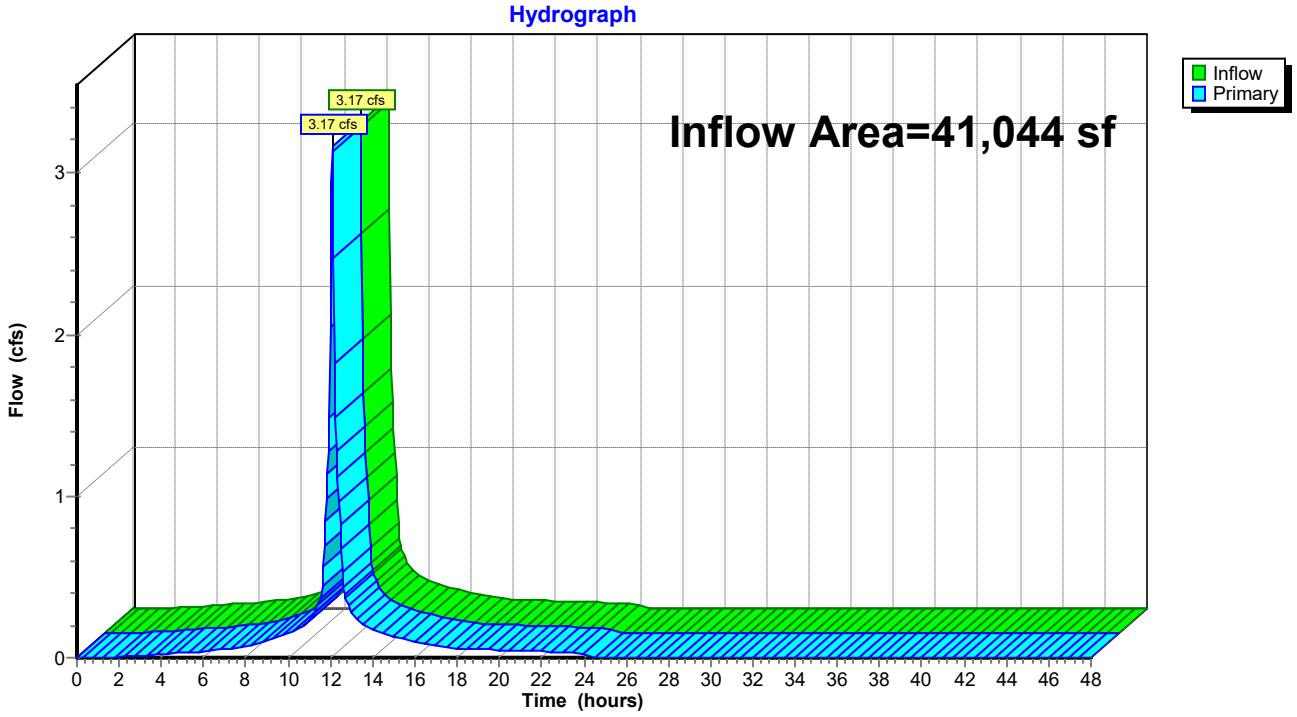


Summary for Link SP2P: Cross Street SD

Inflow Area = 41,044 sf, 77.42% Impervious, Inflow Depth = 3.31" for 10-Year Storm event
Inflow = 3.17 cfs @ 12.09 hrs, Volume= 11,337 cf
Primary = 3.17 cfs @ 12.09 hrs, Volume= 11,337 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2P: Cross Street SD

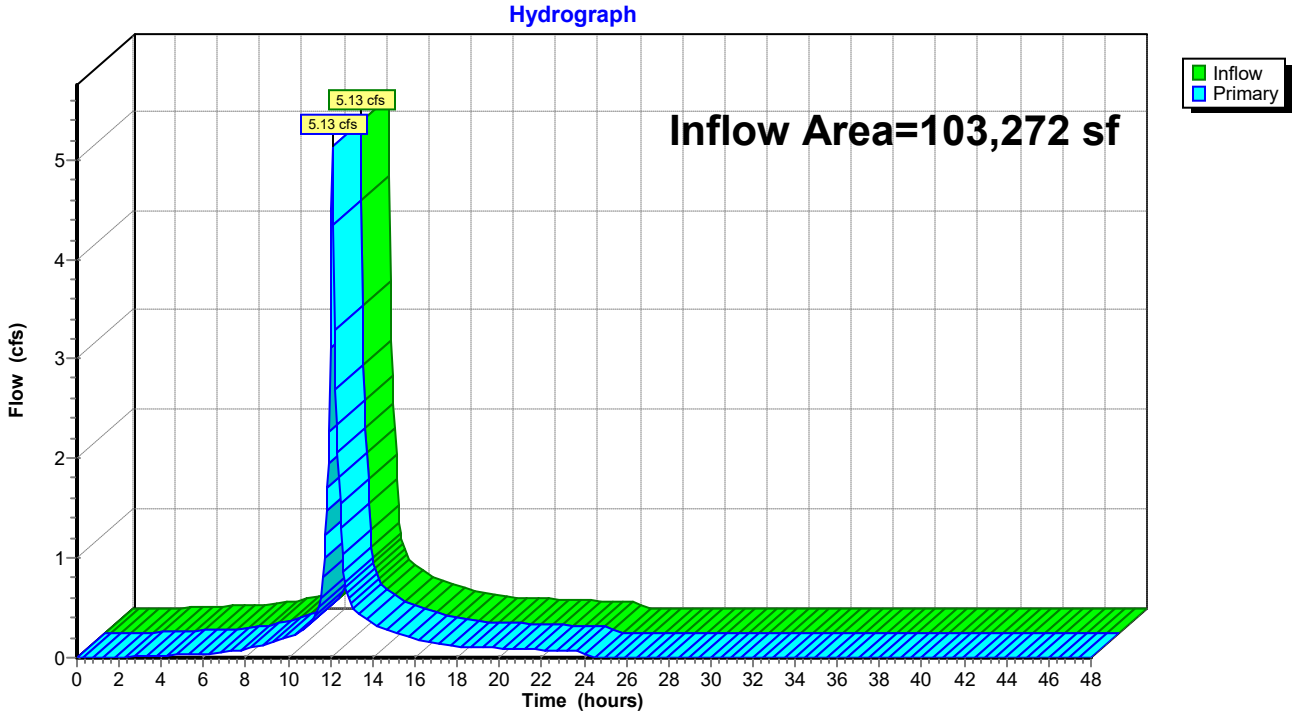


Summary for Link SP3P: Commercial Street Sewer

Inflow Area = 103,272 sf, 54.76% Impervious, Inflow Depth = 2.20" for 10-Year Storm event
Inflow = 5.13 cfs @ 12.10 hrs, Volume= 18,934 cf
Primary = 5.13 cfs @ 12.10 hrs, Volume= 18,934 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3P: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Runoff Area=21,960 sf 79.53% Impervious Runoff Depth=4.22"
Tc=6.0 min CN=86 Runoff=2.39 cfs 7,722 cf

Subcatchment 2SP: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.44"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.04 cfs 344 cf

Subcatchment 3SP: Interim Condition & Runoff Area=37,040 sf 13.85% Impervious Runoff Depth=0.85"
Flow Length=319' Tc=6.0 min CN=47 Runoff=0.55 cfs 2,617 cf

Subcatchment 4SP: Sidewalk & Driveway Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.18 cfs 658 cf

Subcatchment 5SP: Additional Parking Lot Runoff Area=31,680 sf 98.81% Impervious Runoff Depth=5.44"
Flow Length=331' Tc=6.0 min CN=97 Runoff=4.01 cfs 14,374 cf

Subcatchment 6SP: Perimeter Area Directly Runoff Area=1,808 sf 41.92% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=64 Runoff=0.10 cfs 320 cf

Pond 1P: R-Tank Peak Elev=11.55' Storage=287 cf Inflow=2.57 cfs 8,380 cf
12.0" Round Culvert n=0.010 L=7.0' S=0.0000 '/' Outflow=2.47 cfs 8,350 cf

Pond 2P: Kraken Peak Elev=11.82' Inflow=2.47 cfs 8,350 cf
Outflow=2.47 cfs 8,350 cf

Pond 3P: SD Peak Elev=14.70' Inflow=2.57 cfs 8,380 cf
12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=2.57 cfs 8,380 cf

Link SP1P: Center Street SD Inflow=3.02 cfs 10,967 cf
Primary=3.02 cfs 10,967 cf

Link SP2P: Cross Street SD Inflow=4.02 cfs 14,718 cf
Primary=4.02 cfs 14,718 cf

Link SP3P: Commercial Street Sewer Inflow=7.07 cfs 26,004 cf
Primary=7.07 cfs 26,004 cf

Total Runoff Area = 103,272 sf Runoff Volume = 26,034 cf Average Runoff Depth = 3.03"
45.24% Pervious = 46,723 sf 54.76% Impervious = 56,549 sf

Summary for Subcatchment 1SP: Building

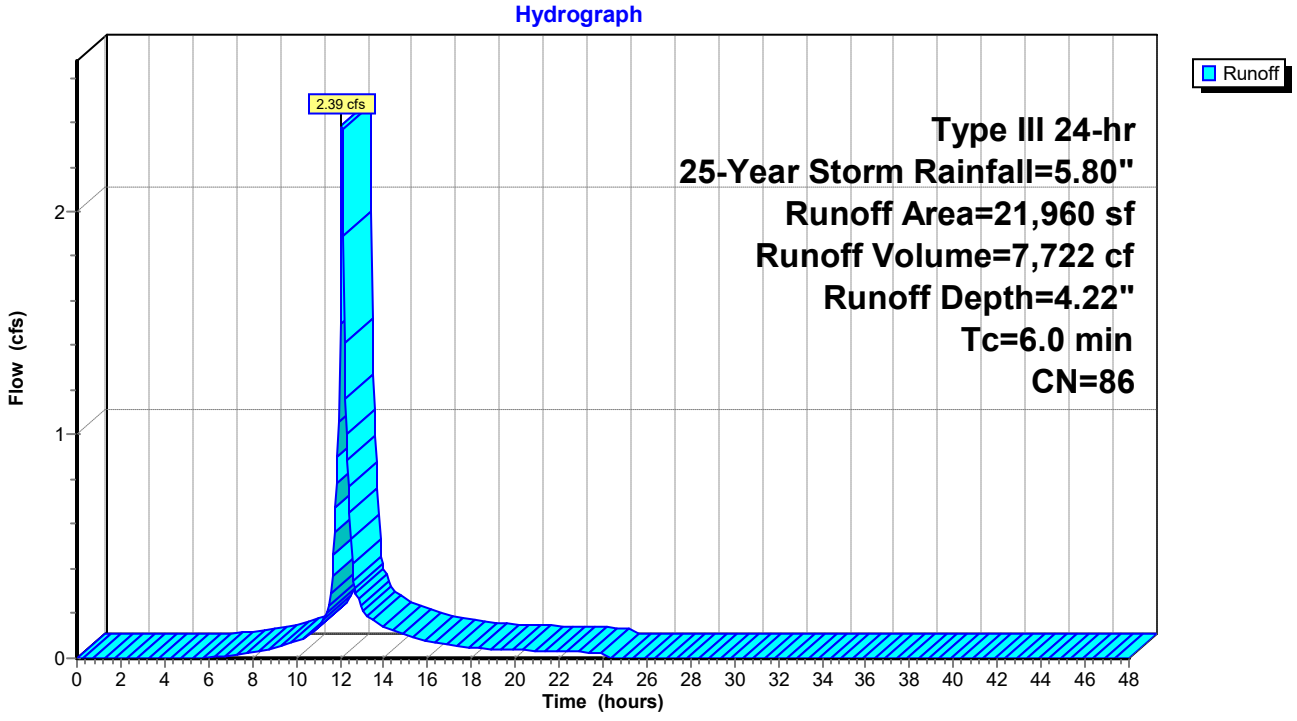
Runoff = 2.39 cfs @ 12.09 hrs, Volume= 7,722 cf, Depth= 4.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	17,465	98	Impervious
	4,495	39	>75% Grass cover, Good, HSG A
	21,960	86	Weighted Average
	4,495		20.47% Pervious Area
	17,465		79.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building



Summary for Subcatchment 2SP: Existing Runoff to Cross Street

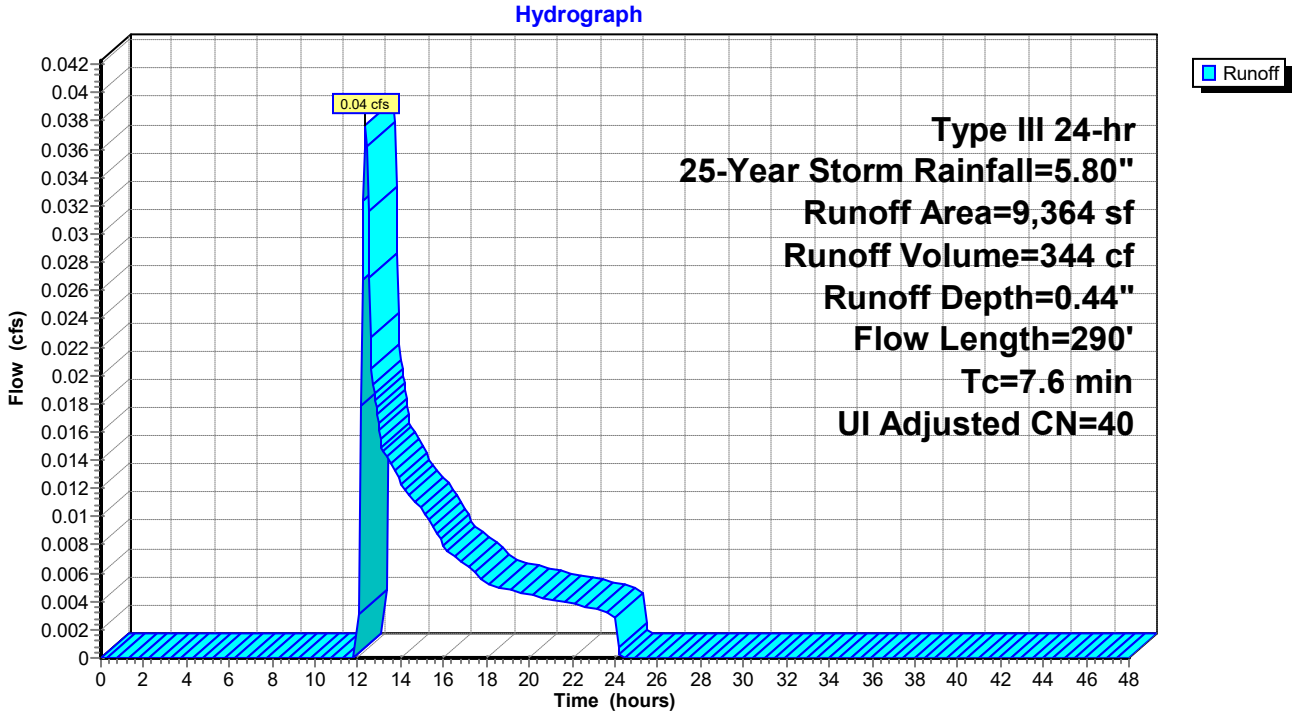
Runoff = 0.04 cfs @ 12.37 hrs, Volume= 344 cf, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SP: Existing Runoff to Cross Street



Summary for Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)

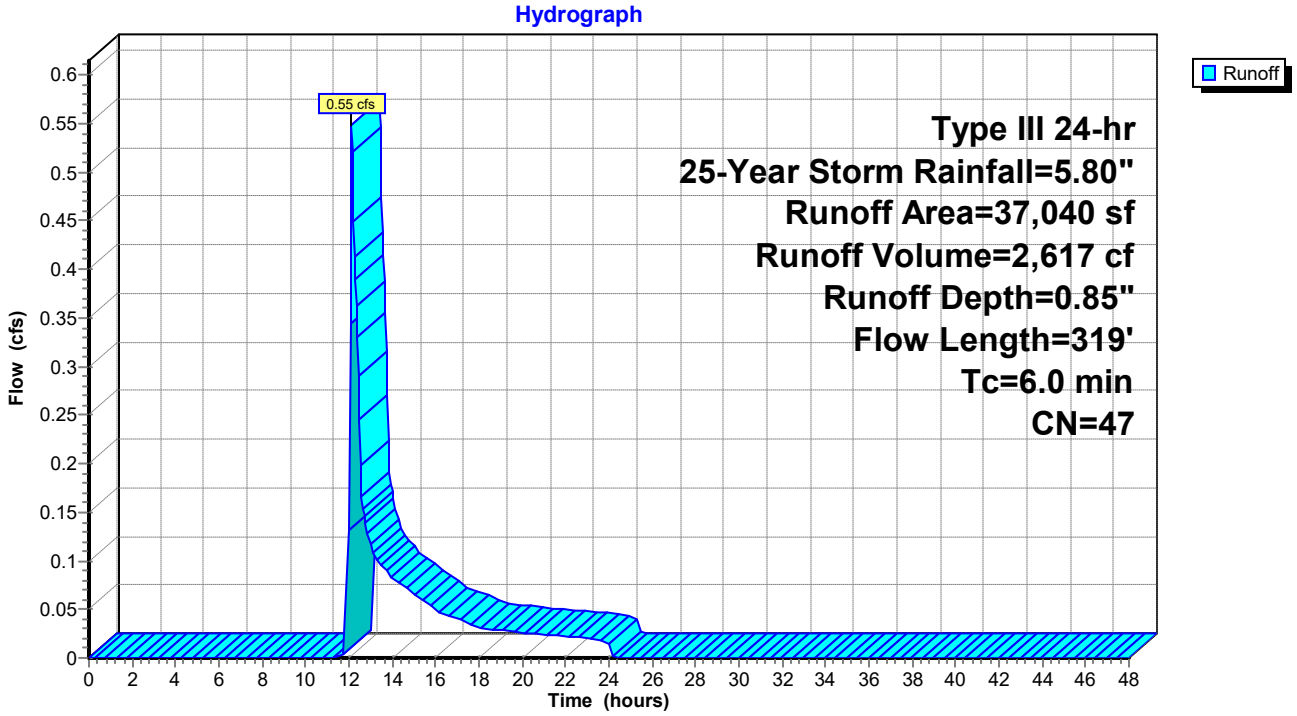
Runoff = 0.55 cfs @ 12.12 hrs, Volume= 2,617 cf, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	5,130	98	Impervious,
	31,910	39	>75% Grass cover, Good, HSG A
	37,040	47	Weighted Average
	31,910		86.15% Pervious Area
	5,130		13.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.2	50	0.0390	4.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	109	0.0500	4.54		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.3					**Direct Entry, Direct**
6.0	319	Total			

Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)



Summary for Subcatchment 4SP: Sidewalk & Driveway

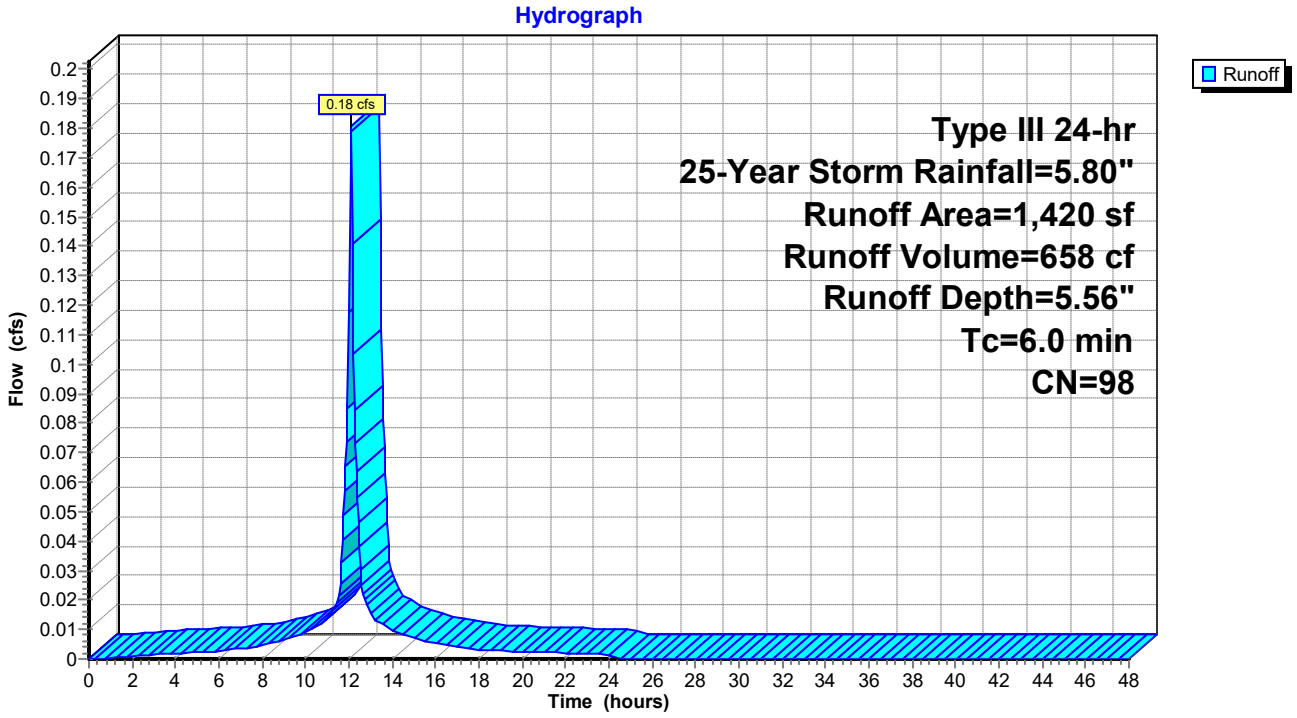
Runoff = 0.18 cfs @ 12.09 hrs, Volume= 658 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4SP: Sidewalk & Driveway



Summary for Subcatchment 5SP: Additional Parking Lot area directed to Cross Street

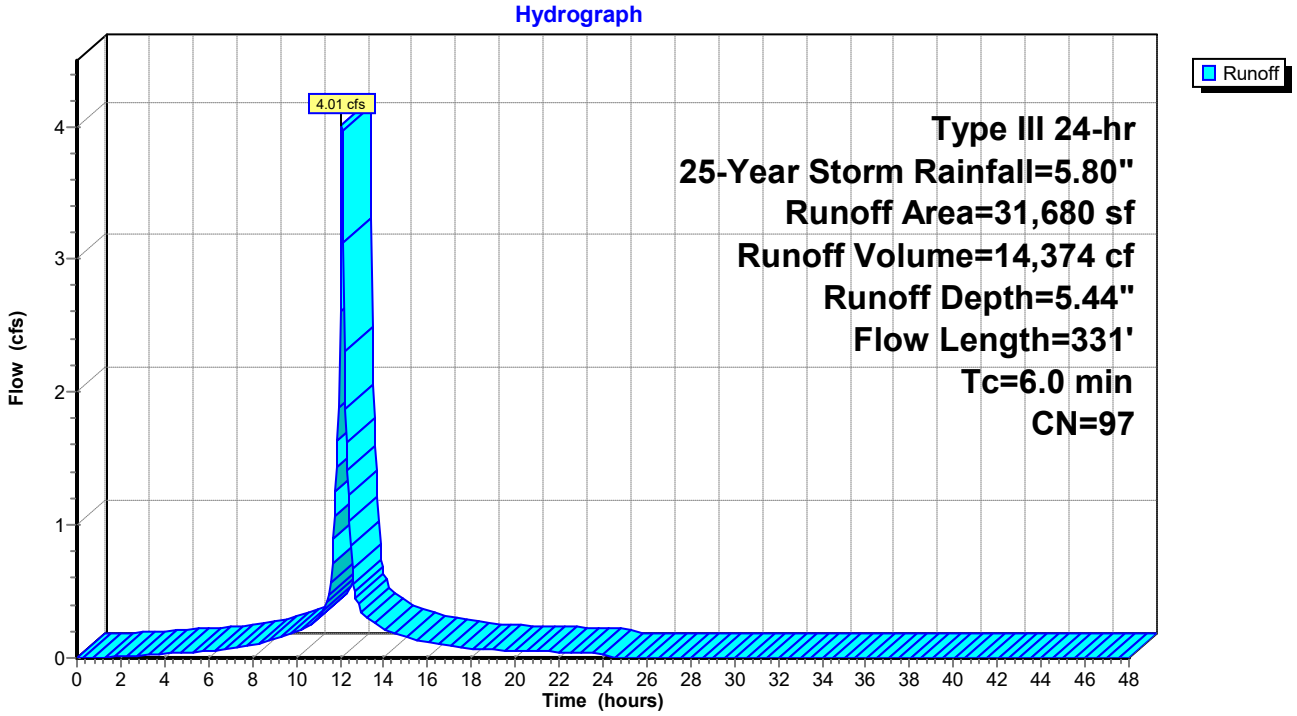
Runoff = 4.01 cfs @ 12.09 hrs, Volume= 14,374 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
378	39	>75% Grass cover, Good, HSG A
31,302	98	Paved parking, HSG A
31,680	97	Weighted Average
378		1.19% Pervious Area
31,302		98.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	66	0.0510	13.32	10.46	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
4.7					**Direct Entry,**
6.0	331	Total			

Subcatchment 5SP: Additional Parking Lot area directed to Cross Street



Summary for Subcatchment 6SP: Perimeter Area Directly to Street

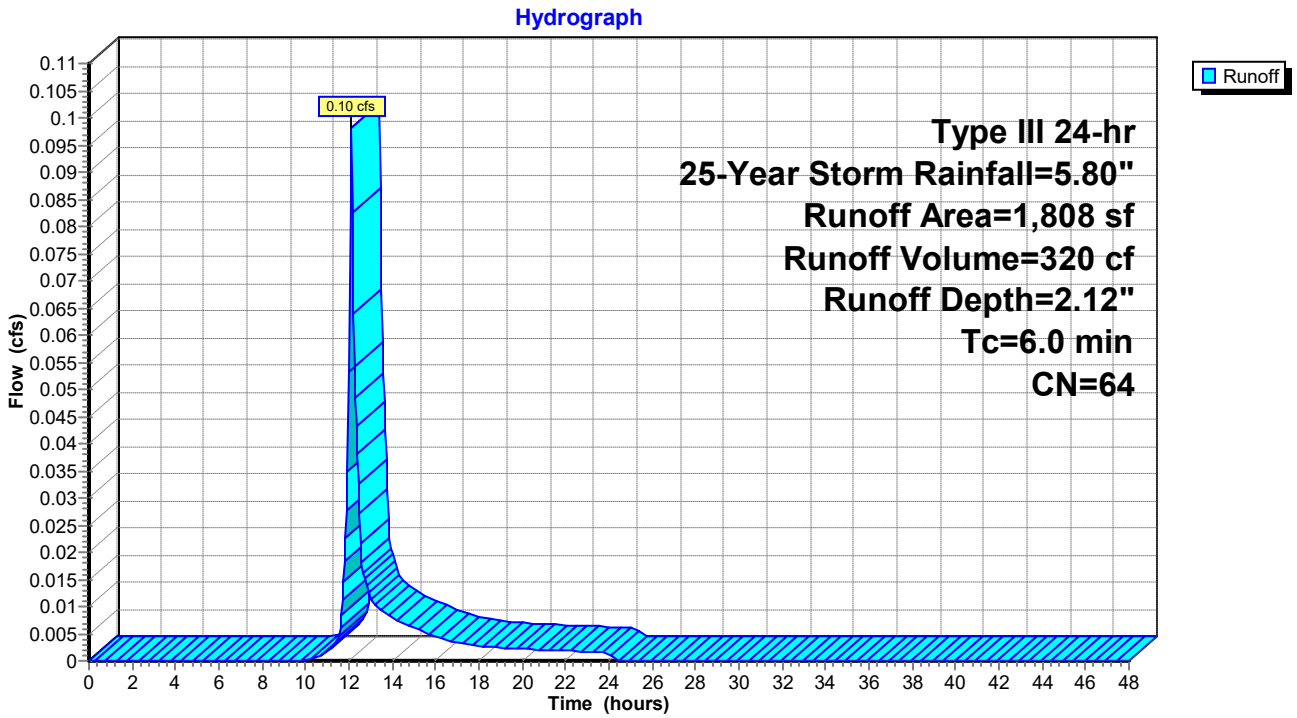
Runoff = 0.10 cfs @ 12.10 hrs, Volume= 320 cf, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
758	98	Unconnected roofs, HSG D
1,050	39	>75% Grass cover, Good, HSG A
1,808	64	Weighted Average
1,050		58.08% Pervious Area
758		41.92% Impervious Area
758		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct**

Subcatchment 6SP: Perimeter Area Directly to Street



Summary for Pond 1P: R-Tank

Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 4.30" for 25-Year Storm event
Inflow = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf
Outflow = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf, Atten= 4%, Lag= 1.3 min
Primary = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.55' @ 12.11 hrs Surf.Area= 300 sf Storage= 287 cf

Plug-Flow detention time= 9.4 min calculated for 8,341 cf (100% of inflow)
Center-of-Mass det. time= 7.3 min (802.1 - 794.7)

Volume	Invert	Avail.Storage	Storage Description
#1	10.03'	405 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 1,635 cf Overall - 622 cf Embedded = 1,013 cf x 40.0% Voids
#2	10.28'	591 cf	**R-Tank Triple Modules (Prismatic)** Listed below (Recalc) Inside #1 622 cf Overall x 95.0% Voids
		996 cf	Total Available Storage

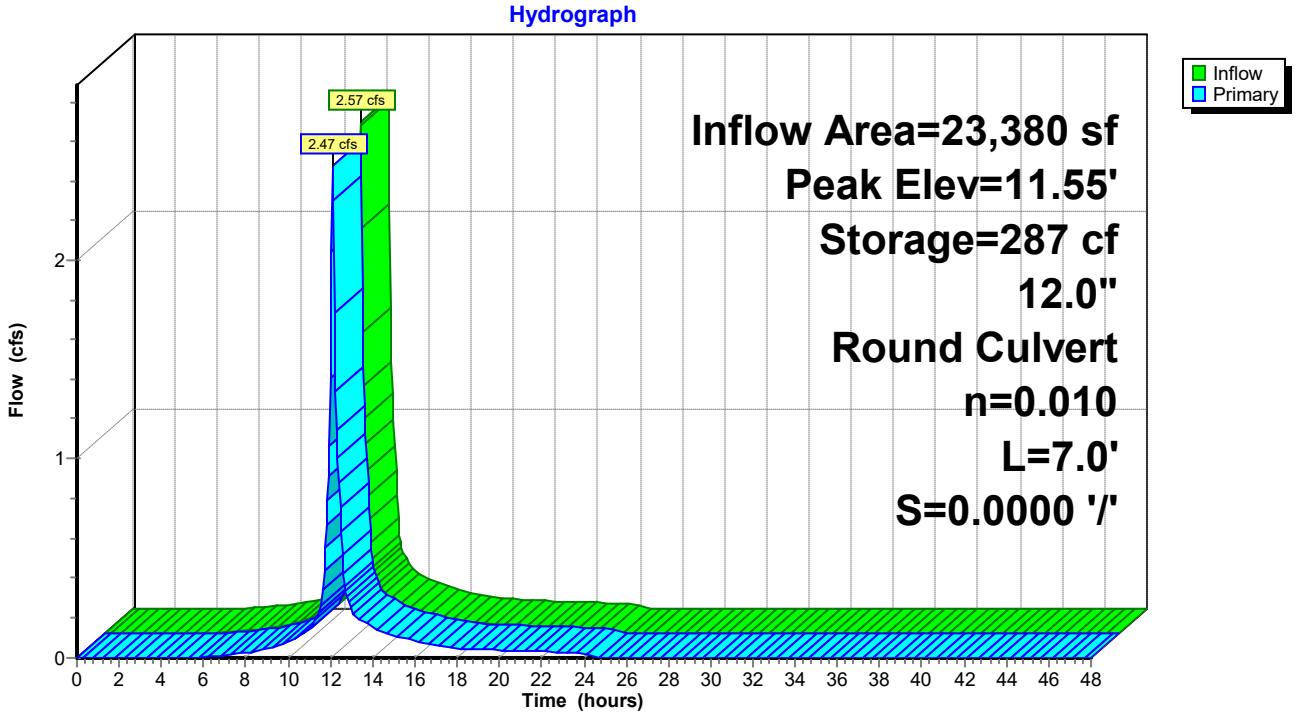
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.03	300	0	0
15.48	300	1,635	1,635

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.28	148	0	0
14.48	148	622	622

Device	Routing	Invert	Outlet Devices
#1	Primary	10.28'	**12.0" Round Culvert** L= 7.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 10.28' / 10.28' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.43 cfs @ 12.11 hrs HW=11.53' (Free Discharge)
1=Culvert (Barrel Controls 2.43 cfs @ 3.17 fps)

Pond 1P: R-Tank



Summary for Pond 2P: Kraken

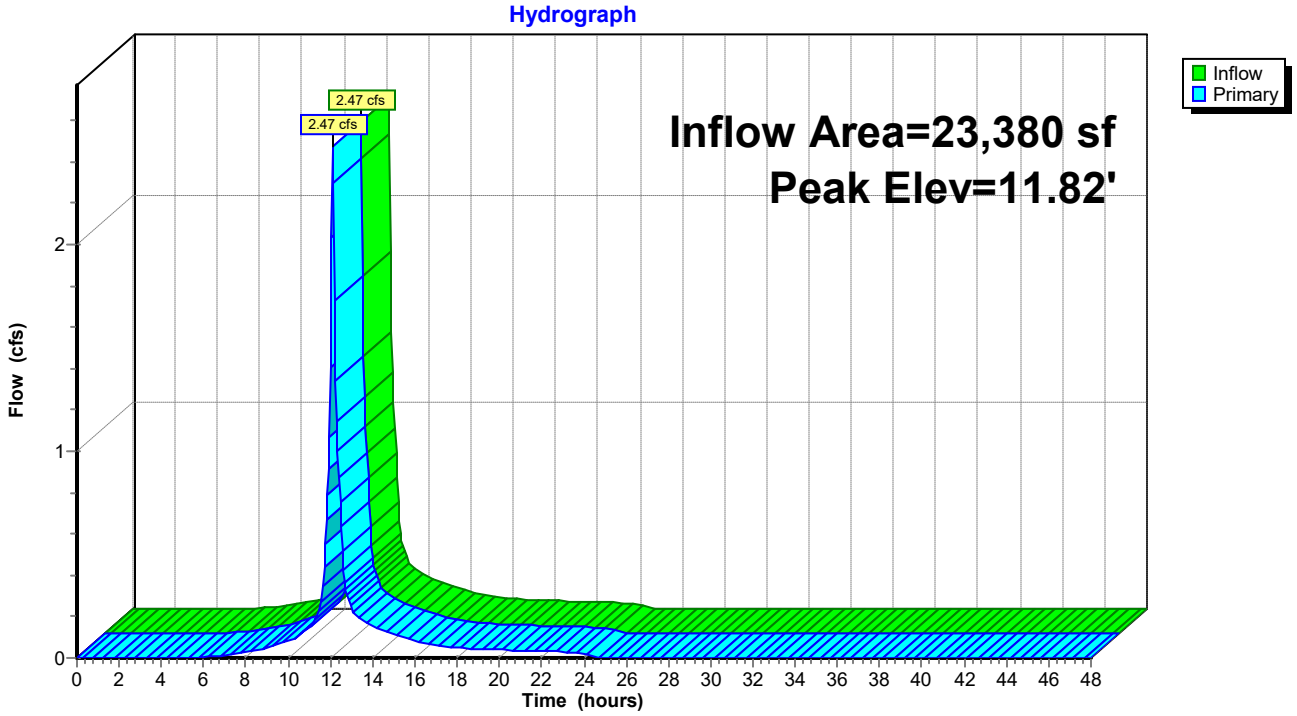
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 4.29" for 25-Year Storm event
Inflow = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf
Outflow = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.82' @ 12.11 hrs
Flood Elev= 19.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.78'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.78' / 9.68' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	7.78'	**Kraken HGL Discharged Rate** Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.012 0.024 0.036 0.048 0.061 0.073 0.085 0.097 0.109 0.121 0.133 0.145 0.158 0.170 0.182 0.194 0.206 0.218 0.230 0.242 0.255 0.267 0.279 0.291 0.303
#3	Device 1	10.96'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.42 cfs @ 12.11 hrs HW=11.81' (Free Discharge)
└**1=Culvert** (Passes 2.42 cfs of 3.69 cfs potential flow)
  ├**2=Kraken HGL Discharged Rate** (Custom Controls 0.30 cfs)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.12 cfs @ 3.01 fps)

Pond 2P: Kraken



Summary for Pond 3P: SD

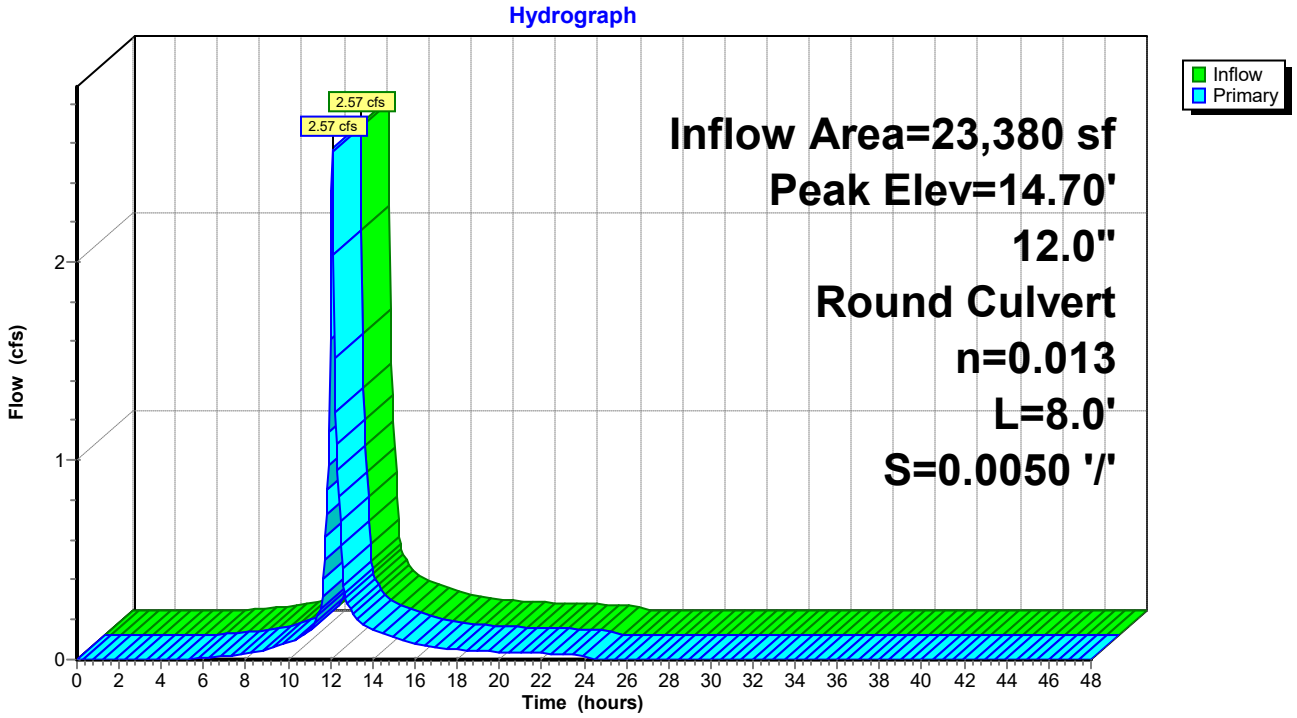
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 4.30" for 25-Year Storm event
Inflow = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf
Outflow = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 14.70' @ 12.09 hrs
Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.42'	**12.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.42' / 13.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.51 cfs @ 12.09 hrs HW=14.67' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.51 cfs @ 3.28 fps)

Pond 3P: SD

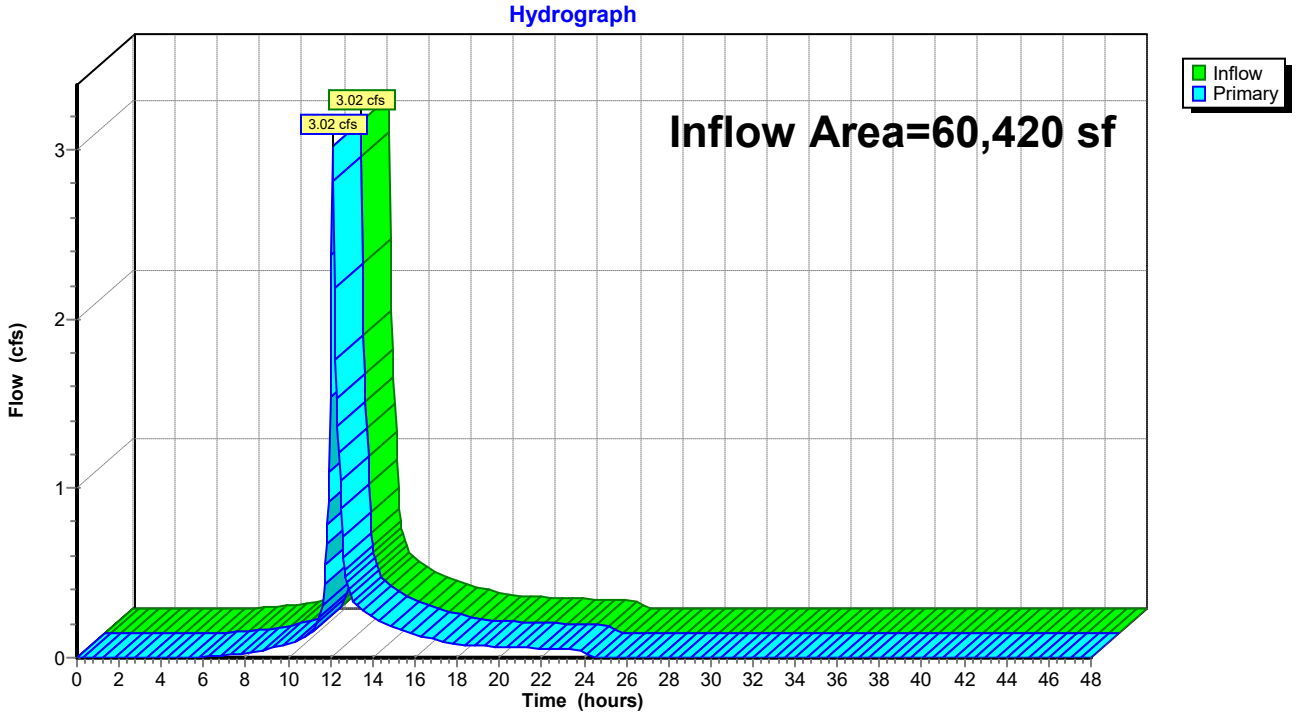


Summary for Link SP1P: Center Street SD

Inflow Area = 60,420 sf, 39.75% Impervious, Inflow Depth = 2.18" for 25-Year Storm event
Inflow = 3.02 cfs @ 12.11 hrs, Volume= 10,967 cf
Primary = 3.02 cfs @ 12.11 hrs, Volume= 10,967 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1P: Center Street SD

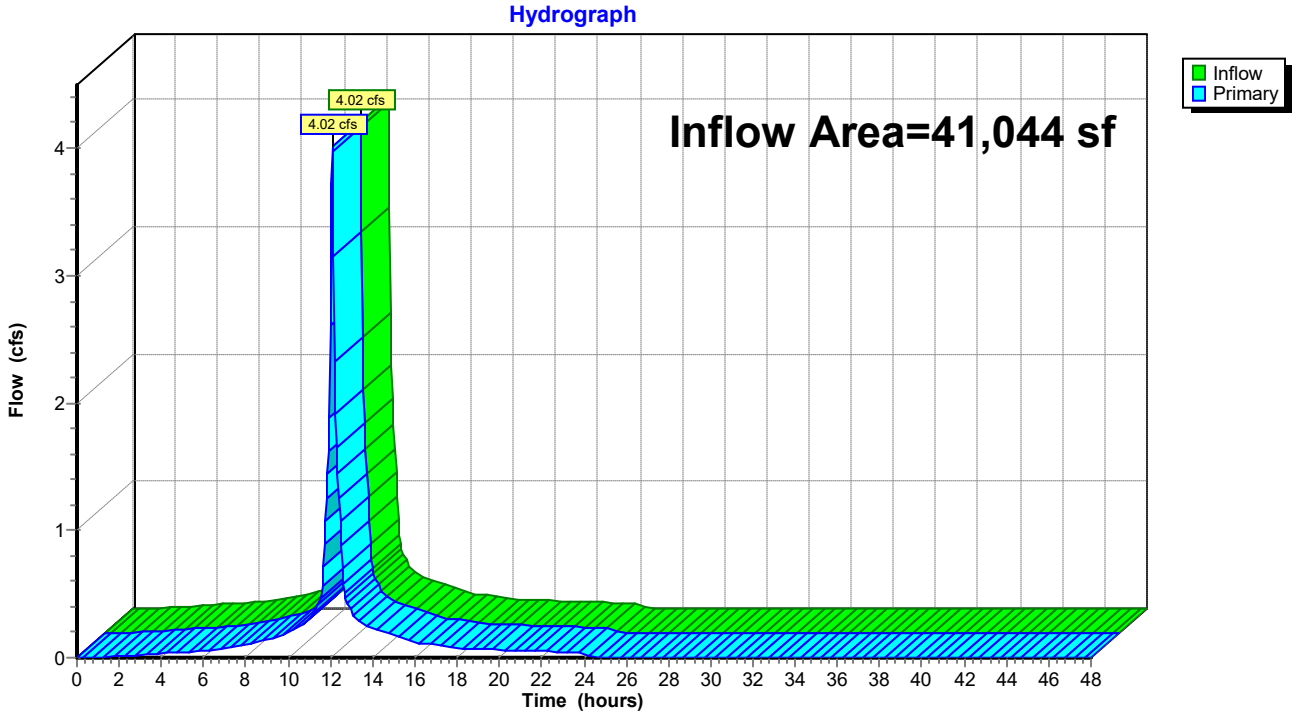


Summary for Link SP2P: Cross Street SD

Inflow Area = 41,044 sf, 77.42% Impervious, Inflow Depth = 4.30" for 25-Year Storm event
Inflow = 4.02 cfs @ 12.09 hrs, Volume= 14,718 cf
Primary = 4.02 cfs @ 12.09 hrs, Volume= 14,718 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2P: Cross Street SD

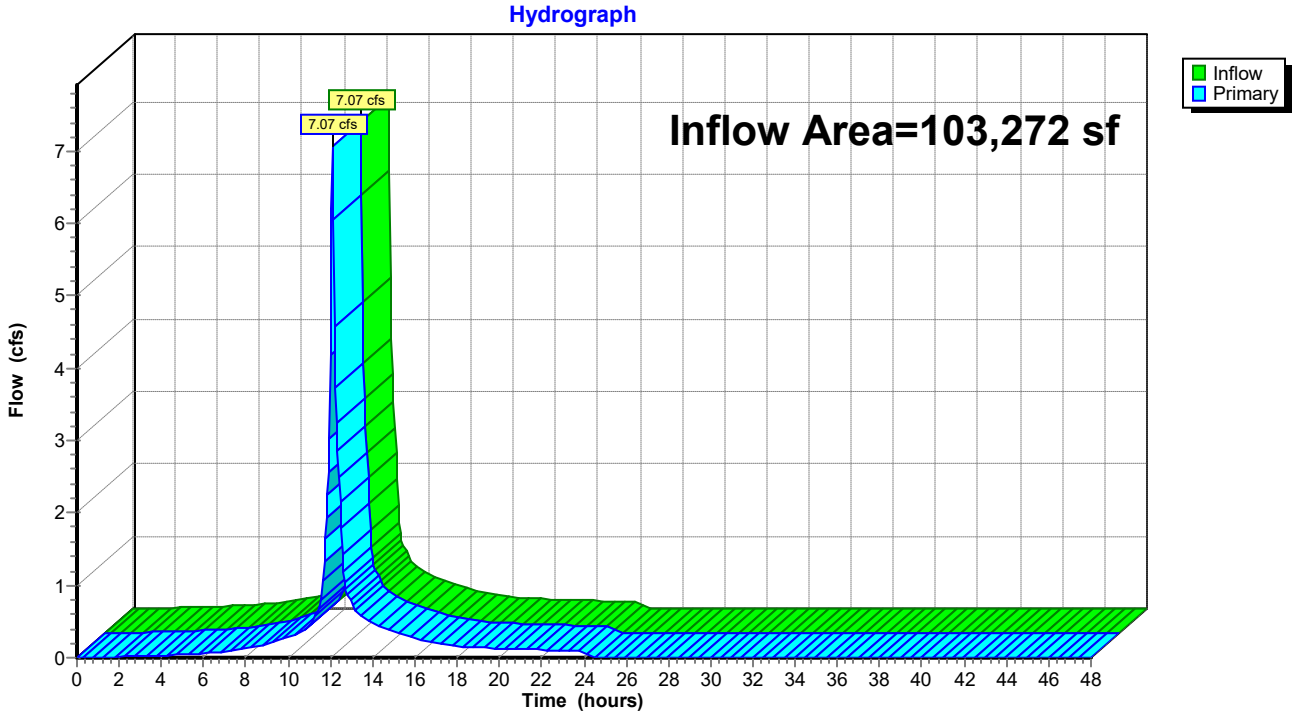


Summary for Link SP3P: Commercial Street Sewer

Inflow Area = 103,272 sf, 54.76% Impervious, Inflow Depth = 3.02" for 25-Year Storm event
Inflow = 7.07 cfs @ 12.10 hrs, Volume= 26,004 cf
Primary = 7.07 cfs @ 12.10 hrs, Volume= 26,004 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3P: Commercial Street Sewer



STORMWATER INSPECTIONS & MAINTENANCE PLAN

Center Street Hotel

General inspection and maintenance during and after construction must take place in accordance with the requirements outlined in Appendix B of the Maine Department of Environmental Protection (MaineDEP) Chapter 500 Rules. Upon completion of the project, the Owner will assume responsibility for overseeing the property, including the inspection and maintenance of the Site's stormwater drainage system and treatment measures outlined herein. A person with knowledge of stormwater management and erosion and sediment control, including the standards and conditions in the permit, shall conduct the inspections and perform maintenance of the facilities.

Inspection and maintenance activities will be performed per the attached checklist, schedule, and Kraken filter guidelines; an example page of the BMP Maintenance Log that shall be kept on-site is also attached.

INSPECTION AND MAINTENANCE OF STORMWATER SYSTEMS

The inspection and maintenance criteria outlined in Chapter 500 Stormwater Regulations will be followed. Monitoring and maintenance is critical for the proper operation of the stormwater management system. First year post-construction monitoring differs primarily by its increased frequency to assure proper system functioning. Post-construction routine monitoring is based on USEPA requirements for good housekeeping practices.

Kraken Filter System

The Kraken filter system must be inspected at least once every six months, and the filters maintained annually per the manufacturer's guidelines, which are outlined in the attached guidance document.

Post-Construction: Inspection frequency should be at least once every six months and after every major storm in the first year following construction.

- ❑ Perform sediment removal for depths reaching 12 inches or greater, or within 3 years.
- ❑ Removal all floatable trash and debris
- ❑ Filter cartridges shall be rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing.
- ❑ Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment or if damaged or missing. Tentacles should remain in service for no longer than 5 years.

Trash, debris, and sediment shall be removed from storm drain pipes, manholes and catch basins as needed on a semi-annual basis.

STORMWATER INSPECTION CHECKLIST

Inspection by: _____ Date: _____

Stormwater Management Feature	Condition						Comments
Subsurface Detention System	no siltation		some siltation		heavily silted in		
Subsurface Detention System	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		
Subsurface Detention System	outlet free of erosion		some erosion at outlet		outlet heavily eroded		
Subsurface Detention System	inlet/outlet clear		some debris		completely blocked		
Kraken Filter System*	Cartridges are in good condition		Cartridges in need of cleaning		Cartridges in need of replacement		
Kraken Filter System*	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		

**See attached manufacturer's guidelines for Kraken Filter System maintenance and inspection.*

Recommended Actions: _____

_____

Actions Completed: _____ Date: _____

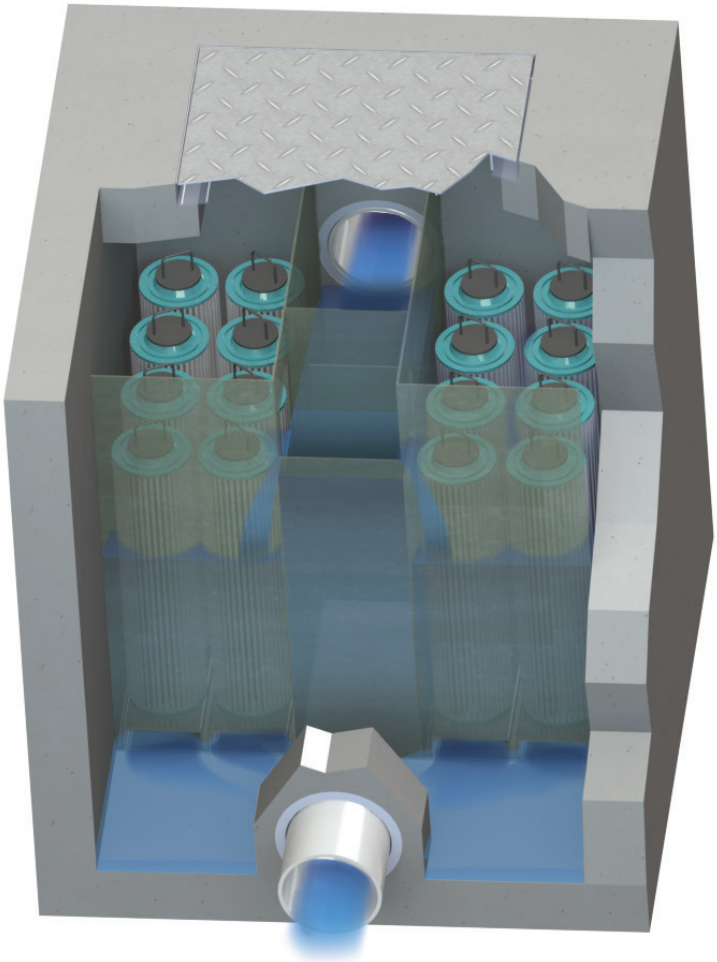
STORMWATER MANAGEMENT MAINTENANCE TASKS AND RECOMMENDED SCHEDULE

TASKS	DETENTION AND KRAKEN FILTER SYSTEM	KRAKEN FILTER PIPES	SCHEDULE
Inspect for sediment accumulation	X	X	Spring and Fall
Remove sediment accumulation	X	X	As needed
Clean debris	X	X	As needed
Inspect structural elements during wet weather and compare to as-built plans	X	X	Annually
Make adjustments or replacements as determined by wet weather observations	X	X	As needed
Keep records of all inspections and maintenance activities	X	X	Annually
Have a professional engineer perform emergency inspections upon identification of severe problems	X	X	As needed

THE KRAKEN FILTER™

Bio Clean
A Forterra Company

OPERATION & MAINTENANCE



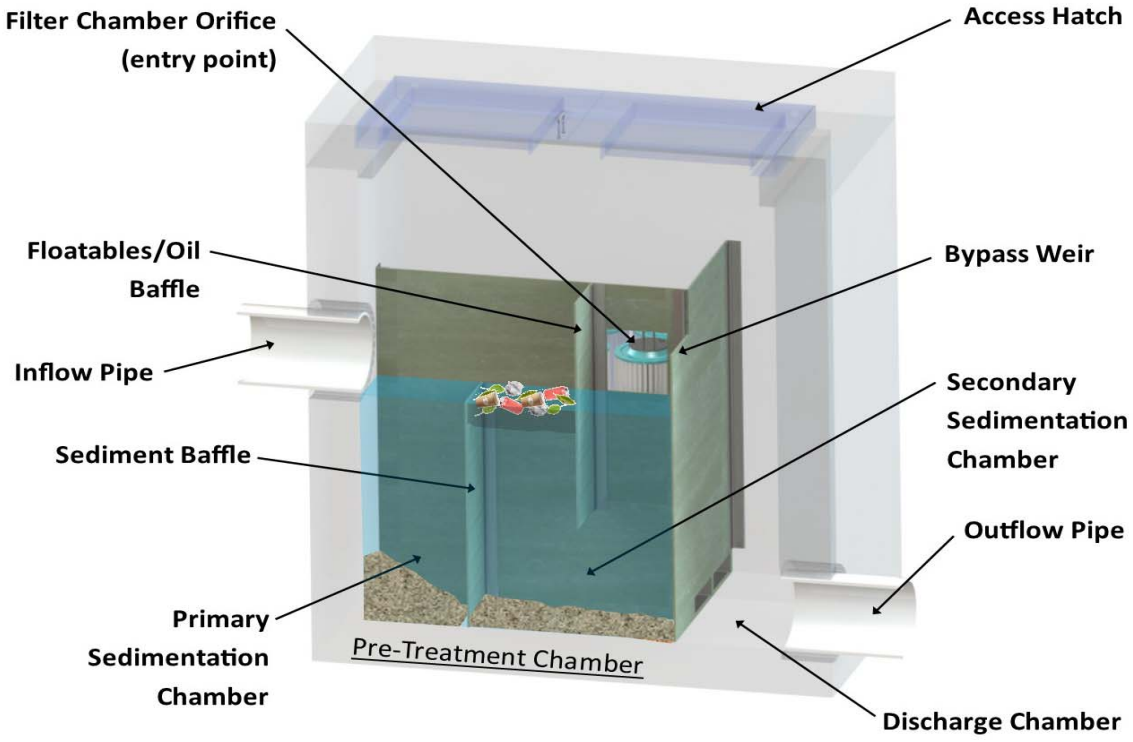
Bio Clean Environmental Services, Inc.
2972 San Luis Rey Road
Oceanside, CA 92054

www.BioCleanEnvironmental.com
P 760-433-7640
F 760-433-3176

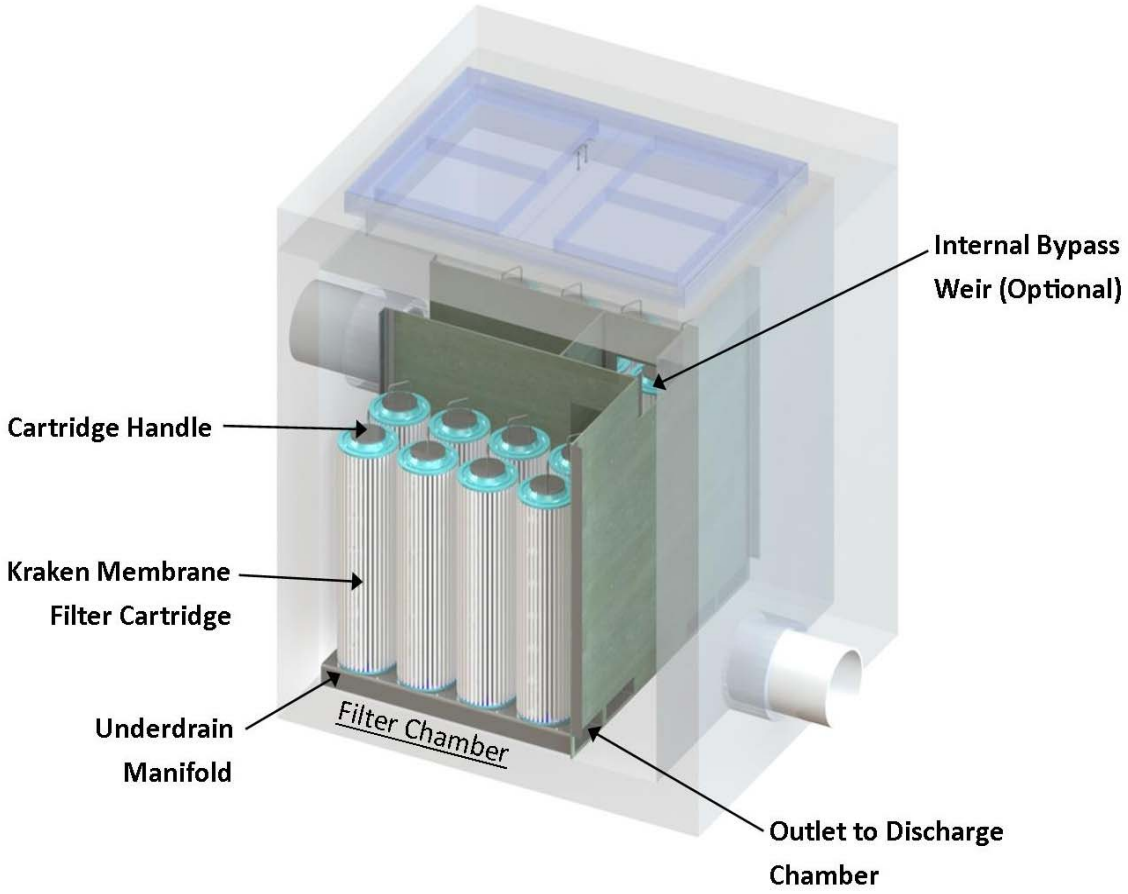
OPERATION & MAINTENANCE

The Kraken® Filter is designed at a minimal loading rate of only 0.05 gpm/sq ft of media surface to maximize longevity and minimize maintenance requirements. This is lower than any other system available. Passive backwash and pretreatment also help to minimize system maintenance requirements. The Kraken® Filter has proven to be able to handle up to at least 18 months sediment loading with no maintenance or loss of treatment capacity assuming 600 pounds of sediment per acre of impervious surface annually.

Yet, as with all stormwater BMPs inspection and maintenance on the Kraken® Filter is necessary. Stormwater regulations require that all BMPs be inspected and maintained to ensure they are operating as designed to allow for effective pollutant removal and provide protection to receiving water bodies. It is recommended that inspections be performed multiple times during the first year to assess the site specific loading conditions. This is recommended because pollutant loading and pollutant characteristics can vary greatly from site to site. Variables such as nearby soil erosion or construction sites, winter sanding on roads, amount of daily traffic and land use can increase pollutant loading on the system. The first year of inspections can be used to set inspection and maintenance intervals for subsequent years to ensure appropriate maintenance is provided. Without appropriate maintenance a BMP will exceed its storage capacity which can negatively affect its continued performance in removing and retaining captured pollutants.



Pre-Treatment Chamber Diagram:



Filter Chamber Diagram:

Inspection Equipment

Following is a list of equipment to allow for simple and effective inspection of the Kraken® Filter:

- Bio Clean Environmental Inspection Form.
- Flashlight.
- Manhole hook or appropriate tools to access hatches and covers.
- Appropriate traffic control signage and procedures.
- Measuring pole and/or tape measure.
- Protective clothing and eye protection.
- Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system.

Inspection Steps

The core to any successful stormwater BMP maintenance program is routine inspections. The inspection steps required on the Kraken® Filter are quick and easy. As mentioned above the first year should be seen as the maintenance interval establishment phase. During the first year more frequent inspections should occur in order to gather loading data and maintenance requirements for that specific site. This information can be used to establish a base for long term inspection and maintenance interval requirements.

The Kraken® Filter can be inspected though visual observation without entry into the system. All necessary pre-inspection steps must be carried out before inspection occurs, especially traffic control and other safety measures to protect the inspector and near-by pedestrians from any dangers associated with an open access hatch or manhole. Once these access covers have been safely opened the inspection process can proceed:

- Prepare the inspection form by writing in the necessary information including project name, location, date & time, unit number and other info (see inspection form).
- Observe the inside of the system through the access hatches. If minimal light is available and vision into the unit is impaired utilize a flashlight to see inside the system and all of its chambers.
- Look for any out of the ordinary obstructions in the inflow pipe, pre-treatment chamber, filter chambers, discharge chamber or outflow pipe. Write down any observations on the inspection form.
- Through observation and/or digital photographs estimate the amount of floatable debris accumulated in the pre-treatment chamber. Record this information on the inspection form. Next utilizing a tape measure or measuring stick estimate the amount of sediment accumulated in the primary and secondary sedimentation chambers. Record this depth on the inspection form. Through visual observation inspect the condition of the filter cartridges. Look for excessive build-up of sediments on the surface and any build-up on the top of the cartridges. Record this information on the inspection form.
- Finalize inspection report for analysis by the maintenance manager to determine if maintenance is required.

Maintenance Indicators

Based upon observations made during inspection, maintenance of the system may be required based on the following indicators:

- Missing or damaged internal components or cartridges.
- Obstructions in the system or its inlet or outlet.

- Excessive accumulation of floatables in the pre-treatment chambers in which the length and width of the chamber behind oil/floatables skimmer is fully impacted.
- Excessive accumulation of sediment in the primary sedimentation chamber of more than 18” in depth.
- Excessive accumulation of sediment in the secondary sedimentation chamber of more than 6” in depth.
- Excessive accumulation of sediment in the filter chambers of more than 3” on average.
- Substantial build-up of sediments on the filter membrane of the filter cartridges which will have a very dark appearance indicating the membrane may be fully saturated with sediment.

Maintenance Equipment

While maintenance can be done fully by hand it is recommended that a vacuum truck be utilized to minimize time requirements required to maintain the Kraken® Filter:

- Bio Clean Environmental Maintenance Form.
- Flashlight.
- Manhole hook or appropriate tools to access hatches and covers.
- Appropriate traffic control signage and procedures.
- Measuring pole and/or tape measure.
- Protective clothing and eye protection.
- Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system. Entry into the system will be required if it is determine the cartridge filters need washing/cleaning.
- Vacuum truck.
- Trash can.
- Pressure washer.

Maintenance Procedures

It is recommended that maintenance occurs at least three days after the most recent rain even to allow for drain down of the system and any upstream detention systems designed to drain down over an extended period of time. Maintaining the system while flows are still entering it will increase the time and complexity required for maintenance. Cleaning of the pre-treatment chamber can be performed from finish surface without entry into the vault utilizing a vacuum truck. Once all safety measures have been set up cleaning of the pre-treatment chamber can proceed as followed:

- Using an extension on a boom on the vacuum truck position the hose over the opened access hatch and lower into the center of the primary sedimentation chamber. Remove all floating debris, standing water and sediment from the chamber. A power washer can be used to assist if sediments have become hardened and stuck to the walls or the flow of the chamber. Repeat the same procedure for the secondary sedimentation chamber. This completes the maintenance procedure required on the pre-treatment chamber.

If maintenance is required on the filter cartridges the following procedure can be followed after maintenance on the pre-treatment chamber is performed:

- Following rules for confined space entry use a gas meter to detect the presence of any hazardous gases. If hazardous gases are present do not enter the vault. Following appropriate confined space procedures takes steps, such as utilizing venting system, to address the hazard. Once it is determined to be safe enter utilizing appropriate entry equipment such as a ladder and tripod with harness.
- Once entry into the system has been established the maintenance technician should position themselves to stand in the pre-treatment chamber. From here the removal of the cartridges can commence.
- Each cartridge is pressure fitted in place and includes a handle for easy removal. To remove a cartridge simply grab the handle and pull straight up. It may be required to gently shift pressure from side to side while pulling up to break the pressure seal. Removal of the cartridge should be done by hand with minimal effort and requires no tools.
- Once the cartridges are removed they should be lifted out from the vault and brought up to finish surface for cleaning. Using a large garbage can and a standard garden hose (low pressure nozzle) each cartridge should be rinsed off from the outside to remove accumulated sediments and debris. Once each cartridge is rinsed it should be placed to the side for re-installation.
- Each filter chamber should be power washed and vacuumed clean before re-inserting the cleaned cartridges.
- After all cartridges have been washed they can be replaced back into the vault. To replace each cartridge simply slide cartridge over each pressure fitted coupler. Push down on the handle to ensure the cartridge has been fully seated and the bottom of the cartridge is making contact with the floor.
- The last step is to close up and replace all access hatch lids and remove all traffic control.
- All removed debris and pollutants shall be disposed of following local and state requirements.

Maintenance Sequence

Remove Access Hatches Set Up Vacuum Truck to Clean The Pretreatment Chamber.

Insert Vacuum Hose in the Sedimentation Chamber and Vacuum Out All Trash, Sediment and Standing Water.

Assess the Condition of the Filter Cartridges and Determine If Cleaning is Required.

To Wash Cartridges Remove from Vault. Place Over Trash Can and Use a Garden Hose to Spray Clean.

Once Cleaned Install Back Into the Vault. This Completes Maintenance. Ensure Access Lids are Properly Replaced.

For Maintenance Services or Replacement Media Please Contact Us At:
760-433-7640
info@biocleanenvironmental.com

Bio Clean
A Forterra Company

THE KRAKEN FILTER

Inspection and Maintenance Report
Bio Clean Kraken Filter

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____ / ____ / _____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Vault	Model #	Sediment Accumulation Sedimentation Chambers (lbs) & Filter Chambers (lbs)	Condition of Filter Cartridges & Were Filter Cartridges Cleaned	Structural Notes	Operational Per Manufactures' Specifications (If not, why?)
	Lat: Long:					
	Lat: Long:					
	Lat: Long:					

Comments:

2972 San Luis Rey Road, Oceanside, CA 92058 P. 760.433.7640 F. 760.433.3176

MMC Stormwater BMP Maintenance Log

BMP Structure	Inspector (Name)	Work Performed	Date Performed	Comments
Catch Basins & Drainage Manholes				
Kraken System				
Other				
Additional Comments:				

13. URBAN IMPAIRED STREAM

The proposed project is not located within the watershed of an Urban Impaired Stream; the Urban Impaired Stream standard does not apply.

14. BASIC STANDARDS

The overall goal of the Soil Erosion and Sedimentation Plan is to restrict the potential for erosion and sedimentation at the site and down-gradient of the site. A variety of erosion control techniques will be implemented to achieve this goal. During construction, these include:

- Installation and maintenance of construction entrances at the travelled interface between stabilized and non-stabilized portions of the project site;
- Diversion barriers to keep up-gradient runoff from flowing through the active construction areas;
- Positive grades throughout the construction site to direct flow to sediment control barriers;
- Installation and maintenance of sediment barriers adjacent to and down-gradient of the construction site;
- Catch basin inlet protection devices;
- Preservation and maintenance of vegetated areas to the maximum extent possible;
- Temporary stabilization of disturbed vegetated areas to be exposed for more than seven days;
- Application of permanent seeding and mulching (or other permanent surface treatment as indicated on the drawings) applied as soon as areas achieve final grades;
- Controls for fugitive dust, debris, and other materials; and
- Inspection of all in-place measures after every significant rainfall until the site is permanently stabilized.

All measures will be implemented in accordance with the "Maine Erosion and Sedimentation Handbook for Construction: Best Management Practices". All temporary measures will be installed prior to any earthmoving operation and removed after the areas are permanently stabilized. Permanent erosion control measures will include vegetation and pavement. All measures will be maintained in effective operating condition. The Contractor will be responsible for implementing and maintaining all erosion and sediment control measures and will use the attached inspection report form or equivalent.

All measures will be maintained in an effective operating condition until the Site is permanently stabilized. During construction, the Contractor will be responsible for conducting inspections in accordance with the attached *Stormwater Erosion & Sediment Control Inspection Report Form* (or equivalent). Inspections shall be performed at least once a week, as well as before and after storm events. A person with knowledge of stormwater management and erosion and sediment control, including the standards and conditions in the permit, shall conduct the inspections and perform maintenance of the facilities. If maintenance or modifications are necessary, implementation will be completed within seven days and prior to any rainfall event. After construction, the responsible party for the owner will conduct inspections of the Site per the inspection and maintenance requirements outlined in Section 12 of this Report.

14.1 LIST OF ATTACHMENTS

- Stormwater Erosion & Sediment Control Inspection Report Form

STORMWATER EROSION & SEDIMENT CONTROL
INSPECTION REPORT FORM

Inspectors: Date: ___ / ___ / _____

_____ of _____ (Project Owner)
_____ of _____ (Contractor)
_____ of _____
_____ of _____

Storm Event? ☐ Yes ☐ No Rainfall Amount _____ Storm Duration _____ hours

Visual Observations of Activity and Site Conditions:

Disturbed Soil Areas:

Storage Of Soils:

Sediment & Erosion Control Measures:

Construction Site Entrance:

Surface Stabilization:

Corrective Action Taken:

Attachments (if any):

Signature:

Name Title Date

15. GROUNDWATER

As noted previously, a subsurface investigation has been completed, and groundwater levels were documented in each observation well and test boring. Groundwater was encountered from elevation 8.2 to 4.1 in the location of the proposed Center Street Hotel.

The proposed project is not anticipated to impact groundwater. A foundation drainage system is proposed. The proposed subsurface stormwater system will contain an impermeable liner to provide separation of stormwater and groundwater.

16. WATER SUPPLY

The proposed development will be provided with both fire protection water service and domestic water service by the Portland Water District. The fire protection water service and domestic water service will connect to the existing 10-inch water main in Center Street. The attached Ability to Serve Determination was provided by Portland Water District on April 29, 2019 confirming the District will be able to serve the proposed project and approving the proposed water supply system.

16.1 LIST OF ATTACHMENTS

- Portland Water District Ability to Serve Determination, dated April 29, 2019.

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

April 29, 2019

Lauren Swett, P.E.
Technical Manager
Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102

Re: 1 Center Street, PO
Ability to Serve with PWD Water

Dear Ms. Swett:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on December 18, 2018. Based on the information provided per plans submitted April 26, 2019, 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 8-inch fire service and a new 4-inch domestic service with a 3-inch meter may be installed from the water main in Center Street. The services should enter through the properties frontage on Center Street at least 10-feet from any side property lines.
- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.
- An approved backflow prevention device must be installed on the service line directly after the meter prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.

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 10-inch diameter cast iron water main in Center 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 110 psi.

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 City of 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

17. WASTEWATER DISPOSAL

The public sewer infrastructure adjacent to the proposed redevelopment location consists of a separated sanitary sewer in Center Street that discharges to the combined sewer system in Commercial Street (Lower Fore River Interceptor), which conveys wastewater to the Long Wharf Diversion Structure and eventually to the India Street Pumping Station. The Applicant met with Brad Roland from the City of Portland's Department of Public Works on November 16, 2018 to discuss the appropriate sewer line connection. The proposed sewer service shown on the design plans reflects this discussion.

The proposed development will include a restaurant, bar and kitchen on the ground floor. All wastewater generated by these spaces will be directed to an exterior, underground grease trap located beneath the brick sidewalk on Center Street. The grease trap will discharge to the separated sanitary sewer on Center Street. Additional information on grease trap sizing and final location will be coordinated and provided as the design progresses. Wastewater from the remainder of the hotel, from spaces that do not require a grease trap will discharge to a second service also on Center Street.

We are coordinating with the Portland Department of Public Works to receive confirmation of ability to serve the proposed development. The ability to serve confirmation will be provided to the Planning Department directly by the Department of Public Works.

18. SOLID WASTE

18.1 COMMERCIAL SOLID WASTE

All solid waste materials and recyclables from the proposed Center Street Hotel will be transported and disposed of or recycled in accordance with applicable laws and regulations. An appropriate solid waste management plan will be developed for the hotel, with schedules for solid waste removal via the hotel's service access driveway.

18.2 CONSTRUCTION & LAND CLEARING DEBRIS

As with any construction project, the proposed construction will generate construction waste and demolition debris (CDD). The construction contractor(s) will be responsible for hauling the CDD or contracting with a waste management service to haul the CDD from the project site. The contractor(s) will be fully responsible for handling, managing, and disposing of all waste generated by construction in accordance with Maine Solid Waste Management Regulations – 06-096 CMR 400-409. The contractor(s) will be bound by contract to dispose of all materials in full accordance with all applicable local state and federal regulations. Actual waste volumes will be measured at the time of construction.

18.3 SPECIAL & HAZARDOUS WASTE

The proposed development is not anticipated to produce any hazardous waste. A previous site investigation adjacent to the hotel site on the Portland Square property identified the presence of typical urban fill, as is seen on redevelopment sites throughout the City. We anticipate that soils from the site may be classified as special waste and shall be handled and disposed of accordingly.

18.4 SUMMARY

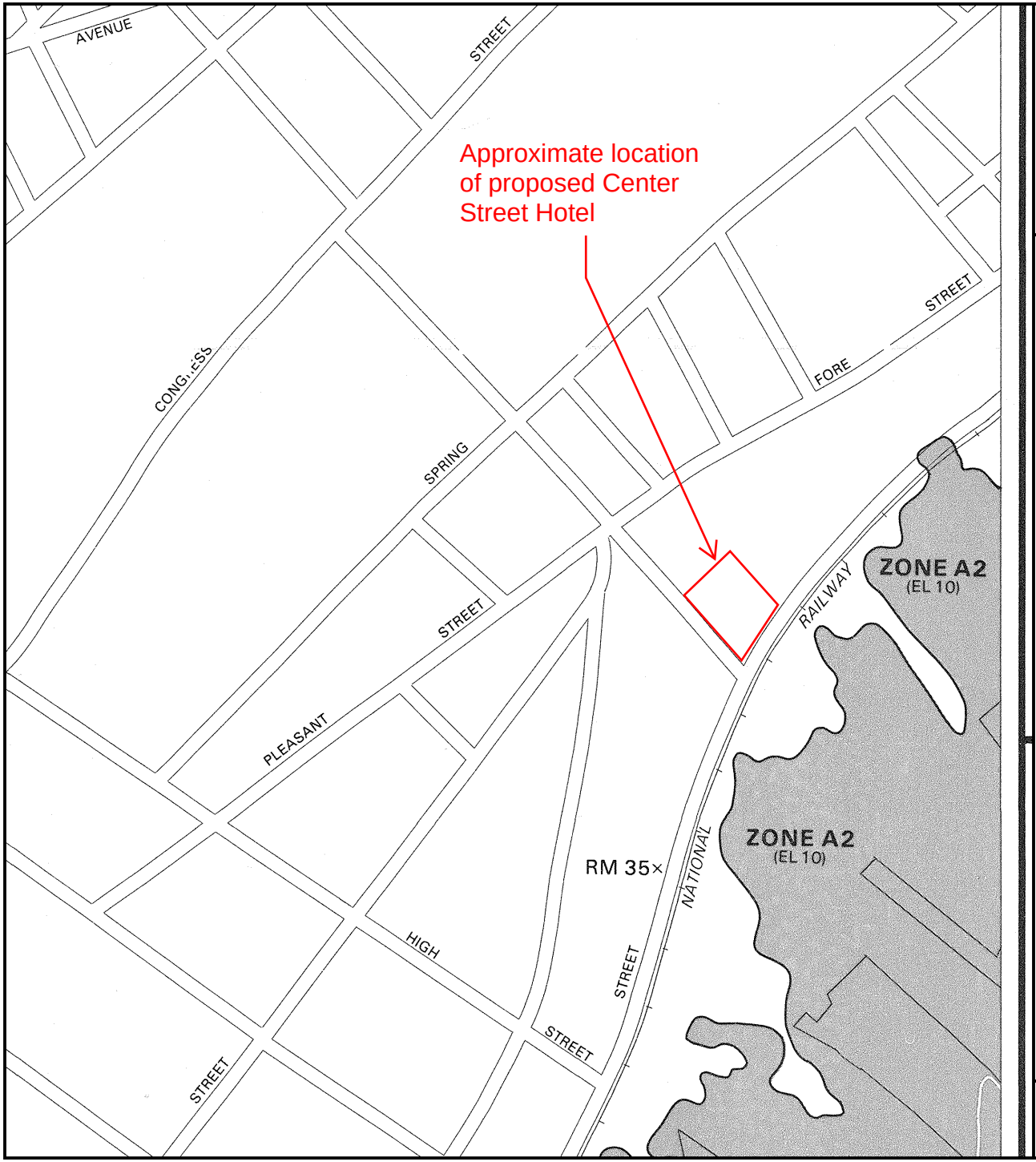
Adequate provisions for recycling and solid waste disposal have been made. General solid waste, construction, demolition, and land-clearing debris will be managed in full accordance with all applicable laws and will not cause a deleterious effect on the environment.

19. FLOODING

The proposed development is not located within a flood hazard zone, as shown on the FEMA Flood Insurance Rate Map attached to this Section. The proposed development will not cause or increase flooding or cause an unreasonable flood hazard to any adjacent structures. The 100-year flood plain is located off-site and is not within the viewport of the design drawings; therefore, the 100-year flood plain is not shown on the design drawings

19.1 LIST OF ATTACHMENTS

- FEMA Flood Insurance Rate Map



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY

PANEL 13 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230051 0013 B

EFFECTIVE DATE:
JULY 17, 1986

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

20. BLASTING

No blasting is anticipated for this project; this section is not applicable.

21. AIR EMISSIONS

The project is not a commercial, industrial or institutional development that will require an air emissions license, so this section is not applicable.

22. ODORS

The proposed development will not involve any processes that emit significant odors; this section is not applicable.

23. WATER VAPOR

The proposed development will not use water for any processes that would emit water vapor; this section is not applicable.

24. SUNLIGHT

The proposed development will not block any access to sunlight for any structures utilizing solar energy; this section is not applicable.

25. PUBLIC NOTICE EVIDENCE

The City of Portland has Delegated Review Authority for the proposed project; it is our understanding that the Applicant is not required to complete their own Public Notice, and that the City will issue a Public Notice as part of their internal permit process.

WOODARD &CURRAN

woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

12. STORMWATER

12.1 NARRATIVE

The proposed project complies with Section 5 of the City of Portland Technical Manual, Chapter 32 of the City of Portland Code of Ordinances, and the Maine DEP Chapter 500 Rules for water quality, stormwater management, and erosion control standards pursuant to Site Law for redevelopment projects.

12.2 EXISTING CONDITIONS

The 23,795 +/- square foot existing property, located in a highly developed urban environment, currently consists of a paved parking lot surrounded by a landscaped esplanade containing shrubs and trees. The site slopes from northwest to southeast towards Commercial Street, from approximately elevation 20' down to 11'.

In general, runoff from the entire Portland Square parcel drains via sheet flow in a southerly direction to a series of four catch basins that ultimately discharge to the separated storm drain in Center Street. Stormwater from the project site drains via sheet flow into an existing catch basin along the southern property line. This catch basin is the last structure in the drainage network of the larger parcel prior to discharge into the Center Street storm drain. There is no existing stormwater treatment on the site.

The separated storm drain located in Center Street connects to the combined sewer system located in Commercial Street (Lower Fore River Interceptor). The Lower Fore River Interceptor flows northeast through the Long Wharf Diversion Structure to the India Street Pumping Station where flow is pumped to the Portland Wastewater Treatment Plant.

12.3 PROPOSED DEVELOPMENT

The proposed hotel covers almost the entire site, as required per zoning setbacks. The site layout is shown in the Design Drawings attached to Section 1. The siting of the building will eliminate the landscaped esplanade space around the perimeter of the parking lot. An approximately 5,000 square-foot green roof is proposed on the northeastern corner of the hotel's ground floor. The landscaped design of the green roof is shown on the landscape plan included in the Design Drawings attached to Section 1. While some existing perimeter landscaping will be removed, a greater area of new landscaping is proposed to provide an improved landscaped space on the redeveloped property. Due to the addition of a green roof, the project will result a net reduction of impervious area by approximately 2,200 square feet. The proposed project will not disturb more than one acre of area. The following table provides a breakdown of the impervious and pervious surfaces.

Table 12-1: Center Street Hotel Surface Cover Breakdown

	Pervious Surface (SF)	Impervious Surface (SF)			Total Area (SF)
		Roof	Non-Roof	Total	
Existing	4,875	0	21,845	21,845	26,720
Proposed	5,090	18,050	3,580	21,630	26,720

Stormwater runoff generated from the roof of the hotel will be conveyed by roof drains to a subsurface stormwater storage system consisting of R-Tanks. The R-Tanks will release this stormwater to a proprietary stormwater treatment system called a Kraken. The proposed subsurface stormwater treatment and storage systems will be installed off the hotel property on the adjacent access easement driveway and are discussed in further detail in the following sections.

12.3.1 Portland Square Interim Drainage

Parking restriping, lighting and drainage improvements are proposed on the adjacent parcel as a result of the proposed hotel construction in order to maintain functionality of the existing surface parking lot, as shown on the design drawings attached to Section 1. Construction access easements will be procured prior to commencement of this work on the lower lot of Portland Square.

Drainage patterns for the western portion of the lower lot of Portland Square will remain similar to pre-development conditions, except that drainage from the parking lot will not be allowed to continue onto the hotel property. Runoff from the western portion of the lot will be captured by an existing catch basin and a new catch basin to be installed adjacent to the proposed hotel parcel. The proposed catch basin will tie into an existing manhole in the separated storm drain in Center Street. This drainage system will also collect runoff from an area of land located northeast of the hotel. This area will be disturbed during construction of the hotel and restored with loam and seed and catch basins to collect the runoff.

Runoff from the eastern portion of the lower lot of Portland Square will be captured by two existing catch basins; stormwater from this portion of the lot will be redirected into a new manhole to the separated storm drain in Cross Street. This manhole will be strategically positioned for potential future connection from the lower lot's stormwater management system. Therefore, runoff from the eastern portion of the lower lot that previously sheet flowed toward the combined sewer on Commercial Street will be captured and redirected to a separated storm sewer on Cross Street.

12.4 STORMWATER STANDARDS

The project will comply with the Basic, General, and Flooding standards as outlined in Maine DEP Chapter 500 Stormwater Management Rules. The project is not located within the watershed of an Urban Impaired Stream and will not be subject to that standard. The following sections describe the proposed compliance with applicable stormwater standards.

12.4.1 Basic Standard

Erosion and sedimentation control measures will be utilized during construction to ensure that the work will not result in the release of sediment off-site. Details for all proposed erosion and sedimentation control measures are included in the engineering plan set submitted with this application. The plans include a narrative and construction details describing the plan for all temporary and permanent erosion control techniques to be utilized on this project in accordance with MaineDEP Erosion Control Best Management Practices. The Erosion and Sedimentation Control Plan for the proposed project is summarized in further detail in Section 14 of this Report.

12.4.2 General Standard

An impact analysis was conducted for the proposed redevelopment project to determine treatment requirements based on land use and pollutant rankings provided in Table 2 of Maine DEP Chapter 500 Rules. The existing site is largely comprised of a high use paved surface parking lot (pollutant ranking 5). The proposed site will primarily be comprised of flat building roof and green roof landscaping (pollutant ranking 3). The ranked impact change is -1.86, and the project is being permitted under Site Law; therefore, 50 percent of the developed area must be treated in accordance with Table 3 in Chapter 500. A Kraken filter system with below-grade R-Tanks for water quality volume storage has been selected as the water quality treatment BMP for the Site.

Alternative stormwater management methods were considered, including green roof. The green roof option was eliminated due to significant structural design and building cost implications. Above-grade storage systems, like

underdrained soil filters and rain gardens, were ruled out as there is limited available space on the Site due to zoning setback requirements.

R-Tank

Adequate provisions have been made to direct stormwater runoff from the building roof, and the paved sidewalk and driveway to the underground R-Tank storage system. The R-Tanks will be installed in the service driveway next to the hotel. The R-Tanks will store the water quality volume, but have been sized to pass all stormwater from the building roof and adjacent sidewalk and driveway. We have been working with ACF Environmental to determine the appropriate size and layout that is required for the site. This design is shown on the drawings.

Kraken Stormwater Filter

The Kraken Filter is a proprietary system which is similar to other systems that have been approved for use by the MaineDEP but is not currently an approved BMP. We have been communicating with Aubrey Strause from the Maine DEP about the potential use of this system on the project, and we understand that it can be considered as an "innovative treatment option" and will be reviewed by the City's peer review engineer, Wright-Pierce with some guidance from the DEP.

The proposed Kraken Filter has been sized to meet the MaineDEP standards to treat a minimum Water Quality Volume of 1-inch runoff from a minimum 50 percent of the redeveloped area. The KF-4-4 model with 16 cartridges was selected, which has the treatment flow capacity of 0.3 CFS. The attached HyrdoCAD sizing model uses a 1-inch storm event, and assumes treatment of impervious surface, showing that the system will treat 14,900 SF of area, which is approximately 56% of the site.

While treatment will be provided for this flow, all of the site's flow will be directed through the system, which has an integrated bypass weir. BioClean provided Woodard & Curran with hydraulic grade line/discharge rate data for the proposed Kraken, and this was used to model the system in HydroCAD. Please see attached HydroCAD analysis and documentation from BioClean demonstrating that the filter has been adequately sized to treat the required Water Quality Volume.

12.4.3 Flooding Standard

The proposed project is not required to meet Flooding Standards per SLOD requirements for redevelopment project, however, it will still meet the Standard's intent of not increasing water quantity. We have evaluated the stormwater flow, however, as the interim condition will direct stormwater to Cross Street that was previously directed to Center Street. The model information will be used to confirm with the Department of Public Works that this change can be made. The HydroCAD model considers three study points: the stormwater systems in Center Street and Cross Street, as well as the combined system in Commercial Street. As shown below, while the flow to Cross Street increases, the overall stormwater flow from the site to the downstream system in Commercial Street will be decreased due to the proposed work.

Table 12-2: Pre- vs. Post- Stormwater Comparison

	2-Year Storm		10-Year Storm		25-Year Storm	
Flow (cfs):	Pre	Post	Pre	Post	Pre	Post
Center St	5.73	1.07	8.95	1.96	11.5	3.02
Cross St	0.00	2.10	0.00	3.17	0.04	4.02
Commercial St	5.73	3.16	8.95	5.13	11.5	7.07

Pre- and Post-development HydroCAD models and figures are attached.

12.5 INSPECTION AND MAINTENANCE OF STORMWATER SYSTEMS

General inspection and maintenance during and after construction must take place in accordance with the requirements outlined in Chapter 500, Stormwater Management, Appendix B, Inspection and Maintenance and Stormwater Management, Maine Department of Environmental Protection Publication No. DEPLW0738. During construction, the contractor will be responsible for inspection and maintaining the Site. Upon completion, the property owner will be responsible for implementing the maintenance and inspection requirements for the stormwater management system associated with the new development. The responsible party will ensure that stormwater management facilities are properly maintained and inspected in accordance with the Stormwater Inspection and Maintenance Plan provided in this section.

12.6 LIST OF ATTACHMENTS

- Impact Analysis and Treatment Area Summary Excel Document;
- Kraken Design Information
- Pre- and Post- Development Stormwater Management Plans;
- Pre- and Post- Development HydroCAD Calculations;
- Stormwater Inspections & Maintenance Plan

IMPACT ANALYSIS

Land Use	Pollutant Ranking	Area (SF)	
		Pre	Post
Roads where idling may occur periodically due to traffic volume and intersections; High use parking lots	5	21068	
Other roads; Medium use parking lots	4		
Other parking lots and driveways; Flat asphalt rooftops; Roofs on an industrial facility	3		16300
Other rooftops; Bikeways; Grassed areas mowed more than twice per year; Walkways/foot traffic-only pavement	2		7495
Non-grass landscaped areas; Stormwater treatment/storage systems (except buffers)	1	2727	
Forest; Meadow mowed no more than twice per year	0		

Total Area (SF)	23795	23795
Weighted Impact Rating	108067	63890
Weighted Impact Rating/Total Area	4.54	2.69
Treatment Level	**-1.86**	
Treatment Required	**50%**	

TREATMENT SUMMARY

	Treatment Summary		
	Area (SF)	WQV (CF)	Treated (%)
Required	11898	992	50
Provided	11940	995	50.2

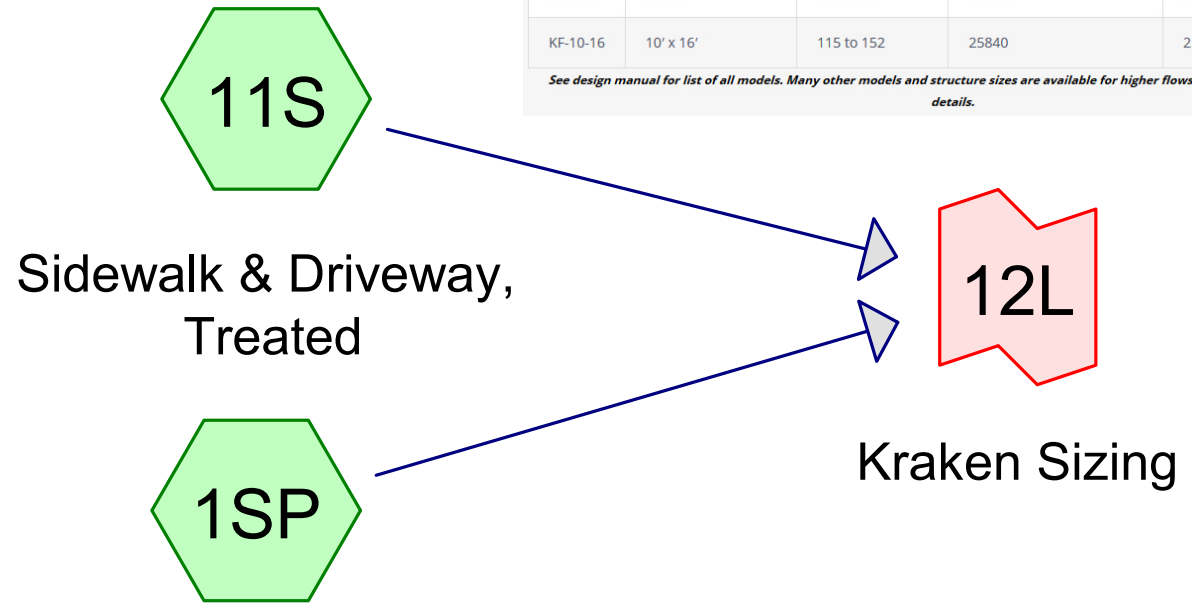
Total Area	23795 SF
Treatment Provided	50.2 %

Kraken Treatment Sizing

Model Sizing

Model #	Structure Size (ft. x ft.)	Cartridge Capacity	Max Media Surface Area (sq. ft.)	Treatment Flow Capacity (CFS)
KF-2.5-4	2.5′ x 4′	4 to 8	1360	0.15
KF-4-4	4′ x 4′	9 to 16	2720	0.30
KF-4-6	4′ x 6′	17 to 24	4080	0.46
KF-4-8	4′ x 8′	25 to 32	5440	0.61
KF-8-8	8′ x 8′	33 to 48	8160	0.91
KF-8-10	8′ x 10′	49 to 65	11220	1.25
KF-8-12	8′ x 12′	67 to 78	13260	1.48
KF-8-14	8′ x 14′	79 to 96	16320	1.82
KF-8-16	8′ x 16′	97 to 114	19380	2.16
KF-10-16	10′ x 16′	115 to 152	25840	2.88

See design manual for list of all models. Many other models and structure sizes are available for higher flows. Please contact us for more details.



Subcat Reach Pond Link

Routing Diagram for Treatment sizing
Prepared by Woodard Curran, Printed 6/2/2019
HydroCAD® 10.00-21 s/n 01204 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Area Treated Runoff Area=13,480 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.27 cfs 888 cf

Subcatchment 11S: Sidewalk & Driveway, Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.03 cfs 94 cf

Link 12L: Kraken Sizing Inflow=0.30 cfs 982 cf
Primary=0.30 cfs 982 cf

Total Runoff Area = 14,900 sf Runoff Volume = 982 cf Average Runoff Depth = 0.79"
0.00% Pervious = 0 sf 100.00% Impervious = 14,900 sf

Summary for Subcatchment 1SP: Building Area Treated

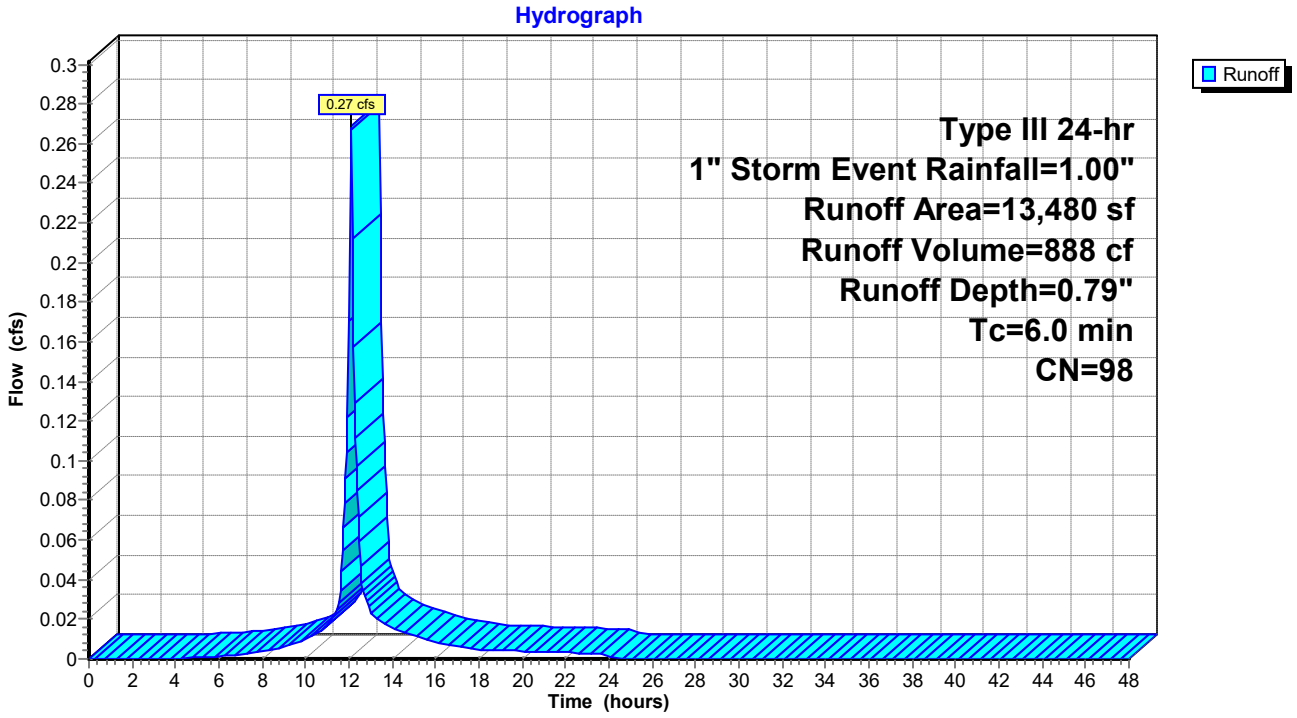
Runoff = 0.27 cfs @ 12.09 hrs, Volume= 888 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	13,480	98	Impervious
	13,480		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building Area Treated



Summary for Subcatchment 11S: Sidewalk & Driveway, Treated

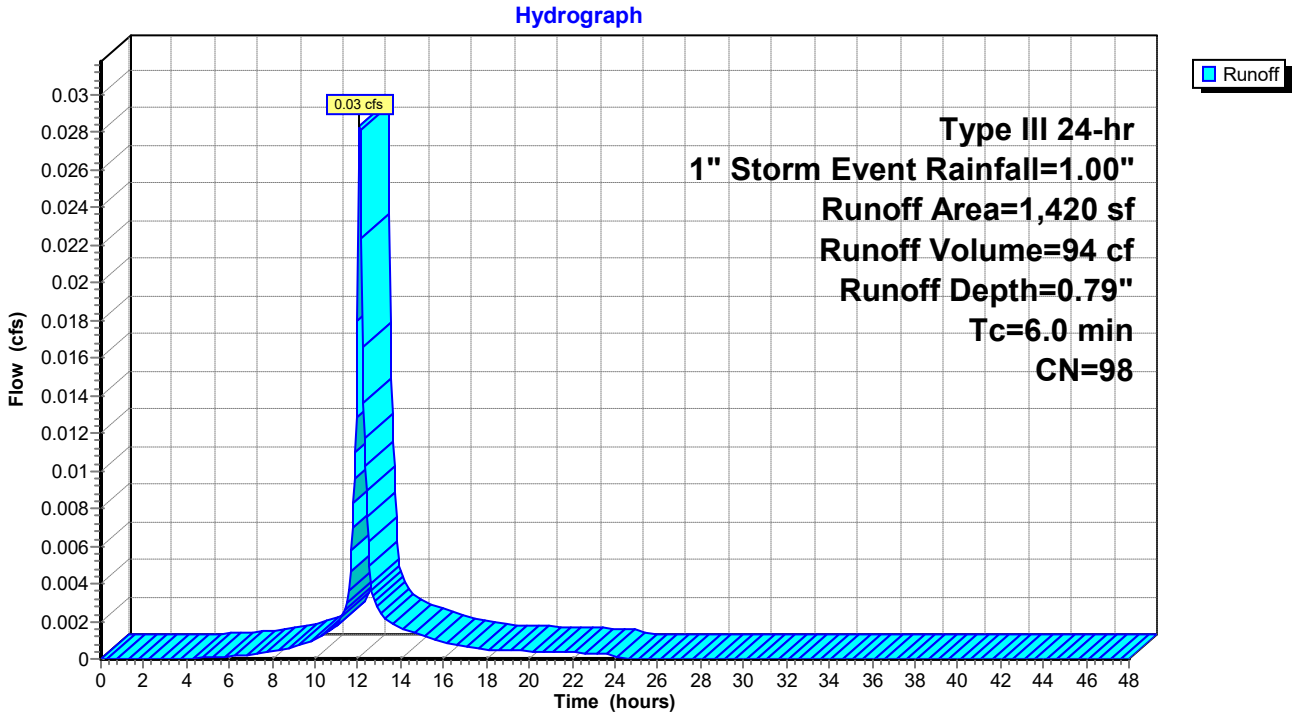
Runoff = 0.03 cfs @ 12.09 hrs, Volume= 94 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 11S: Sidewalk & Driveway, Treated

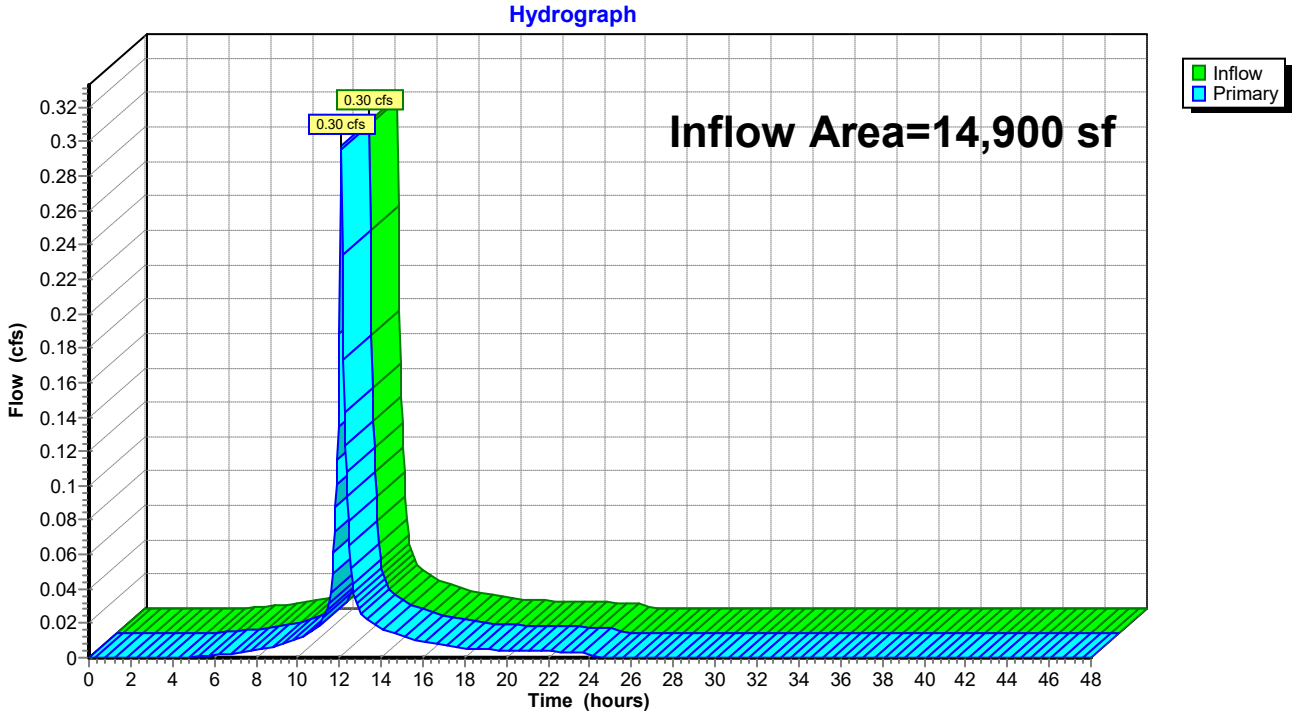


Summary for Link 12L: Kraken Sizing

Inflow Area = 14,900 sf,100.00% Impervious, Inflow Depth = 0.79" for 1" Storm Event event
Inflow = 0.30 cfs @ 12.09 hrs, Volume= 982 cf
Primary = 0.30 cfs @ 12.09 hrs, Volume= 982 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 12L: Kraken Sizing



Date: May 17th, 2019

Project: Center Street Hotel in Portland, ME

To Whom It May Concern,

The Kraken Filter will be sized in accordance with its NJCAT approval. The system is approved at a loading rate of 0.05 gpm/sq ft of surface area provided for each membrane filter cartridge. The Kraken Filter is approved for 80% TSS and 50% phosphorous and dissolved metal removal rates. For this project design, sizing and loading rate will be reviewed by a Bio Clean representative for final approval to ensure the system is sized accordingly.

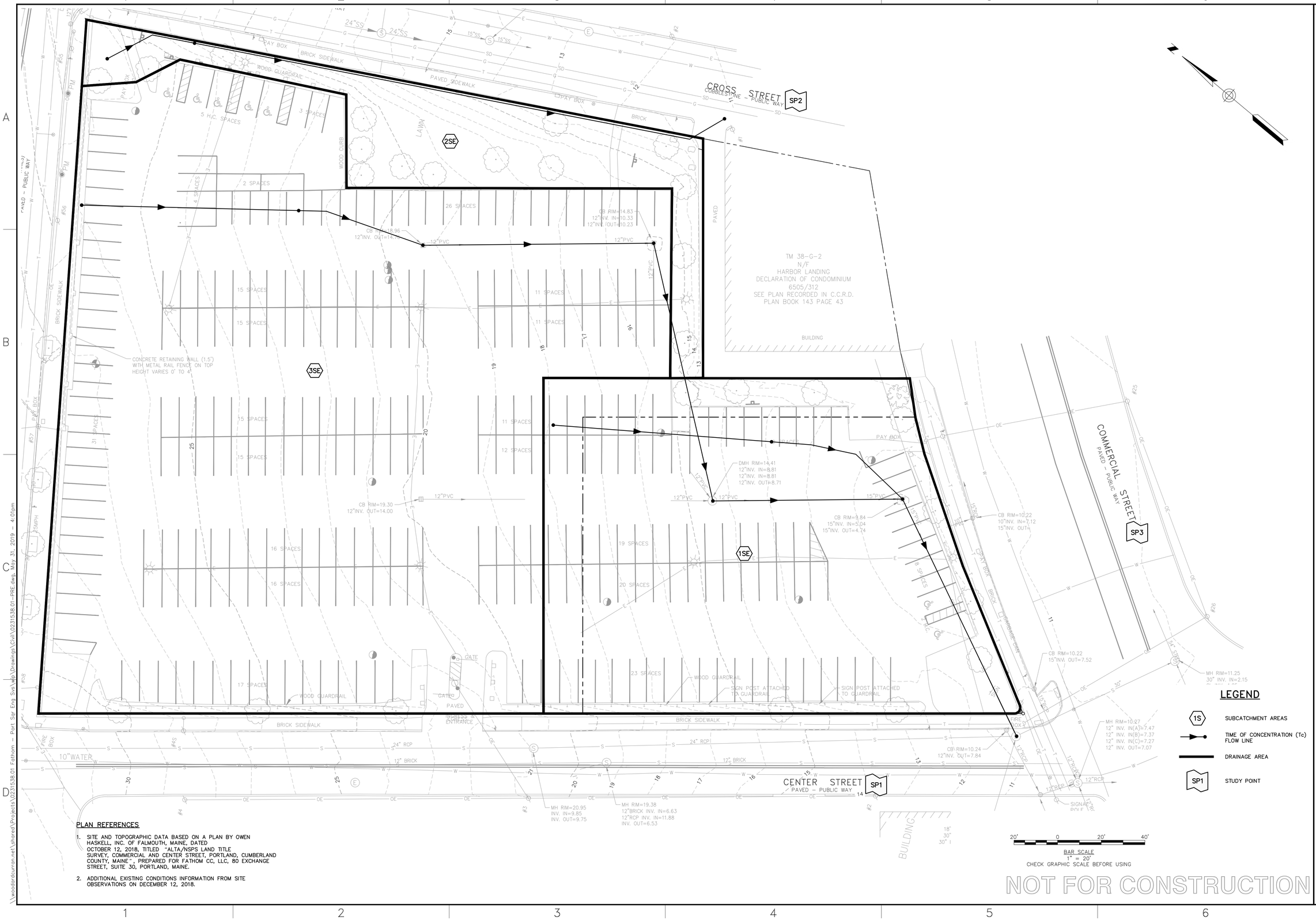
For the Center Street Hotel in Portland, ME, the Kraken Filter is design for a water quality flow rate of 0.30 cfs. Each cartridge has capacity to treat 8.5 gpm or 0.019 cfs. This will require 16 cartridges to meet or exceed the require treatment rate. The Kraken 4-4 is sufficient per the water quality treatment rate.

If you have any questions, please feel free to contact us at your convenience.

Sincerely,

Touyia Lee, EIT
Stormwater Engineer
Bio Clean
A Forterra Company

22x34 SHEET
1:1



LEGEND

- 1S — SUBCATCHMENT AREAS
- TIME OF CONCENTRATION (Tc) FLOW LINE
- DRAINAGE AREA
- SP1 — STUDY POINT

20' 0 20' 40'
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

NOT FOR CONSTRUCTION

PLAN REFERENCES

1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY OWEN HASKELL, INC. OF FALMOUTH, MAINE, DATED OCTOBER 12, 2018, TITLED "ALTA/NSPS LAND TITLE SURVEY, COMMERCIAL AND CENTER STREET, PORTLAND, CUMBERLAND COUNTY, MAINE", PREPARED FOR FATHOM CC, LLC, 80 EXCHANGE STREET, SUITE 30, PORTLAND, MAINE.
2. ADDITIONAL EXISTING CONDITIONS INFORMATION FROM SITE OBSERVATIONS ON DECEMBER 12, 2018.

WOODARD & CURRAN
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

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REV	DESCRIPTION	DATE

DESIGNED BY: LJS | CHECKED BY: LJS
DRAWN BY: JBC/LJS | 0231538.01-PRE.dwg

PRE-DEVELOPMENT STORMWATER PLAN

FATHOM CC, LLC
80 EXCHANGE STREET, SUITE 400
PORTLAND, MAINE 04101

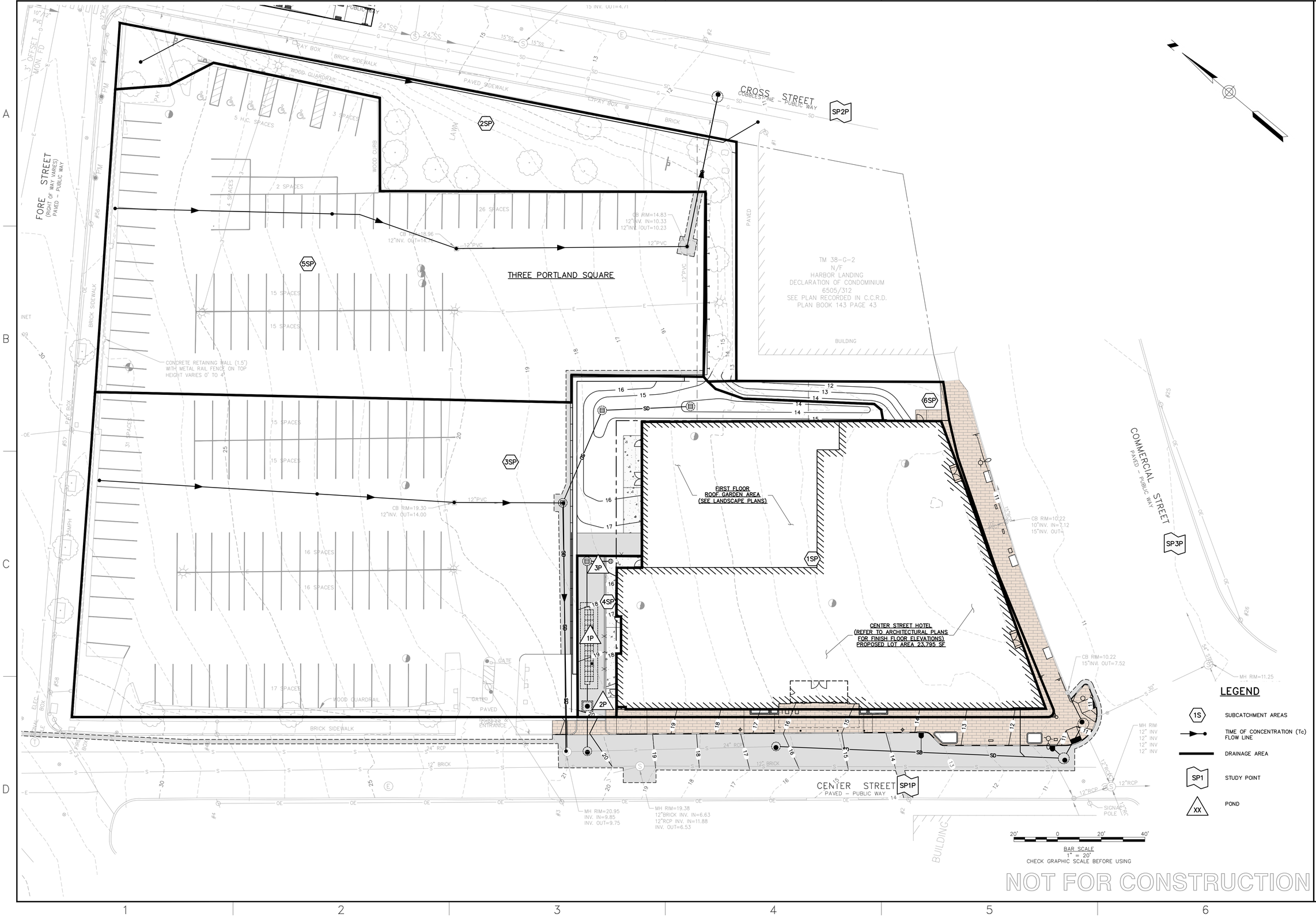
CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET
PORTLAND, MAINE 04101

JOB NO.: 0231538.01
DATE: 5/31/19
SCALE: 1" = 20'
SHEET: 1 OF 2

PRE

\\woodardcurran.net\shared\Projects\0231538.01 Fathom - Port Sqr Eng Svs\wp\Drawings\Civil\0231538.01-PRE.dwg, May 31, 2019 - 4:01pm

22x34 SHEET
1:1



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REV	DESCRIPTION	DATE

DESIGNED BY: LJS
DRAWN BY: JBC/LJS
CHECKED BY: LJS

POST-DEVELOPMENT STORMWATER MANAGEMENT PLAN

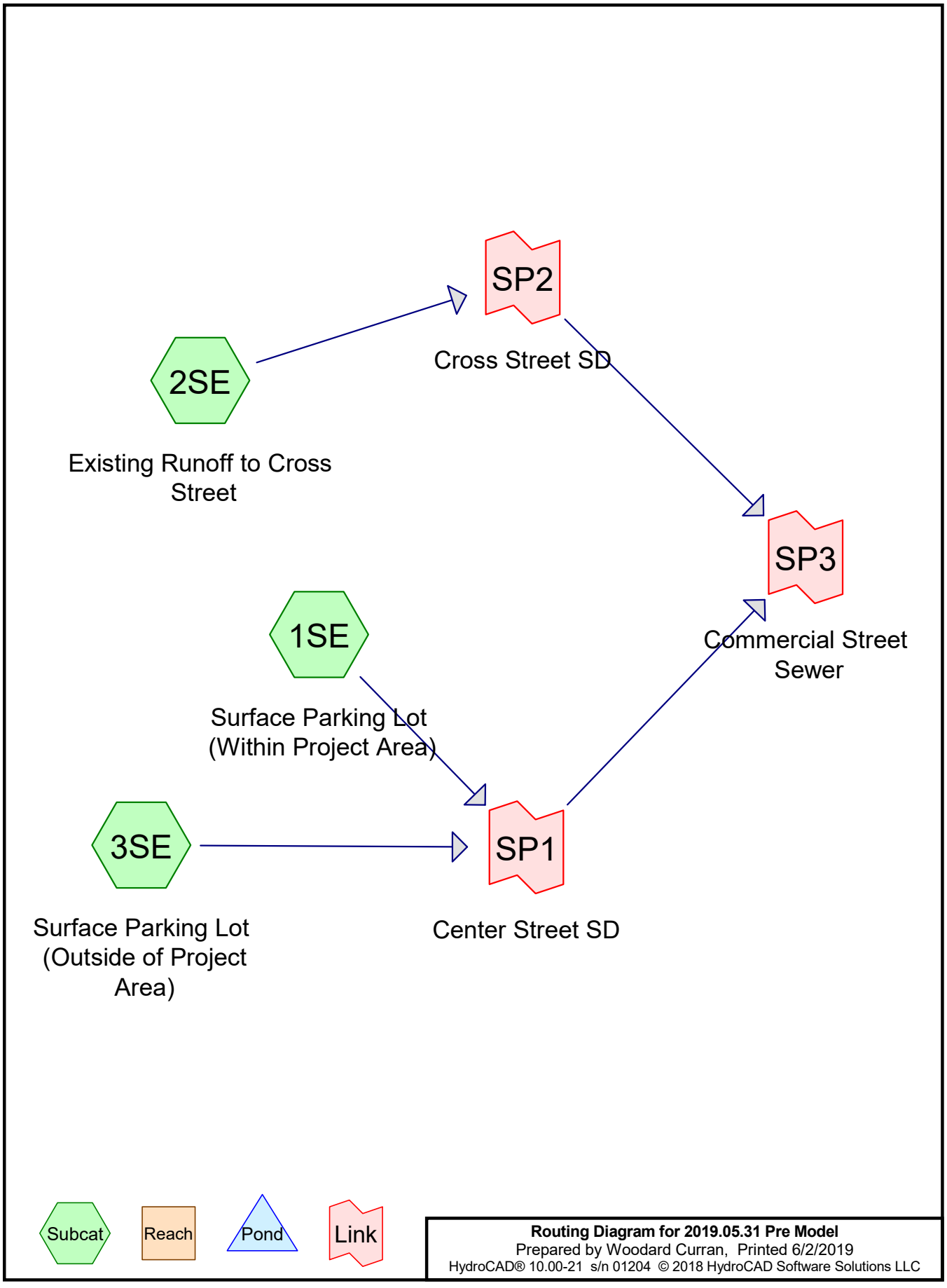
FATHOM CC, LLC
80 EXCHANGE STREET, SUITE 400
PORTLAND, MAINE 04101

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET
PORTLAND, MAINE 04101

JOB NO.: 0231538.01
DATE: 5/31/19
SCALE: 1" = 20'
SHEET: 2 OF 2

POST

\\woodardcurran.net\shared\Projects\0231538.01 Fathom - Port Sqr Eng Svs\wip\Drawings\Civil\0231538.01-POST.dwg, May 31, 2019 - 5:48pm



Routing Diagram for 2019.05.31 Pre Model
Prepared by Woodard Curran, Printed 6/2/2019
HydroCAD® 10.00-21 s/n 01204 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SE: Surface Parking Lot Runoff Area=28,918 sf 85.27% Impervious Runoff Depth=1.99"
Flow Length=290' Tc=6.0 min CN=89 Runoff=1.51 cfs 4,797 cf

Subcatchment 2SE: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.00"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 1 cf

Subcatchment 3SE: Surface Parking Lot Runoff Area=64,990 sf 97.12% Impervious Runoff Depth=2.65"
Flow Length=595' Tc=6.0 min CN=96 Runoff=4.23 cfs 14,355 cf

Link SP1: Center Street SD Inflow=5.73 cfs 19,152 cf
Primary=5.73 cfs 19,152 cf

Link SP2: Cross Street SD Inflow=0.00 cfs 1 cf
Primary=0.00 cfs 1 cf

Link SP3: Commercial Street Sewer Inflow=5.73 cfs 19,152 cf
Primary=5.73 cfs 19,152 cf

Total Runoff Area = 103,272 sf Runoff Volume = 19,152 cf Average Runoff Depth = 2.23"
14.54% Pervious = 15,020 sf 85.46% Impervious = 88,252 sf

Summary for Subcatchment 1SE: Surface Parking Lot (Within Project Area)

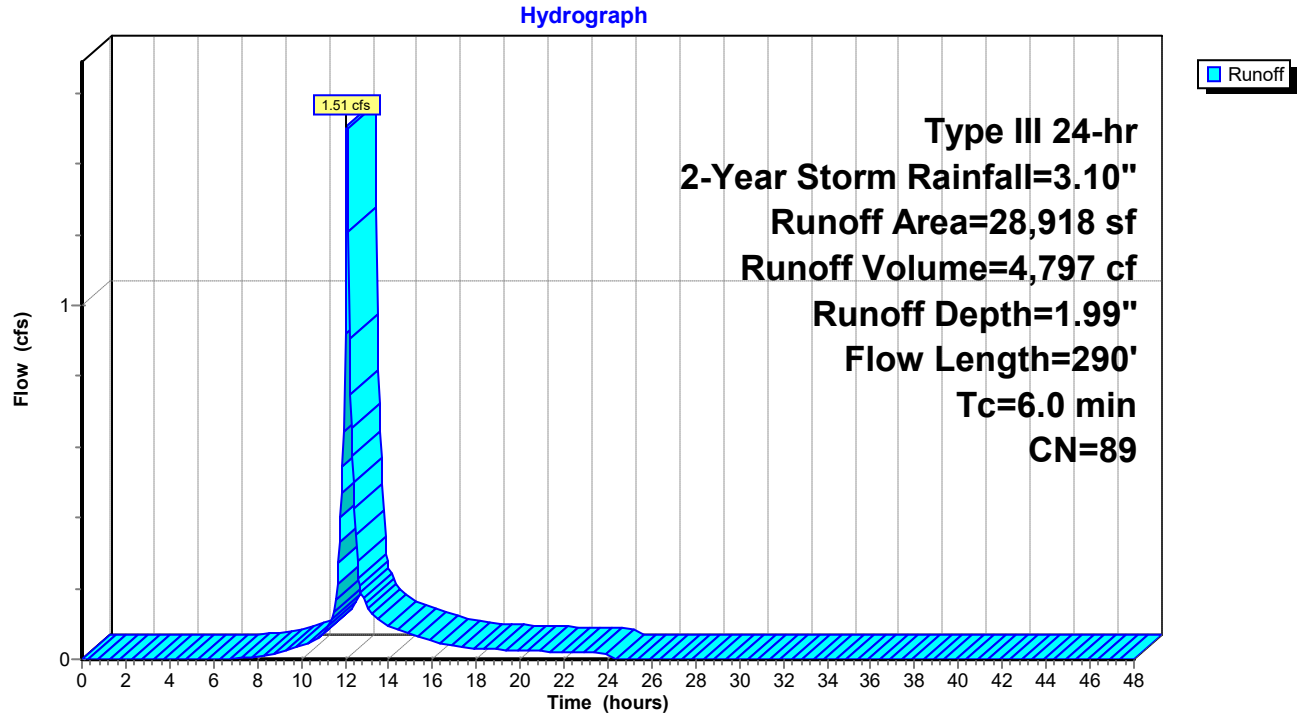
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 4,797 cf, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	24,658	98	Impervious
	4,260	39	>75% Grass cover, Good, HSG A
	28,918	89	Weighted Average
	4,260		14.73% Pervious Area
	24,658		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	70	0.0430	4.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.3	120	0.0100	6.84	8.40	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.5					**Direct Entry, Direct**
6.0	290	Total			

Subcatchment 1SE: Surface Parking Lot (Within Project Area)



Summary for Subcatchment 2SE: Existing Runoff to Cross Street

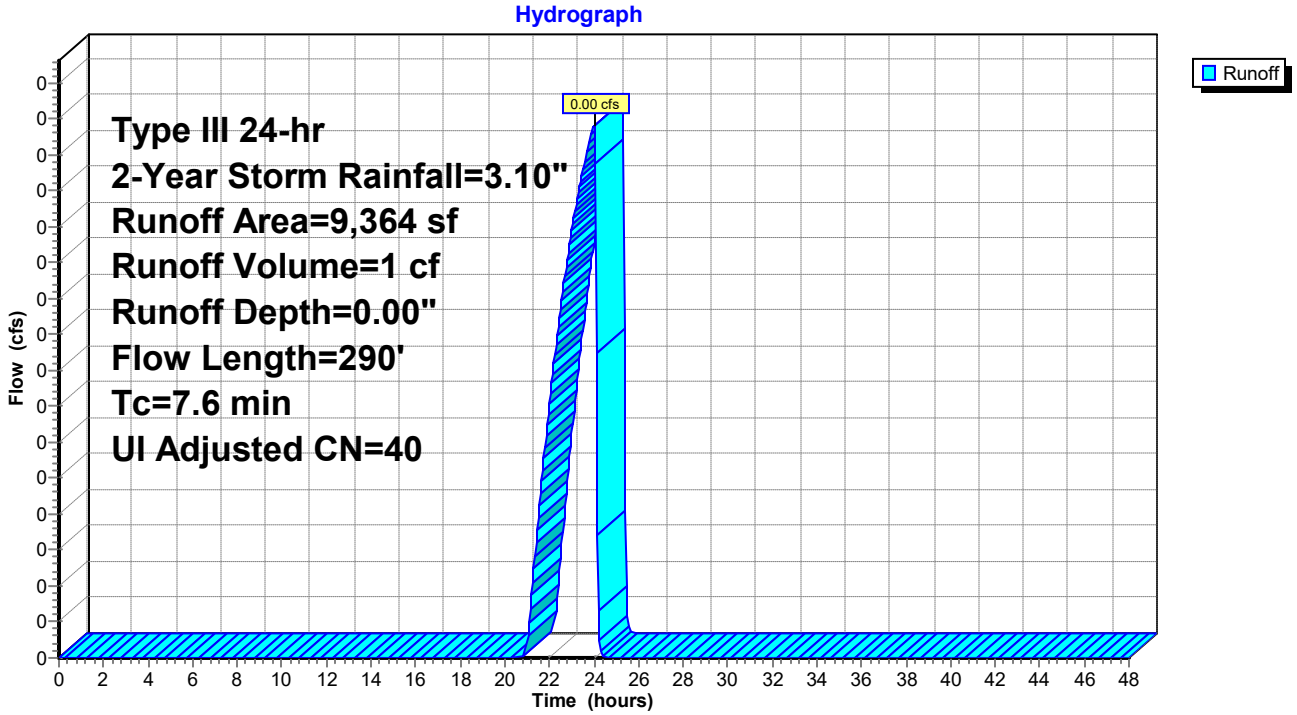
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 1 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SE: Existing Runoff to Cross Street



Summary for Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

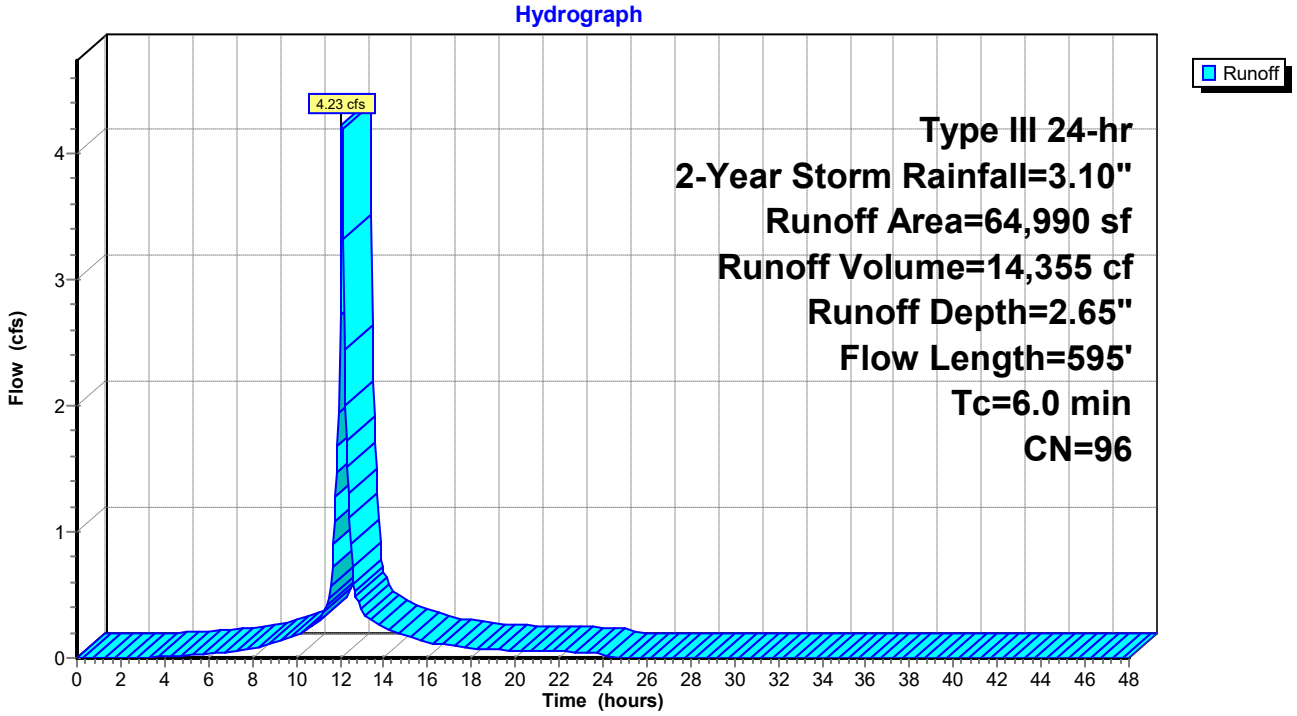
Runoff = 4.23 cfs @ 12.09 hrs, Volume= 14,355 cf, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
63,120	98	Paved parking, HSG D
1,870	39	>75% Grass cover, Good, HSG A
64,990	96	Weighted Average
1,870		2.88% Pervious Area
63,120		97.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0450	1.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0120	6.46	5.07	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	90	0.0400	11.79	9.26	**Pipe Channel, E-F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0100	6.84	8.40	**Pipe Channel, F-G** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.1					**Direct Entry, Direct Entry**
6.0	595	Total			

Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

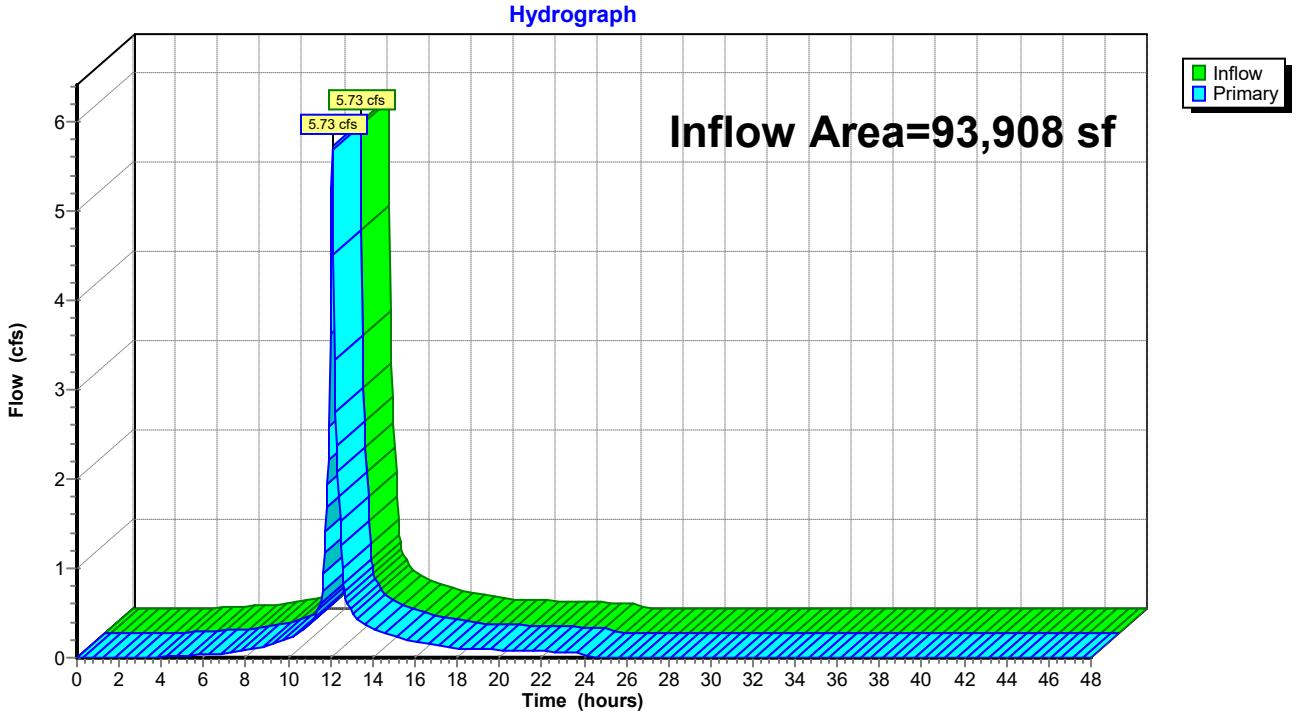


Summary for Link SP1: Center Street SD

Inflow Area = 93,908 sf, 93.47% Impervious, Inflow Depth = 2.45" for 2-Year Storm event
Inflow = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf
Primary = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1: Center Street SD

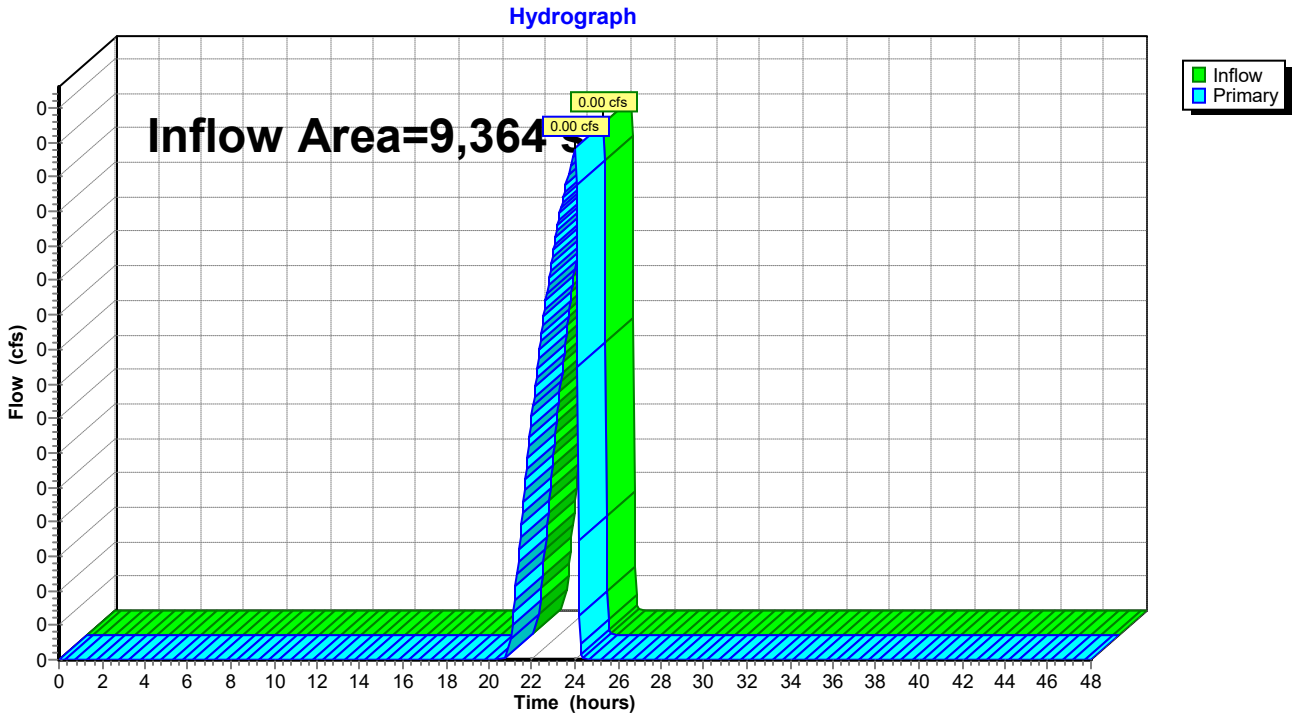


Summary for Link SP2: Cross Street SD

Inflow Area = 9,364 sf, 5.06% Impervious, Inflow Depth = 0.00" for 2-Year Storm event
Inflow = 0.00 cfs @ 24.00 hrs, Volume= 1 cf
Primary = 0.00 cfs @ 24.00 hrs, Volume= 1 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2: Cross Street SD

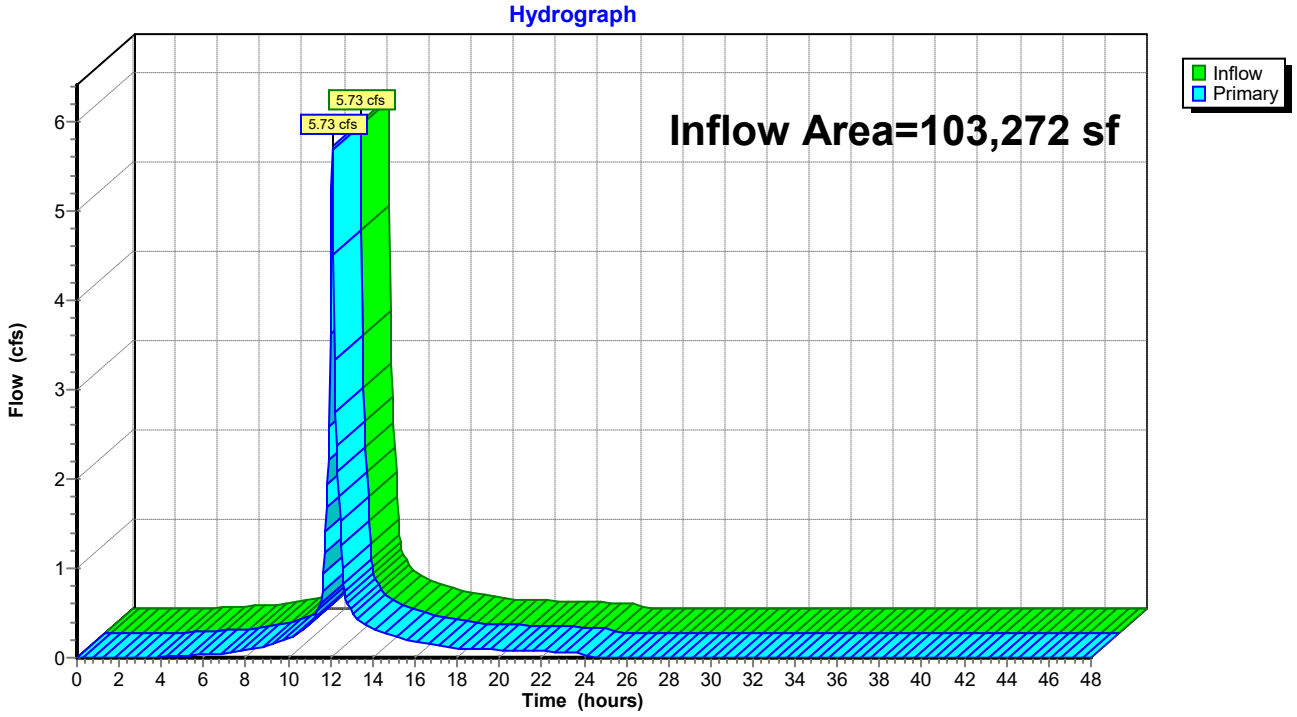


Summary for Link SP3: Commercial Street Sewer

Inflow Area = 103,272 sf, 85.46% Impervious, Inflow Depth = 2.23" for 2-Year Storm event
Inflow = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf
Primary = 5.73 cfs @ 12.09 hrs, Volume= 19,152 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SE: Surface Parking Lot Runoff Area=28,918 sf 85.27% Impervious Runoff Depth=3.39"
Flow Length=290' Tc=6.0 min CN=89 Runoff=2.52 cfs 8,170 cf

Subcatchment 2SE: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.15"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 120 cf

Subcatchment 3SE: Surface Parking Lot Runoff Area=64,990 sf 97.12% Impervious Runoff Depth=4.14"
Flow Length=595' Tc=6.0 min CN=96 Runoff=6.43 cfs 22,396 cf

Link SP1: Center Street SD Inflow=8.95 cfs 30,565 cf
Primary=8.95 cfs 30,565 cf

Link SP2: Cross Street SD Inflow=0.00 cfs 120 cf
Primary=0.00 cfs 120 cf

Link SP3: Commercial Street Sewer Inflow=8.95 cfs 30,686 cf
Primary=8.95 cfs 30,686 cf

Total Runoff Area = 103,272 sf Runoff Volume = 30,686 cf Average Runoff Depth = 3.57"
14.54% Pervious = 15,020 sf 85.46% Impervious = 88,252 sf

Summary for Subcatchment 1SE: Surface Parking Lot (Within Project Area)

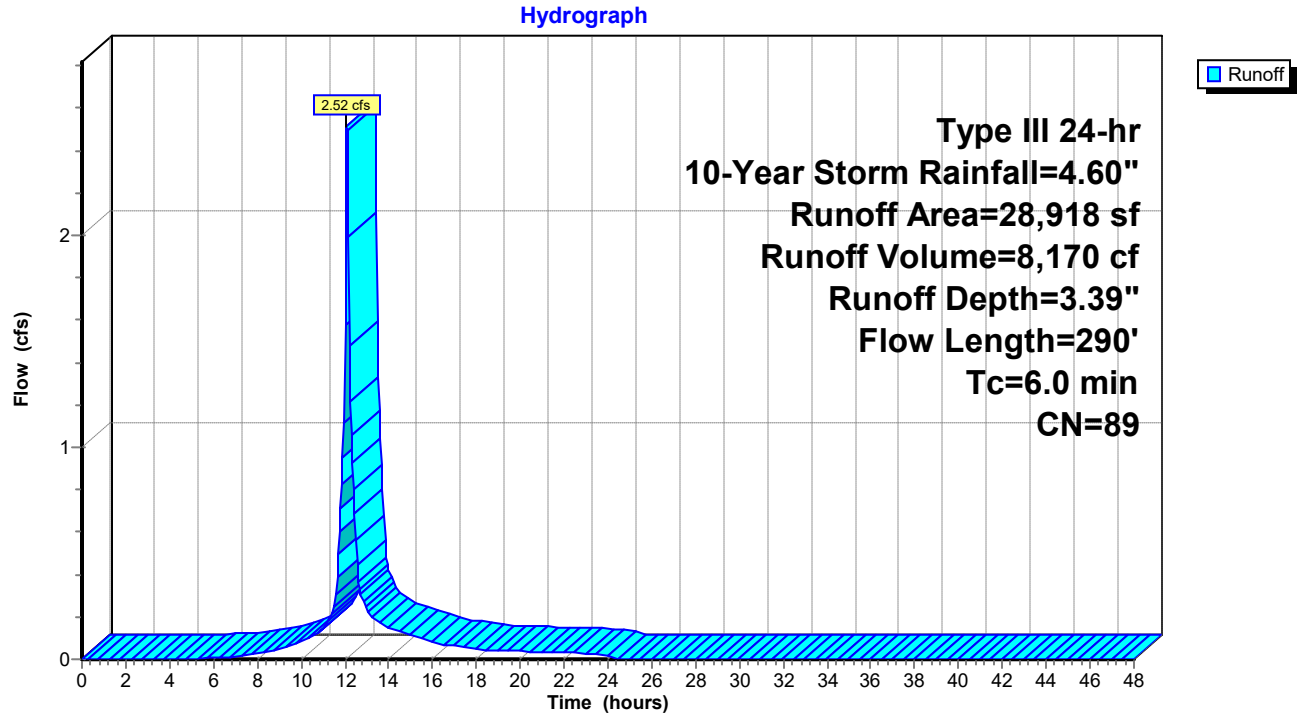
Runoff = 2.52 cfs @ 12.09 hrs, Volume= 8,170 cf, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	24,658	98	Impervious
	4,260	39	>75% Grass cover, Good, HSG A
	28,918	89	Weighted Average
	4,260		14.73% Pervious Area
	24,658		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	70	0.0430	4.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.3	120	0.0100	6.84	8.40	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.5					**Direct Entry, Direct**
6.0	290	Total			

Subcatchment 1SE: Surface Parking Lot (Within Project Area)



Summary for Subcatchment 2SE: Existing Runoff to Cross Street

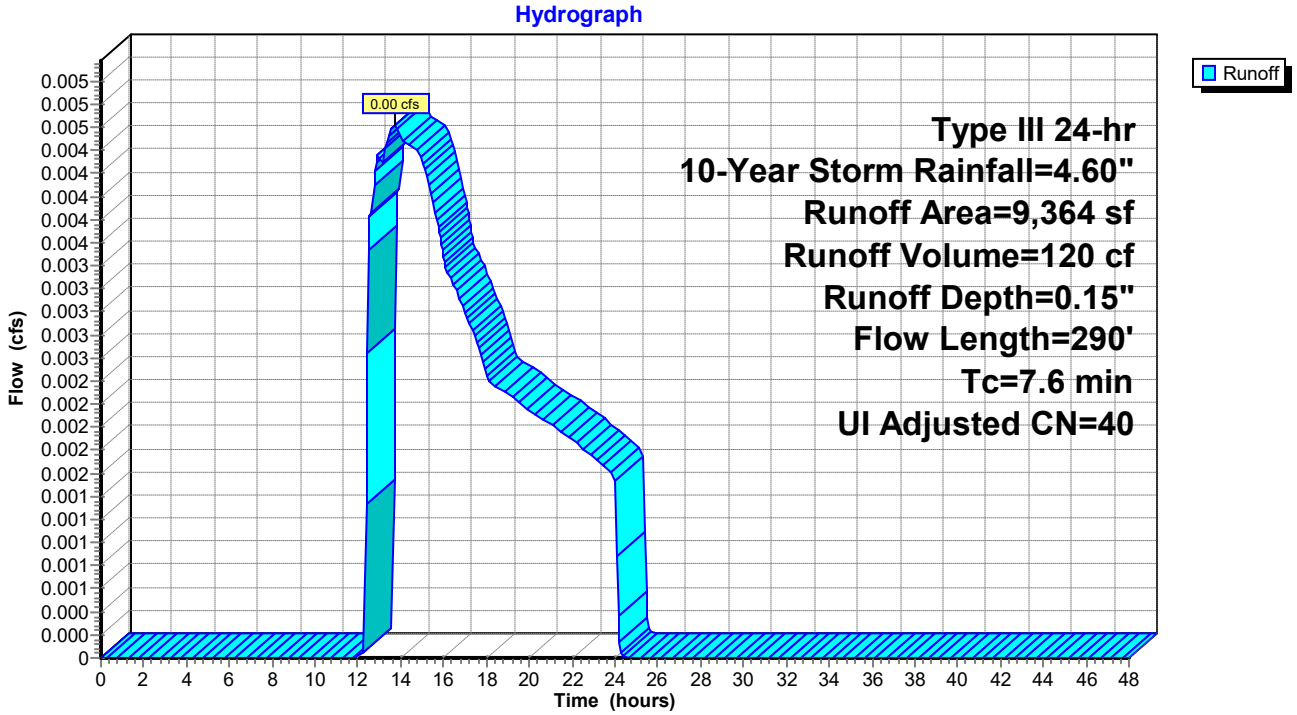
Runoff = 0.00 cfs @ 13.70 hrs, Volume= 120 cf, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SE: Existing Runoff to Cross Street



Summary for Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

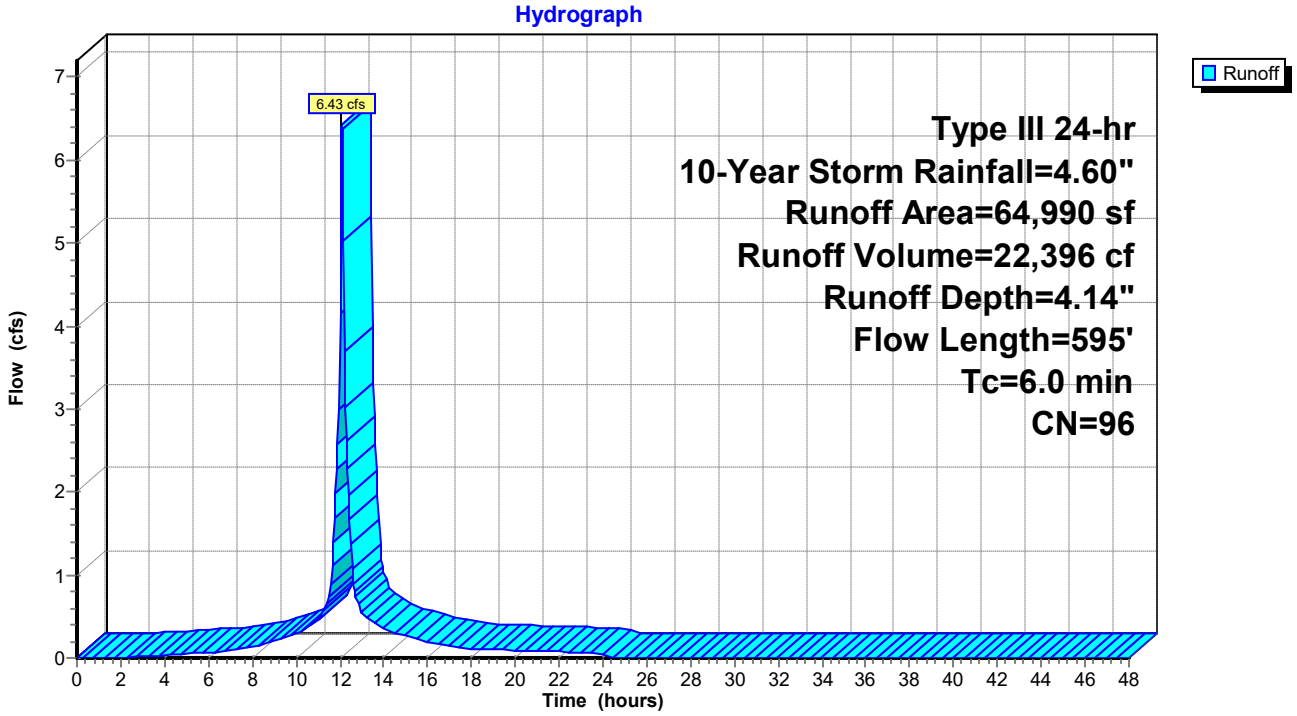
Runoff = 6.43 cfs @ 12.09 hrs, Volume= 22,396 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
63,120	98	Paved parking, HSG D
1,870	39	>75% Grass cover, Good, HSG A
64,990	96	Weighted Average
1,870		2.88% Pervious Area
63,120		97.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0450	1.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0120	6.46	5.07	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	90	0.0400	11.79	9.26	**Pipe Channel, E-F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0100	6.84	8.40	**Pipe Channel, F-G** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.1					**Direct Entry, Direct Entry**
6.0	595	Total			

Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

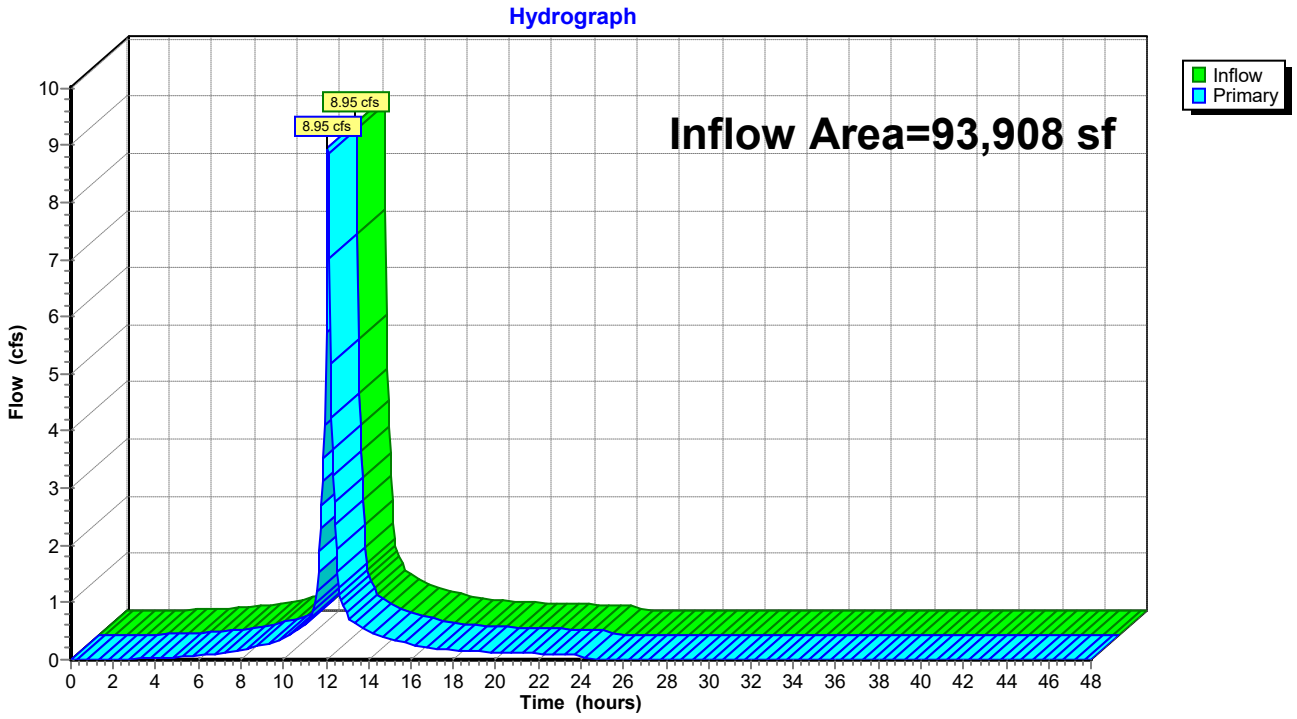


Summary for Link SP1: Center Street SD

Inflow Area = 93,908 sf, 93.47% Impervious, Inflow Depth = 3.91" for 10-Year Storm event
Inflow = 8.95 cfs @ 12.09 hrs, Volume= 30,565 cf
Primary = 8.95 cfs @ 12.09 hrs, Volume= 30,565 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1: Center Street SD

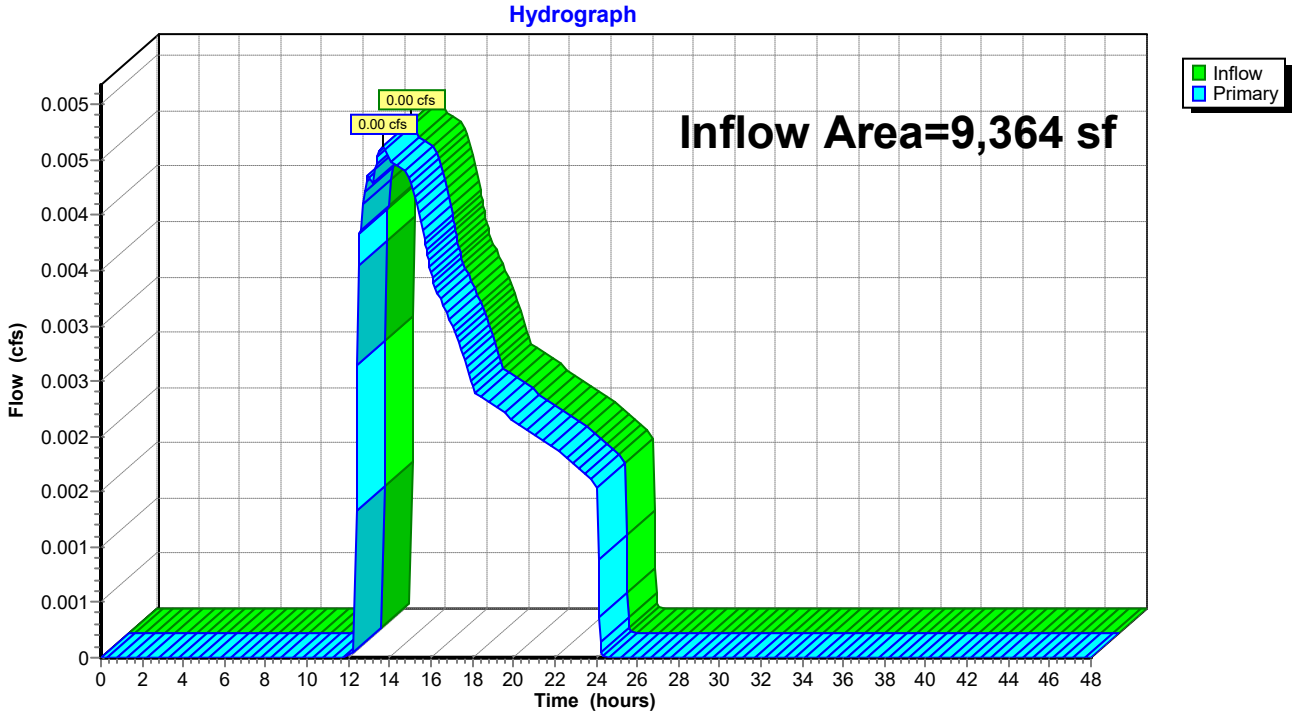


Summary for Link SP2: Cross Street SD

Inflow Area = 9,364 sf, 5.06% Impervious, Inflow Depth = 0.15" for 10-Year Storm event
Inflow = 0.00 cfs @ 13.70 hrs, Volume= 120 cf
Primary = 0.00 cfs @ 13.70 hrs, Volume= 120 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2: Cross Street SD

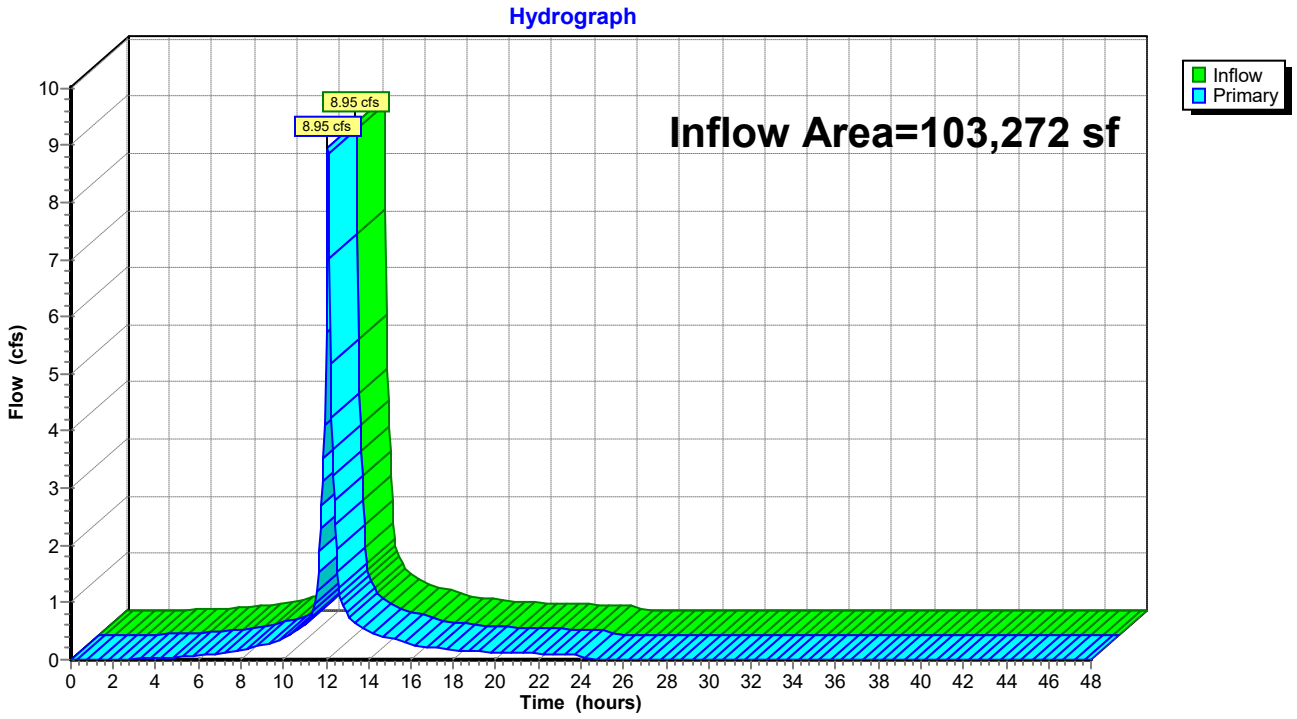


Summary for Link SP3: Commercial Street Sewer

Inflow Area = 103,272 sf, 85.46% Impervious, Inflow Depth = 3.57" for 10-Year Storm event
Inflow = 8.95 cfs @ 12.09 hrs, Volume= 30,686 cf
Primary = 8.95 cfs @ 12.09 hrs, Volume= 30,686 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SE: Surface Parking Lot Runoff Area=28,918 sf 85.27% Impervious Runoff Depth=4.54"
Flow Length=290' Tc=6.0 min CN=89 Runoff=3.32 cfs 10,945 cf

Subcatchment 2SE: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.44"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.04 cfs 344 cf

Subcatchment 3SE: Surface Parking Lot Runoff Area=64,990 sf 97.12% Impervious Runoff Depth=5.33"
Flow Length=595' Tc=6.0 min CN=96 Runoff=8.18 cfs 28,857 cf

Link SP1: Center Street SD Inflow=11.50 cfs 39,802 cf
Primary=11.50 cfs 39,802 cf

Link SP2: Cross Street SD Inflow=0.04 cfs 344 cf
Primary=0.04 cfs 344 cf

Link SP3: Commercial Street Sewer Inflow=11.50 cfs 40,146 cf
Primary=11.50 cfs 40,146 cf

Total Runoff Area = 103,272 sf Runoff Volume = 40,146 cf Average Runoff Depth = 4.66"
14.54% Pervious = 15,020 sf 85.46% Impervious = 88,252 sf

Summary for Subcatchment 1SE: Surface Parking Lot (Within Project Area)

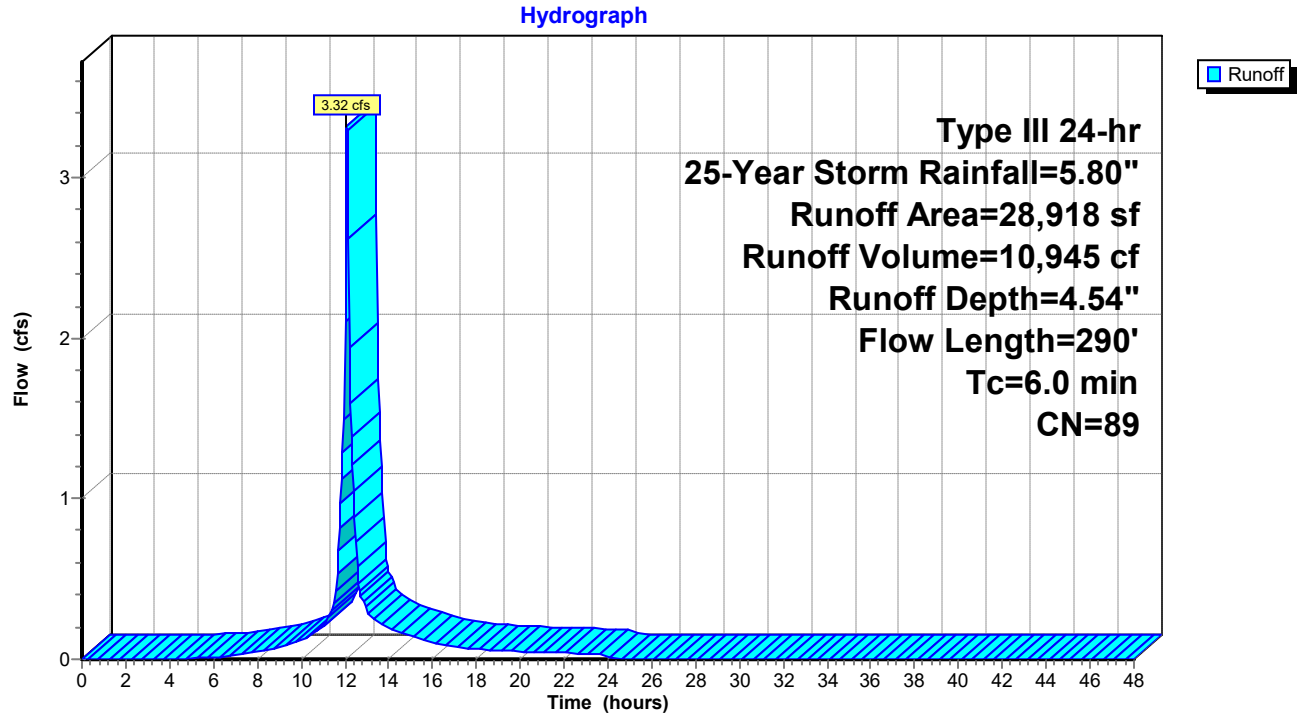
Runoff = 3.32 cfs @ 12.09 hrs, Volume= 10,945 cf, Depth= 4.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	24,658	98	Impervious
	4,260	39	>75% Grass cover, Good, HSG A
	28,918	89	Weighted Average
	4,260		14.73% Pervious Area
	24,658		85.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.3	70	0.0430	4.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.3	120	0.0100	6.84	8.40	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.5					**Direct Entry, Direct**
6.0	290	Total			

Subcatchment 1SE: Surface Parking Lot (Within Project Area)



Summary for Subcatchment 2SE: Existing Runoff to Cross Street

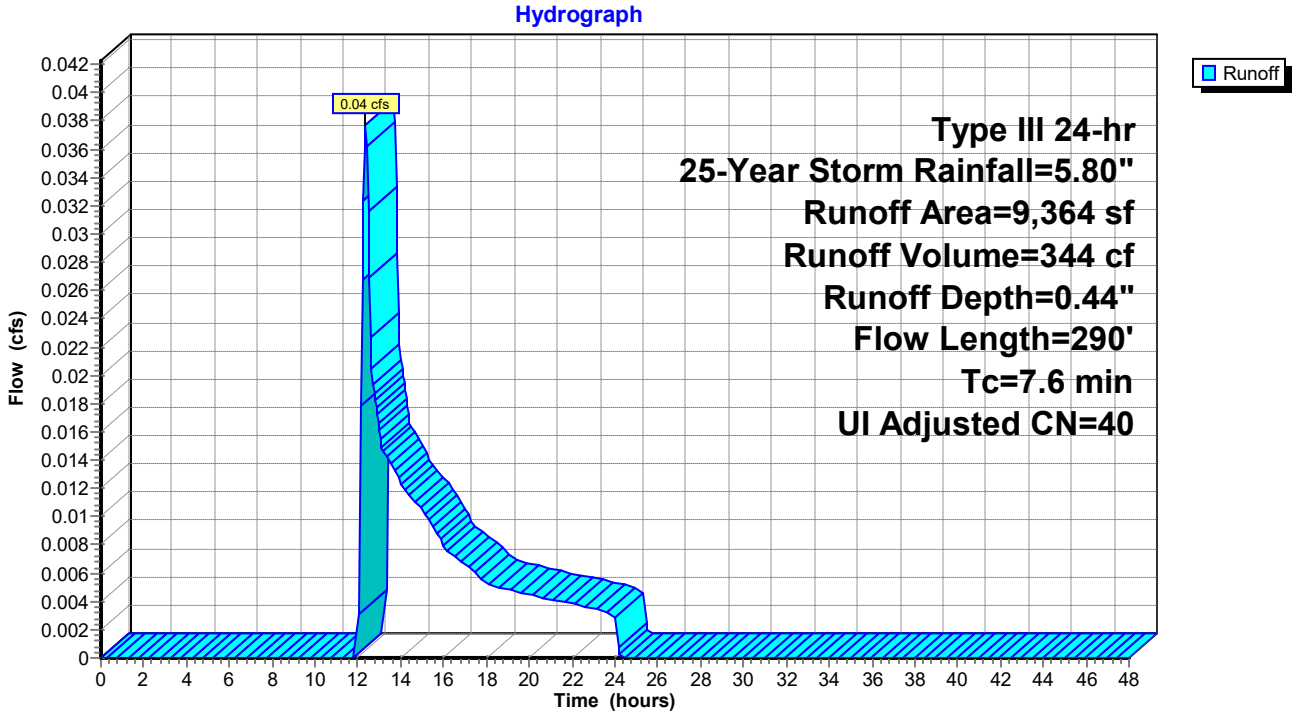
Runoff = 0.04 cfs @ 12.37 hrs, Volume= 344 cf, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SE: Existing Runoff to Cross Street



Summary for Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

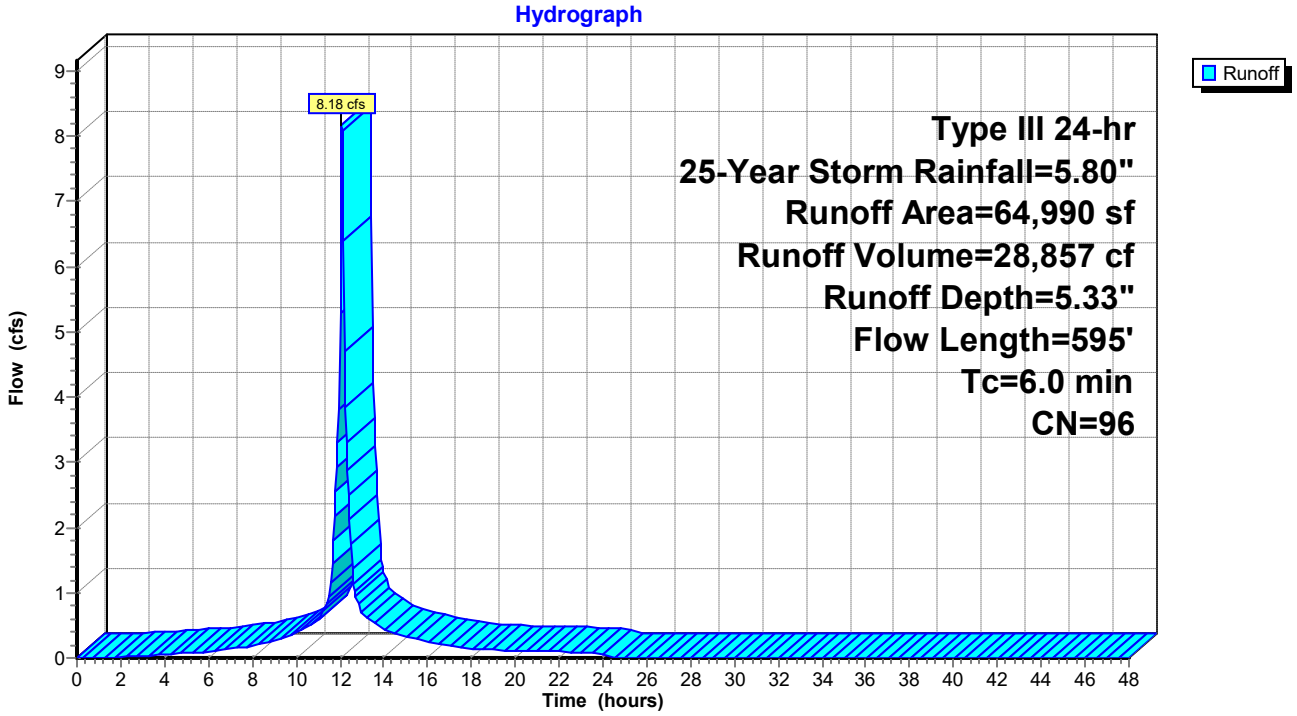
Runoff = 8.18 cfs @ 12.09 hrs, Volume= 28,857 cf, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
63,120	98	Paved parking, HSG D
1,870	39	>75% Grass cover, Good, HSG A
64,990	96	Weighted Average
1,870		2.88% Pervious Area
63,120		97.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0450	1.87		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0420	4.16		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0120	6.46	5.07	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	90	0.0400	11.79	9.26	**Pipe Channel, E-F** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.3	120	0.0100	6.84	8.40	**Pipe Channel, F-G** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
4.1					**Direct Entry, Direct Entry**
6.0	595	Total			

Subcatchment 3SE: Surface Parking Lot (Outside of Project Area)

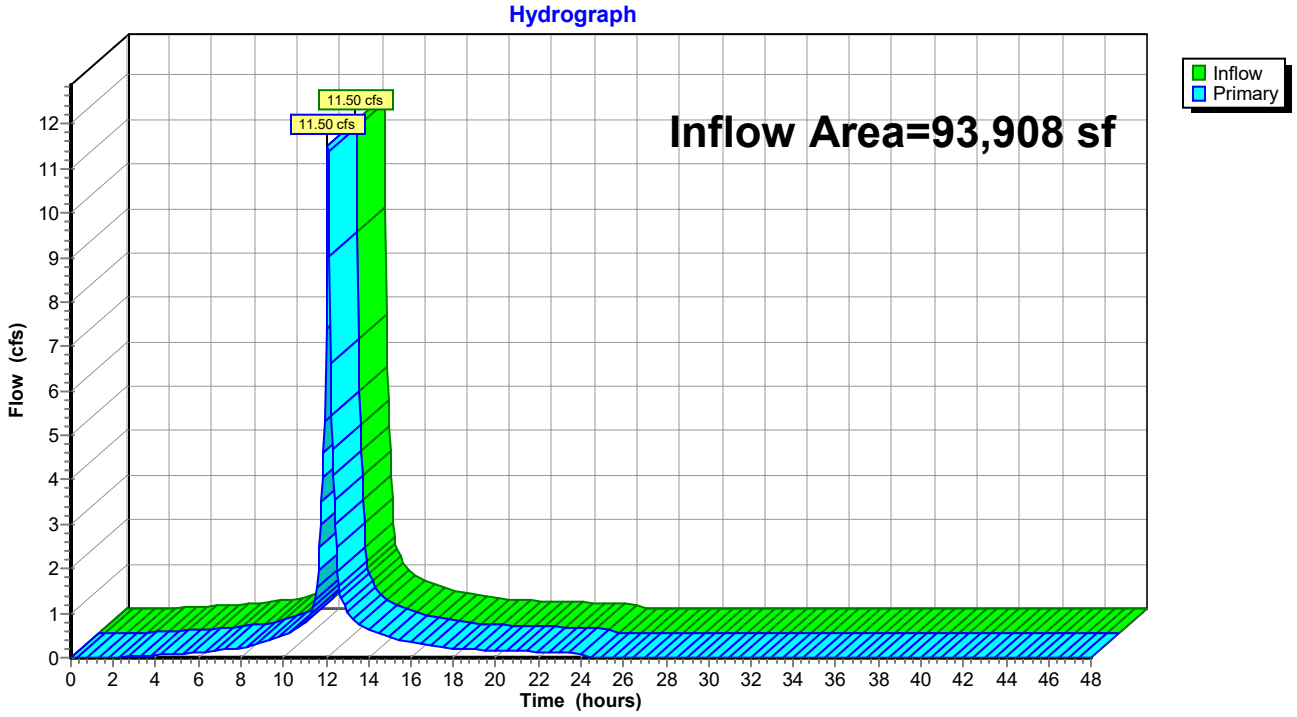


Summary for Link SP1: Center Street SD

Inflow Area = 93,908 sf, 93.47% Impervious, Inflow Depth = 5.09" for 25-Year Storm event
Inflow = 11.50 cfs @ 12.09 hrs, Volume= 39,802 cf
Primary = 11.50 cfs @ 12.09 hrs, Volume= 39,802 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1: Center Street SD

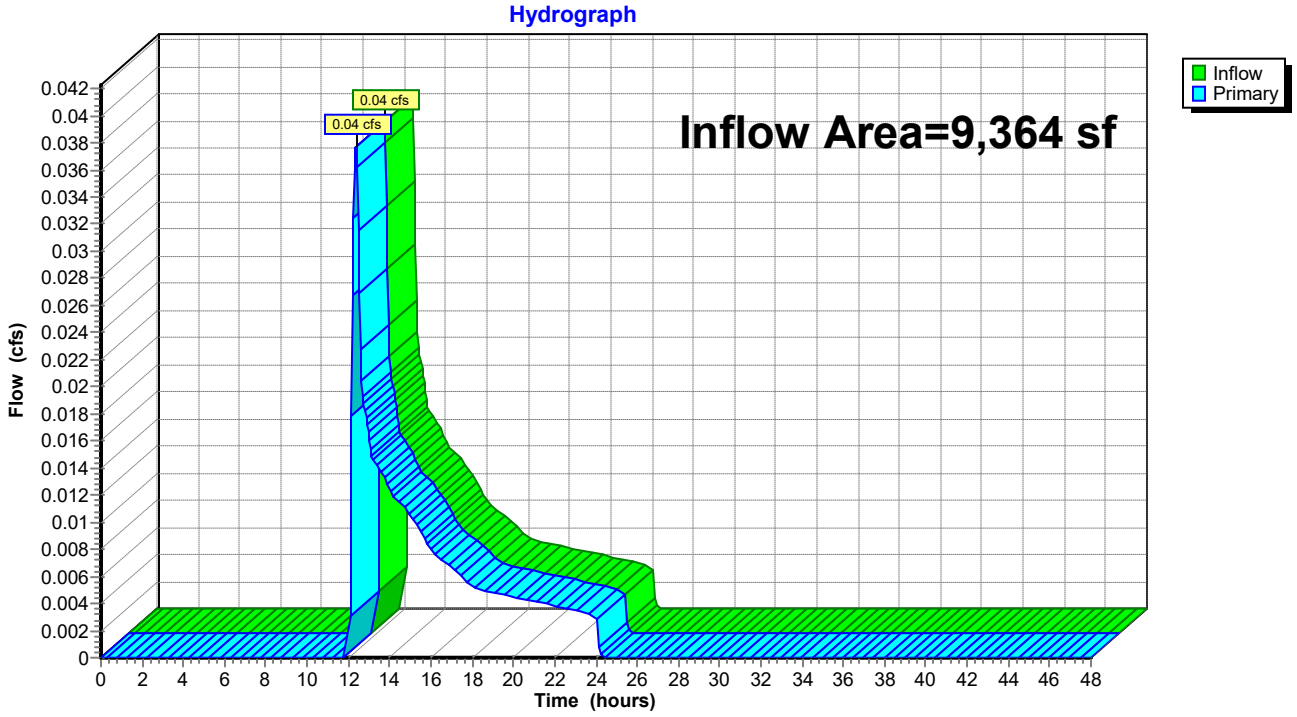


Summary for Link SP2: Cross Street SD

Inflow Area = 9,364 sf, 5.06% Impervious, Inflow Depth = 0.44" for 25-Year Storm event
Inflow = 0.04 cfs @ 12.37 hrs, Volume= 344 cf
Primary = 0.04 cfs @ 12.37 hrs, Volume= 344 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2: Cross Street SD

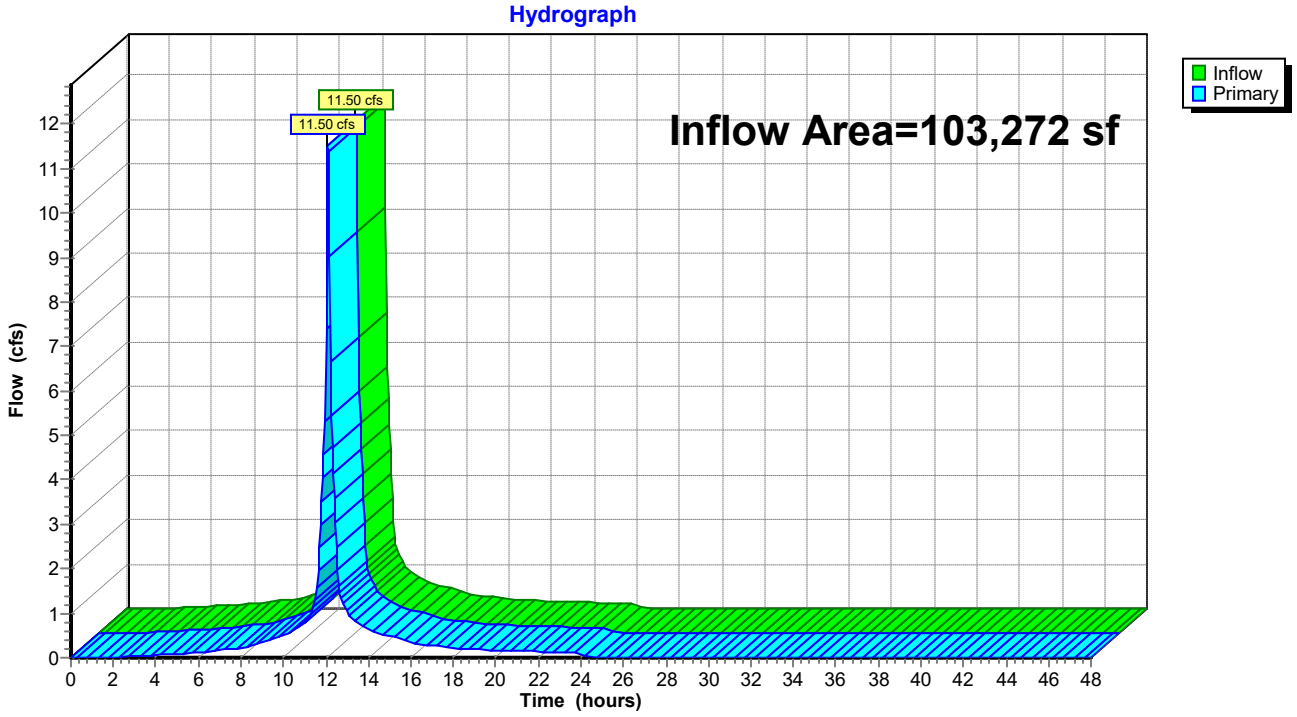


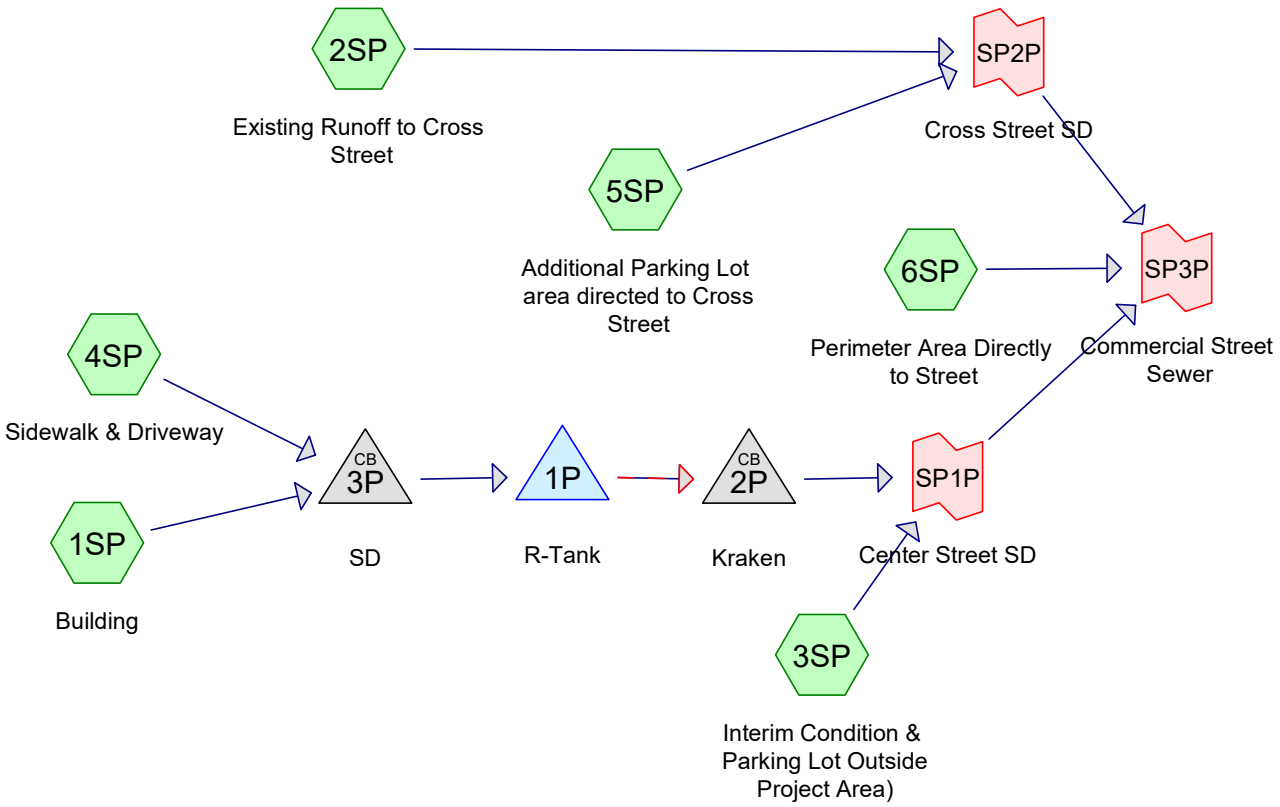
Summary for Link SP3: Commercial Street Sewer

Inflow Area = 103,272 sf, 85.46% Impervious, Inflow Depth = 4.66" for 25-Year Storm event
Inflow = 11.50 cfs @ 12.09 hrs, Volume= 40,146 cf
Primary = 11.50 cfs @ 12.09 hrs, Volume= 40,146 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3: Commercial Street Sewer





Subcat Reach Pond Link

Routing Diagram for 2019.05.31 Post Model
Prepared by Woodard Curran, Printed 6/2/2019
HydroCAD® 10.00-21 s/n 01204 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Runoff Area=21,960 sf 79.53% Impervious Runoff Depth=1.75"
Tc=6.0 min CN=86 Runoff=1.01 cfs 3,200 cf

Subcatchment 2SP: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.00"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 1 cf

Subcatchment 3SP: Interim Condition & Runoff Area=37,040 sf 13.85% Impervious Runoff Depth=0.06"
Flow Length=319' Tc=6.0 min CN=47 Runoff=0.01 cfs 182 cf

Subcatchment 4SP: Sidewalk & Driveway Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=98 Runoff=0.10 cfs 339 cf

Subcatchment 5SP: Additional Parking Lot Runoff Area=31,680 sf 98.81% Impervious Runoff Depth=2.76"
Flow Length=331' Tc=6.0 min CN=97 Runoff=2.10 cfs 7,280 cf

Subcatchment 6SP: Perimeter Area Directly Runoff Area=1,808 sf 41.92% Impervious Runoff Depth=0.51"
Tc=6.0 min CN=64 Runoff=0.02 cfs 77 cf

Pond 1P: R-Tank Peak Elev=11.01' Storage=178 cf Inflow=1.11 cfs 3,539 cf
12.0" Round Culvert n=0.010 L=7.0' S=0.0000 '/' Outflow=1.07 cfs 3,509 cf

Pond 2P: Kraken Peak Elev=11.36' Inflow=1.07 cfs 3,509 cf
Outflow=1.07 cfs 3,509 cf

Pond 3P: SD Peak Elev=14.14' Inflow=1.11 cfs 3,539 cf
12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=1.11 cfs 3,539 cf

Link SP1P: Center Street SD Inflow=1.07 cfs 3,691 cf
Primary=1.07 cfs 3,691 cf

Link SP2P: Cross Street SD Inflow=2.10 cfs 7,280 cf
Primary=2.10 cfs 7,280 cf

Link SP3P: Commercial Street Sewer Inflow=3.16 cfs 11,048 cf
Primary=3.16 cfs 11,048 cf

Total Runoff Area = 103,272 sf Runoff Volume = 11,078 cf Average Runoff Depth = 1.29"
45.24% Pervious = 46,723 sf 54.76% Impervious = 56,549 sf

Summary for Subcatchment 1SP: Building

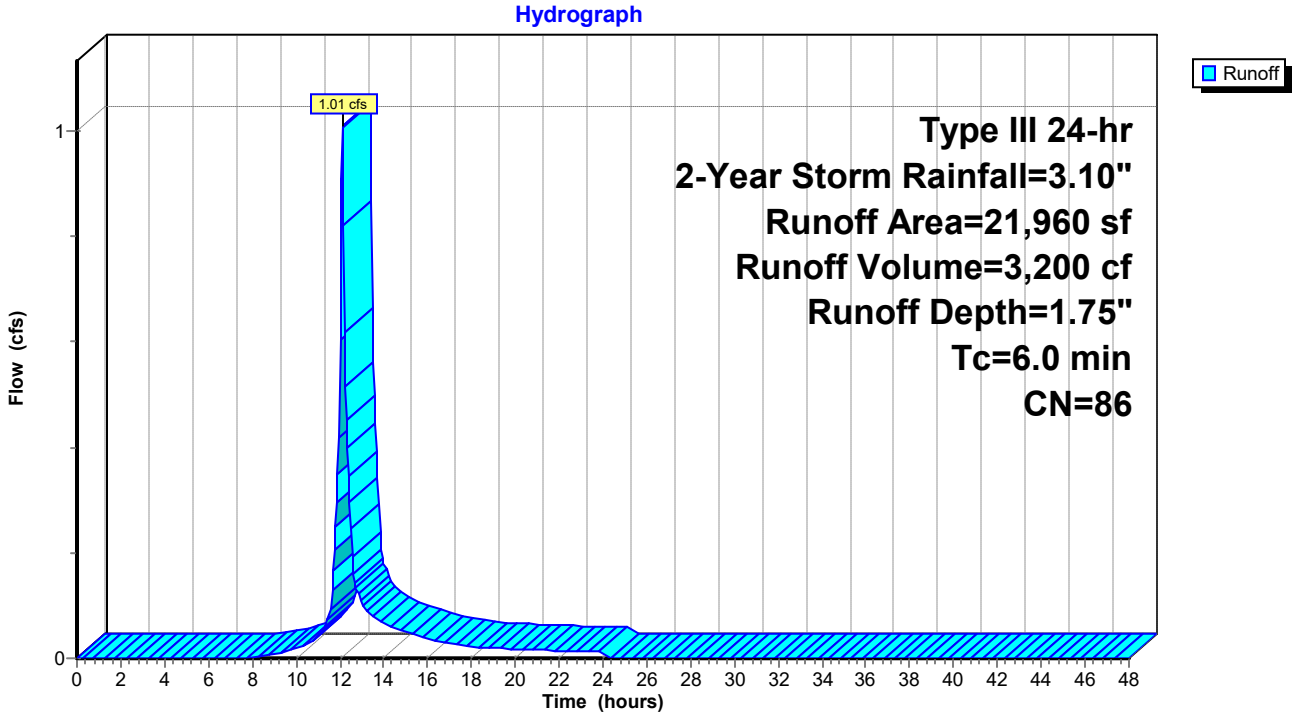
Runoff = 1.01 cfs @ 12.09 hrs, Volume= 3,200 cf, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	17,465	98	Impervious
	4,495	39	>75% Grass cover, Good, HSG A
	21,960	86	Weighted Average
	4,495		20.47% Pervious Area
	17,465		79.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building



Summary for Subcatchment 2SP: Existing Runoff to Cross Street

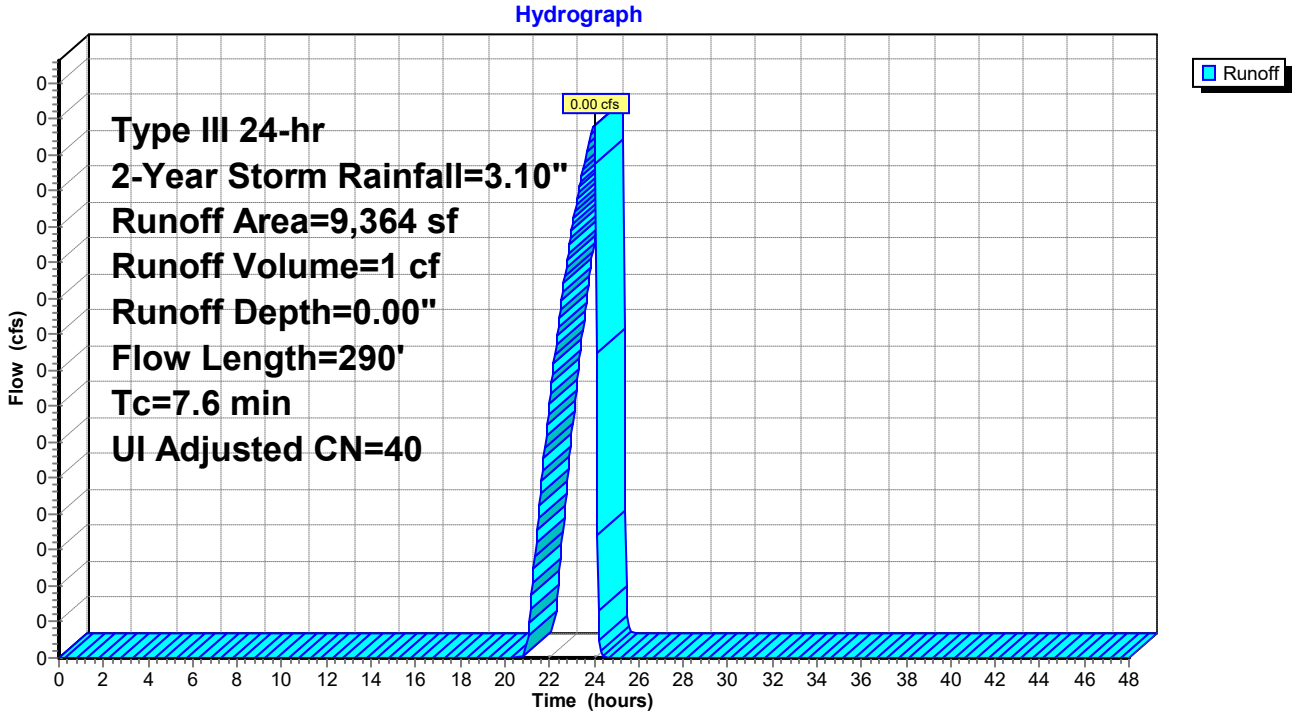
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 1 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SP: Existing Runoff to Cross Street



Summary for Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)

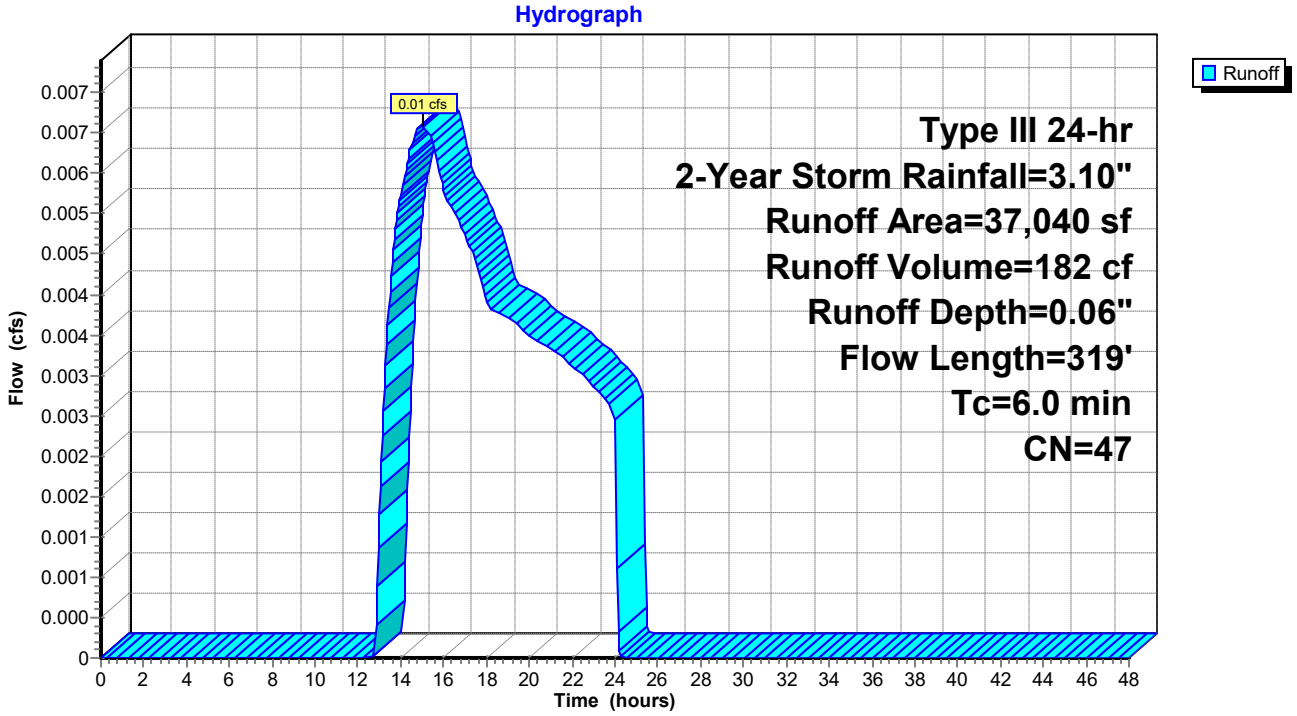
Runoff = 0.01 cfs @ 15.00 hrs, Volume= 182 cf, Depth= 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	5,130	98	Impervious,
	31,910	39	>75% Grass cover, Good, HSG A
	37,040	47	Weighted Average
	31,910		86.15% Pervious Area
	5,130		13.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.2	50	0.0390	4.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	109	0.0500	4.54		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.3					**Direct Entry, Direct**
6.0	319	Total			

Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)



Summary for Subcatchment 4SP: Sidewalk & Driveway

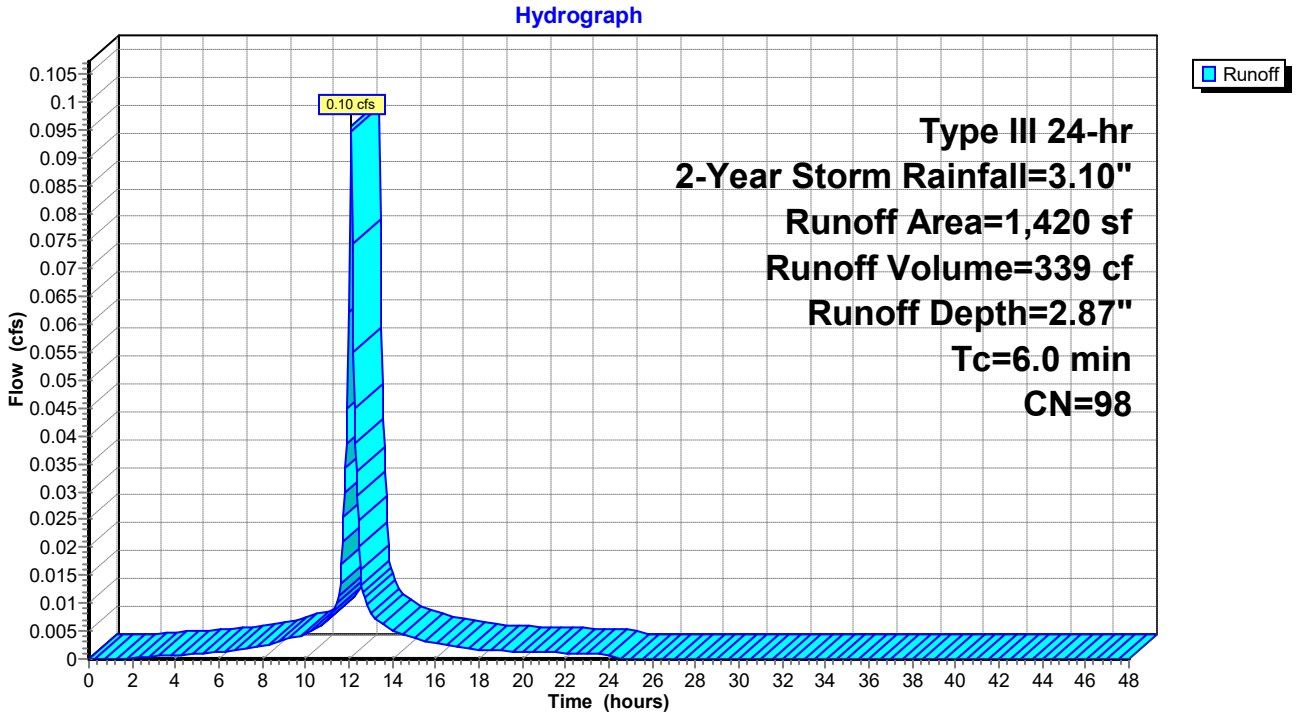
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 339 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4SP: Sidewalk & Driveway



Summary for Subcatchment 5SP: Additional Parking Lot area directed to Cross Street

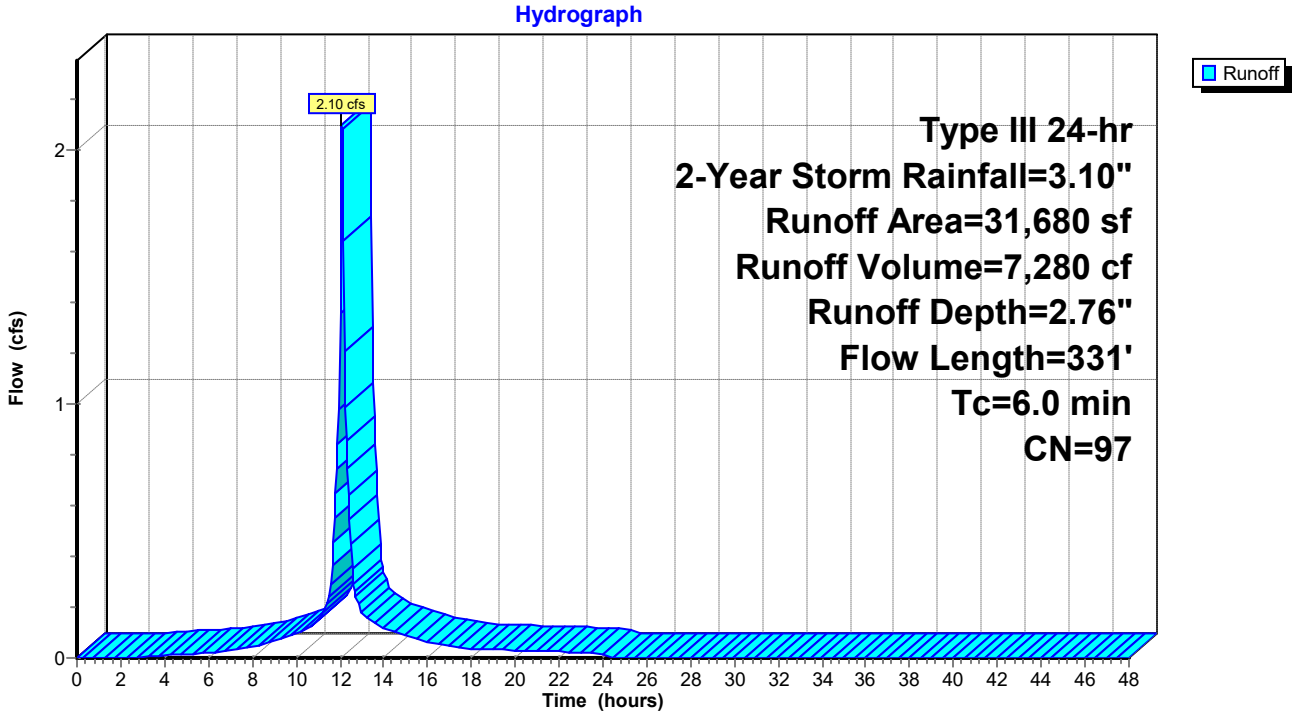
Runoff = 2.10 cfs @ 12.09 hrs, Volume= 7,280 cf, Depth= 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
378	39	>75% Grass cover, Good, HSG A
31,302	98	Paved parking, HSG A
31,680	97	Weighted Average
378		1.19% Pervious Area
31,302		98.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	66	0.0510	13.32	10.46	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
4.7					**Direct Entry,**
6.0	331	Total			

Subcatchment 5SP: Additional Parking Lot area directed to Cross Street



Summary for Subcatchment 6SP: Perimeter Area Directly to Street

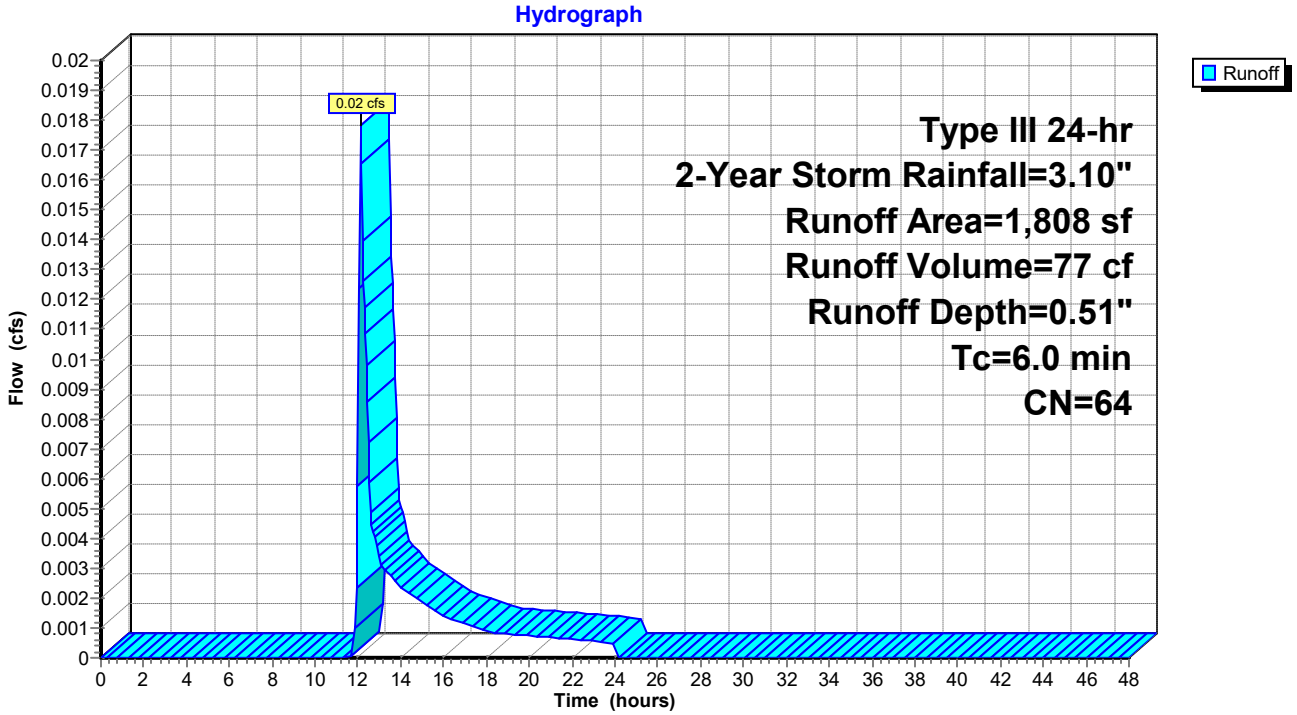
Runoff = 0.02 cfs @ 12.12 hrs, Volume= 77 cf, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
758	98	Unconnected roofs, HSG D
1,050	39	>75% Grass cover, Good, HSG A
1,808	64	Weighted Average
1,050		58.08% Pervious Area
758		41.92% Impervious Area
758		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct**

Subcatchment 6SP: Perimeter Area Directly to Street



Summary for Pond 1P: R-Tank

Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 1.82" for 2-Year Storm event
Inflow = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf
Outflow = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf, Atten= 3%, Lag= 1.3 min
Primary = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.01' @ 12.11 hrs Surf.Area= 300 sf Storage= 178 cf

Plug-Flow detention time= 17.1 min calculated for 3,509 cf (99% of inflow)
Center-of-Mass det. time= 11.5 min (829.0 - 817.5)

Volume	Invert	Avail.Storage	Storage Description
#1	10.03'	405 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 1,635 cf Overall - 622 cf Embedded = 1,013 cf x 40.0% Voids
#2	10.28'	591 cf	**R-Tank Triple Modules (Prismatic)** Listed below (Recalc) Inside #1 622 cf Overall x 95.0% Voids
		996 cf	Total Available Storage

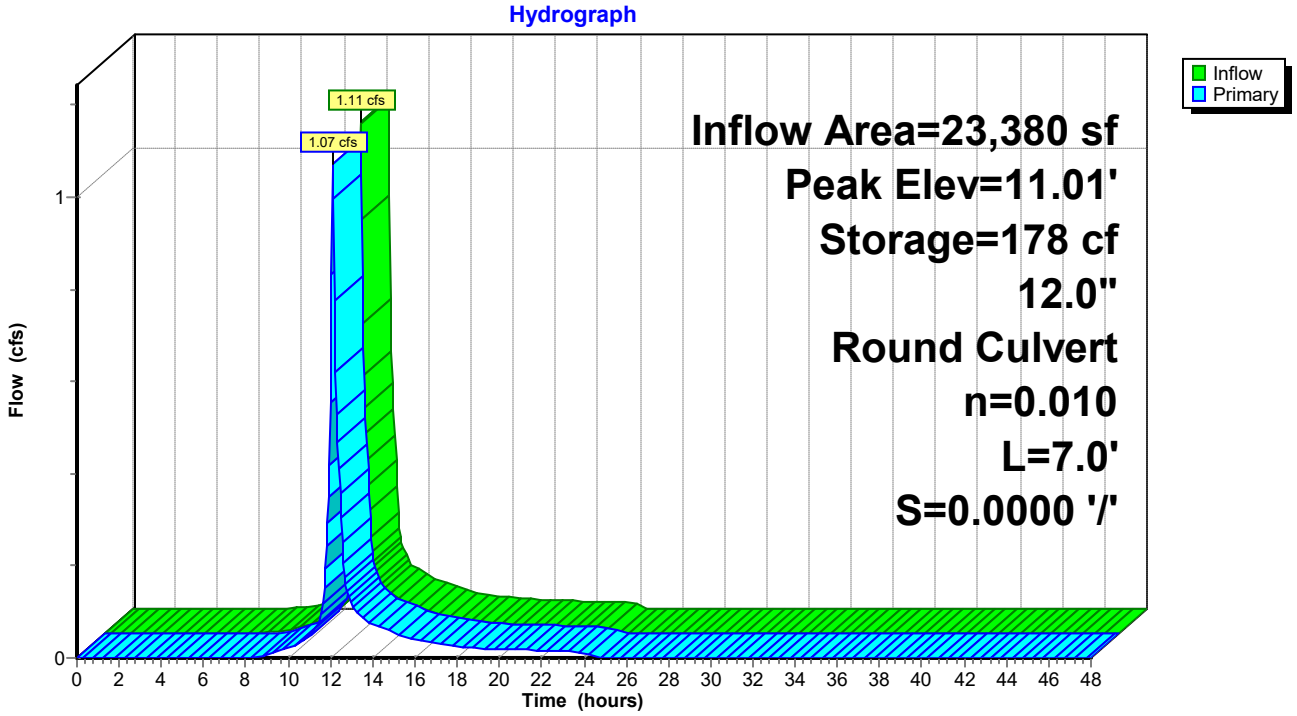
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.03	300	0	0
15.48	300	1,635	1,635

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.28	148	0	0
14.48	148	622	622

Device	Routing	Invert	Outlet Devices
#1	Primary	10.28'	**12.0" Round Culvert** L= 7.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 10.28' / 10.28' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.11 hrs HW=11.00' (Free Discharge)
1=Culvert (Barrel Controls 1.04 cfs @ 2.40 fps)

Pond 1P: R-Tank



Summary for Pond 2P: Kraken

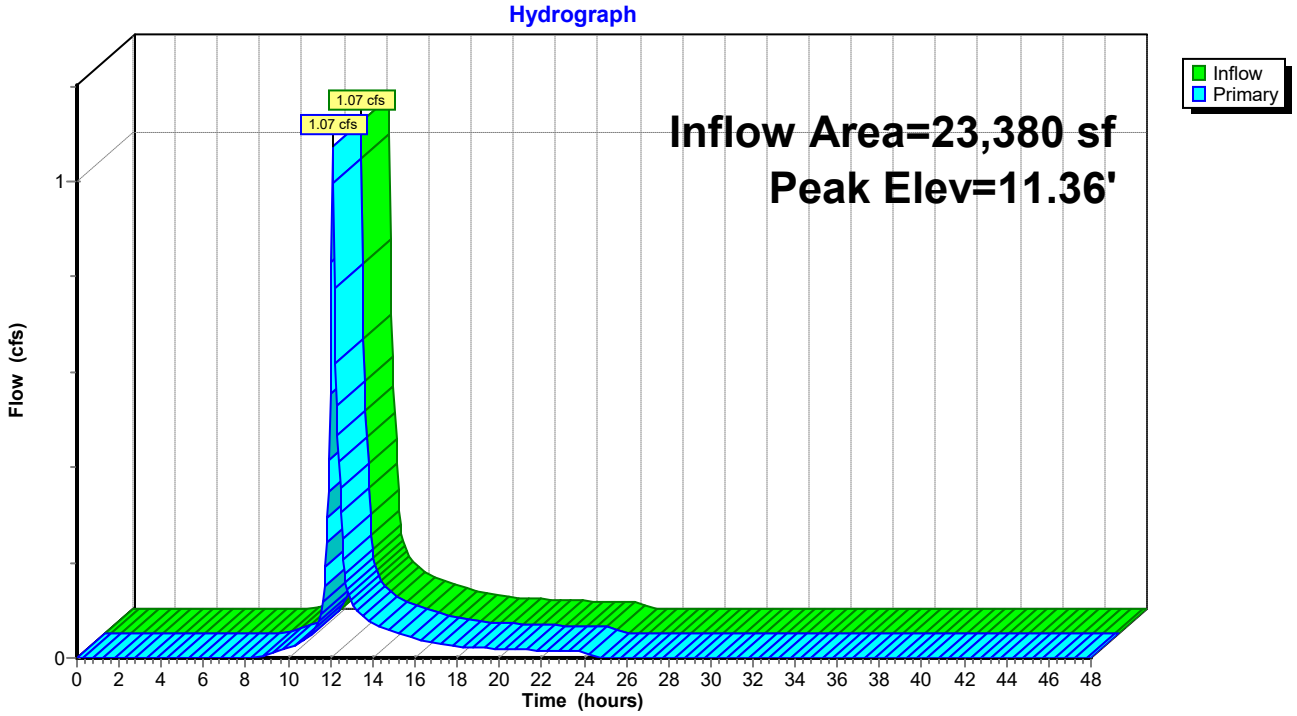
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 1.80" for 2-Year Storm event
Inflow = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf
Outflow = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.11 hrs, Volume= 3,509 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.36' @ 12.11 hrs
Flood Elev= 19.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.78'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.78' / 9.68' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	7.78'	**Kraken HGL Discharged Rate** Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.012 0.024 0.036 0.048 0.061 0.073 0.085 0.097 0.109 0.121 0.133 0.145 0.158 0.170 0.182 0.194 0.206 0.218 0.230 0.242 0.255 0.267 0.279 0.291 0.303
#3	Device 1	10.96'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.04 cfs @ 12.11 hrs HW=11.35' (Free Discharge)
└**1=Culvert** (Passes 1.04 cfs of 3.09 cfs potential flow)
  ├**2=Kraken HGL Discharged Rate** (Custom Controls 0.30 cfs)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.74 cfs @ 2.04 fps)

Pond 2P: Kraken



Summary for Pond 3P: SD

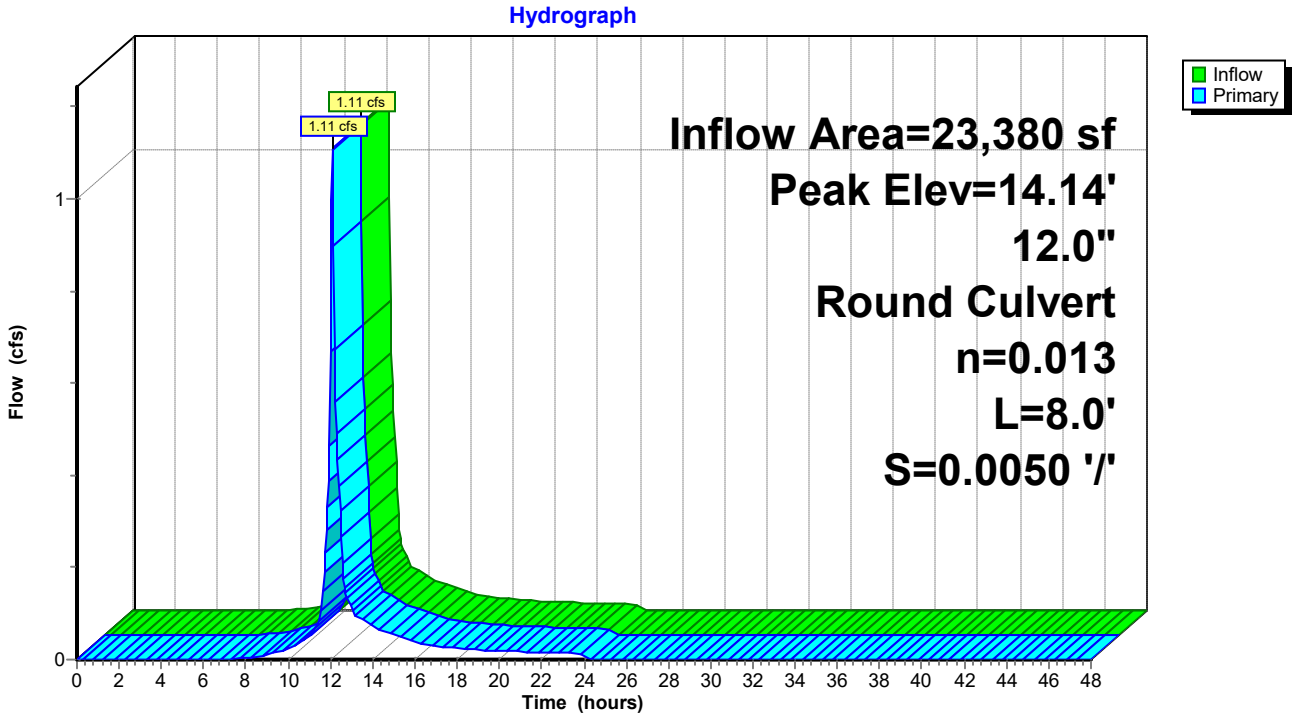
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 1.82" for 2-Year Storm event
Inflow = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf
Outflow = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.11 cfs @ 12.09 hrs, Volume= 3,539 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 14.14' @ 12.09 hrs
Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.42'	**12.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.42' / 13.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 12.09 hrs HW=14.13' (Free Discharge)
1=Culvert (Barrel Controls 1.09 cfs @ 2.56 fps)

Pond 3P: SD

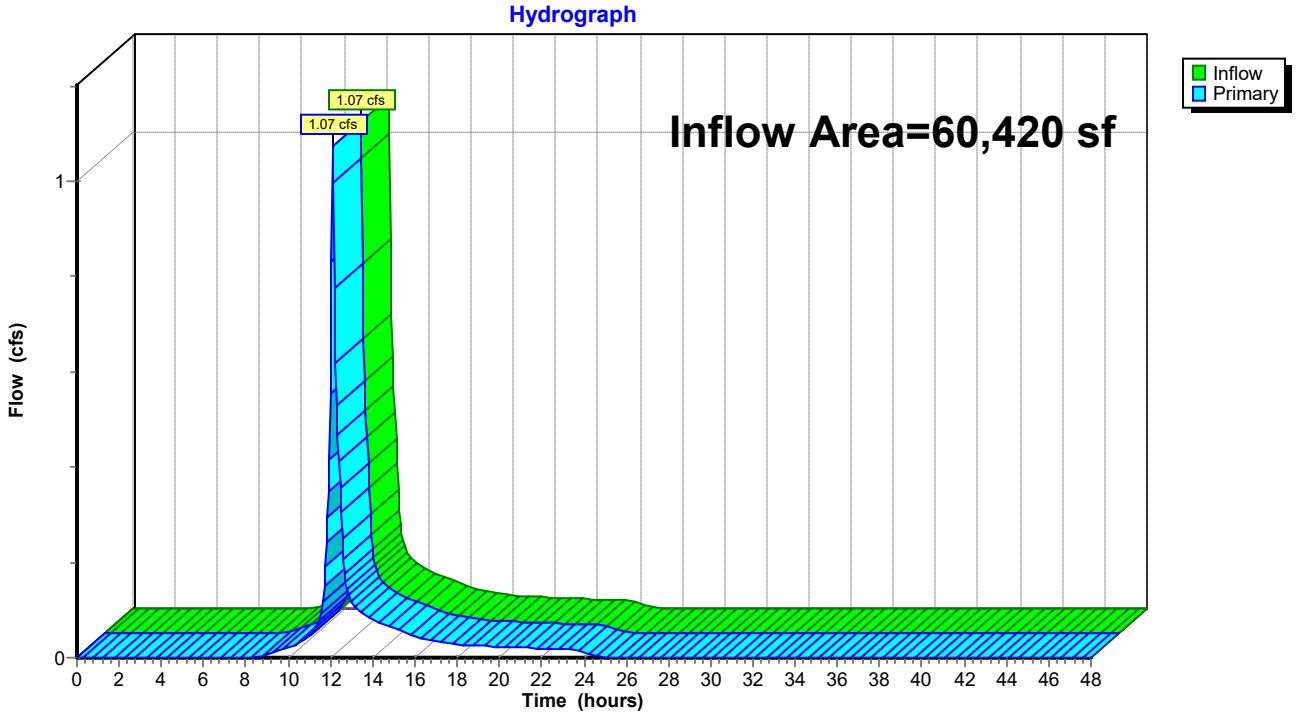


Summary for Link SP1P: Center Street SD

Inflow Area = 60,420 sf, 39.75% Impervious, Inflow Depth = 0.73" for 2-Year Storm event
Inflow = 1.07 cfs @ 12.11 hrs, Volume= 3,691 cf
Primary = 1.07 cfs @ 12.11 hrs, Volume= 3,691 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1P: Center Street SD

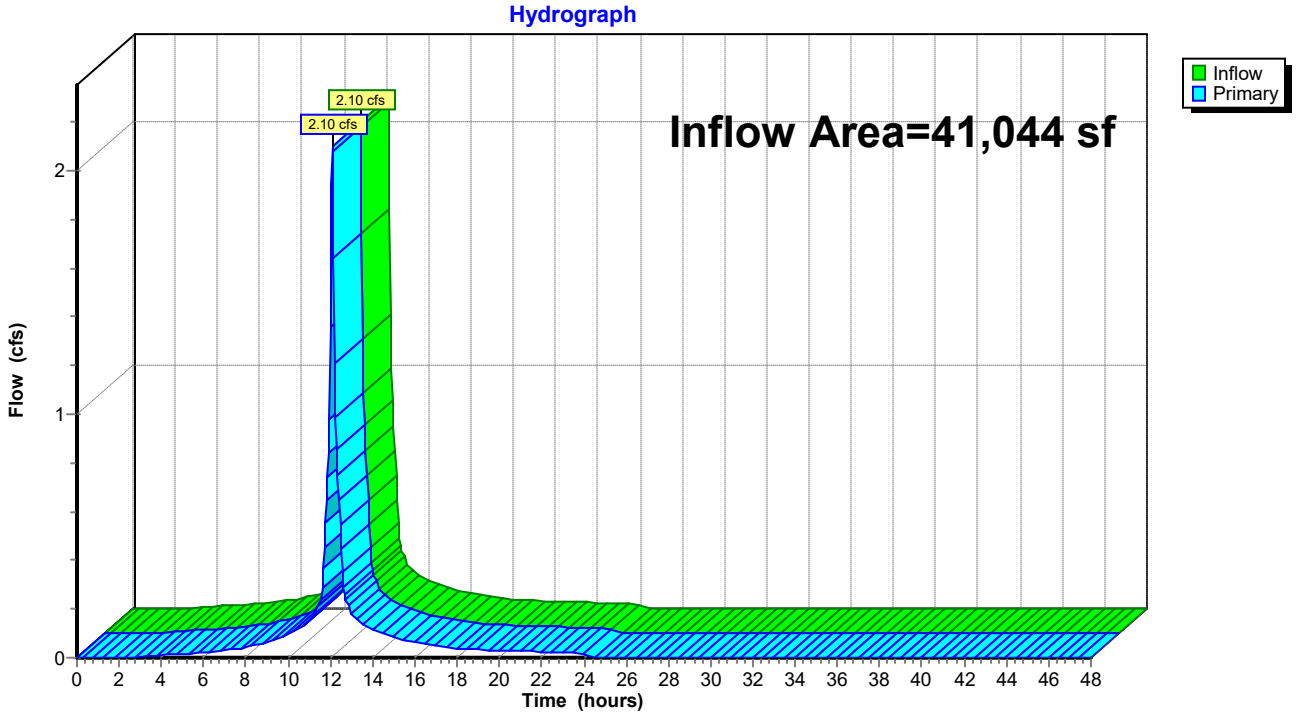


Summary for Link SP2P: Cross Street SD

Inflow Area = 41,044 sf, 77.42% Impervious, Inflow Depth = 2.13" for 2-Year Storm event
Inflow = 2.10 cfs @ 12.09 hrs, Volume= 7,280 cf
Primary = 2.10 cfs @ 12.09 hrs, Volume= 7,280 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2P: Cross Street SD

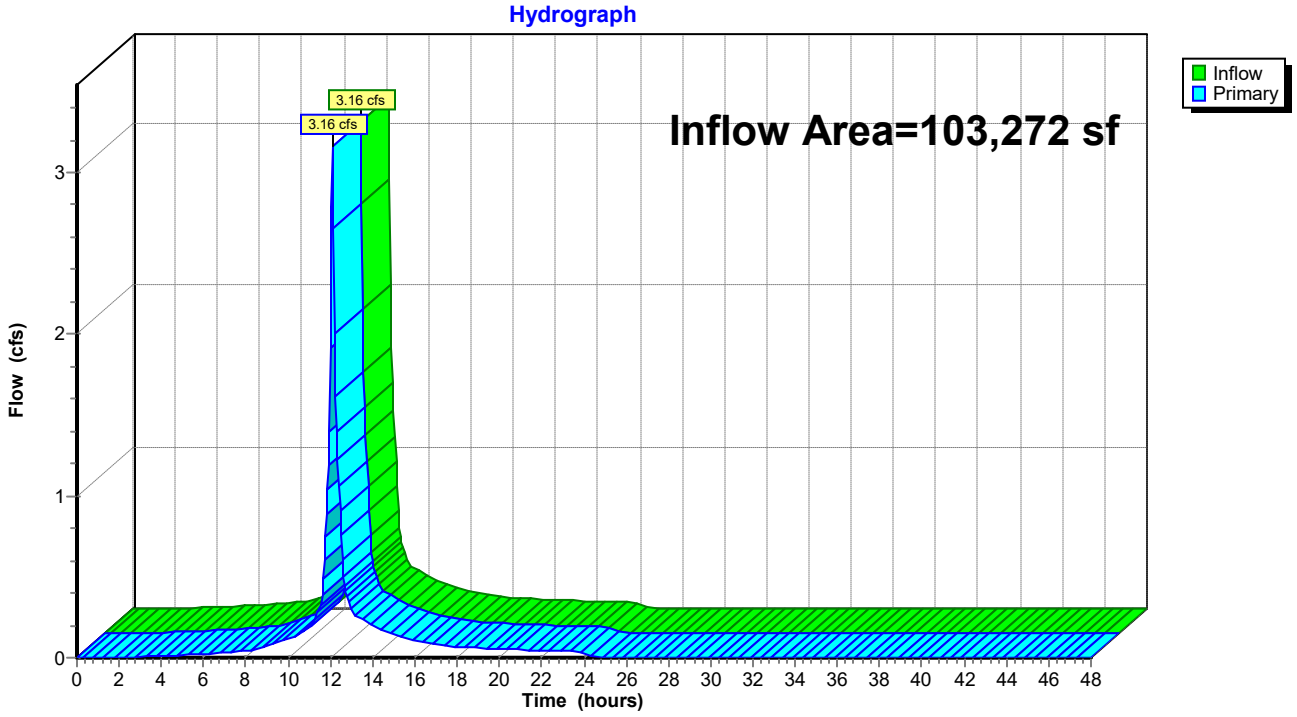


Summary for Link SP3P: Commercial Street Sewer

Inflow Area = 103,272 sf, 54.76% Impervious, Inflow Depth = 1.28" for 2-Year Storm event
Inflow = 3.16 cfs @ 12.10 hrs, Volume= 11,048 cf
Primary = 3.16 cfs @ 12.10 hrs, Volume= 11,048 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3P: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Runoff Area=21,960 sf 79.53% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=86 Runoff=1.77 cfs 5,665 cf

Subcatchment 2SP: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.15"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.00 cfs 120 cf

Subcatchment 3SP: Interim Condition & Runoff Area=37,040 sf 13.85% Impervious Runoff Depth=0.40"
Flow Length=319' Tc=6.0 min CN=47 Runoff=0.15 cfs 1,246 cf

Subcatchment 4SP: Sidewalk & Driveway Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=0.14 cfs 516 cf

Subcatchment 5SP: Additional Parking Lot Runoff Area=31,680 sf 98.81% Impervious Runoff Depth=4.25"
Flow Length=331' Tc=6.0 min CN=97 Runoff=3.17 cfs 11,216 cf

Subcatchment 6SP: Perimeter Area Directly Runoff Area=1,808 sf 41.92% Impervious Runoff Depth=1.33"
Tc=6.0 min CN=64 Runoff=0.06 cfs 200 cf

Pond 1P: R-Tank Peak Elev=11.31' Storage=237 cf Inflow=1.92 cfs 6,181 cf
12.0" Round Culvert n=0.010 L=7.0' S=0.0000 '/' Outflow=1.87 cfs 6,151 cf

Pond 2P: Kraken Peak Elev=11.63' Inflow=1.87 cfs 6,151 cf
Outflow=1.87 cfs 6,151 cf

Pond 3P: SD Peak Elev=14.43' Inflow=1.92 cfs 6,181 cf
12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=1.92 cfs 6,181 cf

Link SP1P: Center Street SD Inflow=1.96 cfs 7,397 cf
Primary=1.96 cfs 7,397 cf

Link SP2P: Cross Street SD Inflow=3.17 cfs 11,337 cf
Primary=3.17 cfs 11,337 cf

Link SP3P: Commercial Street Sewer Inflow=5.13 cfs 18,934 cf
Primary=5.13 cfs 18,934 cf

Total Runoff Area = 103,272 sf Runoff Volume = 18,964 cf Average Runoff Depth = 2.20"
45.24% Pervious = 46,723 sf 54.76% Impervious = 56,549 sf

Summary for Subcatchment 1SP: Building

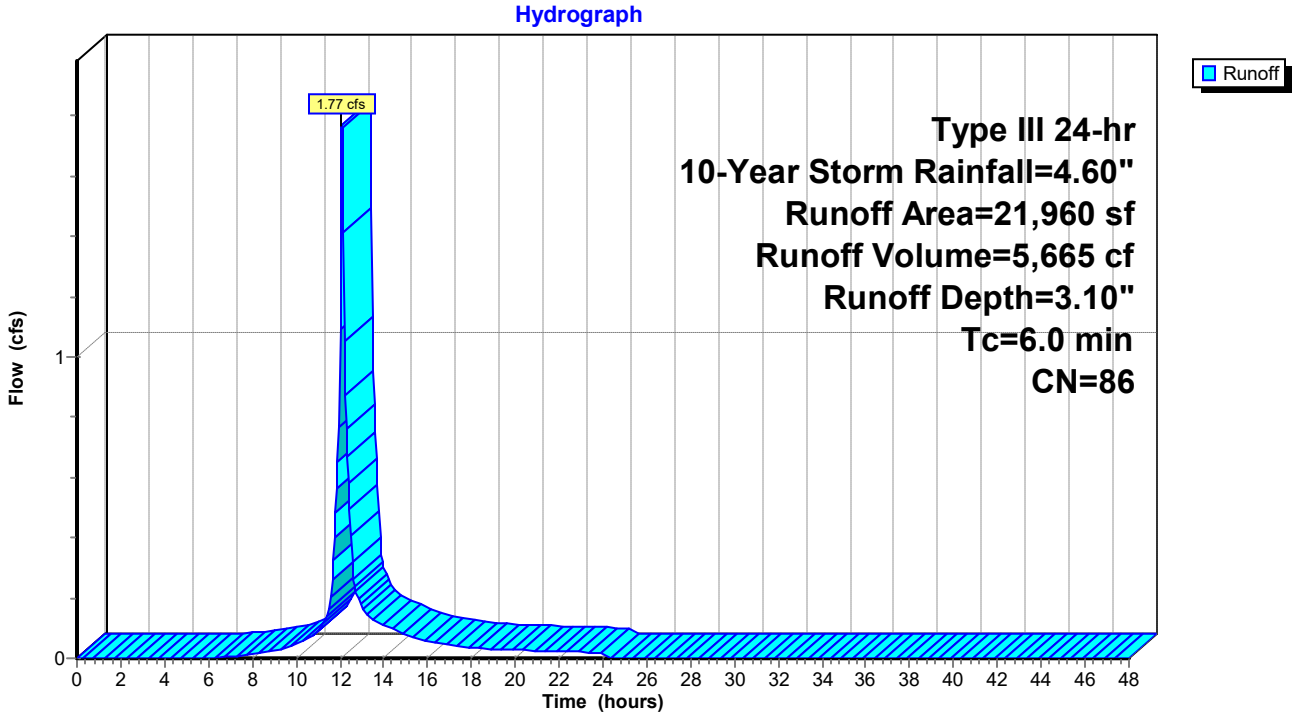
Runoff = 1.77 cfs @ 12.09 hrs, Volume= 5,665 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	17,465	98	Impervious
	4,495	39	>75% Grass cover, Good, HSG A
	21,960	86	Weighted Average
	4,495		20.47% Pervious Area
	17,465		79.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building



Summary for Subcatchment 2SP: Existing Runoff to Cross Street

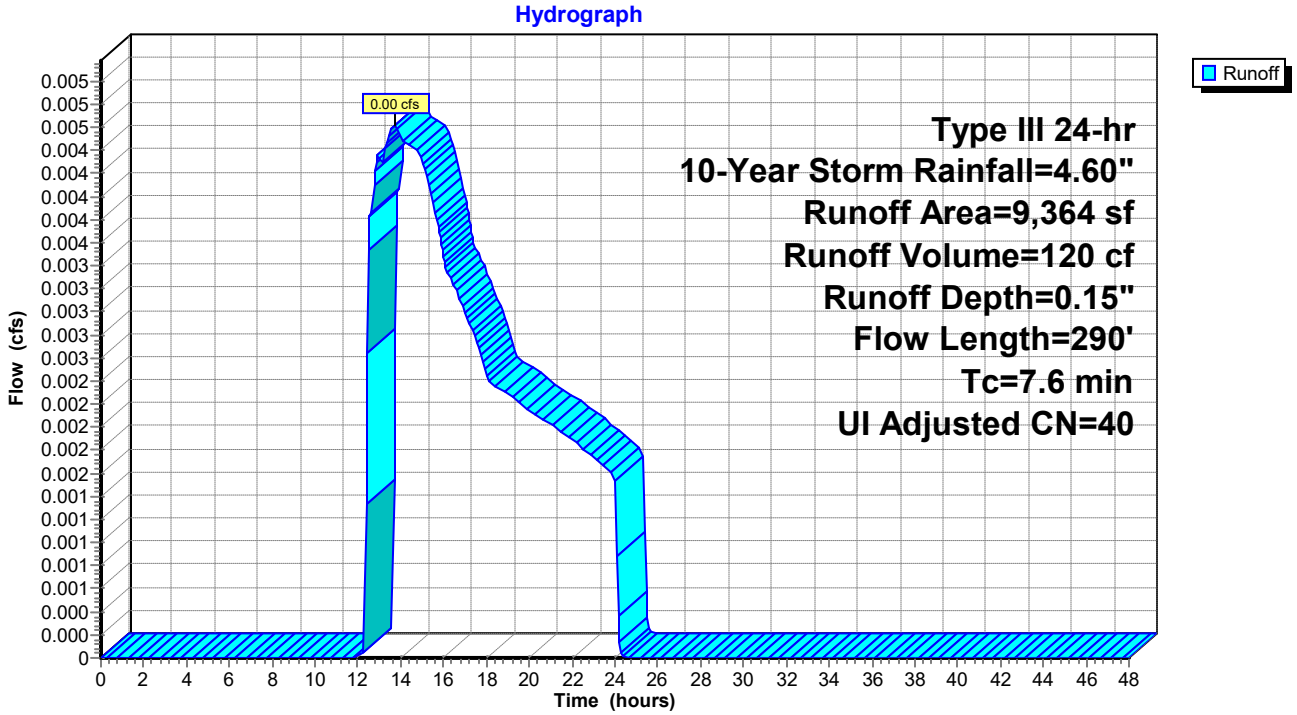
Runoff = 0.00 cfs @ 13.70 hrs, Volume= 120 cf, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SP: Existing Runoff to Cross Street



Summary for Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)

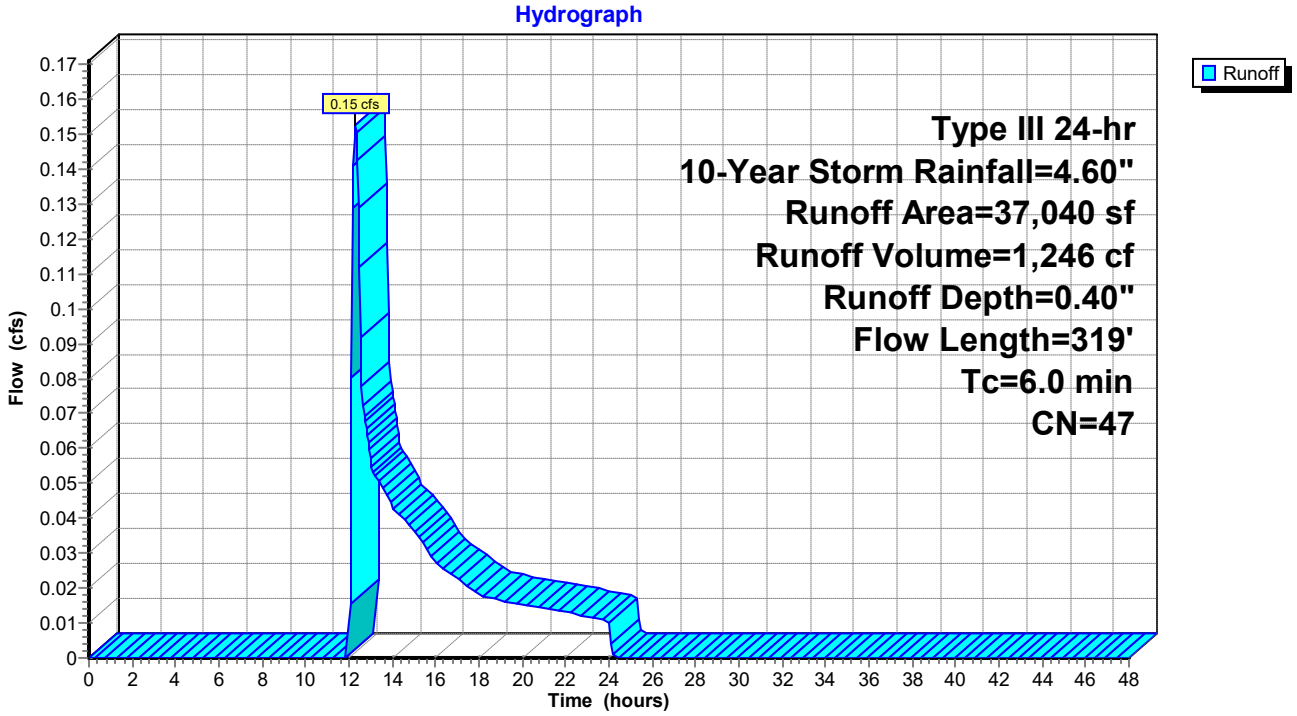
Runoff = 0.15 cfs @ 12.31 hrs, Volume= 1,246 cf, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	5,130	98	Impervious,
	31,910	39	>75% Grass cover, Good, HSG A
	37,040	47	Weighted Average
	31,910		86.15% Pervious Area
	5,130		13.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.2	50	0.0390	4.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	109	0.0500	4.54		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.3					**Direct Entry, Direct**
6.0	319	Total			

Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)



Summary for Subcatchment 4SP: Sidewalk & Driveway

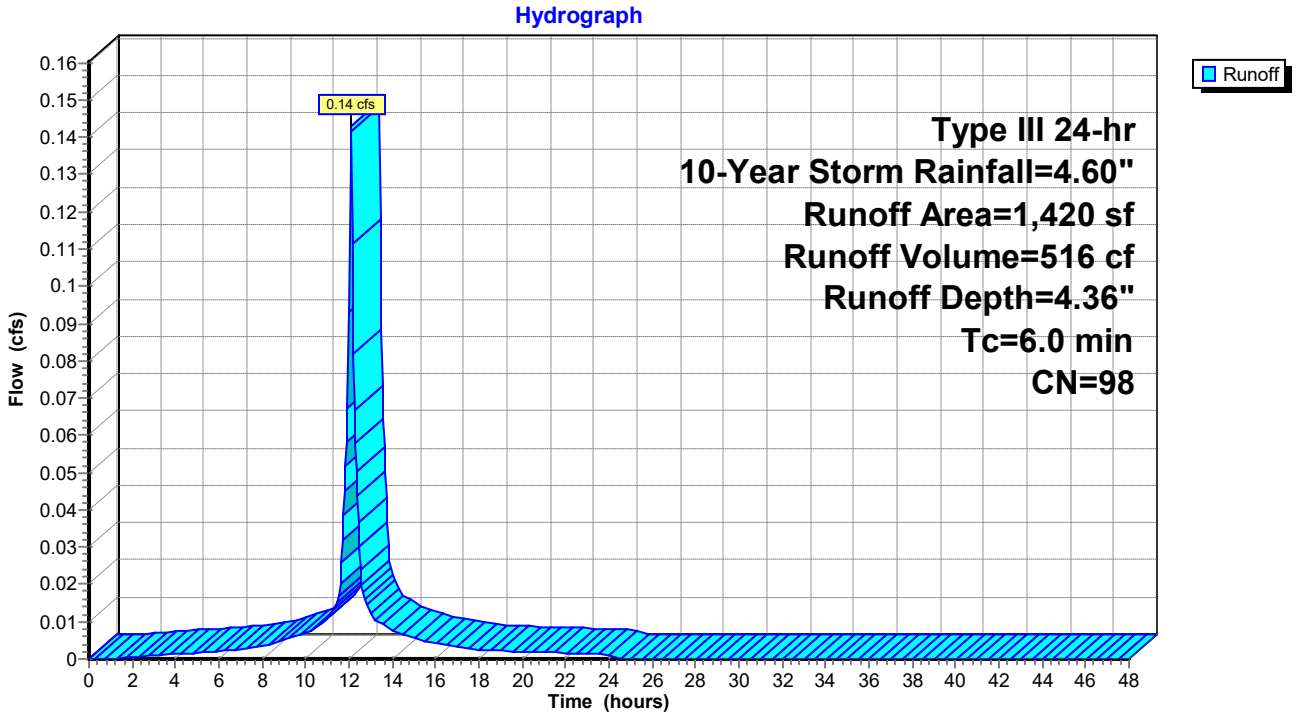
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 516 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4SP: Sidewalk & Driveway



Summary for Subcatchment 5SP: Additional Parking Lot area directed to Cross Street

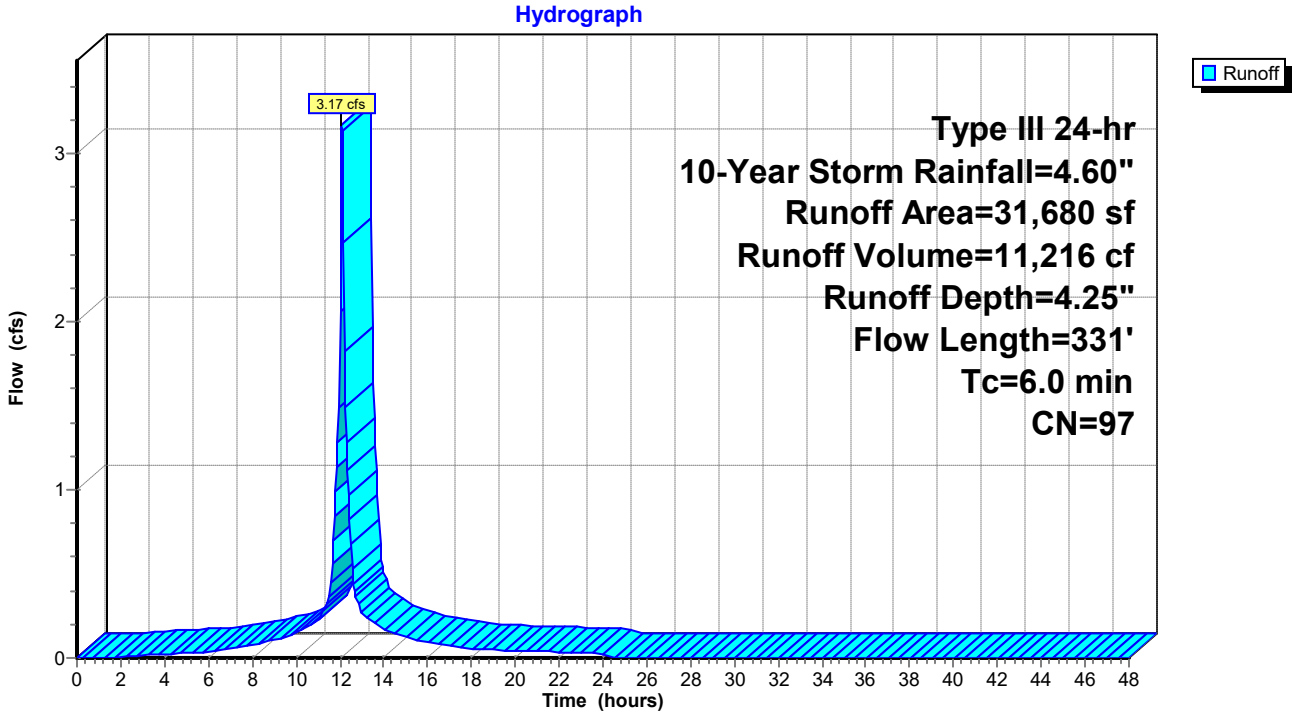
Runoff = 3.17 cfs @ 12.09 hrs, Volume= 11,216 cf, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
378	39	>75% Grass cover, Good, HSG A
31,302	98	Paved parking, HSG A
31,680	97	Weighted Average
378		1.19% Pervious Area
31,302		98.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	66	0.0510	13.32	10.46	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
4.7					**Direct Entry,**
6.0	331	Total			

Subcatchment 5SP: Additional Parking Lot area directed to Cross Street



Summary for Subcatchment 6SP: Perimeter Area Directly to Street

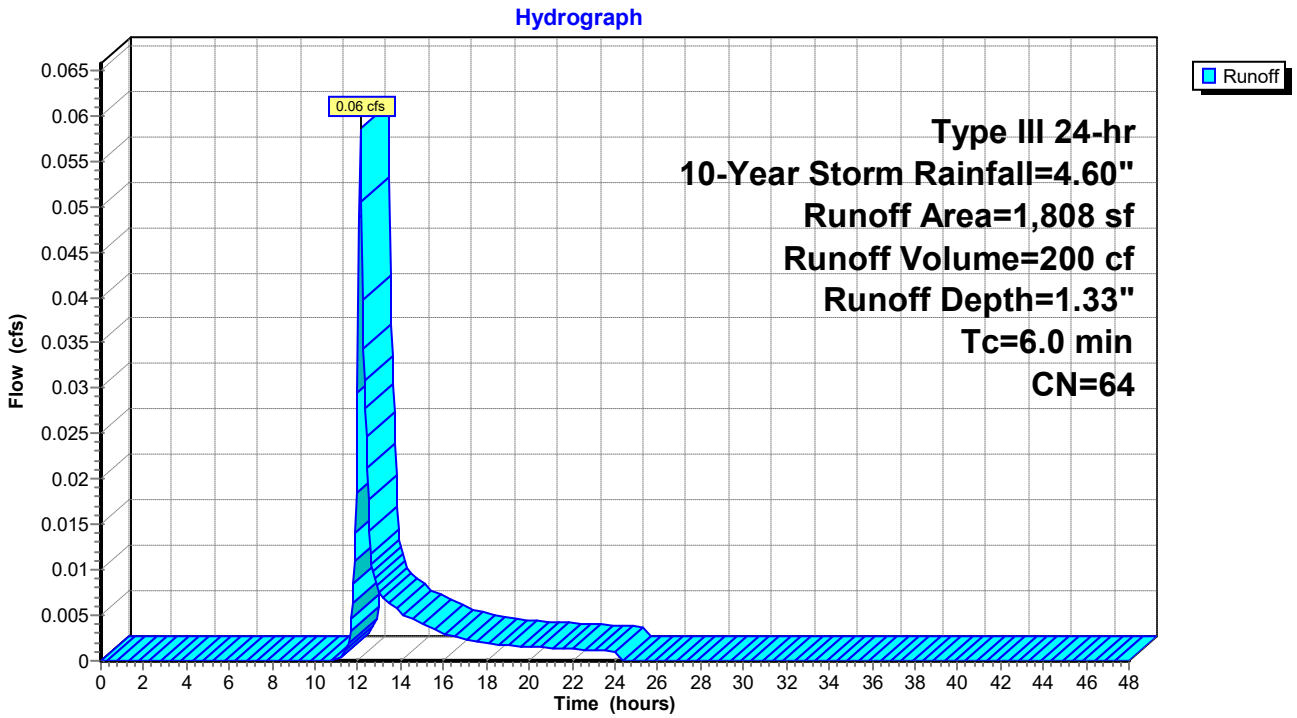
Runoff = 0.06 cfs @ 12.10 hrs, Volume= 200 cf, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
758	98	Unconnected roofs, HSG D
1,050	39	>75% Grass cover, Good, HSG A
1,808	64	Weighted Average
1,050		58.08% Pervious Area
758		41.92% Impervious Area
758		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct**

Subcatchment 6SP: Perimeter Area Directly to Street



Summary for Pond 1P: R-Tank

Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 3.17" for 10-Year Storm event
Inflow = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf
Outflow = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf, Atten= 3%, Lag= 1.2 min
Primary = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.31' @ 12.11 hrs Surf.Area= 300 sf Storage= 237 cf

Plug-Flow detention time= 12.1 min calculated for 6,151 cf (100% of inflow)
Center-of-Mass det. time= 8.6 min (811.4 - 802.8)

Volume	Invert	Avail.Storage	Storage Description
#1	10.03'	405 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 1,635 cf Overall - 622 cf Embedded = 1,013 cf x 40.0% Voids
#2	10.28'	591 cf	**R-Tank Triple Modules (Prismatic)** Listed below (Recalc) Inside #1 622 cf Overall x 95.0% Voids
		996 cf	Total Available Storage

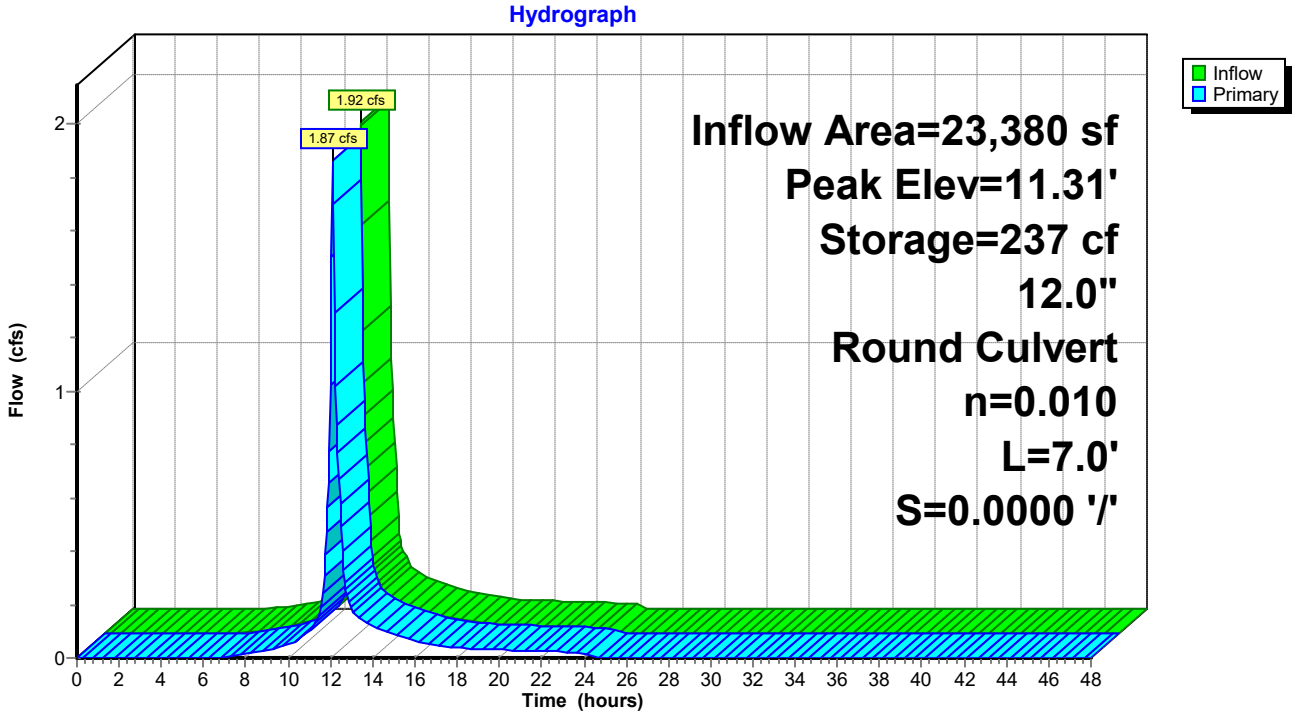
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.03	300	0	0
15.48	300	1,635	1,635

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.28	148	0	0
14.48	148	622	622

Device	Routing	Invert	Outlet Devices
#1	Primary	10.28'	**12.0" Round Culvert** L= 7.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 10.28' / 10.28' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.83 cfs @ 12.11 hrs HW=11.29' (Free Discharge)
1=Culvert (Barrel Controls 1.83 cfs @ 2.85 fps)

Pond 1P: R-Tank



Summary for Pond 2P: Kraken

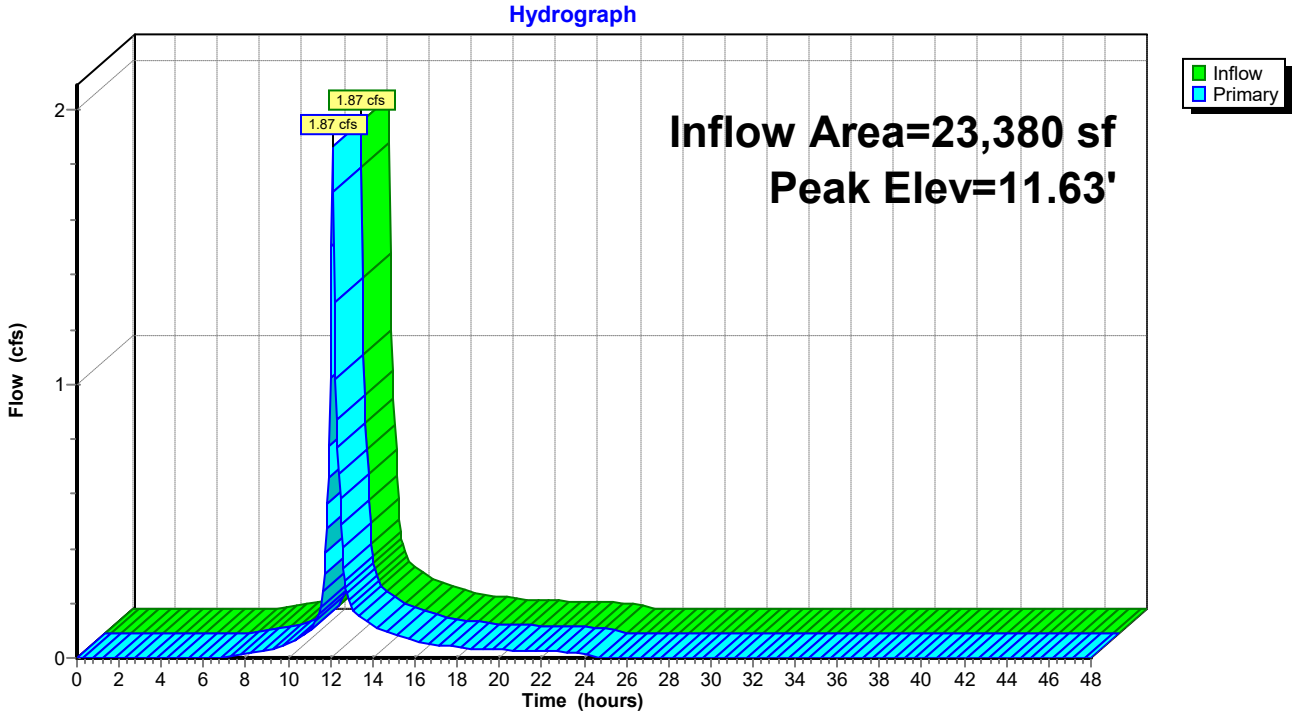
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 3.16" for 10-Year Storm event
Inflow = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf
Outflow = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.11 hrs, Volume= 6,151 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.63' @ 12.11 hrs
Flood Elev= 19.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.78'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.78' / 9.68' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	7.78'	**Kraken HGL Discharged Rate** Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.012 0.024 0.036 0.048 0.061 0.073 0.085 0.097 0.109 0.121 0.133 0.145 0.158 0.170 0.182 0.194 0.206 0.218 0.230 0.242 0.255 0.267 0.279 0.291 0.303
#3	Device 1	10.96'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.82 cfs @ 12.11 hrs HW=11.62' (Free Discharge)
└**1=Culvert** (Passes 1.82 cfs of 3.46 cfs potential flow)
  ├**2=Kraken HGL Discharged Rate** (Custom Controls 0.30 cfs)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.52 cfs @ 2.66 fps)

Pond 2P: Kraken



Summary for Pond 3P: SD

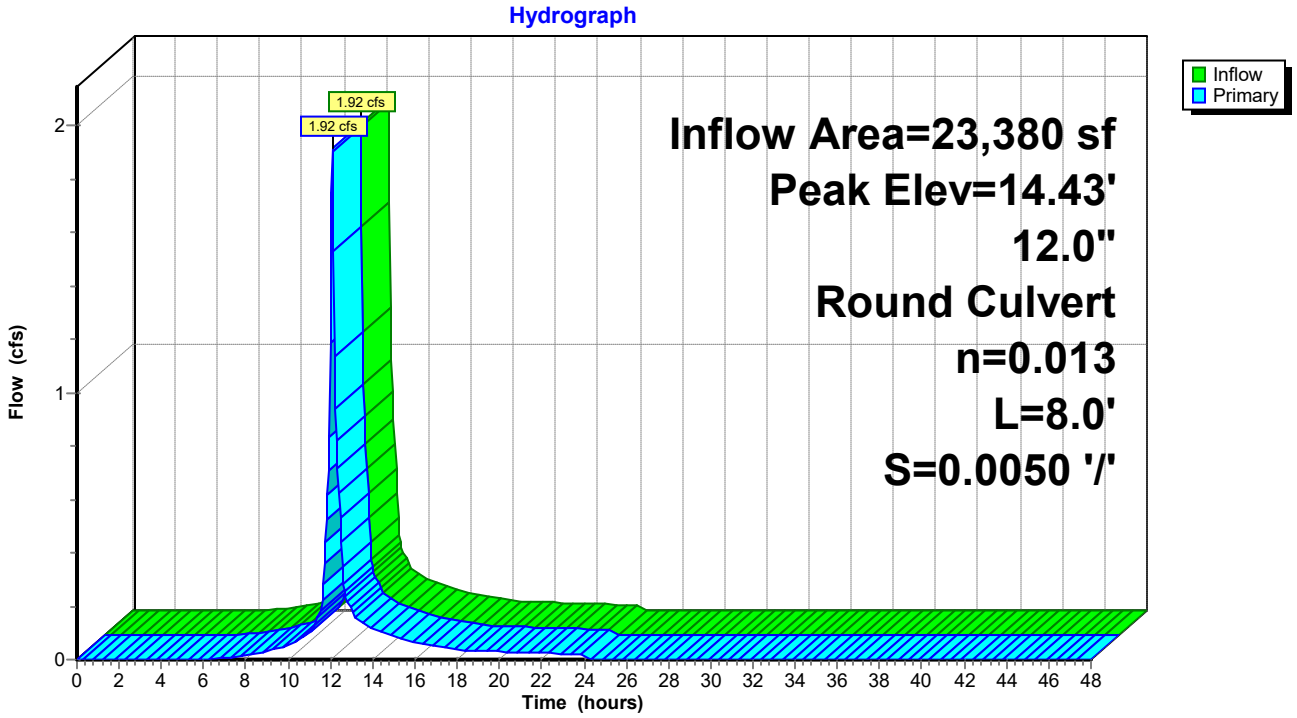
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 3.17" for 10-Year Storm event
Inflow = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf
Outflow = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.92 cfs @ 12.09 hrs, Volume= 6,181 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 14.43' @ 12.09 hrs
Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.42'	**12.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.42' / 13.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.87 cfs @ 12.09 hrs HW=14.42' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.87 cfs @ 2.98 fps)

Pond 3P: SD

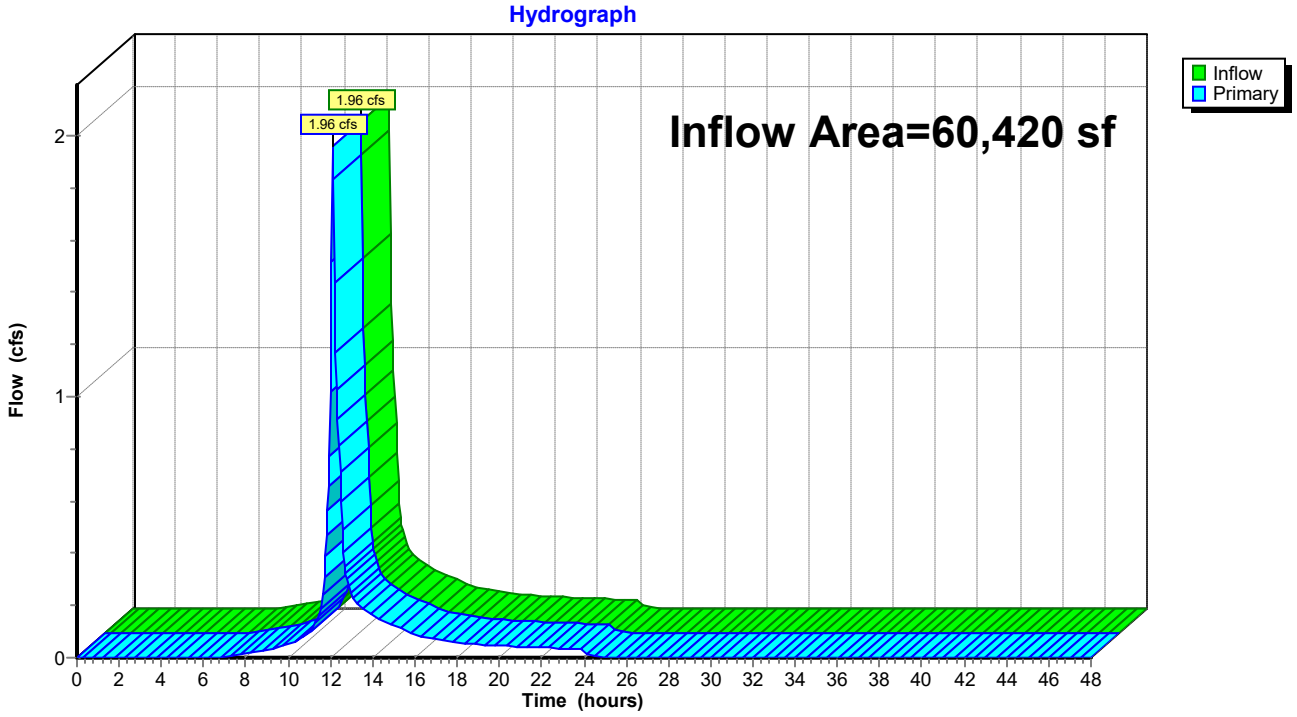


Summary for Link SP1P: Center Street SD

Inflow Area = 60,420 sf, 39.75% Impervious, Inflow Depth = 1.47" for 10-Year Storm event
Inflow = 1.96 cfs @ 12.11 hrs, Volume= 7,397 cf
Primary = 1.96 cfs @ 12.11 hrs, Volume= 7,397 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1P: Center Street SD

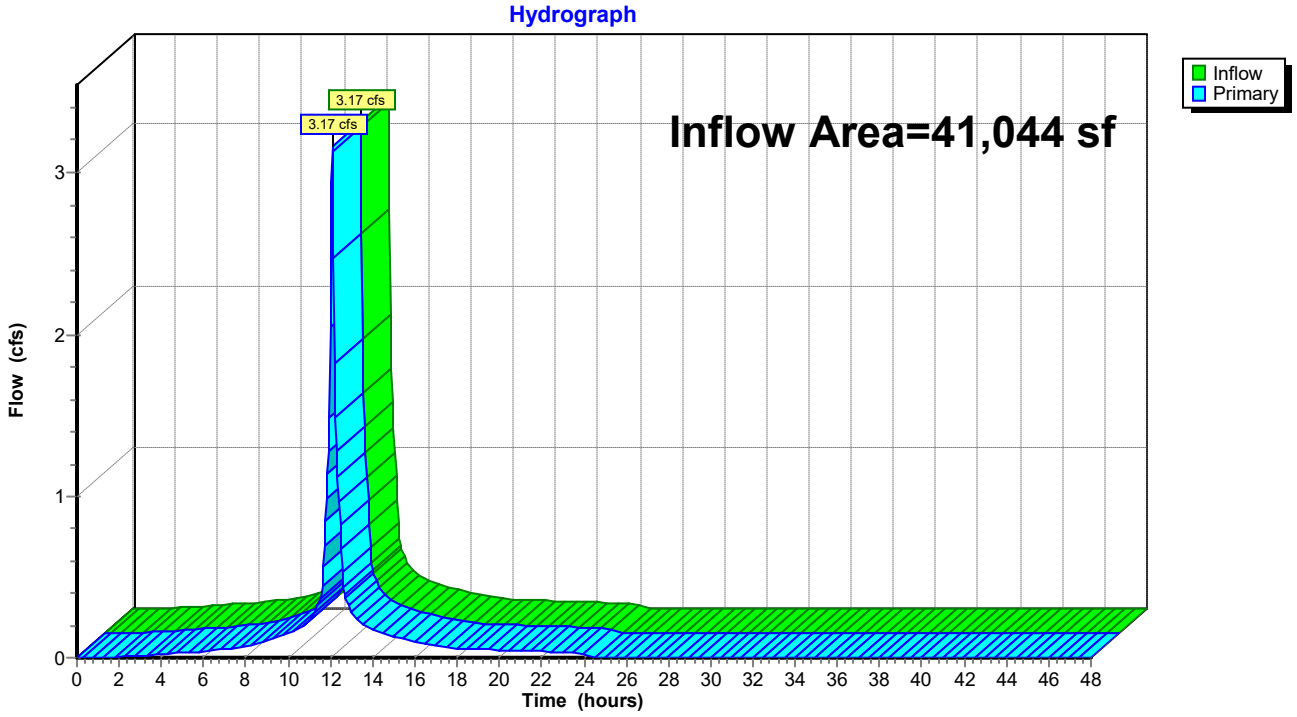


Summary for Link SP2P: Cross Street SD

Inflow Area = 41,044 sf, 77.42% Impervious, Inflow Depth = 3.31" for 10-Year Storm event
Inflow = 3.17 cfs @ 12.09 hrs, Volume= 11,337 cf
Primary = 3.17 cfs @ 12.09 hrs, Volume= 11,337 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2P: Cross Street SD

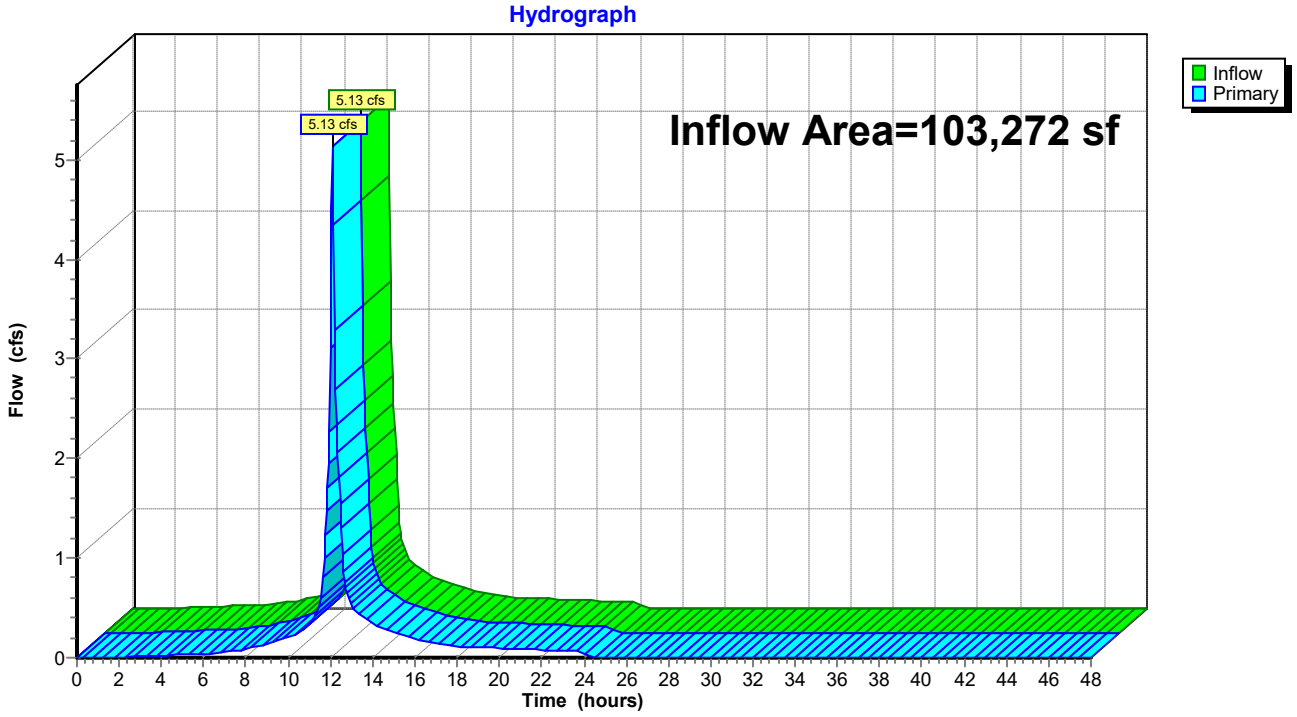


Summary for Link SP3P: Commercial Street Sewer

Inflow Area = 103,272 sf, 54.76% Impervious, Inflow Depth = 2.20" for 10-Year Storm event
Inflow = 5.13 cfs @ 12.10 hrs, Volume= 18,934 cf
Primary = 5.13 cfs @ 12.10 hrs, Volume= 18,934 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3P: Commercial Street Sewer



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 1SP: Building Runoff Area=21,960 sf 79.53% Impervious Runoff Depth=4.22"
Tc=6.0 min CN=86 Runoff=2.39 cfs 7,722 cf

Subcatchment 2SP: Existing Runoff to Cross Runoff Area=9,364 sf 5.06% Impervious Runoff Depth=0.44"
Flow Length=290' Tc=7.6 min UI Adjusted CN=40 Runoff=0.04 cfs 344 cf

Subcatchment 3SP: Interim Condition & Runoff Area=37,040 sf 13.85% Impervious Runoff Depth=0.85"
Flow Length=319' Tc=6.0 min CN=47 Runoff=0.55 cfs 2,617 cf

Subcatchment 4SP: Sidewalk & Driveway Runoff Area=1,420 sf 100.00% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=98 Runoff=0.18 cfs 658 cf

Subcatchment 5SP: Additional Parking Lot Runoff Area=31,680 sf 98.81% Impervious Runoff Depth=5.44"
Flow Length=331' Tc=6.0 min CN=97 Runoff=4.01 cfs 14,374 cf

Subcatchment 6SP: Perimeter Area Directly Runoff Area=1,808 sf 41.92% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=64 Runoff=0.10 cfs 320 cf

Pond 1P: R-Tank Peak Elev=11.55' Storage=287 cf Inflow=2.57 cfs 8,380 cf
12.0" Round Culvert n=0.010 L=7.0' S=0.0000 '/' Outflow=2.47 cfs 8,350 cf

Pond 2P: Kraken Peak Elev=11.82' Inflow=2.47 cfs 8,350 cf
Outflow=2.47 cfs 8,350 cf

Pond 3P: SD Peak Elev=14.70' Inflow=2.57 cfs 8,380 cf
12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=2.57 cfs 8,380 cf

Link SP1P: Center Street SD Inflow=3.02 cfs 10,967 cf
Primary=3.02 cfs 10,967 cf

Link SP2P: Cross Street SD Inflow=4.02 cfs 14,718 cf
Primary=4.02 cfs 14,718 cf

Link SP3P: Commercial Street Sewer Inflow=7.07 cfs 26,004 cf
Primary=7.07 cfs 26,004 cf

Total Runoff Area = 103,272 sf Runoff Volume = 26,034 cf Average Runoff Depth = 3.03"
45.24% Pervious = 46,723 sf 54.76% Impervious = 56,549 sf

Summary for Subcatchment 1SP: Building

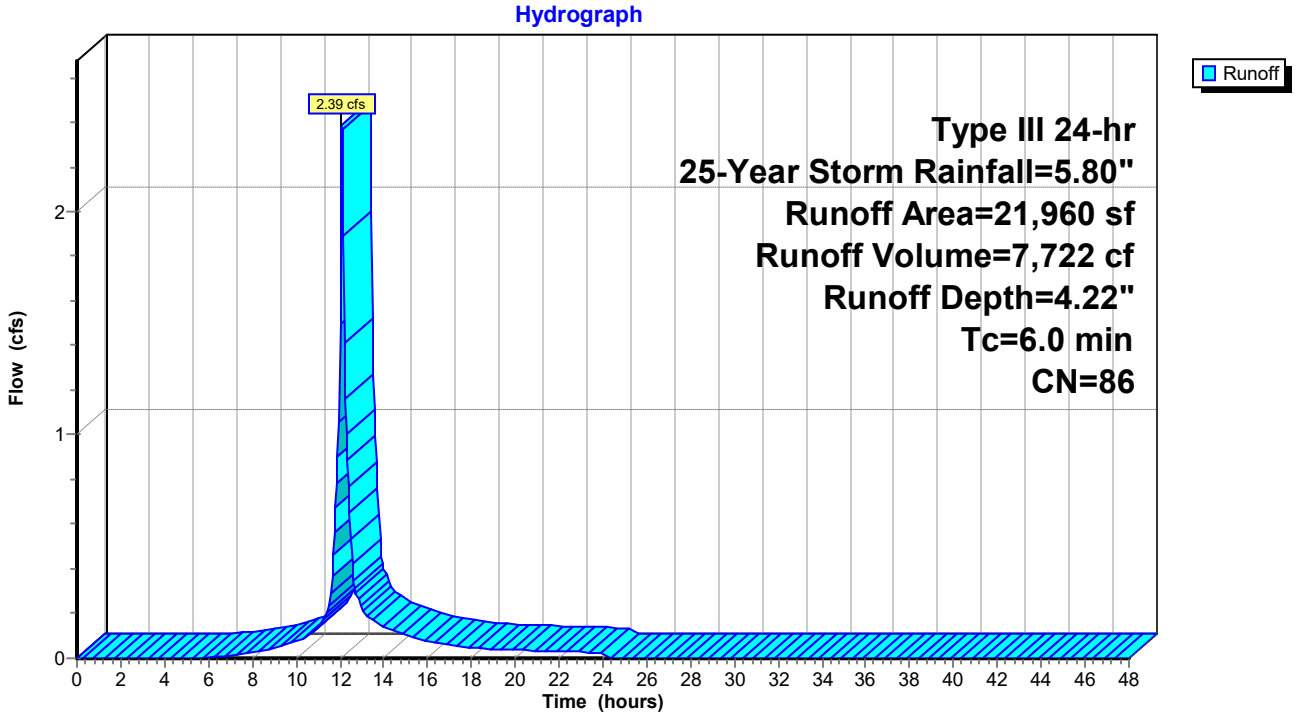
Runoff = 2.39 cfs @ 12.09 hrs, Volume= 7,722 cf, Depth= 4.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	17,465	98	Impervious
	4,495	39	>75% Grass cover, Good, HSG A
	21,960	86	Weighted Average
	4,495		20.47% Pervious Area
	17,465		79.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1SP: Building



Summary for Subcatchment 2SP: Existing Runoff to Cross Street

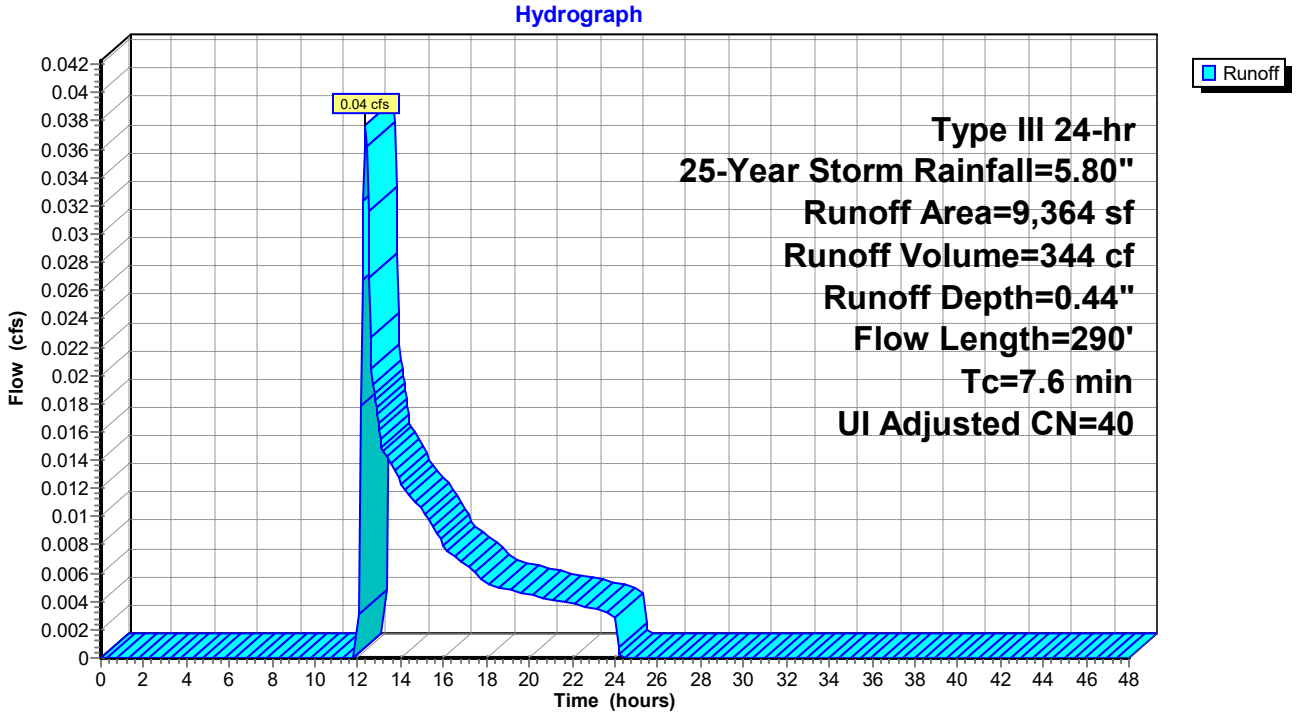
Runoff = 0.04 cfs @ 12.37 hrs, Volume= 344 cf, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Adj	Description
8,890	39		>75% Grass cover, Good, HSG A
474	98		Unconnected pavement, HSG A
9,364	42	40	Weighted Average, UI Adjusted
8,890			94.94% Pervious Area
474			5.06% Impervious Area
474			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	40	0.0100	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.3	250	0.0480	3.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
7.6	290	Total			

Subcatchment 2SP: Existing Runoff to Cross Street



Summary for Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)

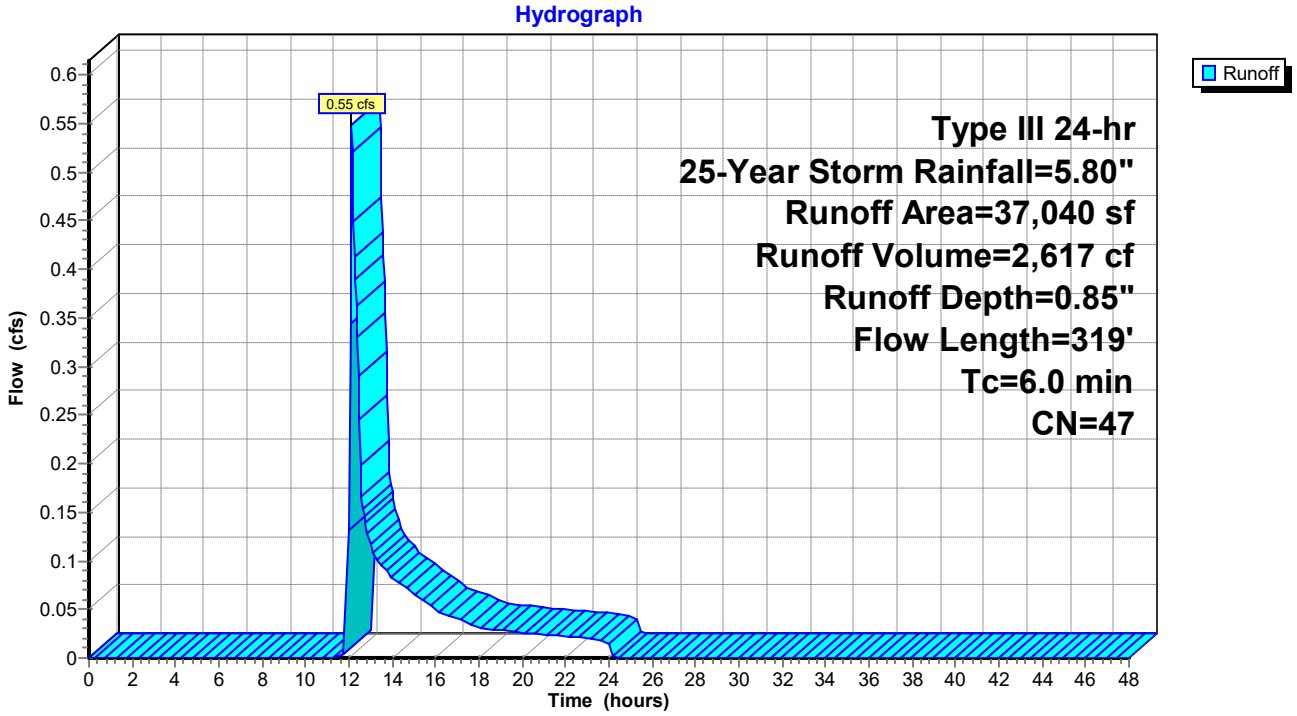
Runoff = 0.55 cfs @ 12.12 hrs, Volume= 2,617 cf, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	5,130	98	Impervious,
	31,910	39	>75% Grass cover, Good, HSG A
	37,040	47	Weighted Average
	31,910		86.15% Pervious Area
	5,130		13.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.2	50	0.0390	4.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	109	0.0500	4.54		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
4.3					**Direct Entry, Direct**
6.0	319	Total			

Subcatchment 3SP: Interim Condition & Parking Lot Outside Project Area)



Summary for Subcatchment 4SP: Sidewalk & Driveway

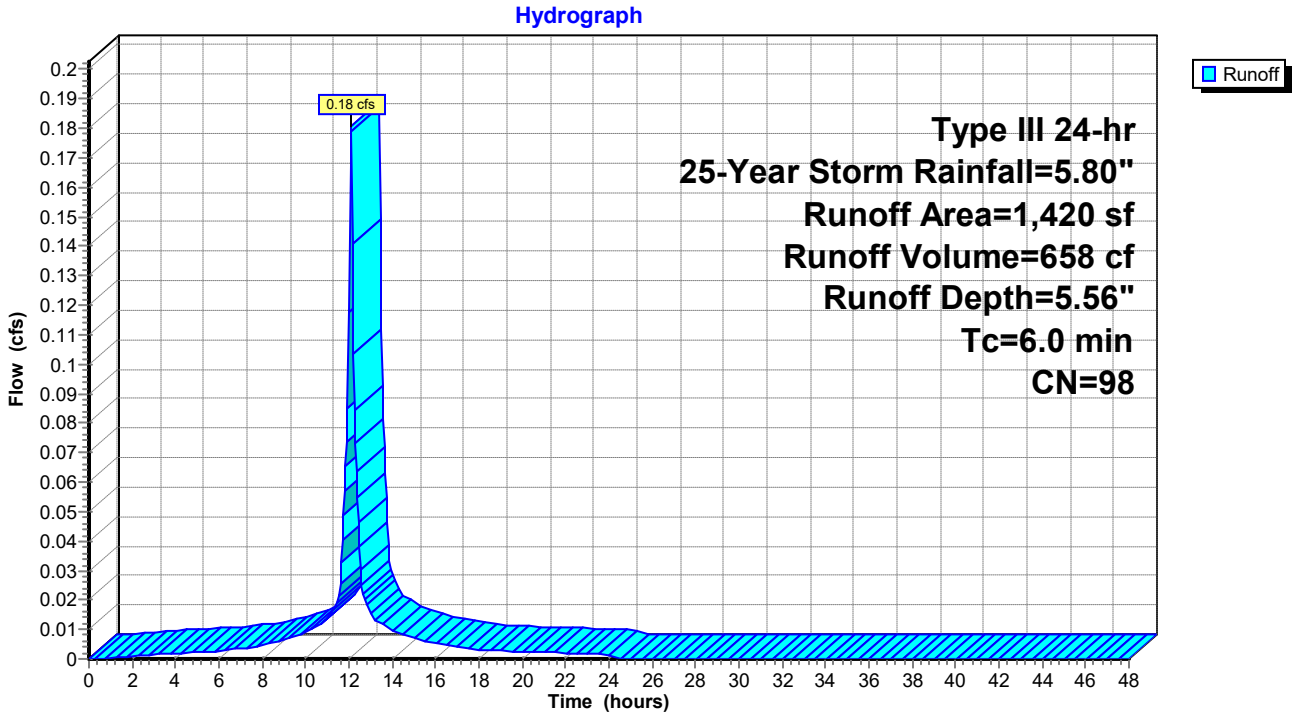
Runoff = 0.18 cfs @ 12.09 hrs, Volume= 658 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	1,420	98	Impervious
	1,420		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4SP: Sidewalk & Driveway



Summary for Subcatchment 5SP: Additional Parking Lot area directed to Cross Street

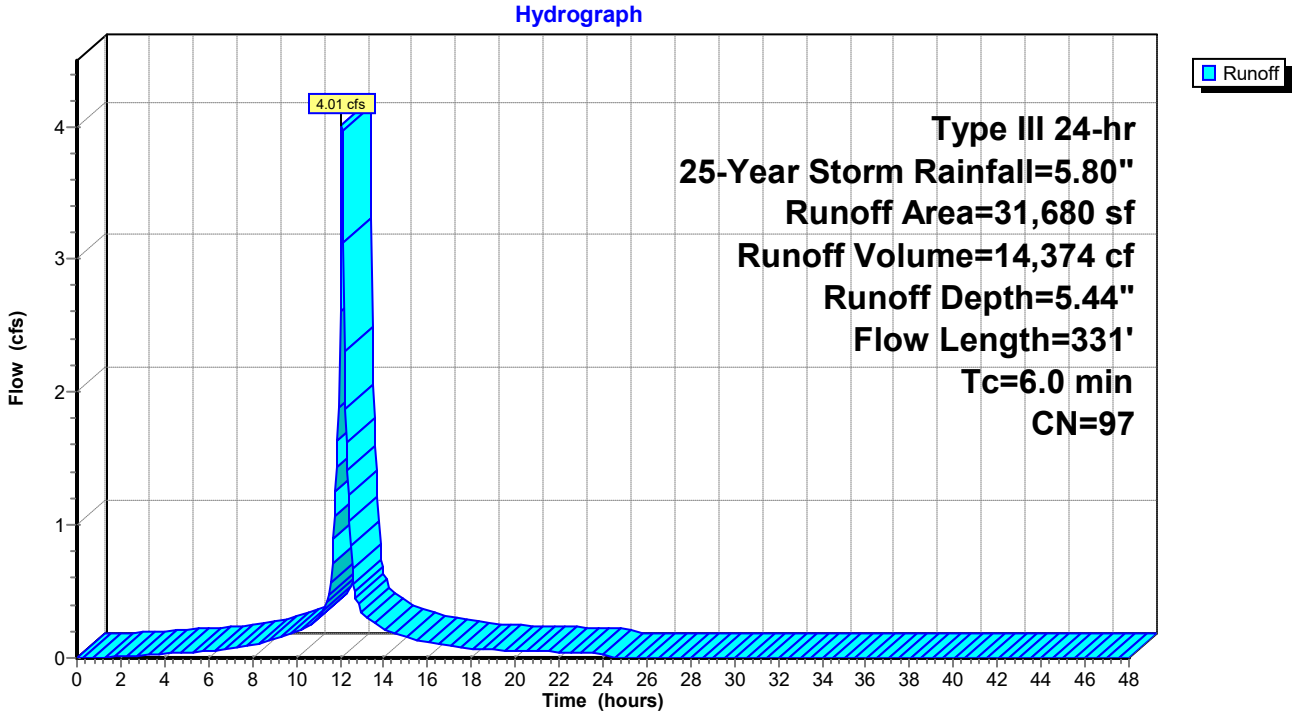
Runoff = 4.01 cfs @ 12.09 hrs, Volume= 14,374 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
378	39	>75% Grass cover, Good, HSG A
31,302	98	Paved parking, HSG A
31,680	97	Weighted Average
378		1.19% Pervious Area
31,302		98.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0500	1.95		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.2	60	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	105	0.0430	12.23	9.60	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
0.1	66	0.0510	13.32	10.46	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
4.7					**Direct Entry,**
6.0	331	Total			

Subcatchment 5SP: Additional Parking Lot area directed to Cross Street



Summary for Subcatchment 6SP: Perimeter Area Directly to Street

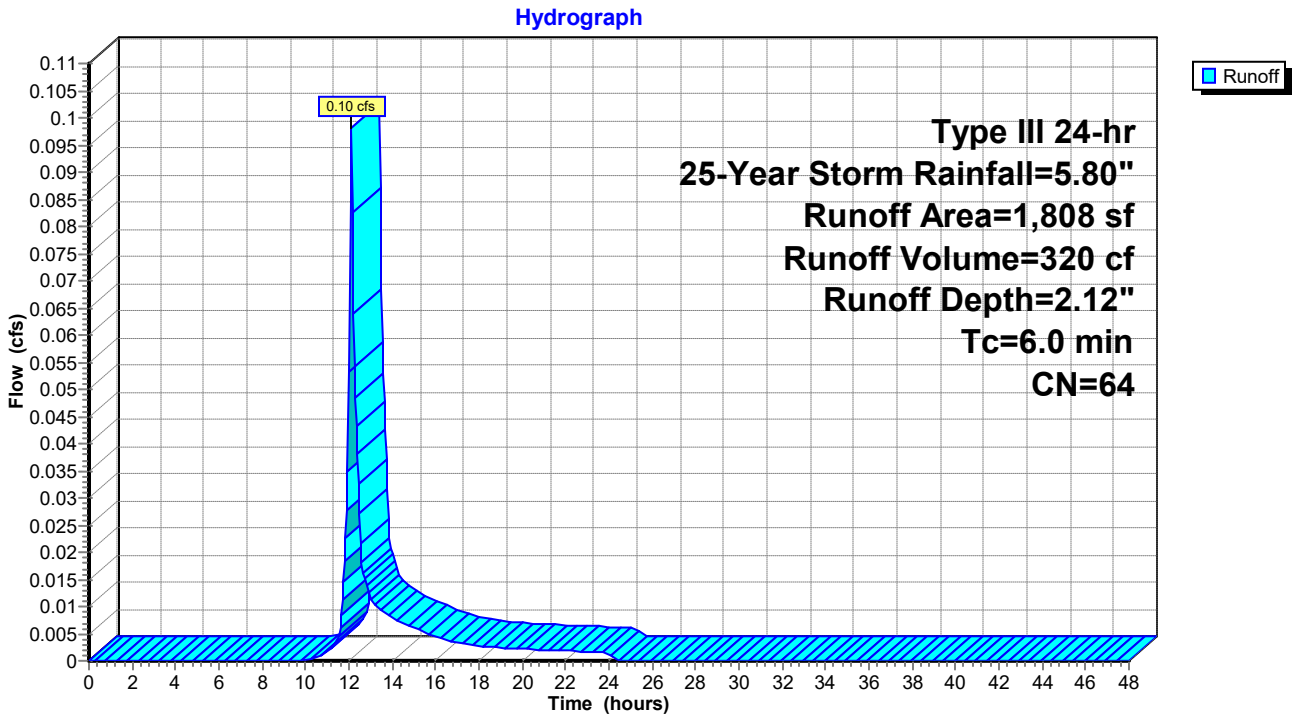
Runoff = 0.10 cfs @ 12.10 hrs, Volume= 320 cf, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
758	98	Unconnected roofs, HSG D
1,050	39	>75% Grass cover, Good, HSG A
1,808	64	Weighted Average
1,050		58.08% Pervious Area
758		41.92% Impervious Area
758		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct**

Subcatchment 6SP: Perimeter Area Directly to Street



Summary for Pond 1P: R-Tank

Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 4.30" for 25-Year Storm event
Inflow = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf
Outflow = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf, Atten= 4%, Lag= 1.3 min
Primary = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.55' @ 12.11 hrs Surf.Area= 300 sf Storage= 287 cf

Plug-Flow detention time= 9.4 min calculated for 8,341 cf (100% of inflow)
Center-of-Mass det. time= 7.3 min (802.1 - 794.7)

Volume	Invert	Avail.Storage	Storage Description
#1	10.03'	405 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 1,635 cf Overall - 622 cf Embedded = 1,013 cf x 40.0% Voids
#2	10.28'	591 cf	**R-Tank Triple Modules (Prismatic)** Listed below (Recalc) Inside #1 622 cf Overall x 95.0% Voids
		996 cf	Total Available Storage

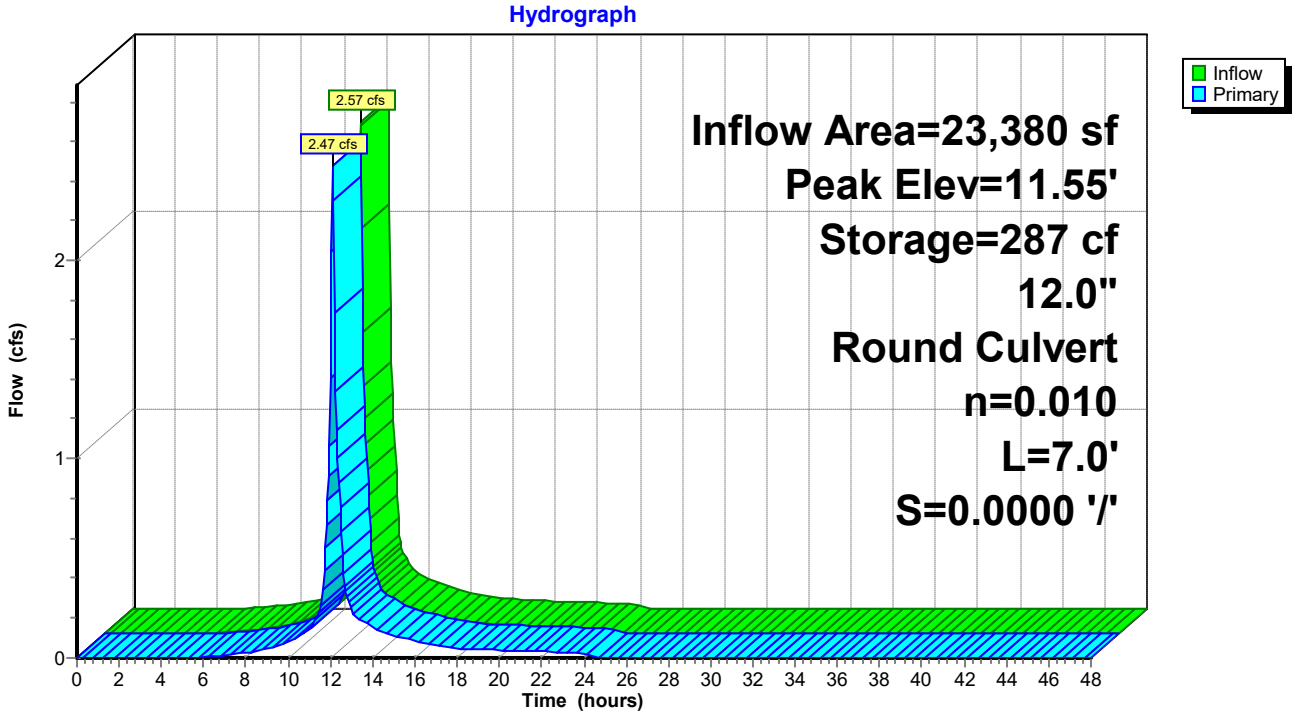
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.03	300	0	0
15.48	300	1,635	1,635

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.28	148	0	0
14.48	148	622	622

Device	Routing	Invert	Outlet Devices
#1	Primary	10.28'	**12.0" Round Culvert** L= 7.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 10.28' / 10.28' S= 0.0000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.43 cfs @ 12.11 hrs HW=11.53' (Free Discharge)
1=Culvert (Barrel Controls 2.43 cfs @ 3.17 fps)

Pond 1P: R-Tank



Summary for Pond 2P: Kraken

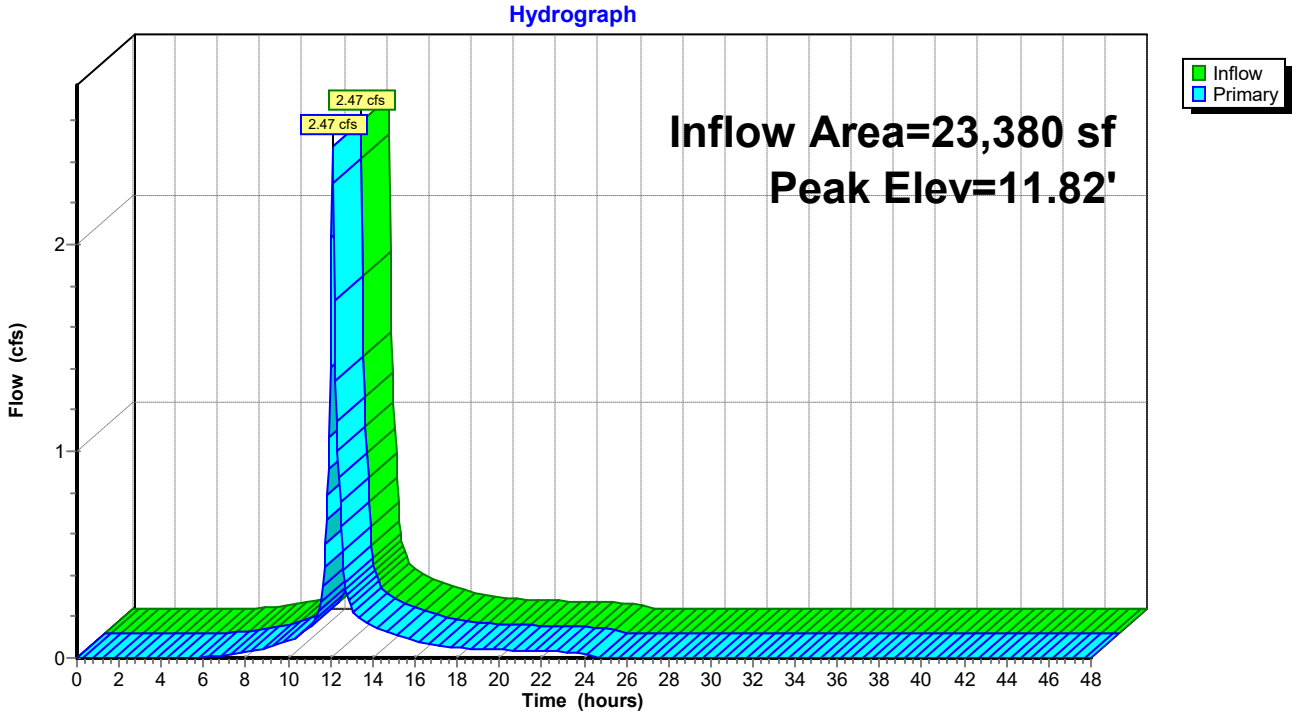
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 4.29" for 25-Year Storm event
Inflow = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf
Outflow = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.47 cfs @ 12.11 hrs, Volume= 8,350 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 11.82' @ 12.11 hrs
Flood Elev= 19.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.78'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.78' / 9.68' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	7.78'	**Kraken HGL Discharged Rate** Head (feet) 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 Disch. (cfs) 0.000 0.012 0.024 0.036 0.048 0.061 0.073 0.085 0.097 0.109 0.121 0.133 0.145 0.158 0.170 0.182 0.194 0.206 0.218 0.230 0.242 0.255 0.267 0.279 0.291 0.303
#3	Device 1	10.96'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.42 cfs @ 12.11 hrs HW=11.81' (Free Discharge)
└**1=Culvert** (Passes 2.42 cfs of 3.69 cfs potential flow)
  ├**2=Kraken HGL Discharged Rate** (Custom Controls 0.30 cfs)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.12 cfs @ 3.01 fps)

Pond 2P: Kraken



Summary for Pond 3P: SD

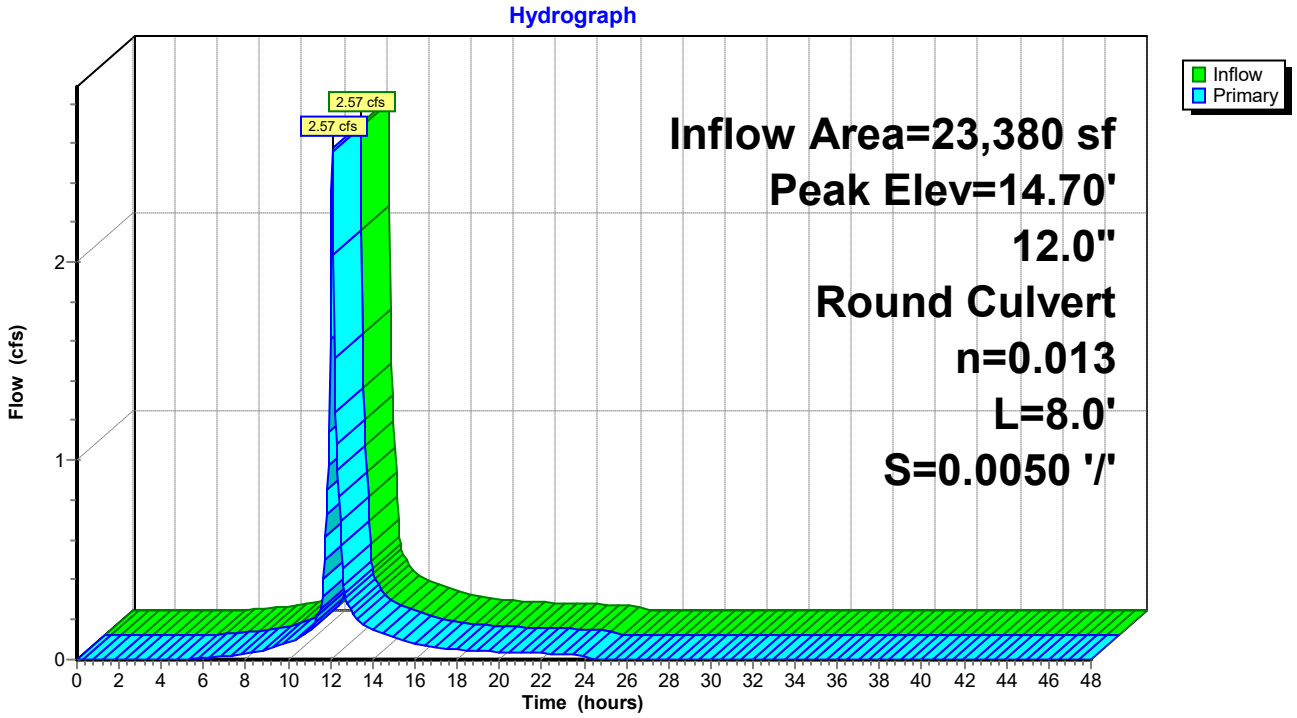
Inflow Area = 23,380 sf, 80.77% Impervious, Inflow Depth = 4.30" for 25-Year Storm event
Inflow = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf
Outflow = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.57 cfs @ 12.09 hrs, Volume= 8,380 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 14.70' @ 12.09 hrs
Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.42'	**12.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.42' / 13.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.51 cfs @ 12.09 hrs HW=14.67' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.51 cfs @ 3.28 fps)

Pond 3P: SD

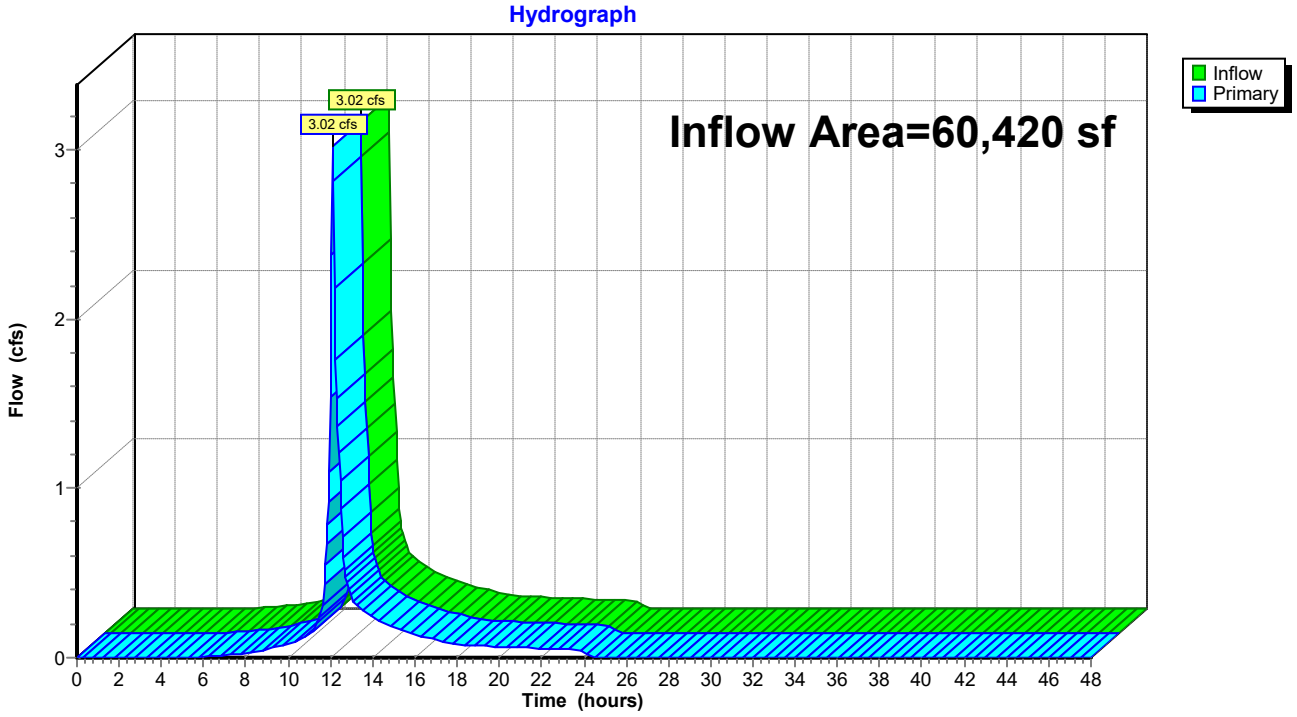


Summary for Link SP1P: Center Street SD

Inflow Area = 60,420 sf, 39.75% Impervious, Inflow Depth = 2.18" for 25-Year Storm event
Inflow = 3.02 cfs @ 12.11 hrs, Volume= 10,967 cf
Primary = 3.02 cfs @ 12.11 hrs, Volume= 10,967 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP1P: Center Street SD

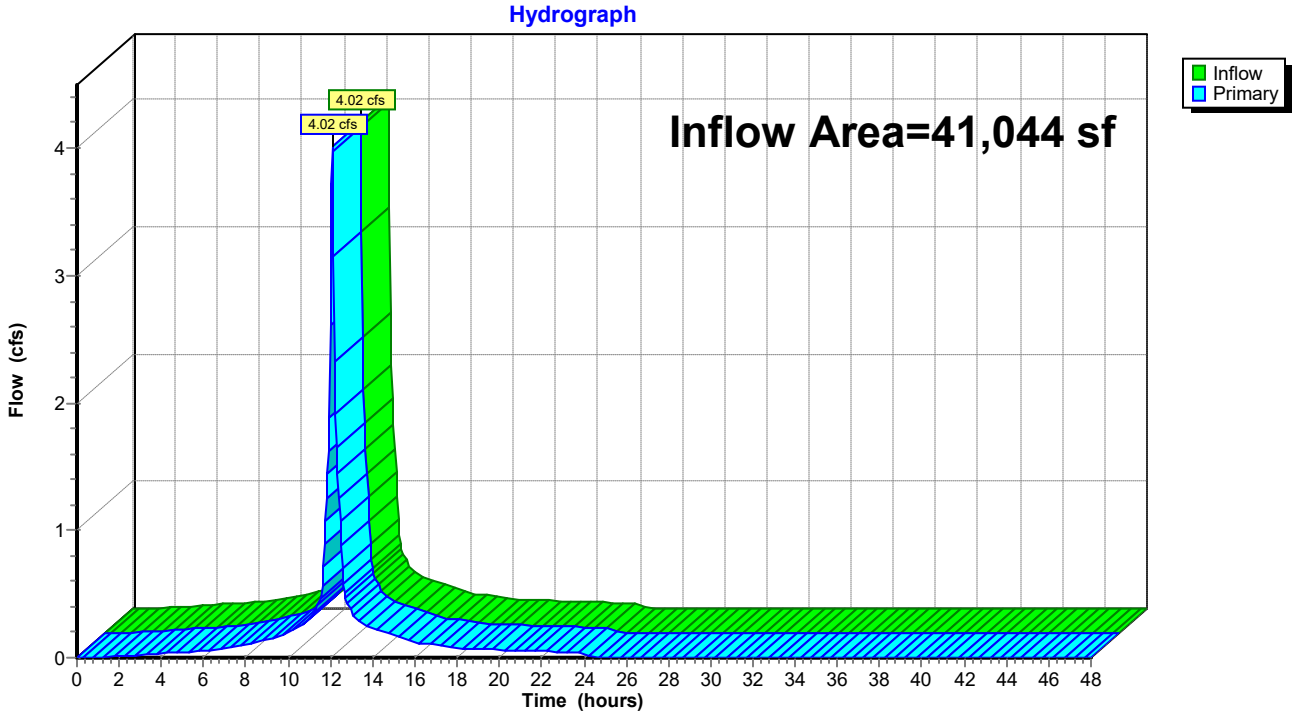


Summary for Link SP2P: Cross Street SD

Inflow Area = 41,044 sf, 77.42% Impervious, Inflow Depth = 4.30" for 25-Year Storm event
Inflow = 4.02 cfs @ 12.09 hrs, Volume= 14,718 cf
Primary = 4.02 cfs @ 12.09 hrs, Volume= 14,718 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP2P: Cross Street SD

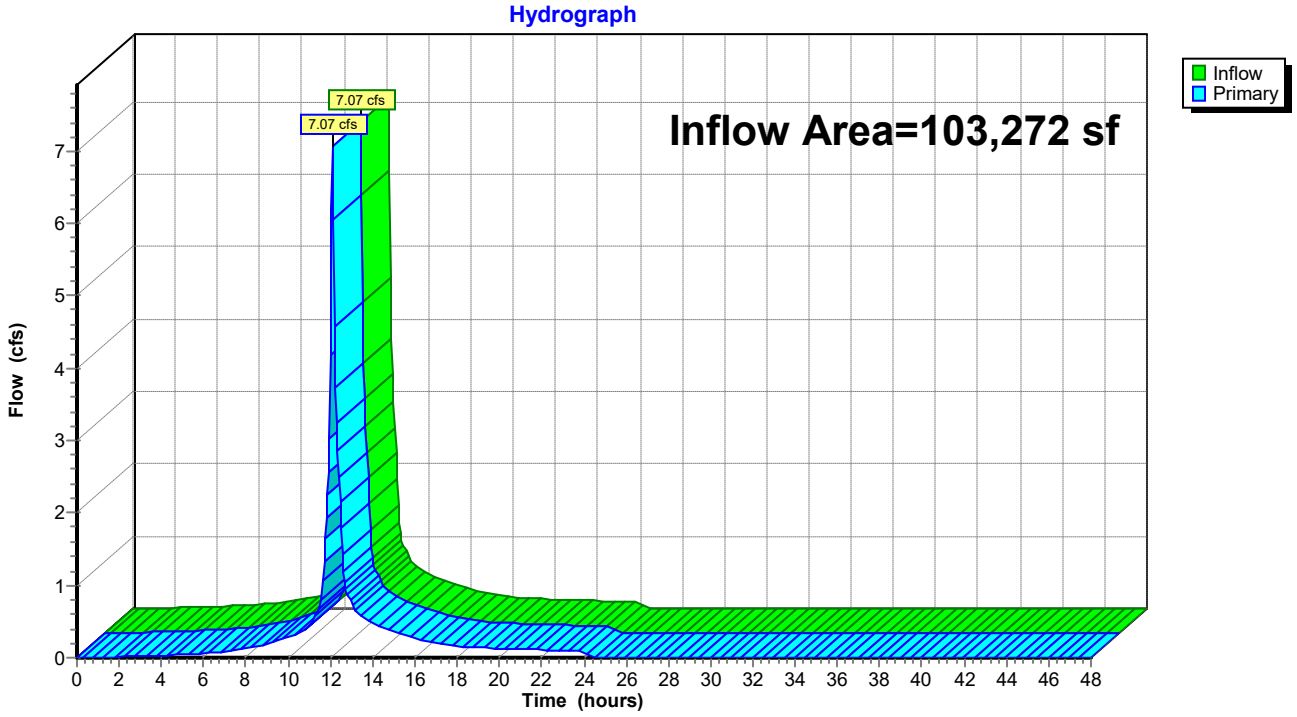


Summary for Link SP3P: Commercial Street Sewer

Inflow Area = 103,272 sf, 54.76% Impervious, Inflow Depth = 3.02" for 25-Year Storm event
Inflow = 7.07 cfs @ 12.10 hrs, Volume= 26,004 cf
Primary = 7.07 cfs @ 12.10 hrs, Volume= 26,004 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link SP3P: Commercial Street Sewer



STORMWATER INSPECTIONS & MAINTENANCE PLAN

Center Street Hotel

General inspection and maintenance during and after construction must take place in accordance with the requirements outlined in Appendix B of the Maine Department of Environmental Protection (MaineDEP) Chapter 500 Rules. Upon completion of the project, the Owner will assume responsibility for overseeing the property, including the inspection and maintenance of the Site's stormwater drainage system and treatment measures outlined herein. A person with knowledge of stormwater management and erosion and sediment control, including the standards and conditions in the permit, shall conduct the inspections and perform maintenance of the facilities.

Inspection and maintenance activities will be performed per the attached checklist, schedule, and Kraken filter guidelines; an example page of the BMP Maintenance Log that shall be kept on-site is also attached.

INSPECTION AND MAINTENANCE OF STORMWATER SYSTEMS

The inspection and maintenance criteria outlined in Chapter 500 Stormwater Regulations will be followed. Monitoring and maintenance is critical for the proper operation of the stormwater management system. First year post-construction monitoring differs primarily by its increased frequency to assure proper system functioning. Post-construction routine monitoring is based on USEPA requirements for good housekeeping practices.

Kraken Filter System

The Kraken filter system must be inspected at least once every six months, and the filters maintained annually per the manufacturer's guidelines, which are outlined in the attached guidance document.

Post-Construction: Inspection frequency should be at least once every six months and after every major storm in the first year following construction.

- ❑ Perform sediment removal for depths reaching 12 inches or greater, or within 3 years.
- ❑ Removal all floatable trash and debris
- ❑ Filter cartridges shall be rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing.
- ❑ Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment or if damaged or missing. Tentacles should remain in service for no longer than 5 years.

Trash, debris, and sediment shall be removed from storm drain pipes, manholes and catch basins as needed on a semi-annual basis.

STORMWATER INSPECTION CHECKLIST

Inspection by: _____ Date: _____

Stormwater Management Feature	Condition						Comments
Subsurface Detention System	no siltation		some siltation		heavily silted in		
Subsurface Detention System	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		
Subsurface Detention System	outlet free of erosion		some erosion at outlet		outlet heavily eroded		
Subsurface Detention System	inlet/outlet clear		some debris		completely blocked		
Kraken Filter System*	Cartridges are in good condition		Cartridges in need of cleaning		Cartridges in need of replacement		
Kraken Filter System*	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		

**See attached manufacturer's guidelines for Kraken Filter System maintenance and inspection.*

Recommended Actions: _____

_____

Actions Completed: _____ Date: _____

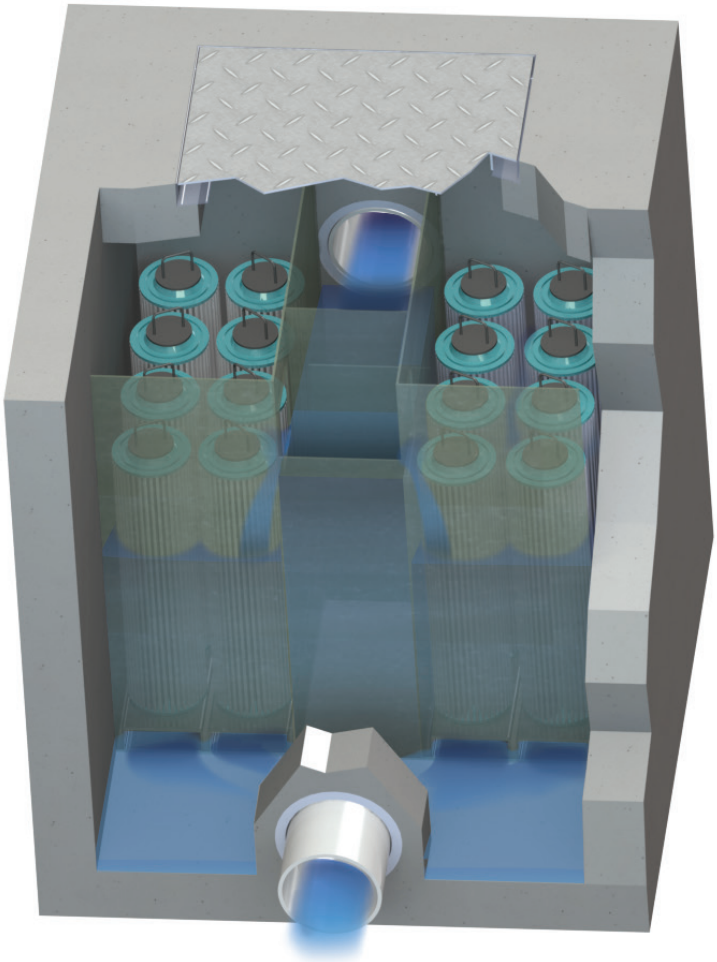
STORMWATER MANAGEMENT MAINTENANCE TASKS AND RECOMMENDED SCHEDULE

TASKS	DETENTION AND KRAKEN FILTER SYSTEM	KRAKEN FILTER PIPES	SCHEDULE
Inspect for sediment accumulation	X	X	Spring and Fall
Remove sediment accumulation	X	X	As needed
Clean debris	X	X	As needed
Inspect structural elements during wet weather and compare to as-built plans	X	X	Annually
Make adjustments or replacements as determined by wet weather observations	X	X	As needed
Keep records of all inspections and maintenance activities	X	X	Annually
Have a professional engineer perform emergency inspections upon identification of severe problems	X	X	As needed

THE KRAKEN FILTER™

Bio Clean
A Forterra Company

OPERATION & MAINTENANCE



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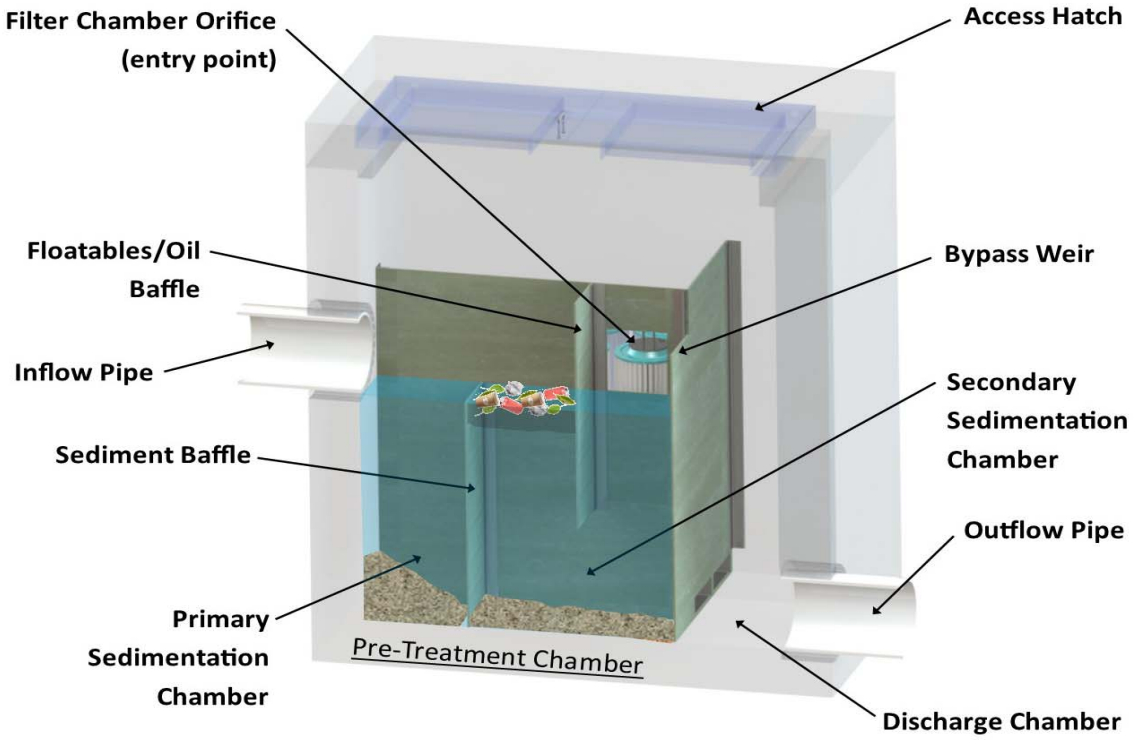
F 760-433-3176

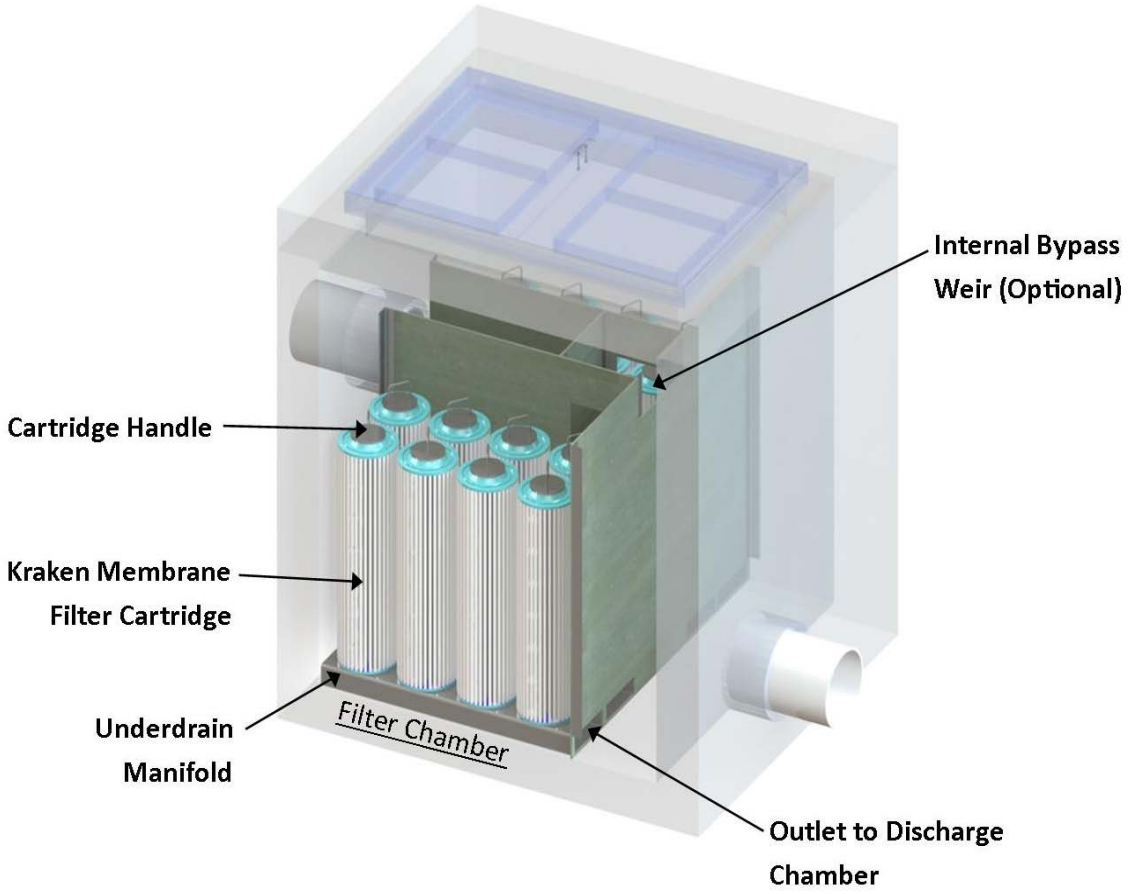
OPERATION & MAINTENANCE

The Kraken® Filter is designed at a minimal loading rate of only 0.05 gpm/sq ft of media surface to maximize longevity and minimize maintenance requirements. This is lower than any other system available. Passive backwash and pretreatment also help to minimize system maintenance requirements. The Kraken® Filter has proven to be able to handle up to at least 18 months sediment loading with no maintenance or loss of treatment capacity assuming 600 pounds of sediment per acre of impervious surface annually.

Yet, as with all stormwater BMPs inspection and maintenance on the Kraken® Filter is necessary. Stormwater regulations require that all BMPs be inspected and maintained to ensure they are operating as designed to allow for effective pollutant removal and provide protection to receiving water bodies. It is recommended that inspections be performed multiple times during the first year to assess the site specific loading conditions. This is recommended because pollutant loading and pollutant characteristics can vary greatly from site to site. Variables such as nearby soil erosion or construction sites, winter sanding on roads, amount of daily traffic and land use can increase pollutant loading on the system. The first year of inspections can be used to set inspection and maintenance intervals for subsequent years to ensure appropriate maintenance is provided. Without appropriate maintenance a BMP will exceed its storage capacity which can negatively affect its continued performance in removing and retaining captured pollutants.



Pre-Treatment Chamber Diagram:



Filter Chamber Diagram:

Inspection Equipment

Following is a list of equipment to allow for simple and effective inspection of the Kraken® Filter:

- Bio Clean Environmental Inspection Form.
- Flashlight.
- Manhole hook or appropriate tools to access hatches and covers.
- Appropriate traffic control signage and procedures.
- Measuring pole and/or tape measure.
- Protective clothing and eye protection.
- Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system.

Inspection Steps

The core to any successful stormwater BMP maintenance program is routine inspections. The inspection steps required on the Kraken® Filter are quick and easy. As mentioned above the first year should be seen as the maintenance interval establishment phase. During the first year more frequent inspections should occur in order to gather loading data and maintenance requirements for that specific site. This information can be used to establish a base for long term inspection and maintenance interval requirements.

The Kraken® Filter can be inspected though visual observation without entry into the system. All necessary pre-inspection steps must be carried out before inspection occurs, especially traffic control and other safety measures to protect the inspector and near-by pedestrians from any dangers associated with an open access hatch or manhole. Once these access covers have been safely opened the inspection process can proceed:

- Prepare the inspection form by writing in the necessary information including project name, location, date & time, unit number and other info (see inspection form).
- Observe the inside of the system through the access hatches. If minimal light is available and vision into the unit is impaired utilize a flashlight to see inside the system and all of its chambers.
- Look for any out of the ordinary obstructions in the inflow pipe, pre-treatment chamber, filter chambers, discharge chamber or outflow pipe. Write down any observations on the inspection form.
- Through observation and/or digital photographs estimate the amount of floatable debris accumulated in the pre-treatment chamber. Record this information on the inspection form. Next utilizing a tape measure or measuring stick estimate the amount of sediment accumulated in the primary and secondary sedimentation chambers. Record this depth on the inspection form. Through visual observation inspect the condition of the filter cartridges. Look for excessive build-up of sediments on the surface and any build-up on the top of the cartridges. Record this information on the inspection form.
- Finalize inspection report for analysis by the maintenance manager to determine if maintenance is required.

Maintenance Indicators

Based upon observations made during inspection, maintenance of the system may be required based on the following indicators:

- Missing or damaged internal components or cartridges.
- Obstructions in the system or its inlet or outlet.

- Excessive accumulation of floatables in the pre-treatment chambers in which the length and width of the chamber behind oil/floatables skimmer is fully impacted.
- Excessive accumulation of sediment in the primary sedimentation chamber of more than 18” in depth.
- Excessive accumulation of sediment in the secondary sedimentation chamber of more than 6” in depth.
- Excessive accumulation of sediment in the filter chambers of more than 3” on average.
- Substantial build-up of sediments on the filter membrane of the filter cartridges which will have a very dark appearance indicating the membrane may be fully saturated with sediment.

Maintenance Equipment

While maintenance can be done fully by hand it is recommended that a vacuum truck be utilized to minimize time requirements required to maintain the Kraken® Filter:

- Bio Clean Environmental Maintenance Form.
- Flashlight.
- Manhole hook or appropriate tools to access hatches and covers.
- Appropriate traffic control signage and procedures.
- Measuring pole and/or tape measure.
- Protective clothing and eye protection.
- Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system. Entry into the system will be required if it is determine the cartridge filters need washing/cleaning.
- Vacuum truck.
- Trash can.
- Pressure washer.

Maintenance Procedures

It is recommended that maintenance occurs at least three days after the most recent rain even to allow for drain down of the system and any upstream detention systems designed to drain down over an extended period of time. Maintaining the system while flows are still entering it will increase the time and complexity required for maintenance. Cleaning of the pre-treatment chamber can be performed from finish surface without entry into the vault utilizing a vacuum truck. Once all safety measures have been set up cleaning of the pre-treatment chamber can proceed as followed:

- Using an extension on a boom on the vacuum truck position the hose over the opened access hatch and lower into the center of the primary sedimentation chamber. Remove all floating debris, standing water and sediment from the chamber. A power washer can be used to assist if sediments have become hardened and stuck to the walls or the flow of the chamber. Repeat the same procedure for the secondary sedimentation chamber. This completes the maintenance procedure required on the pre-treatment chamber.

If maintenance is required on the filter cartridges the following procedure can be followed after maintenance on the pre-treatment chamber is performed:

- Following rules for confined space entry use a gas meter to detect the presence of any hazardous gases. If hazardous gases are present do not enter the vault. Following appropriate confined space procedures takes steps, such as utilizing venting system, to address the hazard. Once it is determined to be safe enter utilizing appropriate entry equipment such as a ladder and tripod with harness.
- Once entry into the system has been established the maintenance technician should position themselves to stand in the pre-treatment chamber. From here the removal of the cartridges can commence.
- Each cartridge is pressure fitted in place and includes a handle for easy removal. To remove a cartridge simply grab the handle and pull straight up. It may be required to gently shift pressure from side to side while pulling up to break the pressure seal. Removal of the cartridge should be done by hand with minimal effort and requires no tools.
- Once the cartridges are removed they should be lifted out from the vault and brought up to finish surface for cleaning. Using a large garbage can and a standard garden hose (low pressure nozzle) each cartridge should be rinsed off from the outside to remove accumulated sediments and debris. Once each cartridge is rinsed it should be placed to the side for re-installation.
- Each filter chamber should be power washed and vacuumed clean before re-inserting the cleaned cartridges.
- After all cartridges have been washed they can be replaced back into the vault. To replace each cartridge simply slide cartridge over each pressure fitted coupler. Push down on the handle to ensure the cartridge has been fully seated and the bottom of the cartridge is making contact with the floor.
- The last step is to close up and replace all access hatch lids and remove all traffic control.
- All removed debris and pollutants shall be disposed of following local and state requirements.

Maintenance Sequence

Remove Access Hatches Set Up Vacuum Truck to Clean The Pretreatment Chamber.

Insert Vacuum Hose in the Sedimentation Chamber and Vacuum Out All Trash, Sediment and Standing Water.

Assess the Condition of the Filter Cartridges and Determine If Cleaning is Required.

To Wash Cartridges Remove from Vault. Place Over Trash Can and Use a Garden Hose to Spray Clean.

Once Cleaned Install Back Into the Vault. This Completes Maintenance. Ensure Access Lids are Properly Replaced.

For Maintenance Services or Replacement Media Please Contact Us At:
760-433-7640
info@biocleanenvironmental.com

Bio Clean
A Forterra Company

THE KRAKEN FILTER

Inspection and Maintenance Report
Bio Clean Kraken Filter

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____ / ____ / _____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Vault	Model #	Sediment Accumulation Sedimentation Chambers (lbs) & Filter Chambers (lbs)	Condition of Filter Cartridges & Were Filter Cartridges Cleaned	Structural Notes	Operational Per Manufactures' Specifications (If not, why?)
	Lat: Long:					
	Lat: Long:					
	Lat: Long:					

Comments:

2972 San Luis Rey Road, Oceanside, CA 92058 P. 760.433.7640 F. 760.433.3176

MMC Stormwater BMP Maintenance Log

BMP Structure	Inspector (Name)	Work Performed	Date Performed	Comments
Catch Basins & Drainage Manholes				
Kraken System				
Other				
Additional Comments:				

Att. X

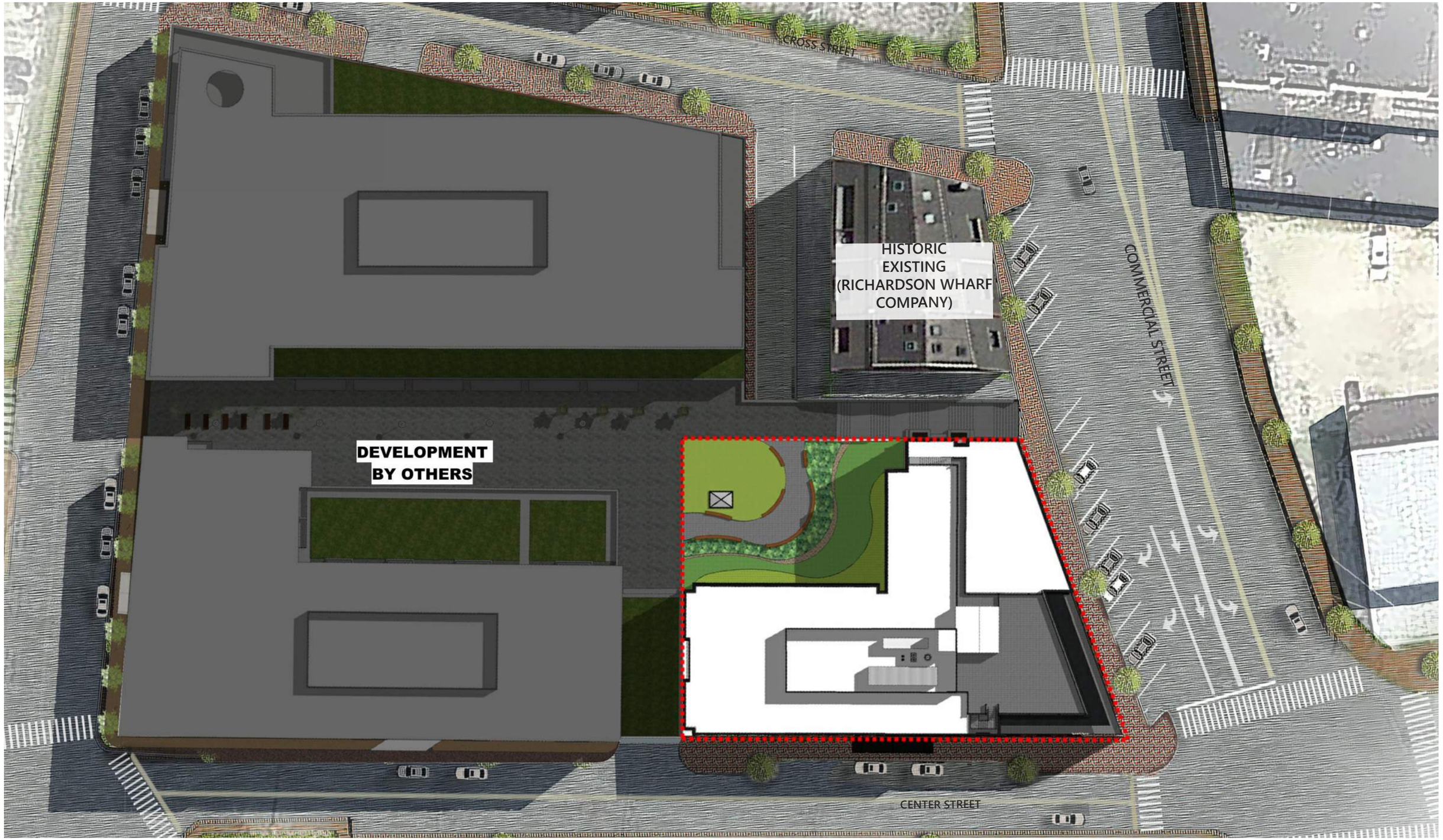
HISTORIC PRESERVATION - WORKSHOP THREE

CENTER STREET

BOUTIQUE HOTEL

02.06.2019

Fathom COMPANIES HKS HOSPITALITY GROUP



CENTER STREET HOTEL
PORTLAND, MAINE

HISTORIC PRESERVATION
06 FEBRUARY 2019
HKS # 22302.000

Fathom COMPANIES | HKS HOSPITALITY GROUP

SCALE: NTS

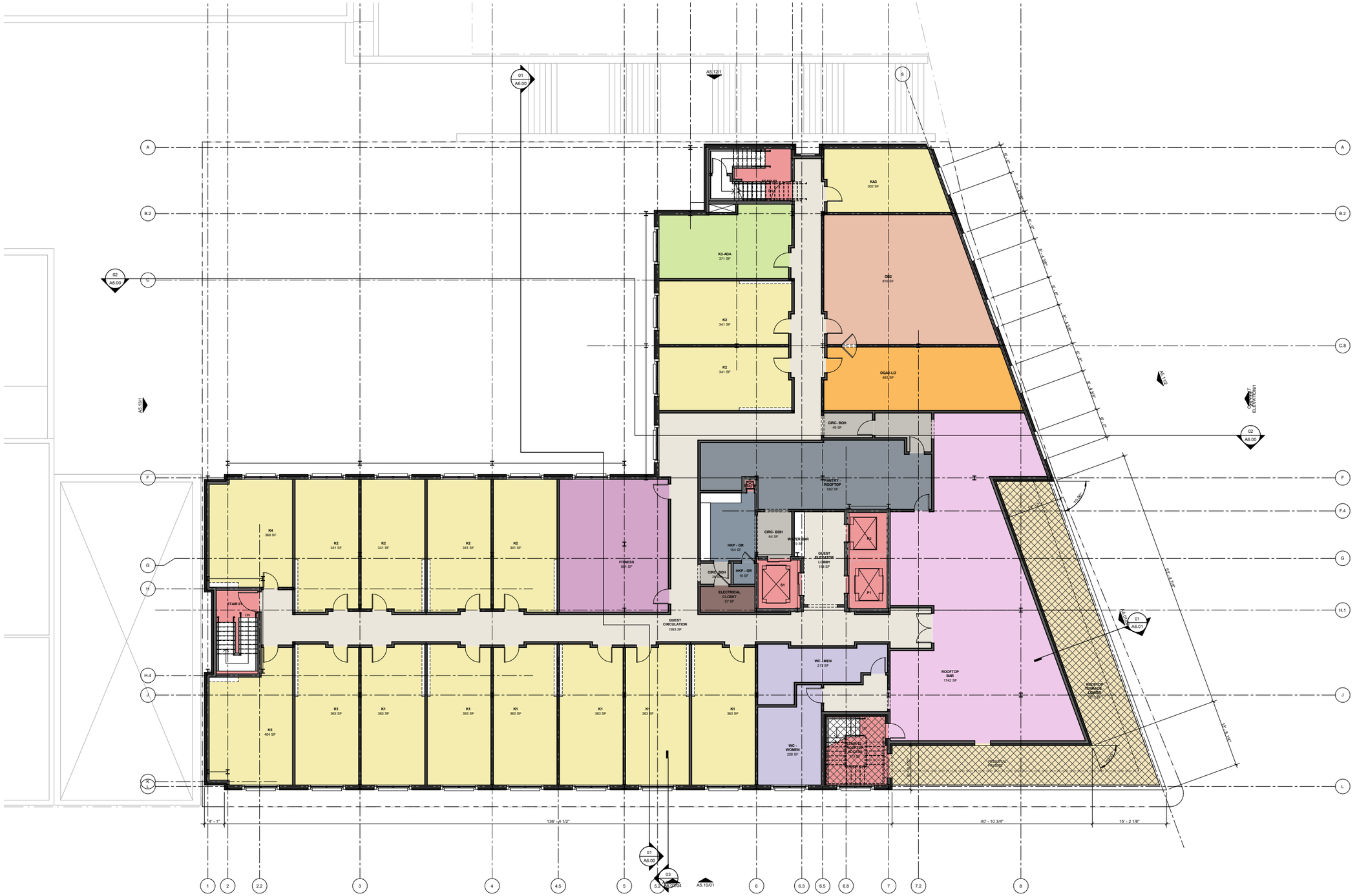
A1.01

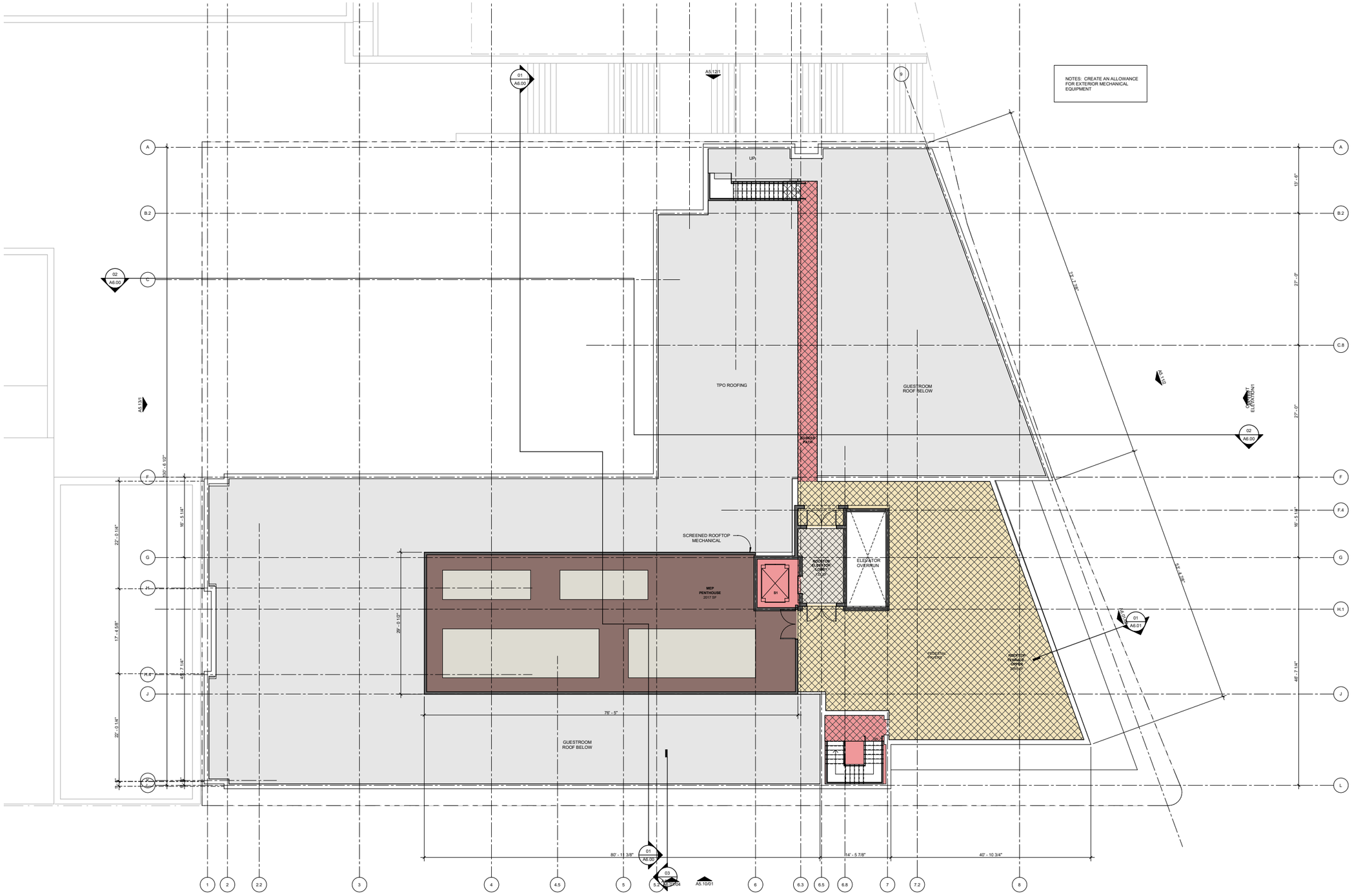
Fathom HKS HISTORIC PRESERVATION
02.06.2019

LEVEL 01 - STREET LEVEL
SCALE NTS

LEVEL 02, 03, 04 & 05

SCALE NTS


A
B.2
C
C.8
F
F.4
G
H
H.1
H.4
J
J.
K
L
01 A6.00
02 A6.00
A5.12/1
A5.13/1
A5.14/1
9
K4 369 SF
K2 341 SF
K2 341 SF
K2 341 SF
K2 341 SF
K3 352 SF
K3-ADA 371 SF
K2 341 SF
K2 341 SF
OB2 816SF
DQAD-LO 493 SF
CIRC- BOH 49 SF
PANTRY - ROOFTOP 582 SF
CIRC- BOH 64 SF
HKP - GR 154 SF
CIRC- BOH 24 SF
HKP - GR 19 SF
WATER BAR 5 SF
GUEST ELEVATOR LOBBY 159 SF
ELECTRICAL CLOSET 57 SF
FITNESS 601 SF
S1
K2
P1
GUEST CIRCULATION 1593 SF
STAIR 6
DN
UP
K5 404 SF
K1 363 SF
K1 363 SF
K1 363 SF
K1 363 SF
K1 363 SF
K1 363 SF
K1 363 SF
WC - MEN 212 SF
WC - WOMEN 228 SF
ROOFTOP BAR 1742 SF
ROOFTOP TERRACE Counter 107 SF
ROOFTOP TERRACE
R1 - 4.5/8"
R1 - 4"
R1 - 4.5/8"
R1 - 4"
R1 - 4.5/8"
R1 - 4"



LEVEL 07 - ROOFTOP TERRACE

SCALE NTS

REFERENCE IMAGERY

Fathom COMPANIES HKS HOSPITALITY GROUP

SITE PHOTOS

IN THE VICINITY

E

D

HISTORIC
EXISTING
(RICHARDSON
WHARF
COMPANY)

EXISTING
PARKING LOT

SITE

B

A

HISTORIC
EXISTING
(BAXTER DAVIS BLOCK)

C

CENTER STREET HOTEL
PORTLAND, MAINE

HISTORIC PRESERVATION
06 FEBRUARY 2019
HKS # 22302.000

Fathom COMPANIES | HKS HOSPITALITY GROUP

SITE VIEW LOCATIONS

SITE PHOTOS

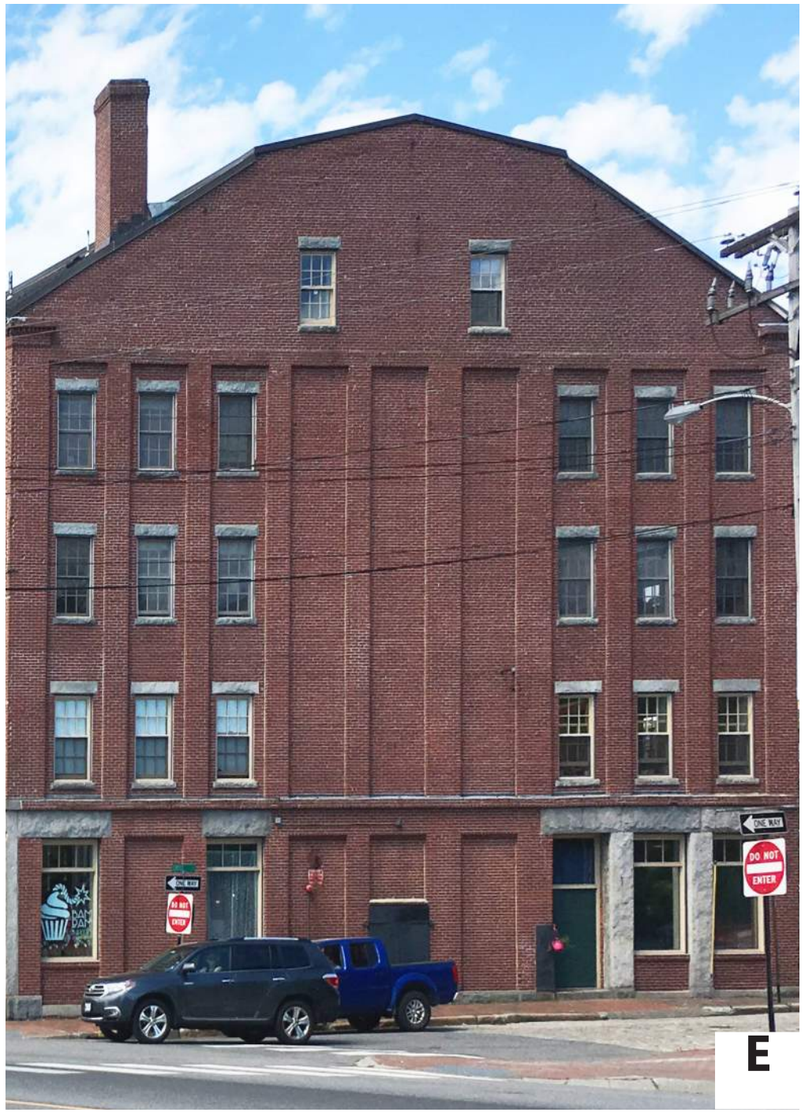
SITE & ADJACENT BUILDINGS

A

B

C

D



E

RENDERINGS + ELEVATION

COMMERCIAL STREET

Fathom COMPANIES HKS | HOSPITALITY GROUP

C O.
CROCKERY

hotel
FRUIT PRODUCE

hotel

COMMERCIAL ST. ELEVATION

RENDERINGS + ELEVATION

CENTER STREET

Fathom COMPANIES HKS | HOSPITALITY GROUP

UPDATED VISION FOR WORKSHOP 03

hotel
hotel
PORTLAND | OLD PORT

hotel
hotel

CENTER ST. ELEVATION

OVERALL VIEWS + DETAILS

Fathom COMPANIES HKS | HOSPITALITY GROUP

UPDATED VISION FOR WORKSHOP 03

TYPICAL CONDITIONS ALONG COMMERCIAL STREET

TYPICAL CONDITIONS ALONG CENTER STREET

EXTERIOR MATERIAL LEGEND

ARCHITECTURAL METAL FINISHES - AMF

AMF-01 HIGH-PERFORMANCE ORGANIC FLUOROPOLYMER - 2 COAT SYSTEM
CUSTOM COLOR TO MATCH ARCH SAMPLE (BLACK)

AMF-02 NOT USED

AMF-03 EXTERIOR ALUMINUM FINS
CUSTOM COLOR TO MATCH ARCH SAMPLE

AMF-04 EXTERIOR ALUMINUM CEILING/SOFFIT
CUSTOM COLOR TO MATCH ARCH SAMPLE

AMF-11 HIGH PERFORMANCE COATING FOR A.E.S.S -
COLOR (DARK TO MATCH AMF-02)

ARCHITECTURAL EXPOSED STRUCTURAL STEEL

A.E.S.S - 01 ARCHITECTURAL EXPOSED STRUCTURAL STEEL (AMF-11)

BRICK MASONRY VENEER SYSTEM - BK

BK-01 BRICK MASONRY VENEER - MAIN

BK-02 BRICK MASONRY VENEER - ACCENT

MODULAR METAL WALL PANEL - MMP

MMP-01 MODULAR METAL WALL PANEL SYSTEM (AMF-01)

MMP-02 NOT USED

CAST STONE SYSTEM - CS

CS-01 CAST STONE SYSTEM

STONE MASONRY VENEER - ST

ST-01 XXX - TBD

EXTERIOR GLAZING - GL

GL-01V 1" INSULATED VISION GLASS

GL-01S 1" INSULATED SPANDREL GLASS

GL-02V 1" INSULATED VISION GLASS

GL-02S 1" INSULATED SPANDREL GLASS

GLAZED ALUMINUM FRAMING SYSTEMS - GAFS

GAFS-01 PUNCHED WINDOW WALL SYSTEM
4-SIDE CAPTURED GLAZED GLASS
FINISH: AMF-02

GAFS-02 PUNCHED WINDOW WALL SYSTEM
4-SIDE CAPTURED GLAZED GLASS
FINISH: AMF-02

GAFS-03 WINDOW WALL SYSTEM
4-SIDE CAPTURED GLAZED GLASS
FINISH: AMF-03
SLAB EDGE COVER FINISH: AMF-03

LOUVER WALL SYSTEM - LVR

LVR-01 CONTINUOUS HORIZONTAL LOUVER
BASIS OF DESIGN: C/S RS-7705
FINISH: REFER TO LOUVER SCHEDULE

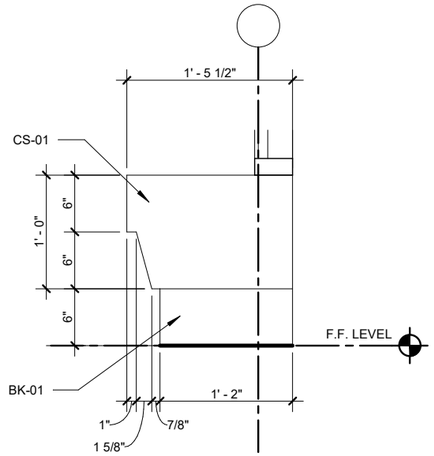
ROOF SYSTEMS

ROOF
TYPE-01 SINGLE PLY TPO MEMBRANE ROOFING SYSTEM R-XXX MIN

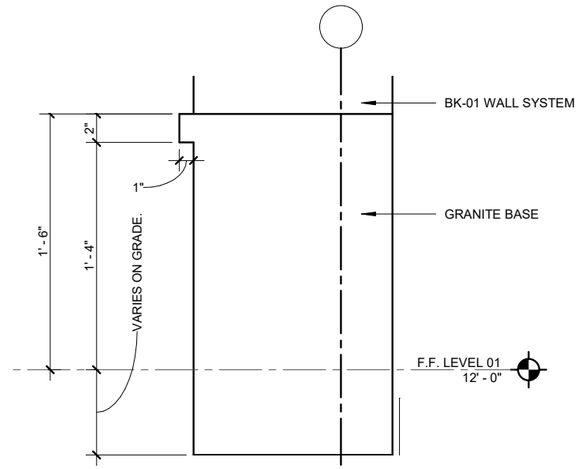
SKY-01 OVERHEAD GLAZING SKYLIGHT
BASIS OF DESIGN: KAWNEER NORTH AMERICA; AN ALCOA
COMPANY....O'KEEFFE'S INC.....OLDCASTLE BUILDINGENVELOPE

ORNAMENTAL METAL RAILING - OMR

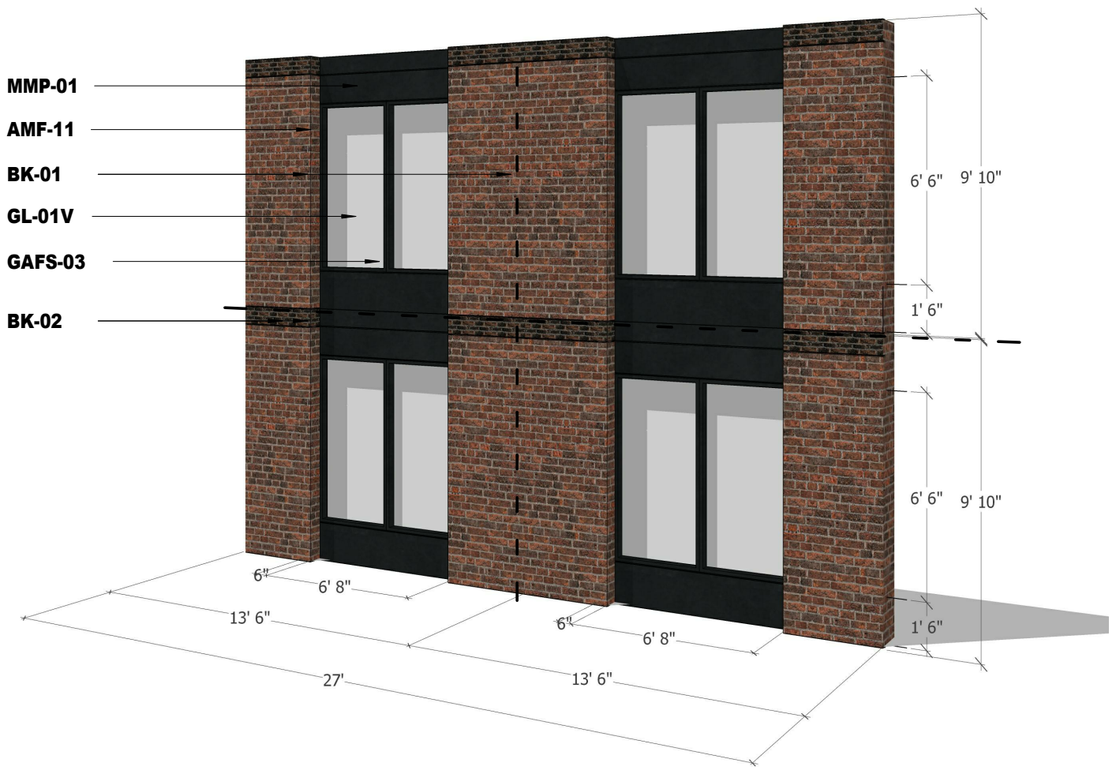
OMR-01 ORNAMENTAL METAL RAILING SYSTEM



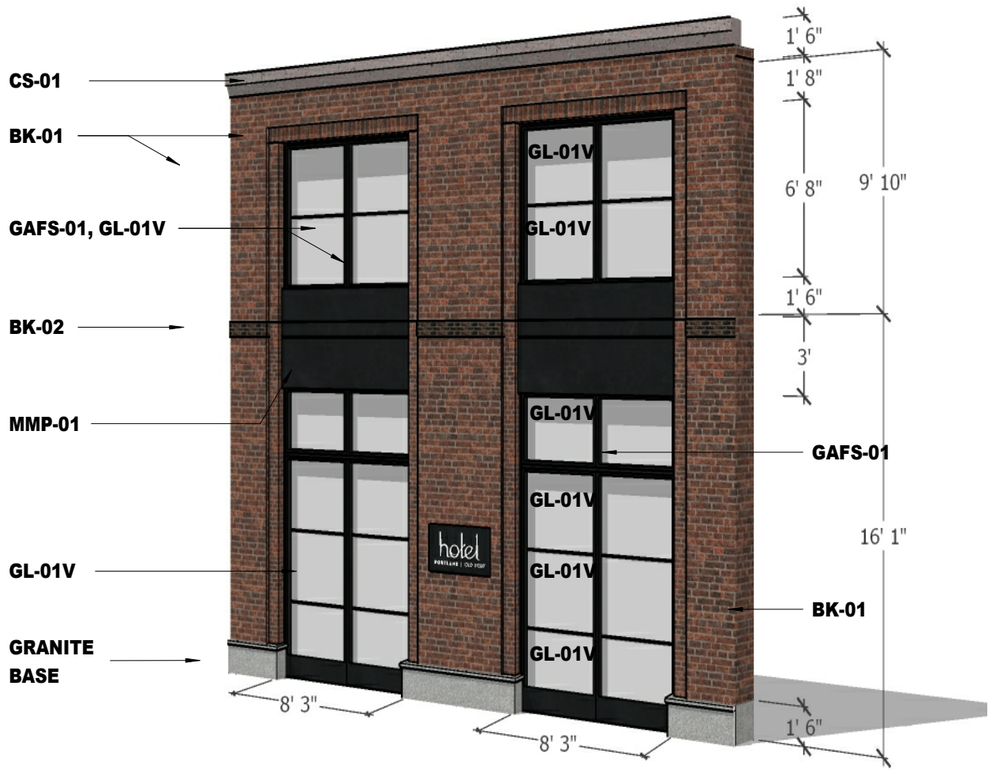
CORNICE DETAIL



GRANITE BASE DETAIL

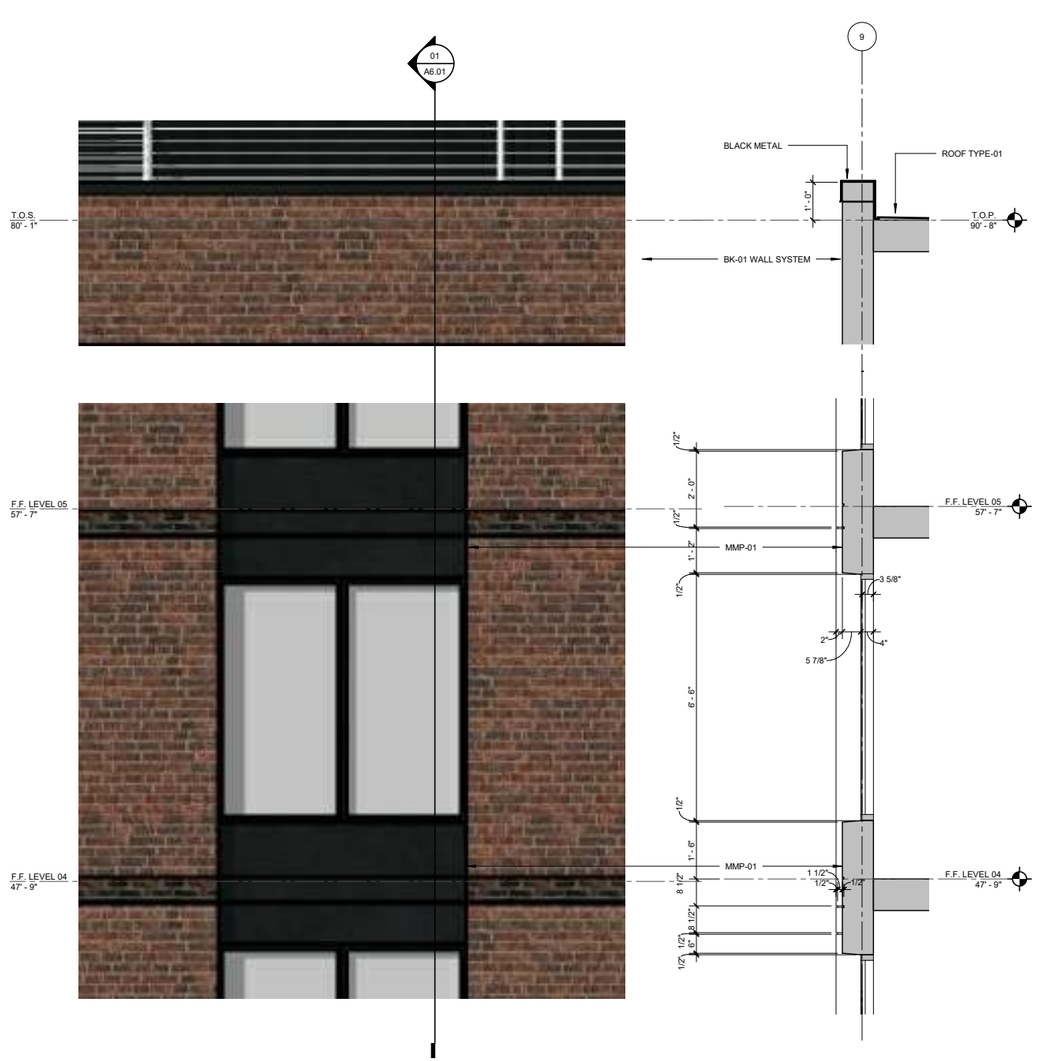


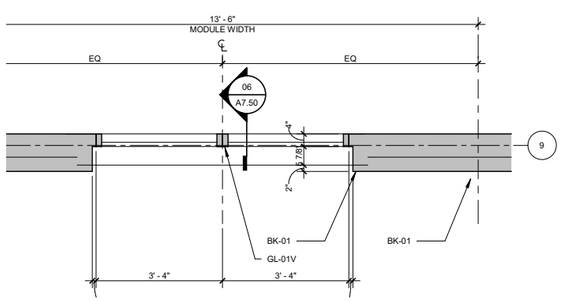
SKIN SYSTEM 02
BRICK MASONRY



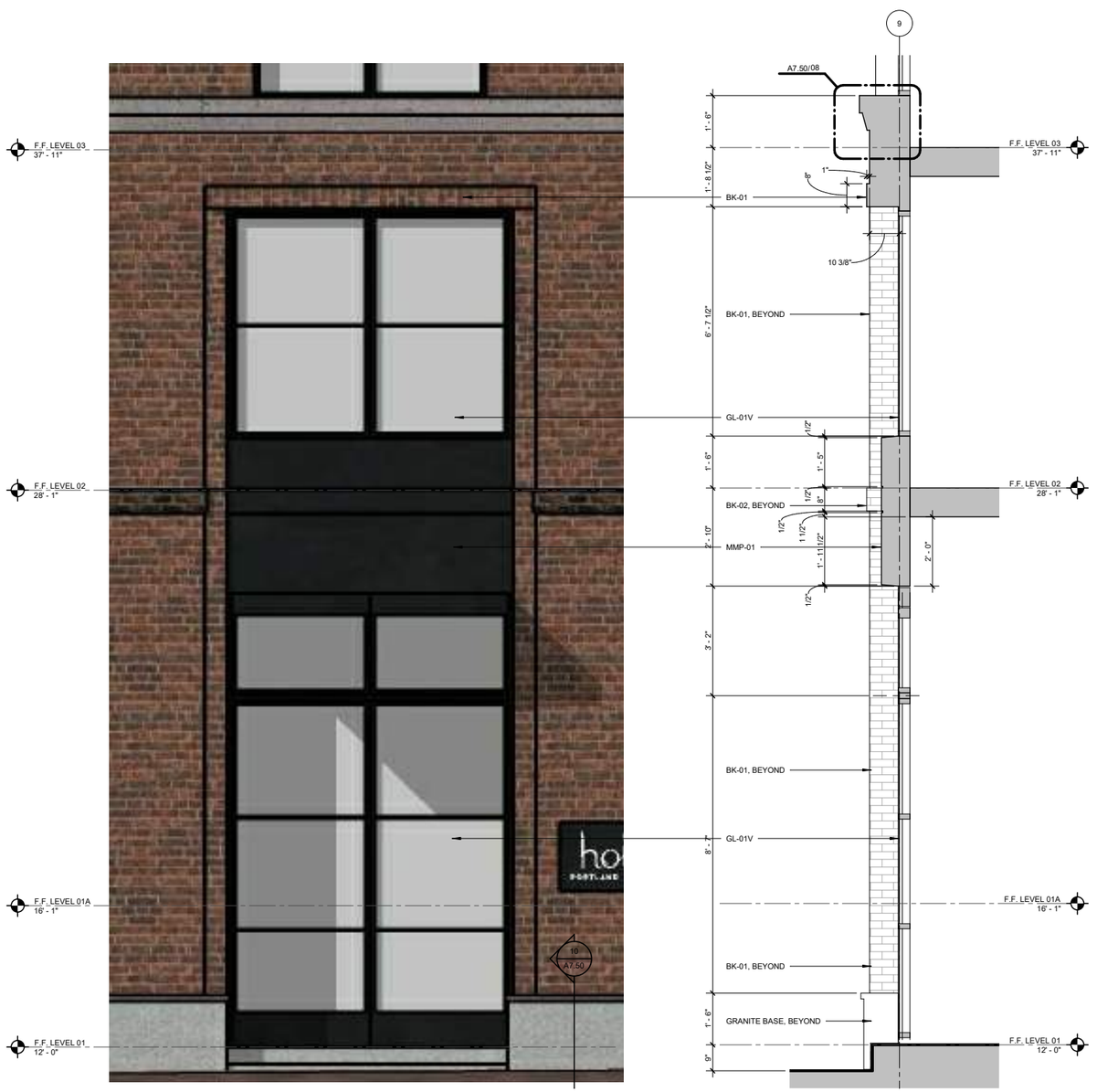
SKIN SYSTEM 01
BRICK MASONRY

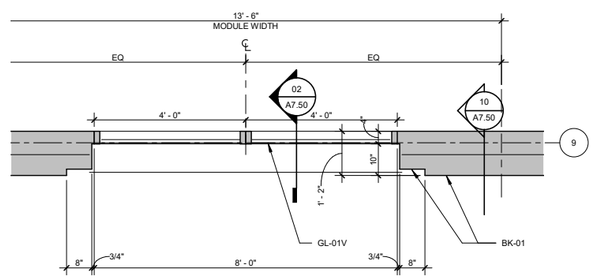
SCALE NTS





PROFILE SECTION & PLAN THROUGH ABOVE LEVEL 03 SYSTEM





PROFILE SECTION & PLAN THROUGH BASE

SCALE NTS

HISTORIC CONTEXT - PALETTE

BAXTER DAVIS BLOCK

CENTER STREET
BOUTIQUE HOTEL

RICHARDSON WHARF
COMPANY

HISTORIC CONTEXT - ADJACENT BUILDING RELATIONSHIPS

BAXTER DAVIS BLOCK

CENTER STREET
BOUTIQUE HOTEL

RICHARDSON WHARF
COMPANY

COMMERCIAL ST. FACADE STRATEGIES - HISTORIC CONTEXT

THANK YOU

Fathom COMPANIES HKS HOSPITALITY GROUP

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

Att. Y

Via Electronic Mail

February 5, 2019

Department of Planning & Development
Attn: Matthew Grooms
City of Portland
389 Congress Street
Portland, ME 04101

Re: Center Street Hotel | 1 Center Street | Neighborhood Meeting Certification

To Whom It May Concern:

I, Lauren Swett, PE of Woodard & Curran, hereby certify that a neighborhood meeting was held on January 17, 2019 in the Editorial Room at the Press Hotel, 119 Exchange Street, Portland, ME at 5:30pm regarding the Level III Site Plan Submittal for the proposed Center Street Hotel development project located at 1 Center Street.

I also certify that on January 7, 2019, invitations were mailed to the following:

1. All addresses on the abutters list provided by the Planning Division which includes property owners within 500 feet of the proposed development.

2. Residents on the "interested parties" list.

Signed,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical Manager

Attached to this certification are:

1. Copy of the invitation sent
2. Lists of abutters and interested parties notified
3. Sign-in sheet
4. Meeting Notes
5. Copy of the Neighborhood Meeting Presentation

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

January 7, 2019

Dear Neighbor:

On behalf of Fathom CC, LLC (Applicant), please join us for a neighborhood meeting to discuss our plans for the proposed Center Street Hotel development project to be located at the corner of Commercial Street and Center Street (1 Center Street) in Portland, Maine. A Level III Site Plan Application for the Center Street Hotel development has been filed with the City of Portland Planning Division on behalf of the Applicant.

Meeting Location: Press Hotel, 119 Exchange Street, Portland, Maine

Meeting Date: Thursday, January 17, 2019

Meeting Time: 5:30PM

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.

The Center Street Hotel is situated on the northeast corner of Commercial Street and Center Street within the Old Port District of Portland, sited between the existing Richardson Wharf Company Building and the Baxter Davis Block building. As the parcel sits today, the hotel will be positioned in the Southern corner of an existing surface parking lot among the surrounding streets of Commercial, Center, Fore and Cross.

The proposed project involves the redevelopment of the existing surface parking lot with a 6-story, 135-room boutique hotel, that includes a rooftop bar and ground-floor restaurant positioned along the Commercial Street frontage. The project will also include associated utility, landscaping and site improvements. Construction is anticipated to begin fall 2019.

If you have any questions, please contact Lauren Swett at (207) 558-3763 or via email at lswett@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical 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 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.

Abutters within 500 feet of 1 Center Street Project

Name	Address	
18 Pleasant St Assoc	18 Pleasant St	Portland ME 04101
18 Pleasant Street Associates	18 Pleasant St	Portland ME 04101
225 Commercial St Assoc Inc	225 Commercial St	Portland ME 04101
237 Commercial Street Llc	225 Commercial St	Portland ME 04101
267 Commercial Street Llc	1297 Broadway	South Portland ME 04106
269 Commercial Llc	Po Box 8211	Lewiston ME 04240
32 Pleasant Street Llc	32 Pleasant St	Portland ME 04101
35 Pleasant St Llc	6 South St	Portland ME 04101
44 Pleasant Street Llc	7 Stephenson St	Cape Elizabeth ME 04107
446 Fore Street Llc	Po Box 491	Portland ME 04112
70 Center Street Basement Llc	175 Holmes Rd	Scarborough ME 04074
7-19 Pleasant Street Llc	Po Box 7225	Portland ME 04112
Albee Peter J	1885 Chinook Trail	Wonalancet NH 03897
Alder Run Development Company Llc	70 Center St #401	Portland ME 04101
Amory Jonathan & Joshua B Broder	56 Spruce St # 2	Portland ME 04102
Anadilya Properties Llc	470 Forest Ave Ste 203	Portland ME 04101
Apple Real Estate Holding Llc	108 Springline Dr	Vero Beach FL 32963
B & B Real Estate Llc	57 Center St	Portland ME 04101
Baxter Place Llc	723 Riverside St Office	Portland ME 04103
Berg Eric O Jr Trustee Of Eric O Berg Revocable Trust	1190 Mountain Laurel Dr	Watkinsville GA 30677
Bristol Seafood Inc	5 Portland Fish Pier	Portland ME 04112
Brown J B & Sons	Po Box 207	Portland ME 04112
Caldwell Robert A	269 Commercial St # 5C	Portland ME 04101
Casco View Holdings Ii Llc	Po Box 1137	Portland ME 04104
Casco View Holdings Iii Llc	261 Commercial St	Portland ME 04101
Casco View Holdings Iii Llc	Po Box 1137	Portland ME 04104
Casco View Holdings Llc	Po Box 11409	Portland ME 04104
City Of Portland	389 Congress St	Portland ME 04101
Clancy Paul	30 Whitehead St	Peaks Island ME 04108
Cm Waterfront Properties Llc	Po Box 7467	Portland ME 04112
Comeau Peter W & Linda J Kelly Jts	103 Webster St	Whitman MA 02382
Conklin Henry C	Po Box 219	Islesboro ME 04848
Cumming Jean S & Virgil Cumming Jts	269 Commercial St # 2D	Portland ME 04101
Deering Ave Associates Inc & Wharf Property Llc	4 Milk St Ste 103	Portland ME 04101
Dermer Harry & Mary P Dermer Jts	12300 S W Silverwood Ave	Port Saint Lucie FL 34987
Devillier Jacques K	269 Commercial St # 2E	Portland ME 04101
Dictar Associates Ii	470 Fore St Ste 400	Portland ME 04101
Douty Brothers	10 Portland Fish Pier	Portland ME 04101
East Coast Construction And Consulting Llc	Po Box 4902	Portland ME 04112
F & H Realty Partnership	Po Box 4177	Portland ME 04101
Five South Street Llc	5 South St	Portland ME 04101
Flaherty Christopher F	Psc 851 Box 490	Fpo AE 09834
Foley Ronald G Vn Vet	37 Pleasant St # 4	Portland ME 04101
Foster Anthony W	269 Commercial St # 5F	Portland ME 04101
Freedom Fish Llc	450 Commercial St	Portland ME 04101
Giobbi Archie S & Matilda M Jts	1184 Washington Ave	Portland ME 04103
Giobbi Carlo A Jr & Stoja Petrovic	14 Pleasant St 2Nd Floor	Portland ME 04101
Gosselin Eugene D & Diane H Gosselin Jts	269 Commercial St # 2A	Portland ME 04101

Abutters within 500 feet of 1 Center Street Project

Name	Address	
Haas John E & Jill E Haas Jts	37 Pleasant St # 6	Portland ME 04101
Hanson Anja-Britt & Derek S Pierce Jts	9 South St	Portland ME 04101
Hanson June Andrea	Po Box 206	Bath ME 04530
Harbor Plaza Associates Ii	470 Fore St Ste 400	Portland ME 04101
Harte Christopher M	327 Congress Ave Ste 200	Austin TX 78701
Higonnet Camille	7 Maple St # 602	Portland ME 04101
Houle Ronald J & Ann M Foster Jts	2 Middle St	Amherst NH 03031
Hudon Wilfred R	P.O.Box 718	Wells ME 04090
Jbb Hospitality I Llc	15 Main St Ste 210	Freeport ME 04032
Jkc Llc	267 Warren Ave	Portland ME 04103
Jr Seely Company Llc	24 Christopher Toppi Dr	South Portland ME 04106
Kimble Ellen Sue	269 Commercial St # 4D	Portland ME 04101
Kroon Thomas J & Marianne M Kroon Trustees	7 Maple St # 9	Portland ME 04101
Kruithoff Catherine H & Wayne A Kruitoff Trustee	7 Maple St # 7	Portland ME 04101
Levine Robert A & Vilean A Taggersell Jts	395 Spring St	Portland ME 04102
Levin-Martin Mindy F & Roger L Martin Jts	7 Maple St # 604	Portland ME 04101
Lowry Kate	8 Bowdoin Dr	Falmouth ME 04105
Maine Business Services Inc	70 Center St Unit Go8	Portland ME 04101
Mcdevitt John J Iv	269 Commercial St # 4C	Portland ME 04101
Mckenzie Anne-Marie & Steven E Patch Jts	6 Serendipity Ln	North Yarmouth ME 04097
Mckersie Family Llc	Po Box 7489	Portland ME 04112
Mh & Rb Llc	100 Commercial St	Portland ME 04101
Mitchell John D The Staples School	70 Center St	Portland ME 04101
Muehle Brenna L	269 Commercial St # 5D	Portland ME 04101
Norchi Charles H	236 Commercial St # 3C	Portland ME 04101
North River Iv Llc	224 12Th Ave	New York NY 10001
Nsd 10-7 Maple Llc	819 Gatemore Rd	Bryn Mawr PA 19010
Null	Null	Null NULL Null
Picture Island Inc	Po Box 15148	Portland ME 04112
Piper John M & Rebecca A Wei Jts	7 Maple St # 12	Portland ME 04101
Poe Maxwell	269 Commercal St # 2B	Portland ME 04101
Prestige World-Wide Partners Llc	17 South St 3Rd Floor	Portland ME 04101
Proprietors Of Union Wharf	36 Union Wharf	Portland ME 04101
Ps One Realty Llc	One City Center 4Th Floor	Portland ME 04101
Reiter Lauren J & Neil A Reiter Jts	6 South St	Portland ME 04101
Rice Lee P	5224 Sunnydale Cir S	Sarasota FL 34233
Russo J Richard & Barbara Russo Jts	40 Pleasant St	Portland ME 04101
Schair-Cardona Erica & Ivan Dario Cardona Jts	Po Box 7235	Portland ME 04112
Schneider Paul	269 Commercial St # 2C	Portland ME 04101
Schwartz Donna L	85 Clinton St	Portland ME 04103
Seraichick Susan & Peter J Seraichick Jts	4133 N 35Th St	Phoenix AZ 85018
Sernoffsky Susan	269 Commercial St # 4A	Portland ME 04101
Simark Acquisitions Llc	600 N Fairbanks Ct # 1807	Chicago IL 60611
Slm Properties Inc	2 Union St	Portland ME 04101
South Street Partners 2 Llc	17 South St	Portland ME 04101
Steele Daniel L	Po Box 15148	Portland ME 04112
Tamaki Associates Llc	Po Box 924	Portland ME 04101
Tarbox Jeffery H	269 Commercial St # 5B	Portland ME 04101

Abutters within 500 feet of 1 Center Street Project

Name	Address	
Taylor-Chiarello Robin	Po Box 216	Center Lovell ME 04016
Tiqa Legacy Llc	26 Deer Acres Rd	Raymond ME 04071
Tucker Harold W Iii	41 Mallett Dr	Topsham ME 04086
Vessell Services Inc	Portland Fish Pier	Portland ME 04101
Waterfront Maine	14 Maine St	Brunswick ME 04011
Waterfront Maine Bt Llc	224 12Th Ave	New York NY 10001
Watson Michael P & Sharon S Watson Trustees	236 Cushing Rd	Newmarket NH 03857
Weatherford Claudine & Timothy S Wyant Trustees	130 Central Ave	Peaks Island ME 04108
Wong Rocket & Lilliana M Acuna Jts	269 Commercial St # 4F	Portland ME 04101
Woods Mary A & Stephen R Woods Trustees	10 Arborside Dr	Falmouth ME 04105
Wright-Ryan Real Estate Llc	10 Danforth St	Portland ME 04101

Interested Parties Noticed for 1 Center Street Project Neighborhood Meeting

First Name	Last Name	Company Name	Street Number	Street Name	City	State	Zip
Anthony	Donovan		27	Riverview Street	Portland	ME	04102
Barbara	Wood		125	Emery Street	Portland	ME	04102
Chris	Castelsky	Fairpoint Communications	521	East Morehead Street	Charlotte	NC	28202
David	Nowlin		215	Oxford Street	Portland	ME	04102
Deb	Keenan		28	Dorothy Street	Portland	ME	04103
Devon	Platte		26	North Street, #3	Portland	ME	04101
Edward	Suslovic	District 3	46	Kenwood Street	Portland	ME	04103
		Greater Portland Council of Governments	970	Baxter Blvd., 2nd Floor	Portland	ME	04103
Henry	Leclair		209	Range Road	Windham	ME	03087
Janice	Carpenter		9	W. Commonwealth Drive	Portland	ME	04103
Jennifer	Munson	City of Portland	389	Congress Street	Portland	ME	04101
Jesse	Thompson	Kaplan Thompson Architects	424	Fore Street	Portland	ME	04101
John	Leavitt	NE Regional Council of Carpenters	68	Bishop Street, Unit 1	Portland	ME	04103
Len	Anderson		543	Allen Avenue	Portland	ME	04103
Lynn	Clarkson		145	Marlborough Road	Portland	ME	04103
Mary	Griffity		6	E. Prom, Unit #2	Portland	ME	04103
Vahan	Tufankijan	Seaside Healthcare	850	Baxter Boulevard	Portland	ME	04103
Nancy	Bartlett			PO Box 7965	Portland	ME	04112
Pam	Burnside		64	Lester Drive	Portland	ME	04103
Paul	Dubois		1915	Congress Street	Portland	ME	04102
Peggy	Morin		66	Farnham Street	Portland	ME	04101
Philip	Haughey		1660	Soldiers Field Road	Boston	MA	02135
James	Sterling	Portland Society of Architects		PO Box 7305	Portland	ME	04112
Priscilla	LaVallee		190	US Route 1, Unit 2	Falmouth	ME	04105
Rebecca	Halla	Waste Management of Maine	2000	Forest Avenue	Portland	ME	04103
REP Benjamin	Dudley III	District 30	9	Ponce Street	Portland	ME	04101
REP Glenn	Cummings	District 37	24	Nevens Street	Portland	ME	04103
Robert	Hains		1369	Hilltop Drive	Naples	FL	34103-3318

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MEMORANDUM

TO: City of Portland Planning Department
FROM: Center Street Hotel Development Project Team
DATE: January 17, 2019 5:30pm
RE: Center Street Hotel Development Neighborhood Meeting Sign-in Sheet

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Dear Neighbors,

Thank you for attending tonight's public Neighborhood Meeting in the Editorial Room of the Press Hotel, for the proposed Center Street Hotel project to be located at 1 Center Street in Portland, Maine. Please sign in below.

Thank you,
Center Street Hotel Development Project Team

Name	Email
Barry Sheff, W&C	BSHEFF@WOODARDCURRAN.COM
Megan McDevitt, W&C	MMCDEVITT@ " "
Bellina Reece, Fathom	breece@fathomcompanies.com
Marieke Thovmann, Fathom	mThovmann@fathomcompanies.com
Amy LeBel	ALEBEL@WOODARDCURRAN.COM
Jean Cummings	VCumming24@aol.com
Dan Jacques	DJACQUES@WATERFRONTME.COM
Hank Conklin	hcconklin@gmail.com
Carol Pierson	carolannpierson@icloud.com
CYRUS HAGGE	chagge@mac.com
Jim Brady	jameshbrady@gmail.com
James Palmer	jpalmer@yarrildams.com
Rocket Wong	Rocket_Wong@Hotmail.com
Gerard Kiladjian	gkz.ladjian@harthotels.com
Charles X Zacchi	Charles.Zacchi@Maine.edu
Michael Chestnutt	mchestnutt@cornellstone.com

WOODARD &CURRAN

Center Street Hotel Development Project
Neighborhood Meeting Sign-In Sheet

Name	Email
D. Bridges	
Jeff Grinvalsky	jgrinvalsky@mercc.org

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MEETING NOTES

To: City of Portland Planning Department

From: Megan McDevitt, PE (Woodard & Curran) on behalf of Fathom CC, LLC

Date: January 22, 2019

SUBJECT: Center Street Hotel Neighborhood Meeting

A neighborhood meeting was held on January 17, 2019 in the Editorial Room at the Press Hotel, 119 Exchange Street, Portland, ME at 5:30pm. Per the sign in sheets, the meeting was attended by 12 "abutters" or interested members of the public, along with 6 members of the project team. The meeting sign in sheets are attached to these minutes along with a copy of the PowerPoint presentation presented at the meeting, a signed Neighborhood Meeting Certification form and a copy of the notice letter and mailing lists. Project team members that were present at the meeting are as follows:

Project Team Members:

- Jim Brady, Fathom CC, LLC
- Marieke Thormann, Fathom CC, LLC
- Bettina Reece, Fathom CC, LLC
- Megan McDevitt, Woodard & Curran, Inc.
- Barry Sheff, Woodard & Curran, Inc.
- Amy LeBel, Woodard & Curran, Inc.

The meeting began promptly at 5:30pm and I provided an introduction to the attendees; I reviewed the agenda and intent of the meeting, and introduced Fathom CC, LLC team members that were in attendance. I then gave the neighborhood meeting presentation. The PowerPoint (as attached) addressed the following:

- **Project Location** – at the intersection of Center and Commercial Streets.
- **Project Description** – boutique six-story hotel with 135 rooms with restaurant and bar.
- **Site and Landscaping Features** – new sidewalks with new street trees, lighting and bike racks along Commercial and Center St frontages; all required building utility services; service access drive on North River (abutter property), land-side of Richardson Wharf property; and green roof/patio over second floor on hotel north side for stormwater treatment and aesthetic purpose.
- **Zoning and Planning Considerations** – B-3 Zone standards with max 5' property line setback and max 65' height limit, no requests for Zoning waivers sought; Pedestrian Activity District specifies uses along Commercial and Center St frontages; working through architectural review with City's HP Board for Old Port HP District Certificate of Appropriateness; Level III Site Plan application submitted and Workshop #1 scheduled for Feb 12.
- **Architecture and Neighborhood Context** – This portion of the presentation included a brief review of hotel elevations and renderings (as recently presented to HP Board) to illustrate the proposed project in relationship to the Richardson Wharf and Baxter Davis Block buildings.
- **Next Steps** – At the PowerPoint presentation's completion, I noted that the next steps would be to hear feedback from attendees and in preparation for our Feb 12 Planning Board Workshop.

Upon conclusion of the PowerPoint presentation, additional questions were received from attendees and recorded by Barry Sheff (Woodard & Curran). A summary of the questions and responses offered by the Fathom CC, LLC team during the meeting is below.

Comments/Questions & Responses

Question: **Service access road location, and relationship to Richardson Wharf building**
Response: Described its location on the north side of the hotel, extending to Cross Street and anticipated to be single-lane width of pavement. The service access will be over an easement negotiated with the adjacent landowner (North River, LLC) and NOT on Richardson Wharf building property but adjacent to.

Question: **Concern for the location of driveway and relationship to Richardson Wharf, and impact to condo owners on rear of building (noise, appearance, light intrusion).**
Response: Expressed understanding for the issues pertaining to noise and traffic, and particularly given hotel user experience in rooms on access road side of the hotel; plan to maintain the access neat and clean manner, and meet City Ordinance and Standards for lighting (cut-off fixtures with no light trespass).

Question: **Other access roads locations.**
Response: Described the limited opportunities for providing service to the hotel; desire to maintain hotel entrance on Center Street to reduce impacts to parking on Commercial St and goal of not introducing additional service vehicles to Commercial Street, as well as the need for Center and Commercial Street frontage to meet PAD requirements.

Question: **Where will dumpsters be located.**
Response: Shared that we were still assessing provisions including size of solid waste and recycling containers, however they were likely to be located on the north side of the building (potentially inside the hotel) and serviced by the access drive.

Question: **What access will be provided to the hotel from the Portland Square Redevelopment future plaza?**
Response: Described that neither the Portland Square plaza nor the stairs on the Richardson Wharf building side of the hotel are part of this project, however we are not planning to provide access to the hotel from the plaza at this time.

Question: **How far apart are the proposed hotel and the Richardson Wharf building**
Response: Responded that the buildings will be maybe 30 - 40' apart.

Question: **How wide are the stairs, on the Richardson Wharf building side of the hotel.**
Response: Jim Brady responded that he understood they may be 12' + wide, and clarified the stairs were not part of the hotel project.

Question: **Will the Richardson Wharf loses its parallel parking?**
Response: On the Center Street side of Richardson Wharf building, the pavement edge roughly follows the property line, approximately 12' off the building. The hotel will be separated from the building by a roughly 18' wide strip of land to be retained by North River, LLC; the hotel will not impact parking on the Center Street side of the building. The stair being considered as part of the Portland Square Redevelopment within that 18' strip of land may however impact

those parallel parking spaces, depending upon the width of the stairs and proximity to the shared property line.

Question: **Parking/access for the hotel**
Response: Primary hotel access for guests and patrons will be on Center Street. Valet service will be offered to guests and patrons, and self-parking will also be an option.

Question: **# of Displaced parking spaces and what happens**
Response: Fathom CC, LLC is purchasing the land for the hotel from North River, LLC, on which more than 50 parking spaces currently exist. North River, LLC has tenant parking demand that it will be working to resolve with its tenants; Fathom CC, LLC will have obligations through the Site Plan approval process to provide the required parking for the hotel. Per City Land Use Ordinance, we are required to provide 64 total spaces for the hotel and Fathom CC, LLC has in its Purchase & Sale Agreement the rights to up to 75 spaces, to be provided by North River, LLC.

Question: **When will the abutters know about know about trash and service lane usage**
Response: We are currently working to understand the logistics of trash removal and how the service lane will be used. We anticipate being able to share more during the Planning Board Workshop on Feb 12.

Question: **What about the plaza and incongruities with service access usage**
Response: The plaza is not part of the Fathom CC, LLC hotel proposal however we understand the concerns relating to this given the guest rooms that will be on the service access side of the hotel. The options to service the hotel are limited given the desire not to have access off of or short-term service parking within Commercial Street; Cross Street seemed the ideal location for a service driveway.

Question: **Lighting on the hotel that might impact Richardson Wharf, including lighting of the stairs, service access**
Response: Fathom CC, LLC has recently hired a lighting consultant for the project. We are also familiar with and know the City's Ordinances and Standards relative to lighting, which does not allow for light trespass beyond our property line. The project will be designed to meet these Ordinances and Standards.

The Neighborhood Meeting officially concluded at approximately 5:45 PM, with some attendees remaining to talk with the Fathom CC, LLC team until 6:00pm .

1 Center Street Hotel

Neighborhood Meeting Presentation
Thursday, January 17, 2019

Level III Site Plan Applicant: Fathom Companies

Woodard & Curran: Site Design & Permitting

HKS, Inc: Architecture

Carroll Associates: Landscape Architecture

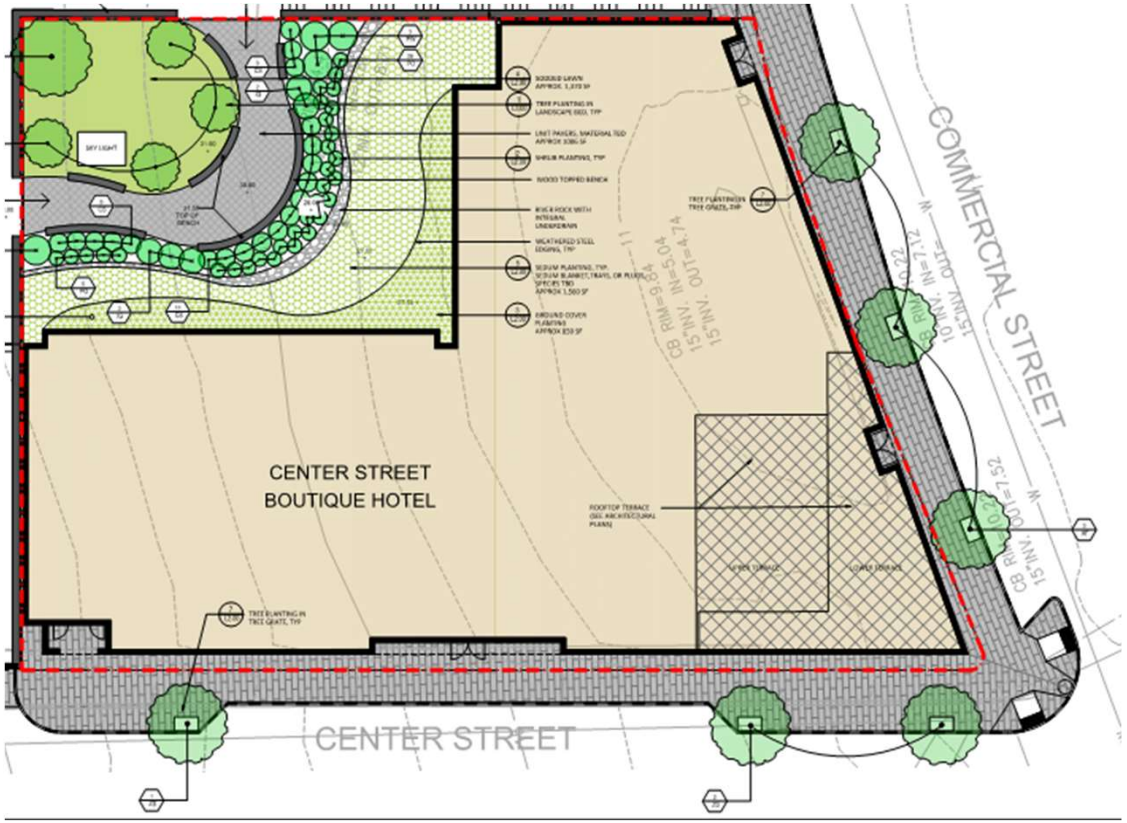
Center Street Hotel – Project Location

Center Street Hotel – Project Description

- Boutique Hotel
  - 135 Rooms
  - 6 Stories
  - Ground-Floor Restaurant & Bar
  - Rooftop Bar & Terrace
  - Valet Drop-Off with Off-Site Parking

Center Street Hotel – Site & Landscaping

- Site Improvements
  - Sidewalk with Street Trees and Lighting
  - Building Utilities (Water, Sewer, Electric, Gas)
  - Rear Service Driveway via Cross Street
  - Second-Level Roof Garden



Center Street Hotel – Zoning & Planning

- **B-3 Zone**
  - Maximum Setback from Property Line – 5 feet
  - Maximum Building Height – 65 feet
- **Pedestrian Activity District Overlay Zone**
  - Utilize at Least 75% of Street-Level Frontage on Commercial Street and 50% of Street-Level Frontage on Center Street
- **Historic Preservation District – The Old Port**
  - Currently Under Review by Historic Preservation Board for Certificate of Appropriateness
- **Level III Site Plan**
  - Workshop with Planning Board on February 12th

Center Street Hotel – View from Commercial St.

Center Street Hotel – View from Center St.

Center Street Hotel – Neighborhood Context

Center Street Hotel – Neighborhood Context

THANK YOU!

QUESTIONS?

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Att. Z

May 31, 2019

Matthew Grooms, Planner
City of Portland Planning Division
389 Congress Street
Portland, ME 04101

Re: Center Street Hotel Level III Site Plan Submittal – Fathom CC, LLC
Response to Planning Staff Comments

Dear Matt:

Thank you for coordinating the review of the proposed Center Street Hotel Project located at the corner of Center Street and Commercial Street in Portland, Maine. To support the Level III Site Plan process, this letter and its attachments provide the following:

- Updates on other permit applications and approvals that impact this project;
- A Site Location of Development permit amendment application for the project;
- A summary of design changes that have occurred since the February 12th workshop with the Planning Board;
- Responses to comments from City Staff and Peer Reviewers;
- Response to traffic and parking comments; and
- Additional relevant information to support the final application.

Other Permit Approvals & Applications

A number of other permits have been identified as required for this project. These applications are in varying levels of review and approval as summarized below.

Historic Preservation

A Certificate of Appropriateness for the Center Street Hotel was approved by the City of Portland Historic Preservation Board by unanimous vote at a public hearing on April 17, 2019. It is our understanding that this approval covers the building design review required for the project's Level III Site Plan. We have not yet received a copy of the Certificate of Appropriateness from the City.

Portland Square Site Location of Development Act Permit Transfer of Activity and Modifications

In 1986, the Maine Department of Environmental Protection (MaineDEP) issued a Site Location of Development (SLOD) Permit Order (No. L-013526-A-N) for Portland Square. Since that time, a number of amendments have been made to that permit. Revisions will be required to address the Center Street Hotel project. The original SLOD was reviewed by the Maine Department of Environmental Protection (DEP), but they have granted Delegated Review Authority to the City of Portland for the upcoming changes.

A Level III Site Plan Application and a SLOD permit amendment was submitted by Pat Carroll Associates on April 12, 2019 to address parking changes required to remove the hotel parcel from the existing site and allow for the final sale of the parcel and construction of the hotel.

The original SLOD permit for the site is held by the current Portland Square owner, North River IV, LLC. The sale of the hotel parcel will require a land transfer to new owner Fathom CC, LLC, and therefore, a SLOD Transfer of Activity application is required. This application will change the SLOD permitting responsibility on the hotel parcel from the current owner North River IV, LLC, to the new owner Fathom

CC, LLC. The Transfer Application was submitted to the Maine DEP on May 24, 2019 and a copy of approval will be submitted to the City upon receipt.

Center Street Hotel Site Location of Development Act Permit Amendment

As the overall Portland Square Site is currently permitted under Site Law, all future development on any part of the site will require permitting under Site Law as well. A SLOD amendment application for the construction of the hotel project and all associated attachments is enclosed with this letter for review by the City of Portland under their Delegated Review Authority.

Summary of Design Changes

Since the original submission of the Level III Site Plan Application for the Center Street Hotel Project, there have been a number of design changes to accommodate comments received on the original submission, permit requirements, and general design advancement. These changes are reflected on the updated plans (uploaded to Eplan) and include:

- Site layout changes to move the service access easement from Cross Street to Center Street along with modifications to the curbline and sidewalk on Center Street;
- The addition of a subsurface stormwater treatment and detention system;
- Interim condition improvements to the lower Portland Square parking lot adjacent to the hotel and interim grading and drainage improvements behind the hotel;
- Utility updates;
- Site lighting; and
- Building design changes per the Historic Preservation Board's review.

Site Layout Changes

The service access drive was relocated from Cross Street to Center Street. This service access drive will be located on the north side of the hotel. This is a more ideal location for service access, as service trucks will be directed down a two-lane, paved roadway versus a one-way, cobblestone roadway. A retaining wall will be constructed between the driveway and the adjacent parking to remain. In the future, after further development replaces the adjacent parking lot, the hotel's service driveway will also serve as the valet access point to the proposed Portland Square garage.

During the neighborhood meeting on January 17, 2019, residents of the Richardson Wharf Building, located adjacent to the previously shown Cross Street service access easement, expressed concern about noise and light impacts due to the proposed service access location. The relocation of the service access driveway mitigates these impacts to abutters and allows for continuous service to the hotel during future construction on the adjacent Portland Square site.

The northern sidewalk bump out previously proposed on Center Street to designate the end of the hotel's valet service area, has been removed due to the relocation of service access drive. Additionally, we have modified the Center Street sidewalk grading to provide flush curbing and accessible ramps along the proposed hotel drop-off area.

Stormwater Management

In the original Level III Site Plan Application, no specific stormwater quantity or quality management was provided, as it was not required per the Maine DEP or City of Portland stormwater regulations. As noted above, the site is covered as part of an existing SLOD permit, and stormwater management must follow Maine DEP Site Law regulations. In accordance with SLOD redevelopment standards, treatment must be provided for 50% of all redeveloped area. We are proposing water quality volume treatment for approximately 11,900 SF or 50 percent of the redeveloped area. Treatment will be provided through the use of a Kraken subsurface, high flow, cartridge-based stormwater filter, which will be installed with upstream storage via subsurface R-Tanks. The Kraken is not currently approved as a proprietary stormwater treatment Best Management Practice by the Maine DEP; however, we have been working closely with the Maine DEP to find a subsurface stormwater treatment solution for space-constrained

urban sites, and they have suggested that we consider this system. They have agreed that this system can be reviewed as an "Innovative Treatment Measure" per the Maine DEP Chapter 500 regulations, and Aubrey Strause from the Maine DEP will be reaching out to the City's Peer Review engineer to provide guidance in review. A full stormwater design is included as part of the attached SLOD Amendment Application.

Interim Condition Improvements

Parking, lighting and drainage improvements are proposed on the adjacent Portland Square parcel in the interim condition to maintain functionality of the existing surface parking lot. These interim conditions are shown on the drawings. Construction access easements for the completion of this work as well as for the space needed around the site to construction the hotel will be obtained prior to commencement of the project.

Utilities

We have continued to work with the utilities that will service the project on verification of ability to serve and to accommodate changes associated with the relocated access easement.

- We have received our ability to serve from the Portland Water District and a copy of the letter is attached;
- We are currently determining appropriate sizing for our grease trap, and will be providing an updated request for ability to serve to Brad Roland when we have that information available;
- It was determined since the last submission that the gas main in Cross Street has been abandoned and cannot be used to service the hotel. We met with representatives of Unitil on May 13, 2019 to discuss the extension of a gas main on Center Street; Unitil confirmed the proposed approach to install a new gas main in Center Street and is currently sizing the gas main. Once we receive our ability to serve letter, we will provide a copy to the City; and
- We have relocated the proposed electrical vaults from Cross Street to Center Street per the proposed design changes. Electrical service for the hotel is being coordinated in conjunction with the overall Portland Square Redevelopment project, and a meeting is currently being scheduled with Central Maine Power. Once we receive our ability to serve verification, we will provide a copy to the City.

Street Trees

The tree grates on Center Street have been replaced with raised tree planters. With the elimination of the second bumpout on Center Street, and with the placement of various utilities, a street tree has been eliminated. We will reach out to the City's Arborist to determine if there is a more appropriate place to install this tree.

Site Lighting

Site lighting design has been completed, and a Photometrics Plan is enclosed with this letter. A waiver is requested from the lighting standard requiring that the maximum illumination level at a property line shall not exceed 0.1 foot candles. The hotel is being constructed with maximum 5-foot setbacks, and as a result there will be light trespass beyond the property line. Illumination levels will exceed the standards on adjacent sidewalks, streets, and interim condition areas, but there will be no light trespass onto properties beyond these areas. We are requesting a waiver of the lighting standard at the property boundaries. The photometrics plan is attached, as is the waiver table.

We have included street lighting on Center Street and Commercial Street based on our understanding of the recently approved City of Portland lighting standard updates.

Building Architecture

The building architecture has been modified in response to the Historic Preservation Board's review. As noted, the Board has approved the project as it is currently designed, and a Certificate of Appropriateness is being issued.

Response to Comments

We have reviewed all of the comments provided by City Staff and peer reviewers, and responses to these comments are attached to this letter as a separate document.

Traffic & Parking

A traffic study was submitted for the project, and a follow-up meeting was held to review the traffic study on February 22, 2019. Additional supporting traffic information is enclosed with this letter.

As noted above, a Maine DEP Site Location of Development (SLOD) minor amendment was submitted to the City on April 12, 2019 for Portland Square 1 and 2 for land use modification for the existing surface parking lot on the hotel site. A parking analysis developed by VHB and dated April 16, 2019 was submitted with this application package. The analysis concluded that "the capacity of the two lots can be reduced in the short-term while accommodating existing parking needs, as well as the parking needs of the proposed hotel, within the two parking reconfigured lots".

Additional Information

A neighborhood meeting was held on January 17, 2019. Certification of this neighborhood meeting is attached.

Fathom CC, LLC has reviewed the Inclusionary Zoning regulations, and is choosing to pay the fee-in-lieu per the ordinance. The attached memo documents the fee calculation. The Inclusionary Zoning Application will be filed separately as required.

We appreciate the prior feedback and comments and look forward to ongoing coordination with the Planning Division. We are hopeful that the enclosed information and the design changes that have been made since our Workshop adequately address City Staff and Planning Board questions and concerns, and we look forward to presenting this project at a Public Hearing in June 2019. We would be happy to meet with staff to review any outstanding items prior to meeting with the Planning Board.

If you have any questions or require additional information, please do not hesitate to contact me at (207) 558-3763 or by email at lswett@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical Manager

cc: Jim Brady, Fathom CC, LLC
Marieke Thompson, Fathom CC, LLC
Bettina Reece, Fathom CC, LLC

Attachments

1. Updated Plans (uploaded to Eplan)
2. Site Location of Development Amendment Application (uploaded to Eplan and 2 paper copies including plans)
3. Portland Water District Ability to Serve Confirmation
4. Photometrics Plan
5. Waiver Table
6. Response to Comments Letter
7. Autoturn Figure
8. Supplementary Traffic Evaluation
9. Neighborhood Meeting Certification Letter
10. Center Street Hotel Inclusionary Zoning Memorandum

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

April 29, 2019

Lauren Swett, P.E.
Technical Manager
Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102

Re: 1 Center Street, PO
Ability to Serve with PWD Water

Dear Ms. Swett:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on December 18, 2018. Based on the information provided per plans submitted April 26, 2019, 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 8-inch fire service and a new 4-inch domestic service with a 3-inch meter may be installed from the water main in Center Street. The services should enter through the properties frontage on Center Street at least 10-feet from any side property lines.
- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.
- An approved backflow prevention device must be installed on the service line directly after the meter prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.

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 10-inch diameter cast iron water main in Center 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 110 psi.

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 City of 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

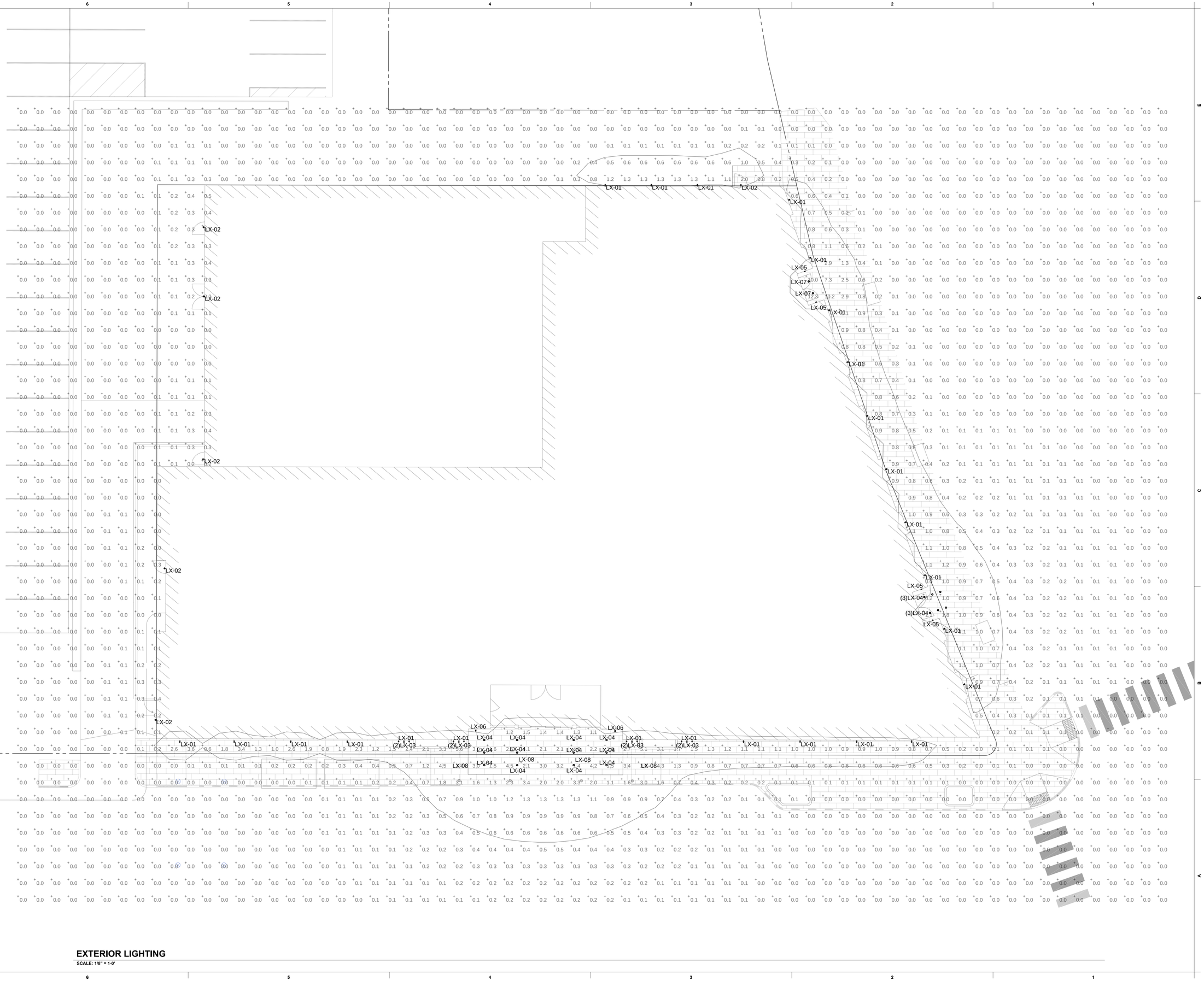
You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that 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



EXTERIOR LIGHTING

SCALE: 1/8" = 1-0'

B·H·Milliken
ELECTRICAL CONTRACTORS

235 PRESUMPSCOT STREET
PORTLAND, MAINE 04103
207.879.1877

Baskervill

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
**05/10/2019 -
DESIGN DEVELOPMENT**

EXTERIOR LIGHTING
E202

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102
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May 31, 2019 – Center Street Hotel Level III Site Plan – Response to Comments

We have repeated the original comment in italics below, and our response follows each comment.

Preliminary Stormwater and Utility Comments from Wright-Pierce Dated January 25, 2019

1. *Level III Site Plan applications with the City of Portland must submit a stormwater plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules. This includes conformance with the Basic, General, and Flooding Standards (Ref: Technical Manual, Section 5. II. Applicability in Portland. C. a.; and Ref: City of Portland Code of Ordinances Sec. 14-526. Site Plan Standards, (b). 3. b.)*

    a. *Basic Standard: Per the City's Technical Manual Portland Stormwater Management Standards and Maine Dep Chapter 500 Stormwater Management, an Erosion & Sediment Control management plan, notes, and details per the Chapter 500 Rules must be provided to meet the Basic Standard.*

        i. *The applicant has submitted a written erosion control plan to confirm erosion and sedimentation controls are provided down-slope of all disturbed areas, as well as information on maintenance and seasonal installation requirements. No further action necessary.*

            Response: Acknowledged.

        ii. *Limited Erosion and Sedimentation Control best practices were observed on the Erosion and Sedimentation Control Plan, including a note for catch basin inlet protection. Erosion and Sedimentation Control Notes and Details were included. The applicant shall submit the following additional information for erosion and sedimentation control:*

            1. *A construction entrance detail was provided, but the construction entrance location was not indicated on the Erosion and Sedimentation Control Plan. The applicant shall clarify construction access location.*

                Response: The Erosion and Sedimentation Control Plan has been updated to show the construction access location.

            2. *Options for perimeter sediment barriers have been shown on the project details, but locations were not indicated on the Erosion and Sedimentation Control Plan. Location shall be confirmed on the plan.*

                Response: The Erosion and Sedimentation Control Plan has been updated to show the perimeter sediment barrier locations.

            3. *The Temporary Erosion Control Table mulching sections has blank spaces adjacent to the timing of application. The mulching application timeline should be listed as 7 days for any work located within 100 feet of a protected resource. More time is allowed in the Erosion and Sedimentation Control Handbook for areas outside of the 100-foot resource protection area if the applicant prefers to specify or clarify.*

                Response: The Temporary Erosion Control Table has been updated accordingly.

    b. *General Standard: The applicant has provided information regarding the size and scope of the project indicating the project is subject to the General Standard within the City of Portland. It is understood the City's General Standard is more stringent than the*

Chapter 500 requirements, and that this project requires adherence to the General Standard as it is a Level III Site Plan Application.

Response: We concur. The stormwater design has been revised to meet standards associated with Site Law. An updated Stormwater Management plan is included in the SLOD Amendment Application submitted to the City.

i. *Information on the General Standard has been provided, including site calculations based on redeveloped impervious area. The applicant has indicated that the redevelopment portion of the site includes a total of 3,580 square feet of redeveloped non-roof impervious surfaces.*

   Response: The stormwater design has been revised to meet standards associated with Site Law. An updated Stormwater Management plan is included in the SLOD Amendment Application submitted to the City.

ii. *Section 11.4 of the Stormwater Management Report currently states that the General Standard is not applicable, which should be modified to instead indicate that the General Standard will be addressed as a redevelopment under the City Technical Manual, Section 5.*

   Response: The stormwater design has been revised to meet standards associated with Site Law. An updated Stormwater Management plan is included in the SLOD Amendment Application submitted to the City.

iii. *The Applicant is not increasing impervious surface but will be creating 3,580 square feet of redeveloped non-roof impervious surface. In accordance with the City of Portland Technical Manual, the project is required to provide water quality treatment for no less than 50% of the redeveloped non-roof impervious area, if the total non-roof impervious area exceeds 5,000 SF. Therefore, it is agreed that the applicant does not need to meet the Redevelopment Standard for the proposed improvements.*

   Response: The stormwater design has been revised to meet standards associated with Site Law. An updated Stormwater Management plan is included in the SLOD Amendment Application submitted to the City.

iv. *It is understood that additional site developments may be completed in adjacent lots at a future time as a master plan of development related to this parcel. If this occurs, the aforementioned 3,580 SF of non-roof impervious area may need to be included in stormwater management evaluations for future redevelopment.*

   Response: The stormwater design has been revised to meet standards associated with Site Law. An updated Stormwater Management plan is included in the SLOD Amendment Application submitted to the City.

c. *Flooding Standard: The applicant has indicated that the project is not required to meet the Flooding Standard of Chapter 500. From review of Chapter 5 of the City Technical Manual, it is our understating that the project is required to submit a stormwater management plan, including information on the flooding standard, due to the project requiring a Level III Site Permit.*

   Response: With the new stormwater design, we have included a HydroCAD evaluation of the pre- and post- development project sites. The proposed redevelopment will decrease flow to Center Street. Flow will increase to the Cross Street system due to the reconfiguration of the Portland Square parking lot drainage. We are coordinating with the City of Portland to confirm that this increase will be acceptable.

i. *The Stormwater Management Report indicated that a decrease in impervious surface area is proposed, and that the project is anticipated to result in a decrease in stormwater flow rate generated. While it is agreed that the surface generating surface flows will be more permeable in the developed condition, factors such as roof piping may affect the time of concentration for surface flows, and accordingly affect the runoff rate for the site. Hydraulic calculations should be provided for site runoff to confirm that post-development site flows will not exceed pre-development site flows.*

Response: As noted above, flows will be reduced to Center Street, and there will be an increase to Cross Street. All flow from Center Street and Cross Street is directed to Commercial Street and it is not anticipated that the change in direction of flow will result in any issues. We are coordinating with the City of Portland to confirm that this change will be acceptable.

ii. *Confirmation of pre-development and post-development flow rates is also requested to confirm flows to the combined storm system, as referenced in Land Use Code Chapter 14-526 (b) 3 a.*

Response: Please refer to the previous response.

2. *Grading and Drainage*

a. *Sidewalk grading appears to incorporate a 2% cross-slope, but is not confirmed on the detail on Sheet C3.03. Please confirm.*

Response: The sidewalk detail on Sheet C3.03 has been updated with a note specifying a 2% cross-slope.

b. *Site Structures*

i. *Proposed rim elevations appear to conflict with proposed contours for the following structures: DMH1, DMH2.*

Response: The rim elevations for DMH1 and DMH2 have been adjusted to match the proposed grade.

ii. *Granite Catch Basin Headstone Detail and associated "dishpan" details should be provided to confirm site grading adjacent to catch basin inlets.*

Response: The Granite Catch Basin Headstone detail and associated "dishpan" details have been added to the plans.

c. *Offsite Drainage from the parking lot to the northwest of the building does not appear to have a collection and conveyance around the building site. Please clarify and provide information for construction easements if additional off-site grading and drainage is needed.*

Response: Additional information is now provided on our plans to address grading and drainage changes in areas around the hotel.

d. *The catch basin in the adjacent parking lot to the access area appears to outlet with a pipe in the direction of the proposed building with no accommodation for the pipe. Please address how the existing catch basin will connect to the City storm drain system.*

Response: As noted for the previous response, grading and drainage around the hotel is shown on the updated drawings.

3. *Utility Connections*

a. *Ability to serve letters have not been provided for utilities impacted by the proposed project, but have been requested by the applicant for applicable utilities. The applicant has indicated that ability to serve letters will be submitted to Planning upon receipt.*

Response: Acknowledged. We have received ability to serve verification from the Portland Water District and will forward others as they become available.

b. *It is understood that grease trap sizing is being reviewed by Department of Public Works. Applicant shall defer to comments from Department of Public Works on this item.*

Response: Noted. We are coordinating with the Department of Public Works on the grease trap sizing.

c. *Storm drain manhole should be proposed at Cross Street storm drain connection, Sheet C2.04*

Response: The service access driveway was relocated, and drainage improvements are no longer proposed in this area. Runoff from the eastern portion of the lower lot of Portland Square will be captured by two existing catch basins; stormwater from this portion of the lot will be redirected into a new manhole to the separated storm drain in Cross Street.

d. *Connection to Existing Stormwater Systems: The applicant has made the following statement: "We have discussed the proposed stormwater connections with Brad Roland from the City of Portland's Department of Public Works. Other stormdrain systems in the area are at elevations that are too high to accept stormwater from the site, and it was determined that the proposed connection would be the most appropriate."*

    i. *E-mail, or otherwise written, confirmation of the Department of Public Works accepting this connection is requested to confirm that this connection is appropriate under Land Use section 14-526 (b) 3 a. (iv); and 14-526 (c) 3 a.*

    Response: We are requesting confirmation of the proposed connection as part of our sewer ability to serve, and we will provide an updated response from the City when it is available.

e. *Please include a detail for a PVC connection to a brick sewer main.*

Response: A detail for a PVC connection to an existing brick sewer main has been added to the plans.

f. *Please include details for the electrical transformer vaults and electrical trenching and conduits.*

Response: The proposed electrical layout is currently being coordinated with Central Maine Power, and a meeting was held with CMP on May 21, 2019 . CMP is reviewing the options for providing below grade electrical service to the hotel from an existing nearby electrical manhole and considering the possibility of removing the primary wires from the existing utility pole at the corner of Center Street and Commercial Street. Once we receive further confirmation of the final layout from CMP, we will provide an updated utility plan to the City.

Preliminary Traffic Comments from T.Y. Lin International Dated January 31, 2019

1. *The applicant has conducted a trip generation analysis and determined that the Hotel, by itself, does not generate 100 passenger-car equivalents during any peak hour and thus does not require a Traffic Movement Permit. It is my understanding that a Traffic Movement Permit Application will be prepared for the overall Portland Square project. Depending on the timing of*

the Portland Square TMP, a traffic study may be required for this project. The applicant should suggest how best to proceed on this issue, given their schedule.

Response: A traffic study was submitted for the project, and a follow-up meeting was held to review the traffic study on February 22, 2019. Additional supporting traffic information has been included.

2. *The applicant should provide documentation that only single-unit trucks will service the hotel.*

   Response: The location of the service access driveway has changed, and access for vehicles should be acceptable. An updated turning movement figure is provided.

3. *The loading dock driveway on Cross Street does not meet driveway separation standards. Given low traffic volumes on Cross Street, the abutting driveway is a service driveway and the proposed driveway allows for off-street vehicle delivery loading/unloading, I support a waiver from City standards.*

   Response: The service access driveway was relocated to Center Street. The waiver is no longer required.

4. *A traffic signal modification plan shall be prepared as it relates to relocation of the traffic signal support at the Commercial Street/Center Street northeast corner. All work shall meet MUTCD standards and be ADA compliant.*

   Response: Tom Errico has indicated that this will now be considered as part of the Traffic Movement Permit process for the overall Portland Square Project.

5. *A parking study shall be prepared that documents supply and demand provisions for the project.*

   Response: A parking assessment has been completed by VHB for the overall Portland Square redevelopment project and has been submitted as part of a separate Level III Site Plan Application addressing Portland Square parking. As noted in this study, adequate parking will be provided.

6. *It is my understanding that Bruce Hyman has provided comments as it relates to Center Street with regards to curb extensions, sidewalks and on-street parking.*

   Response: Responses to comments from Bruce Hyman are provided below.

7. *Significant impacts to traffic, parking and sidewalks are proposed during construction. I do not support the current plan without additional detail/analysis. Given the significance of the impacts, I would suggest a meeting to review project specifics.*

   Response: The Applicant has requested from Jeff Levine that the Construction Management Plan be made a condition of approval. The Applicant is currently in the process of selecting a Construction Manager, and the Construction Management Plan will be developed once the contractor is selected.

Preliminary Comments from City of Portland Planning Staff, Dated January 31, 2019

Landscaping:

1. *The tree and landscape plan for the proposed 1 Center Street hotel looks good with a condition that we can improve the grow space for the street trees. This would include some type of raised granite tree planter for Center Street that could be built into the bump out and perhaps structural soil. The Commercial Street tree pits are flush with tree grates due to on-street parking. It would be a nice feature for the Center Street bump out to do a little more in the way of landscaping similar to other hotels on the street, the use of chunky granite as seating also seems like a nice feature to consider.*

Response: Raised planters have been added along the Center Street Frontage. Locations and details are provided in the design drawings.

Fire:

1. *4.3.2 - Street Address shall be clearly marked on the front of the building and building sign as approved by the Fire Department.*

   Response: The Street Address will be clearly marked on the front of the building and building sign.

2. *The Fire Department has no immediate concerns about this proposed project.*

   Response: Acknowledged.

Planning:

1. *A construction management plan shall be provided for review by the Department of Public Works.*

   Response: The Applicant is in the process of hiring a construction manager for the project. The Applicant previously requested from Jeff Levine, City of Portland Planning & Urban Development Director, that the final Construction Management Plan be made a condition of approval.

2. *Does the applicant intend to install building mounted lighting? If so, associated details and photometric plan shall be provided.*

   Response: A photometric plan has been completed and has been provided with this response.

3. *From the provided floor plans, it is unclear whether or not the rooms facing Commercial Street are guest rooms, or if they have a different function. Would the applicant please clarify?*

   Response: The rooms facing Commercial Street are guest rooms.

4. *Given that this is an existing surface parking lot, are there any existing parking leases that would be impacted by this development?*

   Response: A Maine DEP Site Location of Development (SLOD) minor amendment was submitted to the City on April 12, 2019 for Portland Square 1 and 2 for land use modification for the existing surface parking lot on the hotel site. A parking analysis developed by VHB and dated April 16, 2019 was submitted with this application package. The analysis concluded that "the capacity of the two lots can be reduced in the short-term while accommodating existing parking needs, as well as the parking needs of the proposed hotel, within the two parking reconfigured lots".

5. *The City is seeking to determine whether or not the existing lot serves as required parking for nearby users.*

   Response: Acknowledged. Please refer to the previous response.

6. *In the event that this development proceeds as a stand-alone development, the applicant will need to provide an updated site plan with details showing the design of the retaining wall and overall site disposition.*

   Response: The updated plans include information on the proposed retaining wall and drainage based on the new service access driveway location. The project will be built as shown on the plans, and Site Plan applications for future phases of the Portland Square redevelopment work will reflect any changes that need to be made to the areas around the hotel.

7. *It is unclear where required vehicle parking is to be located in the event that the associated parking garage is not completed prior to construction of this hotel. At this point in time, does the applicant have additional information regarding parking?*

Response: Please refer to the response to comment 4 above. Parking for the hotel will be provided within the lower lot of Portland Square.

8. *Overhead utilities are shown to cross the property along the southerly property line. The applicant should coordinate with CMP to determine the cost relocating this line underground. City staff understand that this would incur additional fees as Commercial Street is a moratorium street. Additional guidance shall be forthcoming, and this shall be discussed in greater detail at the Planning Board meeting on February 12th.*

   Response: The proposed electrical layout is currently being coordinated with the Central Maine Power, and a meeting was held with CMP on May 21, 2019. CMP is reviewing the options for providing below grade electrical service to the hotel from an existing nearby electrical manhole and considering the possibility of removing the primary wires from the existing utility pole at the corner of Center Street and Commercial Street. Once we receive further confirmation of the final layout from CMP, we will provide an updated utility plan to the City.

   The design team has also been in contact with Spectrum about removing the communication lines from the existing utility pole at the corner of Center Street and Commercial Street. Spectrum has indicated the existing utility pole is a critical pole and cannot be eliminated, but it can be relocated closer to Center Street to provide additional clearance to the proposed hotel building.

9. *The applicant shall identify areas for snow storage, or provide a written response describing strategies for snow removal.*

   Response: Snow will be removed from public sidewalks in accordance with the City's Ordinance for Streets, Sidewalks and other Public Places. Snow in the service access will be removed and hauled off site by the property owner.

10. *The provided site plan shows portions of the public sidewalk on the applicant's property. Please note that a public access easement will need to be provided.*

    Response: Acknowledged.

11. *The site concept features a significant walkway/stairway that provides mid-block permeability. How does the applicant intend to ensure compliance with City Crime Prevention through Environmental Design (CPTED) standards?*

    Response: The walkway/stairway is located on the adjacent North River, Portland Square property and the stair is not proposed to be constructed as part of this project. This space will be finished with loam and seed as part of the proposed Hotel project. Lighting has been provided at all egress doors in this area to provide for site safety.

12. *When available, the applicant shall provide required utility 'ability to serve' letters for the development.*

    Response: The Ability to Serve determination for the Portland Water District has been included with this response. Upon receipt, other utility ability to serve letters for the development will be provided.

Street/Streetscape/Transportation:

1. *Site Plan, Sheet C2.01*

   a. *The sidewalk at the entrance to the hotel should not be interrupted by a flared curb ramp within the primary pedestrian access route along the frontage. Other ramp configurations (full ramping of sidewalk) or locations (at the end(s) of the curb extension) may be acceptable.*

Response: The design for the curb ramp has been updated so that the primary pedestrian access route to the entrance of the hotel is not interrupted by a flared curb ramp; see Sheet C2.01.

b. *If approved, radius curb is to be used for the curb extensions on Center Street that define the parking area.*

Response: Radius curb will be used for curb extensions and the plans have been updated accordingly

c. *Locations for any parking or other signs that are to be removed and replaced within the sidewalk are to be noted and are the responsibility of the applicant.*

Response: Signs that are to be removed and replaced are noted on Sheet C1.02; a note has been added to the plan stating the applicant's responsibility to remove and replace the signs.

d. *The existing curb extension at the corner of Center-Commercial uses sloped granite curb, not vertical curb. This is the typical/preferred configuration for Commercial Street.*

Response: The proposed curb extension at the corner of Center Street and Commercial Street has been updated to use sloped granite curb to match existing conditions; a detail for sloped granite curb has also been added to the plans.

e. *The size shown for the tree wells appears inadequate (3'x6'). Their configuration (raised vs tree grates), size and location are to be coordinated with the city arborist and urban designer.*

Response: The design has been revised to incorporate granite-block style tree wells on Center Street, while maintaining the flush tree-grates on Commercial Street; please refer to the landscaping plans for additional details.

f. *Bike racks locations are not shown (or I couldn't see them).*

Response: Bike rack locations have been added to Sheet C2.01.

g. *Crosswalks are to be Block Style. The crosswalk across Commercial Street is not shown. The crosswalk across Center Street is the incorrect style.*

Response: The crosswalks across Commercial Street and Center Street have been updated on Sheet C2.01 to be block style.

2. *Details*

   a. *Sheet C3.03 Details 2*

      i. *The Brick Sidewalk Detail is to denote a maximum cross-slope of 2%.*

      Response: The sidewalk detail on Sheet C3.03 has been updated with a note specifying a maximum cross-slope of 2%.

      ii. *The extent of and the detail for pavement moratorium repair on Commercial Street is to be coordinated with MaineDOT and DPW as noted on the Site Plan.*

      Response: Acknowledged.

   b. *Sheet C3.05 Details 4*

      i. *The detail for the Detectable Warning Panel is wrong - please update it.*

      Response: The detail for the Detectable Warning Panel has been updated to match the City's standard detail.

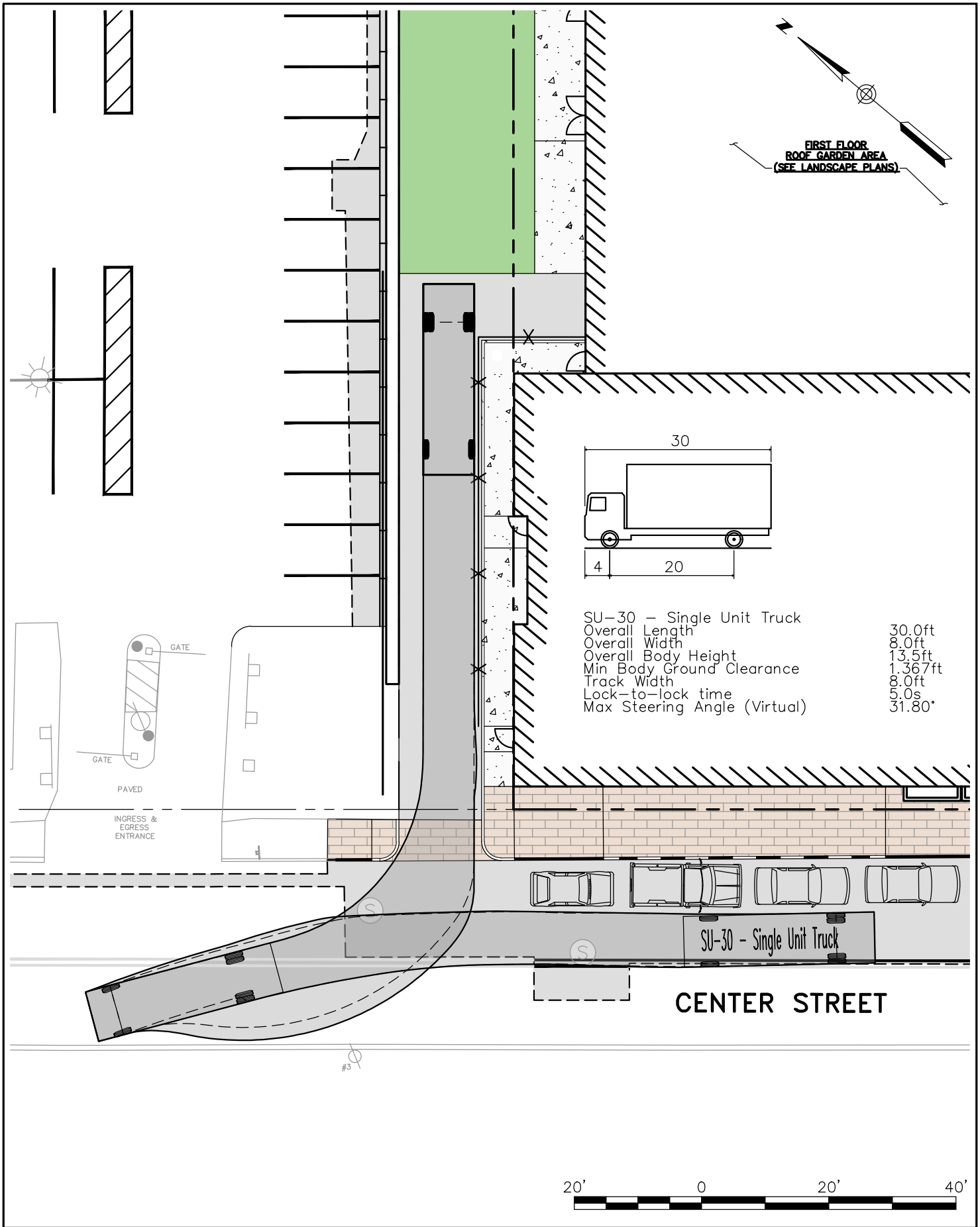
ii. *The installation detail for bike racks within sidewalks should not have exposed concrete. A surface mount rack may not be appropriate for this instance. Please ensure the detail used shows the appropriate final height of the bike rack from finished sidewalk grade. I cannot find the bike rack locations on the Site Plan, either.*

Response: The detail used for bike racks is for racks installed in brick sidewalks. The rack is installed in a concrete foundation, with brick installed over the foundation.

3. *Section 9 – Traffic*

a. *The loss of 10 on-street parking spaces on Center Street and replacement by 4 valet/restricted parking spaces/loading-unloading with no proposed off-set/compensation should be scrutinized very closely.*

Response: Acknowledged. The valet service area has been designated to provide for the safety of hotel customers and employees during unloading and moving of vehicles. The proposed location along Center Street is the most optimal option with respect to space available, valet circulation and impacts to on-street parking. With recent design changes, the valet drop-off area will now be close to the proposed service access driveway that will provide future direct connection to the valet parking spaces. The Applicant is willing to work with the City on the appropriate parking signage for this area of Center Street.



WOODARD &CURRAN
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

AASHTO SU-30 TURN MOVEMENT

DESIGNED BY: MDLM	CHECKED BY: LJS
DRAWN BY: JBC	0231538.01-C1.02 – C2.0*.dwg

FATHOM CC, LLC
P.O. BOX 7486
PORTLAND, MAINE 04112-7486

CENTER STREET BOUTIQUE HOTEL

JOB NO:	0231538.01
DATE:	MAY 2019
SCALE:	1" = 20'

Turn Movement

GORRILL PALMER

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

Supplementary Traffic Evaluation
Center Street Boutique Hotel
Portland, Maine
JN 3520

Date: May 2, 2019
Subject: Center Street Boutique Hotel Supplemental Traffic Evaluation
Portland, Maine
To: Barry Sheff, Woodard & Curran
From: Randy Dunton / Emily Leighton, Gorrill Palmer

Gorrill Palmer (GP) has prepared this memorandum as a summary of supplemental traffic information for the proposed Center Street Boutique Hotel in Portland, Maine as requested by the City of Portland at a meeting held on February 22, 2019. It should be noted that the hotel has been included in the Traffic Movement Permit (TMP) application for the proposed Portland Square redevelopment project due to common scheme of development. The TMP application was submitted on April 3, 2019. Additional analysis for the hotel will be completed for both the proposed hotel and the Portland Square redevelopment throughout the TMP process. The following summarizes the requested information and evaluation.

Trip Assignment

It was requested that the trip assignment for the proposed hotel be revised to include the recirculation of valet parking, as well as consideration for the local highway network going to and from the site. The following summarizes the reassignment assumptions in more detail.

Trip Reassignment

The trip generation has been reassigned to the adjacent roadway network based on a review of the AADT of the major roadways onto the Peninsula (i.e. I-295) and the potential routes to and from the major roadways. Since most vehicles traveling to and from the proposed hotel are anticipated to be visitors, with less knowledge of local roadway network, it is expected that they would use major routes to get to the site, rather than smaller local roads. The attached Figure 1 shows the reassigned trip generation based on these assumptions.

Valet Recirculation

The valet trip reassignment has been based on the following assumptions:

- The location of the parking lot access to the north of the on street valet area
- To be conservative, it has been assumed that all traffic entering and exiting the parking garage is valet during the peak hours
- The only recirculation of valet parking will be due to exiting vehicles, since entering vehicles drive only a short distance from the valet drop off area to the parking lot entrance
- The exiting valet will loop around the block with a series of right turns from the parking lot access to the valet area

The attached Figure 2 shows the valet recirculation assignment.

Total Trip Assignment

The trip reassignment on Figure 1 has been combined with the valet recirculation on Figure 2 to yield the total trip assignment, shown on the attached Figure 3.

Other Development

Other development in the immediate area that has been approved and not yet constructed or is ahead of this project in the approval process is required to be included in the background traffic. The following projects were included in the TMP Application that was submitted on April 3, 2019:

- 383 Commercial Street
- Canal Landing
- 184 Commercial Street
- Eastern Waterfront TMP

The traffic from these projects will be included in the background traffic when traffic modeling is completed for the Portland Square project.

Crash History

The City requested that the crash history be researched in more detail to provide information on crashes involving pedestrians in the area and the MaineDOT crash history for the study area. The crash history that was submitted with the proposed Portland Square project Traffic Movement Permit (TMP), which includes this proposed hotel, is attached.

Based on a review of the MaineDOT crash report, there were five pedestrians that were involved in collisions that occurred within the study area. GP reviewed the MaineDOT online Public Crash Query Tool to review the locations of the pedestrian collisions. The attached map from the Public Crash Query Tool shows that four collisions involving pedestrians occurred in the study area at the following locations:

- Intersection of Commercial Street with Cross Street
- Intersection of Fore Street with Cotton Street
- Intersection of Center Street with Spring Street
- Spring Street between Center Street and Temple Street

Although there were five pedestrians involved in collisions and only four collisions identified in the study area, one of the collisions may have involved more than one pedestrian. Based on a review of the available information, three of the four collisions occurred at night. There did not appear to be a consistent pattern of the same location.

Conclusions

The following is a summary of the conclusions:

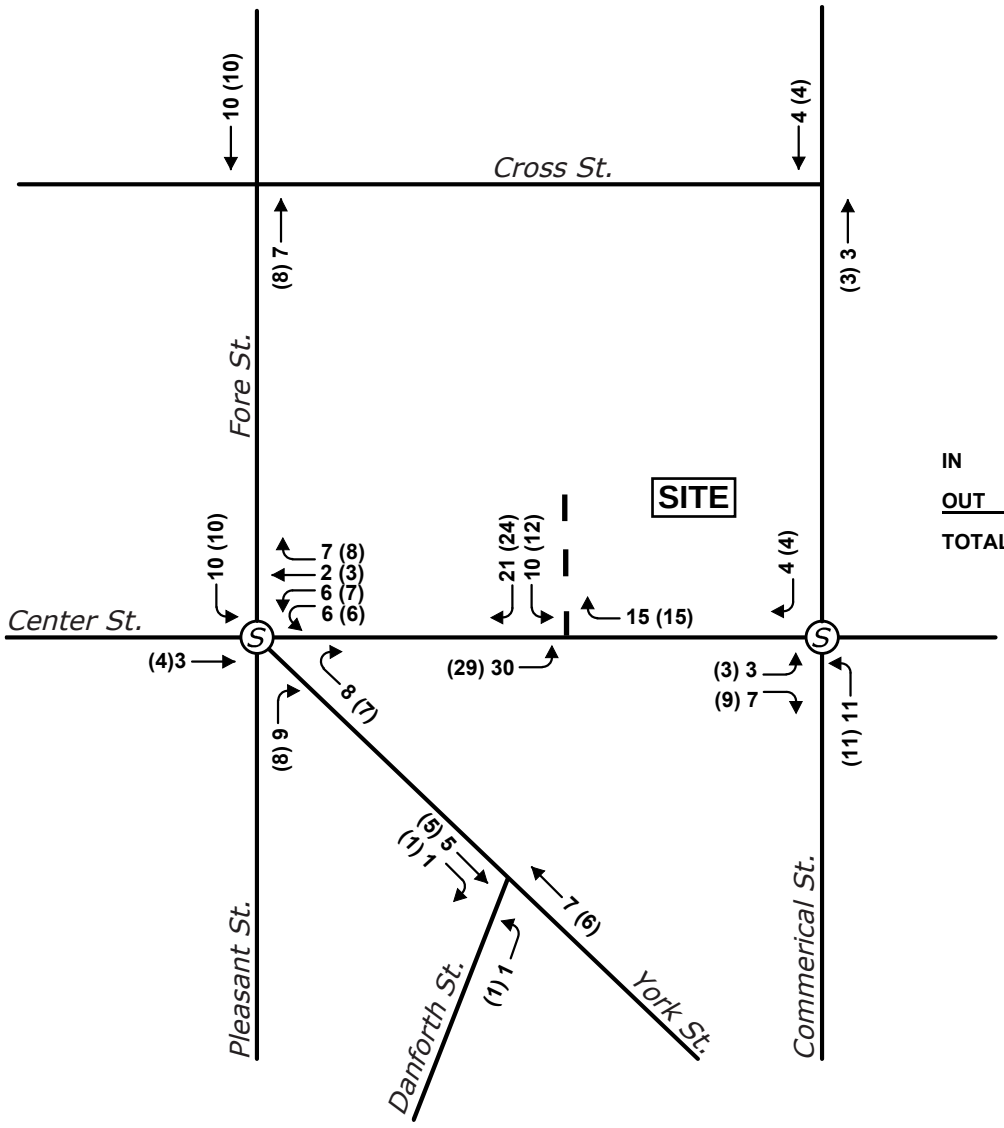
1. The trip assignment has been reassigned based on existing traffic patterns, local highway routes to the site, and valet recirculation.

2. The other development traffic from four identified projects will be included in the background traffic when capacity analysis is completed for the Portland Square TMP Application process.

3. Based on a review of available information, there were four collisions involving pedestrians within the study area. Of these four collisions, three occurred at night.

Trip Assignment

Figure No. 1



Ⓢ Denotes Signalized Intersection
XX = AM Peak Hour
(XX) = PM Peak Hour

CENTER STREET HOTEL
PORTLAND, MAINE

Design: EAL Scale: NONE
Draft: Date: APR 2019
Checked: RED File Name: 3520_FIGURES

GORRILL PALMER
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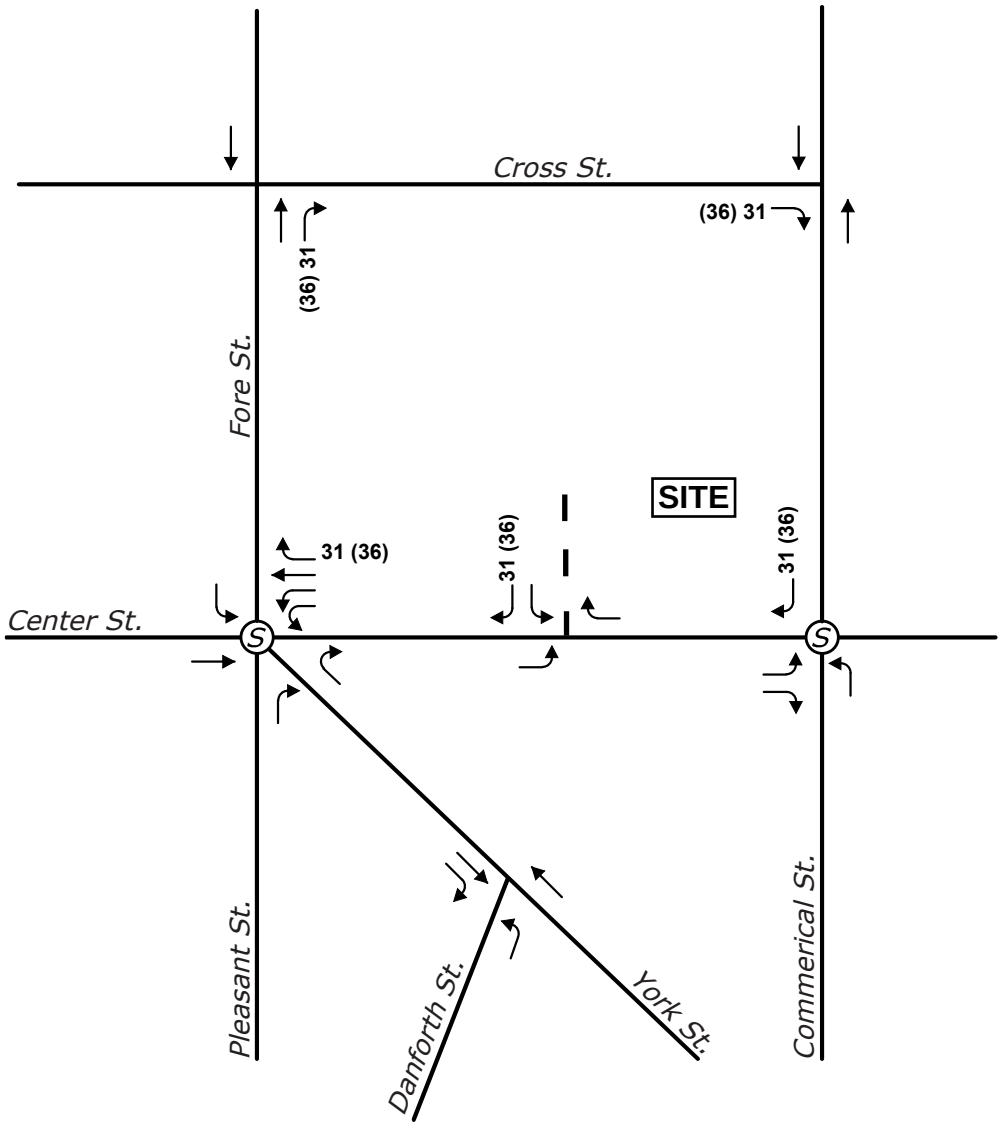
207.772.2515

Valet Recirculation

Figure No. 2



(S) Denotes Signalized Intersection
XX = AM Peak Hour
(XX) = PM Peak Hour

CENTER STREET HOTEL
PORTLAND, MAINE

Design:	EAL	Scale:	NONE
Draft:		Date:	APR 2019
Checked:	RED	File Name:	3520_FIGURES

GORRILL PALMER
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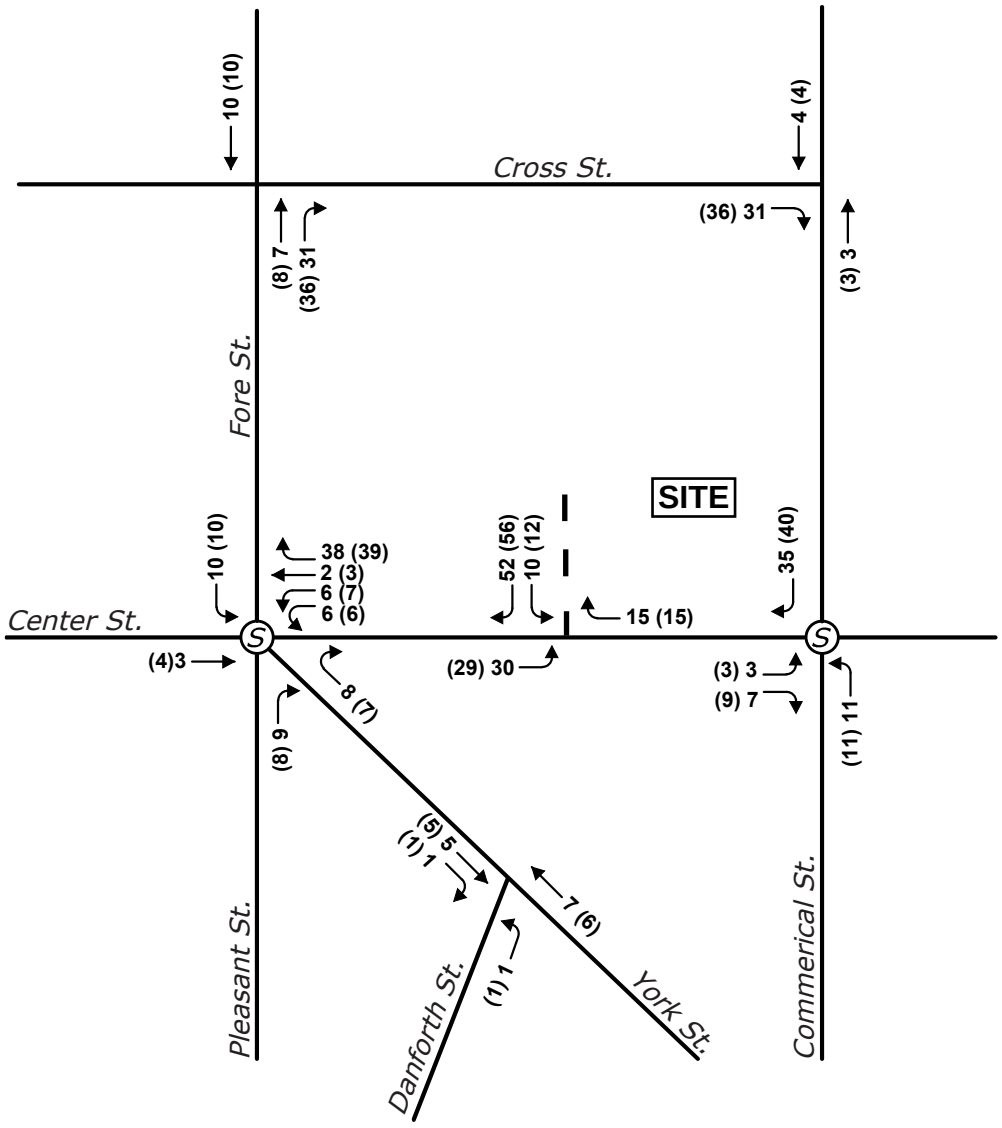
Trip Assignment

Figure No. 3



S Denotes Signalized Intersection
XX = AM Peak Hour
(XX) = PM Peak Hour

CENTER STREET HOTEL
PORTLAND, MAINE

Design: EAL Scale: NONE
Draft: Date: APR 2019
Checked: RED File Name: 3520_FIGURES

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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 - intersections and entering links in the area of Center St where it intersects with Fore St and Commercial St

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

Route: 0001A	Start Node: 18968	Start Offset: 0	☑ Exclude First Node
	End Node: 16790	End Offset: 0	☑ Exclude Last Node
Route: 0560286	Start Node: 18786	Start Offset: 0	☑ Exclude First Node
	End Node: 18964	End Offset: 0	☐ Exclude Last Node
Route: 0560584	Start Node: 18978	Start Offset: 0	☑ Exclude First Node
	End Node: 18964	End Offset: 0	☑ Exclude Last Node
Route: 3209862	Start Node: 16788	Start Offset: 0	☑ Exclude First Node
	End Node: 69082	End Offset: 0	☑ Exclude Last Node
Route: 0560122	Start Node: 16788	Start Offset: 0	☑ Exclude First Node
	End Node: 18964	End Offset: 0	☑ Exclude Last Node
Route: 0560122	Start Node: 18964	Start Offset: 0	☑ Exclude First Node
	End Node: 18975	End Offset: 0	☐ Exclude Last Node
Route: 3200508	Start Node: 18964	Start Offset: 0	☑ Exclude First Node
	End Node: 18967	End Offset: 0	☑ Exclude Last Node
Route: 0560191	Start Node: 19130	Start Offset: 0	☑ Exclude First Node
	End Node: 18981	End Offset: 0	☑ Exclude Last Node
Route: 0561017	Start Node: 18966	Start Offset: 0	☑ Exclude First Node
	End Node: 18972	End Offset: 0	☐ Exclude Last Node
Route: 0561017	Start Node: 16789	Start Offset: 0	☑ Exclude First Node
	End Node: 18966	End Offset: 0	☑ Exclude Last Node

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 - intersections and entering links in the area of Center St where it intersects with Fore St and Commercial St

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

Route: 0561016	Start Node: 18965	Start Offset: 0	☑ Exclude First Node
	End Node: 18969	End Offset: 0	☐ Exclude Last Node
Route: 3209786	Start Node: 67712	Start Offset: 0	☑ Exclude First Node
	End Node: 18975	End Offset: 0	☑ Exclude Last Node
Route: 0560672	Start Node: 18975	Start Offset: 0	☑ Exclude First Node
	End Node: 18974	End Offset: 0	☑ Exclude Last Node
Route: 0560122	Start Node: 18975	Start Offset: 0	☑ Exclude First Node
	End Node: 18976	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
16789	0001A - 11.41	Int of COMMERCIAL ST CROSS ST S	2	4	0	0	1	1	2	50.0	5.107	0.26	0.39	0.00
												Statewide Crash Rate:	0.16	
16788	0001A - 11.35	Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER	9	6	0	0	0	0	6	0.0	5.797	0.34	1.24	0.00
												Statewide Crash Rate:	0.74	
18966	0560286 - 0.95	Int of CROSS ST S FORE ST	2	1	0	0	0	1	0	100.0	2.423	0.14	0.45	0.00
												Statewide Crash Rate:	0.15	
18964	0560286 - 1.02	Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST	9	11	0	0	1	2	8	27.3	3.961	0.93	1.34	0.00
												Statewide Crash Rate:	0.74	
18965	0560286 - 0.99	Int of COTTON ST FORE ST	2	2	0	0	1	0	1	50.0	2.481	0.27	0.45	0.00
												Statewide Crash Rate:	0.15	
18975	0560122 - 0.20	Int of CENTER ST SPRING ST	9	12	0	0	2	4	6	50.0	3.338	1.20	1.39	0.00
												Statewide Crash Rate:	0.74	
19130	3200508 - 0.02	Int of DANFORTH ST YORK ST	9	2	0	0	1	0	1	50.0	2.551	0.26	1.48	0.00
												Statewide Crash Rate:	0.74	
18972	0561017 - 0.12	End of CROSS ST S	2	0	0	0	0	0	0	0.0	0.087	0.00	0.11	0.00
												Statewide Crash Rate:	0.14	
18969	0561016 - 0.07	End of COTTON ST	2	1	0	0	0	0	1	0.0	0.068	4.94	-0.19	0.00
												Statewide Crash Rate:	0.14	
Study Years: 3.00		NODE TOTALS:		39	0	0	6	8	25	35.9	25.813	0.50	0.71	0.71

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
16788	18968	3119256	0 - 0.04	0001A - 11.31	0.04	2	3	0	0	0	2	1	66.7	0.00223	447.73	608.83	0.00
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				US 1A											Statewide Crash Rate: 218.39		
16788	16789	3120368	0 - 0.06	0001A - 11.35	0.06	2	7	0	0	0	0	5	0.0	0.00285	817.38	571.37	1.43
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				US 1A											Statewide Crash Rate: 218.39		
16789	16790	3120311	0 - 0.06	0001A - 11.41	0.06	2	7	0	0	1	1	5	28.6	0.00278	839.47	575.31	1.46
Int of COMMERCIAL ST CROSS ST S				US 1A											Statewide Crash Rate: 218.39		
18786	18966	3106807	0 - 0.05	0560286 - 0.90	0.05	2	1	0	0	0	0	1	0.0	0.00116	288.50	609.06	0.00
Int of FORE ST UNION ST				RD INV 05 60286											Statewide Crash Rate: 174.81		
18965	18966	3124004	0 - 0.04	0560286 - 0.95	0.04	2	1	0	0	0	0	1	0.0	0.00094	352.98	638.21	0.00
Int of COTTON ST FORE ST				RD INV 05 60286											Statewide Crash Rate: 174.81		
18964	18965	3106829	0 - 0.03	0560286 - 0.99	0.03	2	0	0	0	0	0	0	0.0	0.00074	0.00	672.52	0.00
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 05 60286											Statewide Crash Rate: 174.81		
18964	18978	194644	0 - 0.07	0560584 - 0.26	0.07	2	5	0	0	0	1	4	20.0	0.00031	5299.07	1571.45	3.37
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 05 60584											Statewide Crash Rate: 407.82		
16788	69082	3506290	0 - 0.01	3209862 - 0	0.01	2	0	0	0	0	0	0	0.0	0.00000	0.00	- 406499.83	0.00
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				RD INV 3209862											Statewide Crash Rate: 407.82		
16788	18964	192464	0 - 0.10	0560122 - 0	0.10	2	2	0	0	0	0	1	0.0	0.00125	533.75	1124.22	0.00
Int of CENTER ST COMMERCIAL ST ENT TO FISH PIER				RD INV 05 60122											Statewide Crash Rate: 407.82		
18964	18975	194643	0 - 0.10	0560122 - 0.10	0.10	2	4	0	0	0	1	3	25.0	0.00124	1079.48	1127.47	0.00
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 05 60122											Statewide Crash Rate: 407.82		
18964	19130	3106830	0 - 0.02	3200508 - 0	0.02	2	0	0	0	0	0	0	0.0	0.00050	0.00	719.91	0.00
Int of CENTER ST, FORE ST, PLEASANT ST, YORK ST				RD INV 3200508											Statewide Crash Rate: 174.81		
18967	19130	194651	0 - 0.04	3200508 - 0.02	0.04	2	0	0	0	0	0	0	0.0	0.00073	0.00	1289.57	0.00
Non Int YORK ST				RD INV 3200508											Statewide Crash Rate: 407.82		
18981	19130	3106832	0 - 0.10	0560191 - 0	0.10	2	4	0	0	0	0	2	0.0	0.00075	1787.17	671.33	2.66
Int of DANFORTH ST MAPLE ST				RD INV 05 60191											Statewide Crash Rate: 174.81		
18966	18972	194648	0 - 0.04	0561017 - 0.08	0.04	2	1	0	0	0	0	1	0.0	0.00007	4796.44	1612.40	2.97
Int of CROSS ST S FORE ST				RD INV 05 61017											Statewide Crash Rate: 407.82		
16789	18966	192467	0 - 0.08	0561017 - 0	0.08	2	0	0	0	0	0	0	0.0	0.00033	0.00	1556.43	0.00
Int of COMMERCIAL ST CROSS ST S				RD INV 05 61017											Statewide Crash Rate: 407.82		
18965	18969	194647	0 - 0.07	0561016 - 0	0.07	2	1	0	0	0	0	0	0.0	0.00009	3526.03	1733.84	2.03
Int of COTTON ST FORE ST				RD INV 05 61016											Statewide Crash Rate: 407.82		
67712	18975	3417147	0 - 0.10	3209786 - 0.17	0.10	2	0	0	0	0	0	0	0.0	0.00067	0.00	685.28	0.00
Non Int SPRING ST				RD INV 3209786											Statewide Crash Rate: 174.81		

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
18974	18975	3119282	0 - 0.10	0560672 - 1.02	0.10	2	1	0	0	0	0	1	0.0	0.00157	212.93	565.33	0.00
Int of CROSS ST N	SPRING ST			RD INV 05 60672											Statewide Crash Rate: 174.81		
18975	18976	194658	0 - 0.04	0560122 - 0.20	0.04	2	0	0	0	0	0	0	0.0	0.00039	0.00	1504.36	0.00
Int of CENTER ST	SPRING ST			RD INV 05 60122											Statewide Crash Rate: 407.82		
Study Years:	3.00			Section Totals:	1.15		37	0	0	1	5	25	16.2	0.01861	662.79	411.40	1.61
				Grand Totals:	1.15		76	0	0	7	13	50	26.3	0.01861	1361.41	554.84	2.45

https://mdotapps.maine.gov/Ma

https://mdotapps.maine.gov/MaineCrashPublic/PublicQueryMap

Study Area

MaineDOT Maine Public Crash Query Tool

Home | Statistics | High Crash Locations | IMPORTANT: User Notes | Advanced User Login

Set Search Criteria

Set Search Criteria

County Police Dept.

Portland ×

Step 2: Select single year or multi-year.

Single Year Multi-Year

Step 3: Select Year(s).

2015 2017

Step 4: Select Type of Crash.

Pedestrians

Step 5: Select what to view.

All Crashes
Fatal Crashes
Injury Crashes
Property Damage Only Crashes

Step 6: Submit Query. Press the button below t submit your query and view results.

Submit Query

All/Pedestrians Crashes - Year: 2015 To 2017 City or Town: Portland

Number of crashes returned: 161 Number of crashes mapped: 161

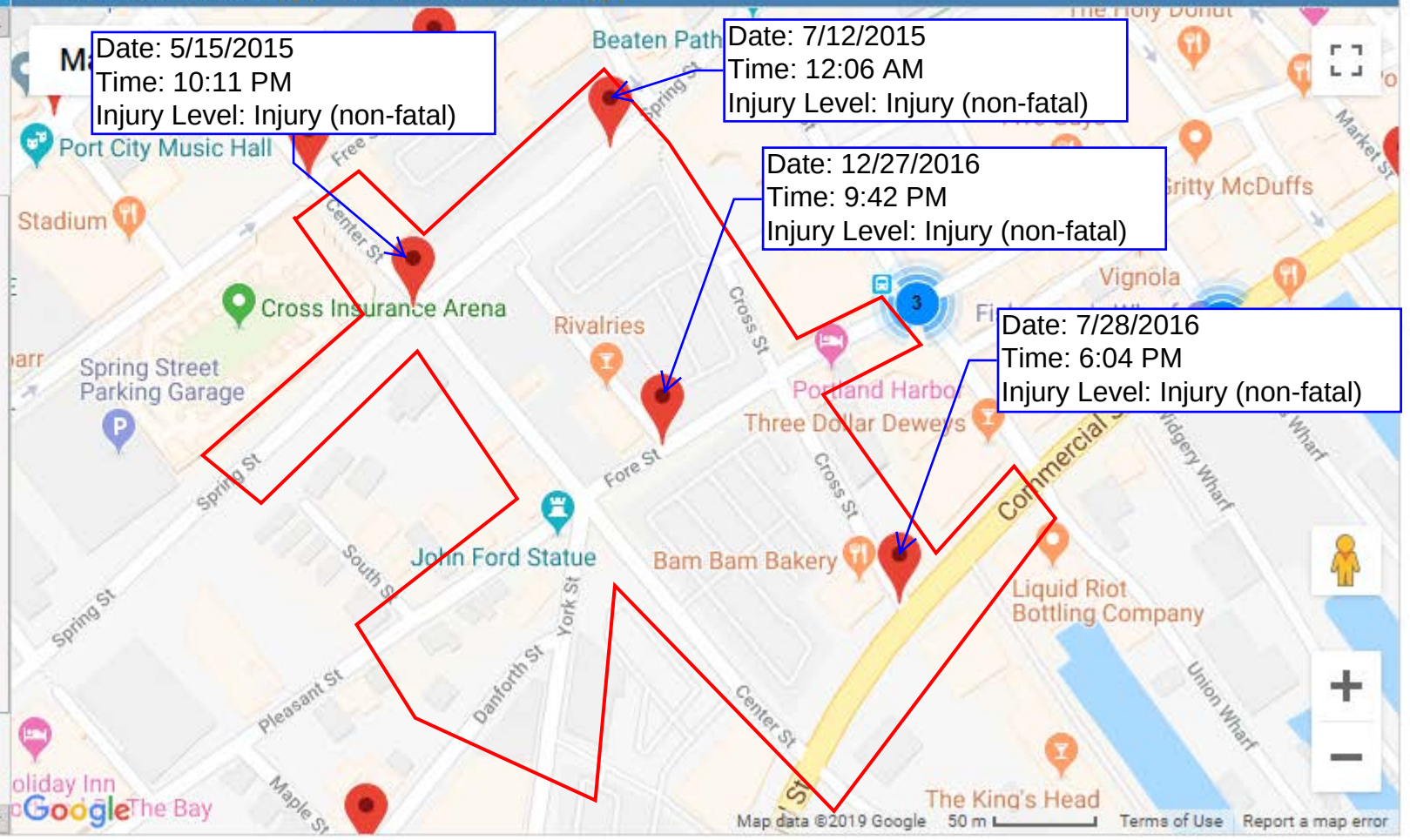
Cluster Markers: Print

Date: 5/15/2015
Time: 10:11 PM
Injury Level: Injury (non-fatal)

Date: 7/12/2015
Time: 12:06 AM
Injury Level: Injury (non-fatal)

Date: 12/27/2016
Time: 9:42 PM
Injury Level: Injury (non-fatal)

Date: 7/28/2016
Time: 6:04 PM
Injury Level: Injury (non-fatal)



https://mdotapps.maine.gov/MaineCrashPublic/Home

Maine Department of Transportation

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

Via Electronic Mail

February 5, 2019

Department of Planning & Development
Attn: Matthew Grooms
City of Portland
389 Congress Street
Portland, ME 04101

Re: Center Street Hotel | 1 Center Street | Neighborhood Meeting Certification

To Whom It May Concern:

I, Lauren Swett, PE of Woodard & Curran, hereby certify that a neighborhood meeting was held on January 17, 2019 in the Editorial Room at the Press Hotel, 119 Exchange Street, Portland, ME at 5:30pm regarding the Level III Site Plan Submittal for the proposed Center Street Hotel development project located at 1 Center Street.

I also certify that on January 7, 2019, invitations were mailed to the following:

1. All addresses on the abutters list provided by the Planning Division which includes property owners within 500 feet of the proposed development.

2. Residents on the "interested parties" list.

Signed,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical Manager

Attached to this certification are:

1. Copy of the invitation sent
2. Lists of abutters and interested parties notified
3. Sign-in sheet
4. Meeting Notes
5. Copy of the Neighborhood Meeting Presentation

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

January 7, 2019

Dear Neighbor:

On behalf of Fathom CC, LLC (Applicant), please join us for a neighborhood meeting to discuss our plans for the proposed Center Street Hotel development project to be located at the corner of Commercial Street and Center Street (1 Center Street) in Portland, Maine. A Level III Site Plan Application for the Center Street Hotel development has been filed with the City of Portland Planning Division on behalf of the Applicant.

Meeting Location: Press Hotel, 119 Exchange Street, Portland, Maine

Meeting Date: Thursday, January 17, 2019

Meeting Time: 5:30PM

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.

The Center Street Hotel is situated on the northeast corner of Commercial Street and Center Street within the Old Port District of Portland, sited between the existing Richardson Wharf Company Building and the Baxter Davis Block building. As the parcel sits today, the hotel will be positioned in the Southern corner of an existing surface parking lot among the surrounding streets of Commercial, Center, Fore and Cross.

The proposed project involves the redevelopment of the existing surface parking lot with a 6-story, 135-room boutique hotel, that includes a rooftop bar and ground-floor restaurant positioned along the Commercial Street frontage. The project will also include associated utility, landscaping and site improvements. Construction is anticipated to begin fall 2019.

If you have any questions, please contact Lauren Swett at (207) 558-3763 or via email at lswett@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical 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 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.

Abutters within 500 feet of 1 Center Street Project

Name	Address	
18 Pleasant St Assoc	18 Pleasant St	Portland ME 04101
18 Pleasant Street Associates	18 Pleasant St	Portland ME 04101
225 Commercial St Assoc Inc	225 Commercial St	Portland ME 04101
237 Commercial Street Llc	225 Commercial St	Portland ME 04101
267 Commercial Street Llc	1297 Broadway	South Portland ME 04106
269 Commercial Llc	Po Box 8211	Lewiston ME 04240
32 Pleasant Street Llc	32 Pleasant St	Portland ME 04101
35 Pleasant St Llc	6 South St	Portland ME 04101
44 Pleasant Street Llc	7 Stephenson St	Cape Elizabeth ME 04107
446 Fore Street Llc	Po Box 491	Portland ME 04112
70 Center Street Basement Llc	175 Holmes Rd	Scarborough ME 04074
7-19 Pleasant Street Llc	Po Box 7225	Portland ME 04112
Albee Peter J	1885 Chinook Trail	Wonalancet NH 03897
Alder Run Development Company Llc	70 Center St #401	Portland ME 04101
Amory Jonathan & Joshua B Broder	56 Spruce St # 2	Portland ME 04102
Anadilya Properties Llc	470 Forest Ave Ste 203	Portland ME 04101
Apple Real Estate Holding Llc	108 Springline Dr	Vero Beach FL 32963
B & B Real Estate Llc	57 Center St	Portland ME 04101
Baxter Place Llc	723 Riverside St Office	Portland ME 04103
Berg Eric O Jr Trustee Of Eric O Berg Revocable Trust	1190 Mountain Laurel Dr	Watkinsville GA 30677
Bristol Seafood Inc	5 Portland Fish Pier	Portland ME 04112
Brown J B & Sons	Po Box 207	Portland ME 04112
Caldwell Robert A	269 Commercial St # 5C	Portland ME 04101
Casco View Holdings Ii Llc	Po Box 1137	Portland ME 04104
Casco View Holdings Iii Llc	261 Commercial St	Portland ME 04101
Casco View Holdings Iii Llc	Po Box 1137	Portland ME 04104
Casco View Holdings Llc	Po Box 11409	Portland ME 04104
City Of Portland	389 Congress St	Portland ME 04101
Clancy Paul	30 Whitehead St	Peaks Island ME 04108
Cm Waterfront Properties Llc	Po Box 7467	Portland ME 04112
Comeau Peter W & Linda J Kelly Jts	103 Webster St	Whitman MA 02382
Conklin Henry C	Po Box 219	Islesboro ME 04848
Cumming Jean S & Virgil Cumming Jts	269 Commercial St # 2D	Portland ME 04101
Deering Ave Associates Inc & Wharf Property Llc	4 Milk St Ste 103	Portland ME 04101
Dermer Harry & Mary P Dermer Jts	12300 S W Silverwood Ave	Port Saint Lucie FL 34987
Devillier Jacques K	269 Commercial St # 2E	Portland ME 04101
Dictar Associates Ii	470 Fore St Ste 400	Portland ME 04101
Douty Brothers	10 Portland Fish Pier	Portland ME 04101
East Coast Construction And Consulting Llc	Po Box 4902	Portland ME 04112
F & H Realty Partnership	Po Box 4177	Portland ME 04101
Five South Street Llc	5 South St	Portland ME 04101
Flaherty Christopher F	Psc 851 Box 490	Fpo AE 09834
Foley Ronald G Vn Vet	37 Pleasant St # 4	Portland ME 04101
Foster Anthony W	269 Commercial St # 5F	Portland ME 04101
Freedom Fish Llc	450 Commercial St	Portland ME 04101
Giobbi Archie S & Matilda M Jts	1184 Washington Ave	Portland ME 04103
Giobbi Carlo A Jr & Stoja Petrovic	14 Pleasant St 2Nd Floor	Portland ME 04101
Gosselin Eugene D & Diane H Gosselin Jts	269 Commercial St # 2A	Portland ME 04101

Abutters within 500 feet of 1 Center Street Project

Name	Address	
Haas John E & Jill E Haas Jts	37 Pleasant St # 6	Portland ME 04101
Hanson Anja-Britt & Derek S Pierce Jts	9 South St	Portland ME 04101
Hanson June Andrea	Po Box 206	Bath ME 04530
Harbor Plaza Associates Ii	470 Fore St Ste 400	Portland ME 04101
Harte Christopher M	327 Congress Ave Ste 200	Austin TX 78701
Higonnet Camille	7 Maple St # 602	Portland ME 04101
Houle Ronald J & Ann M Foster Jts	2 Middle St	Amherst NH 03031
Hudon Wilfred R	P.O.Box 718	Wells ME 04090
Jbb Hospitality I Llc	15 Main St Ste 210	Freeport ME 04032
Jkc Llc	267 Warren Ave	Portland ME 04103
Jr Seely Company Llc	24 Christopher Toppi Dr	South Portland ME 04106
Kimble Ellen Sue	269 Commercial St # 4D	Portland ME 04101
Kroon Thomas J & Marianne M Kroon Trustees	7 Maple St # 9	Portland ME 04101
Kruithoff Catherine H & Wayne A Kruitoff Trustee	7 Maple St # 7	Portland ME 04101
Levine Robert A & Vilean A Taggersell Jts	395 Spring St	Portland ME 04102
Levin-Martin Mindy F & Roger L Martin Jts	7 Maple St # 604	Portland ME 04101
Lowry Kate	8 Bowdoin Dr	Falmouth ME 04105
Maine Business Services Inc	70 Center St Unit Go8	Portland ME 04101
Mcdevitt John J Iv	269 Commercial St # 4C	Portland ME 04101
Mckenzie Anne-Marie & Steven E Patch Jts	6 Serendipity Ln	North Yarmouth ME 04097
Mckersie Family Llc	Po Box 7489	Portland ME 04112
Mh & Rb Llc	100 Commercial St	Portland ME 04101
Mitchell John D The Staples School	70 Center St	Portland ME 04101
Muehle Brenna L	269 Commercial St # 5D	Portland ME 04101
Norchi Charles H	236 Commercial St # 3C	Portland ME 04101
North River Iv Llc	224 12Th Ave	New York NY 10001
Nsd 10-7 Maple Llc	819 Gatemore Rd	Bryn Mawr PA 19010
Null	Null	Null NULL Null
Picture Island Inc	Po Box 15148	Portland ME 04112
Piper John M & Rebecca A Wei Jts	7 Maple St # 12	Portland ME 04101
Poe Maxwell	269 Commercal St # 2B	Portland ME 04101
Prestige World-Wide Partners Llc	17 South St 3Rd Floor	Portland ME 04101
Proprietors Of Union Wharf	36 Union Wharf	Portland ME 04101
Ps One Realty Llc	One City Center 4Th Floor	Portland ME 04101
Reiter Lauren J & Neil A Reiter Jts	6 South St	Portland ME 04101
Rice Lee P	5224 Sunnydale Cir S	Sarasota FL 34233
Russo J Richard & Barbara Russo Jts	40 Pleasant St	Portland ME 04101
Schair-Cardona Erica & Ivan Dario Cardona Jts	Po Box 7235	Portland ME 04112
Schneider Paul	269 Commercial St # 2C	Portland ME 04101
Schwartz Donna L	85 Clinton St	Portland ME 04103
Seraichick Susan & Peter J Seraichick Jts	4133 N 35Th St	Phoenix AZ 85018
Sernoffsky Susan	269 Commercial St # 4A	Portland ME 04101
Simark Acquisitions Llc	600 N Fairbanks Ct # 1807	Chicago IL 60611
Slm Properties Inc	2 Union St	Portland ME 04101
South Street Partners 2 Llc	17 South St	Portland ME 04101
Steele Daniel L	Po Box 15148	Portland ME 04112
Tamaki Associates Llc	Po Box 924	Portland ME 04101
Tarbox Jeffery H	269 Commercial St # 5B	Portland ME 04101

Abutters within 500 feet of 1 Center Street Project

Name	Address	
Taylor-Chiarello Robin	Po Box 216	Center Lovell ME 04016
Tiqa Legacy Llc	26 Deer Acres Rd	Raymond ME 04071
Tucker Harold W Iii	41 Mallett Dr	Topsham ME 04086
Vessell Services Inc	Portland Fish Pier	Portland ME 04101
Waterfront Maine	14 Maine St	Brunswick ME 04011
Waterfront Maine Bt Llc	224 12Th Ave	New York NY 10001
Watson Michael P & Sharon S Watson Trustees	236 Cushing Rd	Newmarket NH 03857
Weatherford Claudine & Timothy S Wyant Trustees	130 Central Ave	Peaks Island ME 04108
Wong Rocket & Lilliana M Acuna Jts	269 Commercial St # 4F	Portland ME 04101
Woods Mary A & Stephen R Woods Trustees	10 Arborside Dr	Falmouth ME 04105
Wright-Ryan Real Estate Llc	10 Danforth St	Portland ME 04101

Interested Parties Noticed for 1 Center Street Project Neighborhood Meeting

First Name	Last Name	Company Name	Street Number	Street Name	City	State	Zip
Anthony	Donovan		27	Riverview Street	Portland	ME	04102
Barbara	Wood		125	Emery Street	Portland	ME	04102
Chris	Castelsky	Fairpoint Communications	521	East Morehead Street	Charlotte	NC	28202
David	Nowlin		215	Oxford Street	Portland	ME	04102
Deb	Keenan		28	Dorothy Street	Portland	ME	04103
Devon	Platte		26	North Street, #3	Portland	ME	04101
Edward	Suslovic	District 3	46	Kenwood Street	Portland	ME	04103
		Greater Portland Council of Governments	970	Baxter Blvd., 2nd Floor	Portland	ME	04103
Henry	Leclair		209	Range Road	Windham	ME	03087
Janice	Carpenter		9	W. Commonwealth Drive	Portland	ME	04103
Jennifer	Munson	City of Portland	389	Congress Street	Portland	ME	04101
Jesse	Thompson	Kaplan Thompson Architects	424	Fore Street	Portland	ME	04101
John	Leavitt	NE Regional Council of Carpenters	68	Bishop Street, Unit 1	Portland	ME	04103
Len	Anderson		543	Allen Avenue	Portland	ME	04103
Lynn	Clarkson		145	Marlborough Road	Portland	ME	04103
Mary	Griffity		6	E. Prom, Unit #2	Portland	ME	04103
Vahan	Tufankijan	Seaside Healthcare	850	Baxter Boulevard	Portland	ME	04103
Nancy	Bartlett			PO Box 7965	Portland	ME	04112
Pam	Burnside		64	Lester Drive	Portland	ME	04103
Paul	Dubois		1915	Congress Street	Portland	ME	04102
Peggy	Morin		66	Farnham Street	Portland	ME	04101
Philip	Haughey		1660	Soldiers Field Road	Boston	MA	02135
James	Sterling	Portland Society of Architects		PO Box 7305	Portland	ME	04112
Priscilla	LaVallee		190	US Route 1, Unit 2	Falmouth	ME	04105
Rebecca	Halla	Waste Management of Maine	2000	Forest Avenue	Portland	ME	04103
REP Benjamin	Dudley III	District 30	9	Ponce Street	Portland	ME	04101
REP Glenn	Cummings	District 37	24	Nevens Street	Portland	ME	04103
Robert	Hains		1369	Hilltop Drive	Naples	FL	34103-3318

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

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T 207.774.2112
F 207.774.6635

MEMORANDUM

TO: City of Portland Planning Department
FROM: Center Street Hotel Development Project Team
DATE: January 17, 2019 5:30pm
RE: Center Street Hotel Development Neighborhood Meeting Sign-in Sheet

---

Dear Neighbors,

Thank you for attending tonight's public Neighborhood Meeting in the Editorial Room of the Press Hotel, for the proposed Center Street Hotel project to be located at 1 Center Street in Portland, Maine. Please sign in below.

Thank you,
Center Street Hotel Development Project Team

Name	Email
Barry Sheff, W&C	BSHEFF@WOODARDCURRAN.COM
Megan McDevitt, W&C	MMCDEVITT@ " "
Bellina Reece, Fathom	breece@fathomcompanies.com
Marieke Thovmann, Fathom	mThovmann@fathomcompanies.com
Amy LeBel	ALEBEL@WOODARDCURRAN.COM
Jean Cummings	VCumming24@aol.com
Dan Jacques	DJACQUES@WATERFRONTME.COM
Hank Conklin	hcconklin@gmail.com
Carol Pierson	carolannpierson@icloud.com
CYRUS HAGGE	chagge@mac.com
Jim Brady	jameshbrady@gmail.com
James Palmer	jpalmer@yarrildams.com
Rocket Wong	Rocket_Wong@Hotmail.com
Gerard Kiladjian	gkz.ladjian@harthotels.com
Charles X Zacchi	Charles.Zacchi@Maine.edu
Michael Chestnutt	mchestnutt@cornellstone.com

WOODARD &CURRAN

Center Street Hotel Development Project
Neighborhood Meeting Sign-In Sheet

Name	Email
D. Bridges	
Jeff Grinvalsky	jgrinvalsky@mercc.org

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MEETING NOTES

To: City of Portland Planning Department

From: Megan McDevitt, PE (Woodard & Curran) on behalf of Fathom CC, LLC

Date: January 22, 2019

SUBJECT: Center Street Hotel Neighborhood Meeting

A neighborhood meeting was held on January 17, 2019 in the Editorial Room at the Press Hotel, 119 Exchange Street, Portland, ME at 5:30pm. Per the sign in sheets, the meeting was attended by 12 "abutters" or interested members of the public, along with 6 members of the project team. The meeting sign in sheets are attached to these minutes along with a copy of the PowerPoint presentation presented at the meeting, a signed Neighborhood Meeting Certification form and a copy of the notice letter and mailing lists. Project team members that were present at the meeting are as follows:

Project Team Members:

- Jim Brady, Fathom CC, LLC
- Marieke Thormann, Fathom CC, LLC
- Bettina Reece, Fathom CC, LLC
- Megan McDevitt, Woodard & Curran, Inc.
- Barry Sheff, Woodard & Curran, Inc.
- Amy LeBel, Woodard & Curran, Inc.

The meeting began promptly at 5:30pm and I provided an introduction to the attendees; I reviewed the agenda and intent of the meeting, and introduced Fathom CC, LLC team members that were in attendance. I then gave the neighborhood meeting presentation. The PowerPoint (as attached) addressed the following:

- **Project Location** – at the intersection of Center and Commercial Streets.
- **Project Description** – boutique six-story hotel with 135 rooms with restaurant and bar.
- **Site and Landscaping Features** – new sidewalks with new street trees, lighting and bike racks along Commercial and Center St frontages; all required building utility services; service access drive on North River (abutter property), land-side of Richardson Wharf property; and green roof/patio over second floor on hotel north side for stormwater treatment and aesthetic purpose.
- **Zoning and Planning Considerations** – B-3 Zone standards with max 5' property line setback and max 65' height limit, no requests for Zoning waivers sought; Pedestrian Activity District specifies uses along Commercial and Center St frontages; working through architectural review with City's HP Board for Old Port HP District Certificate of Appropriateness; Level III Site Plan application submitted and Workshop #1 scheduled for Feb 12.
- **Architecture and Neighborhood Context** – This portion of the presentation included a brief review of hotel elevations and renderings (as recently presented to HP Board) to illustrate the proposed project in relationship to the Richardson Wharf and Baxter Davis Block buildings.
- **Next Steps** – At the PowerPoint presentation's completion, I noted that the next steps would be to hear feedback from attendees and in preparation for our Feb 12 Planning Board Workshop.

Upon conclusion of the PowerPoint presentation, additional questions were received from attendees and recorded by Barry Sheff (Woodard & Curran). A summary of the questions and responses offered by the Fathom CC, LLC team during the meeting is below.

Comments/Questions & Responses

Question: **Service access road location, and relationship to Richardson Wharf building**
Response: Described its location on the north side of the hotel, extending to Cross Street and anticipated to be single-lane width of pavement. The service access will be over an easement negotiated with the adjacent landowner (North River, LLC) and NOT on Richardson Wharf building property but adjacent to.

Question: **Concern for the location of driveway and relationship to Richardson Wharf, and impact to condo owners on rear of building (noise, appearance, light intrusion).**
Response: Expressed understanding for the issues pertaining to noise and traffic, and particularly given hotel user experience in rooms on access road side of the hotel; plan to maintain the access neat and clean manner, and meet City Ordinance and Standards for lighting (cut-off fixtures with no light trespass).

Question: **Other access roads locations.**
Response: Described the limited opportunities for providing service to the hotel; desire to maintain hotel entrance on Center Street to reduce impacts to parking on Commercial St and goal of not introducing additional service vehicles to Commercial Street, as well as the need for Center and Commercial Street frontage to meet PAD requirements.

Question: **Where will dumpsters be located.**
Response: Shared that we were still assessing provisions including size of solid waste and recycling containers, however they were likely to be located on the north side of the building (potentially inside the hotel) and serviced by the access drive.

Question: **What access will be provided to the hotel from the Portland Square Redevelopment future plaza?**
Response: Described that neither the Portland Square plaza nor the stairs on the Richardson Wharf building side of the hotel are part of this project, however we are not planning to provide access to the hotel from the plaza at this time.

Question: **How far apart are the proposed hotel and the Richardson Wharf building**
Response: Responded that the buildings will be maybe 30 - 40' apart.

Question: **How wide are the stairs, on the Richardson Wharf building side of the hotel.**
Response: Jim Brady responded that he understood they may be 12' + wide, and clarified the stairs were not part of the hotel project.

Question: **Will the Richardson Wharf loses its parallel parking?**
Response: On the Center Street side of Richardson Wharf building, the pavement edge roughly follows the property line, approximately 12' off the building. The hotel will be separated from the building by a roughly 18' wide strip of land to be retained by North River, LLC; the hotel will not impact parking on the Center Street side of the building. The stair being considered as part of the Portland Square Redevelopment within that 18' strip of land may however impact

those parallel parking spaces, depending upon the width of the stairs and proximity to the shared property line.

Question: **Parking/access for the hotel**
Response: Primary hotel access for guests and patrons will be on Center Street. Valet service will be offered to guests and patrons, and self-parking will also be an option.

Question: **# of Displaced parking spaces and what happens**
Response: Fathom CC, LLC is purchasing the land for the hotel from North River, LLC, on which more than 50 parking spaces currently exist. North River, LLC has tenant parking demand that it will be working to resolve with its tenants; Fathom CC, LLC will have obligations through the Site Plan approval process to provide the required parking for the hotel. Per City Land Use Ordinance, we are required to provide 64 total spaces for the hotel and Fathom CC, LLC has in its Purchase & Sale Agreement the rights to up to 75 spaces, to be provided by North River, LLC.

Question: **When will the abutters know about know about trash and service lane usage**
Response: We are currently working to understand the logistics of trash removal and how the service lane will be used. We anticipate being able to share more during the Planning Board Workshop on Feb 12.

Question: **What about the plaza and incongruities with service access usage**
Response: The plaza is not part of the Fathom CC, LLC hotel proposal however we understand the concerns relating to this given the guest rooms that will be on the service access side of the hotel. The options to service the hotel are limited given the desire not to have access off of or short-term service parking within Commercial Street; Cross Street seemed the ideal location for a service driveway.

Question: **Lighting on the hotel that might impact Richardson Wharf, including lighting of the stairs, service access**
Response: Fathom CC, LLC has recently hired a lighting consultant for the project. We are also familiar with and know the City's Ordinances and Standards relative to lighting, which does not allow for light trespass beyond our property line. The project will be designed to meet these Ordinances and Standards.

The Neighborhood Meeting officially concluded at approximately 5:45 PM, with some attendees remaining to talk with the Fathom CC, LLC team until 6:00pm .

1 Center Street Hotel

Neighborhood Meeting Presentation
Thursday, January 17, 2019

Level III Site Plan Applicant: Fathom Companies

Woodard & Curran: Site Design & Permitting

HKS, Inc: Architecture

Carroll Associates: Landscape Architecture

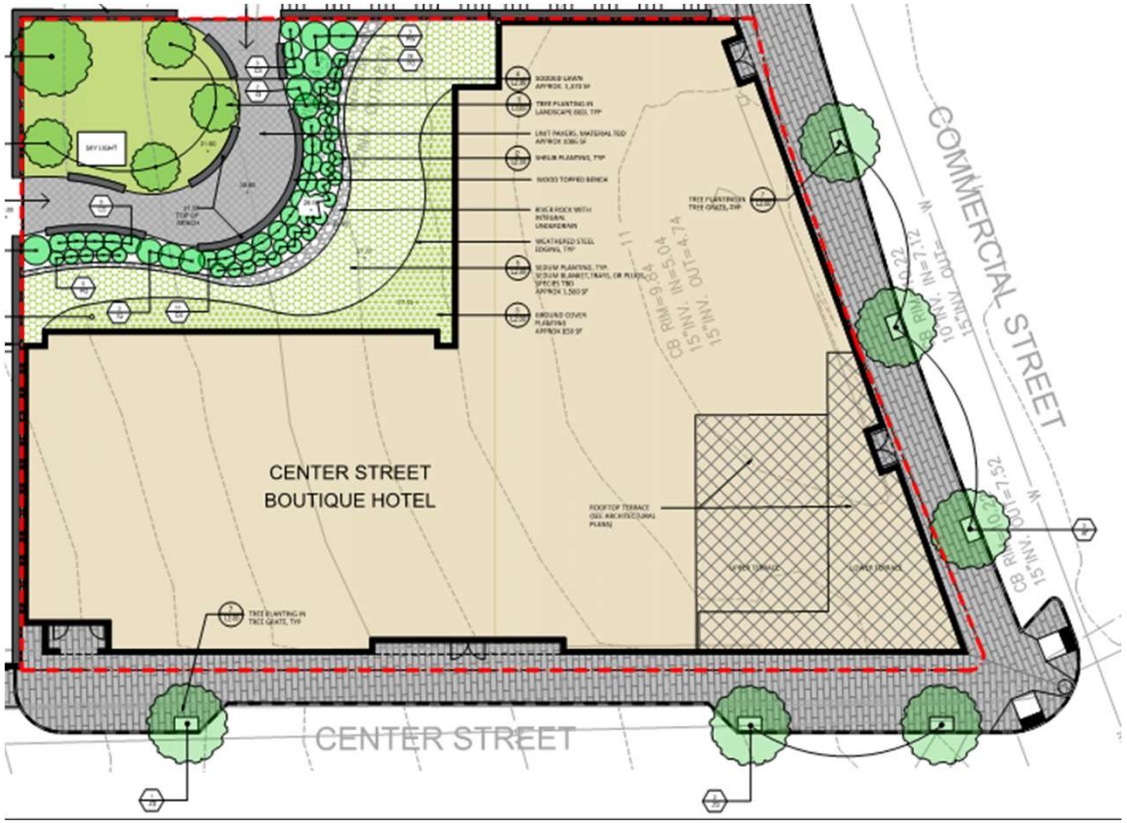
Center Street Hotel – Project Location

Center Street Hotel – Project Description

- Boutique Hotel
  - 135 Rooms
  - 6 Stories
  - Ground-Floor Restaurant & Bar
  - Rooftop Bar & Terrace
  - Valet Drop-Off with Off-Site Parking

Center Street Hotel – Site & Landscaping

- Site Improvements
  - Sidewalk with Street Trees and Lighting
  - Building Utilities (Water, Sewer, Electric, Gas)
  - Rear Service Driveway via Cross Street
  - Second-Level Roof Garden



Center Street Hotel – Zoning & Planning

- **B-3 Zone**
  - Maximum Setback from Property Line – 5 feet
  - Maximum Building Height – 65 feet
- **Pedestrian Activity District Overlay Zone**
  - Utilize at Least 75% of Street-Level Frontage on Commercial Street and 50% of Street-Level Frontage on Center Street
- **Historic Preservation District – The Old Port**
  - Currently Under Review by Historic Preservation Board for Certificate of Appropriateness
- **Level III Site Plan**
  - Workshop with Planning Board on February 12th

Center Street Hotel – View from Commercial St.

Center Street Hotel – View from Center St.

Center Street Hotel – Neighborhood Context

Center Street Hotel – Neighborhood Context

THANK YOU!

QUESTIONS?

WOODARD &CURRAN

80 Exchange Street, Suite 400, Portland ME, 04101

TO: Inclusionary Zoning for Hotel Projects Conditional Use Application
Planning & Urban Development Department
City of Portland, Maine
FROM: Fathom CC, LLC, James Brady & Marieke Thormann
SUBJECT: Center Street Hotel Inclusionary Zoning Memorandum
DATE: April 17, 2019

Fathom CC, LLC has reviewed the Amendment to Portland City Code Chapter 14 and the related options for Hotel Project Inclusionary Zoning. This memorandum summarizes our understanding of the compliance options to meet the requirements outlined in 14-448.1 and acts as an application to the City of Portland stating the approach that Fathom CC, LLC has selected for the Center Street Hotel project.

Compliance Options

14-488.1-c (Option 1) *Create on-site low-income rental housing units*
14-488.1-d (Option 2) *Fee-in-lieu*
14-488.1-c,d (Option 3) *Combination of on-site low income rental units and fee-in-lieu*

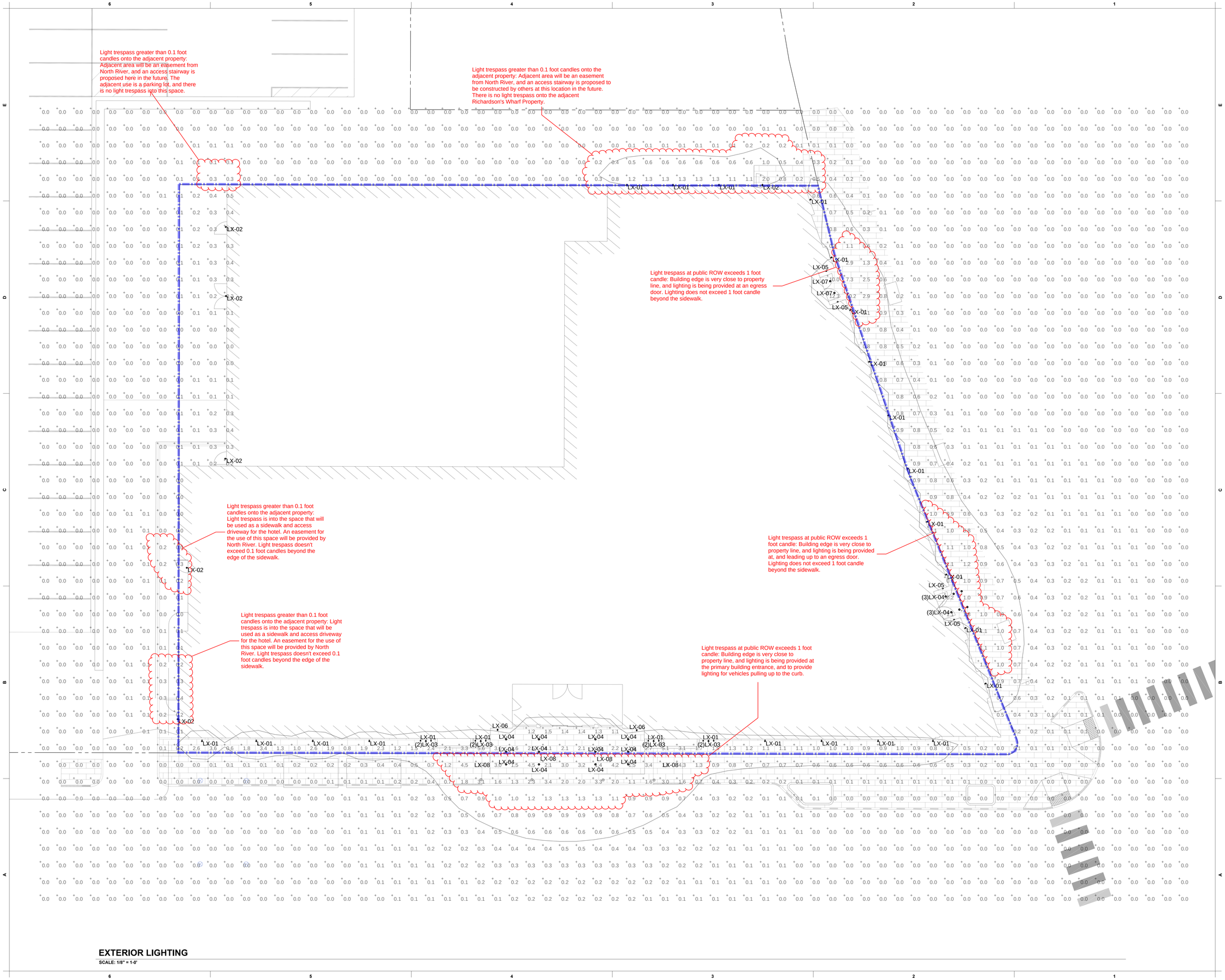
Center Street Hotel Summary Data and Compliance Approach

The Center Street Hotel project is anticipated to consist of 135 guest rooms and has selected the Fee-in-lieu Alternative option to meet the Inclusionary Zoning ordinance. In accordance with 14-488.1-d, a fee of $3,806 per hotel guest room that results in a total fee of $513,810 will be paid into the City of Portland Housing Trust. Fathom CC, LLC considered the option outlined in 14-488.1-c to create on-site low-income rental housing units as the Purchase & Sale agreement for the parcel allows a maximum of fifteen (15) residential units within the property. After a detailed analysis, it was determined that due to the programmatic requirements associated with the operation of the hotel any type of residential unit within the hotel is not a feasible option.

Conclusion

Fathom CC, LLC is providing this memorandum as the Inclusionary Zoning for Hotel Projects Conditional Use Application to the City of Portland to supplement the Site Plan Level III application for the Center Street Hotel project that has successfully completed a Planning Board workshop and is currently pending until the Planning Board public hearing.

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.
Technical Manual Section 1.7.2.7 (Location and spacing of driveways)	1.7.2.7 Along arterial, collector and local streets, minimum acceptable spacing between double or multiple driveways for driveways on adjacent lots or on the same parcel shall meet the criteria below: for a speed limit 25 mph or less, provide a minimum separation	We request a waiver for the minimum driveway separation standard on Cross Street of 100 feet. The proposed service access drive for the Center Street Hotel is located within an 18 foot service access easement. The easement is located immediately adjacent to	The existing driveway is currently being used for service access to a dumpster. The proposed driveway will also be used for service access for the hotel. Due to similar use, the proposed driveway will serve as a shared service entrance for the Swasey building and Center



EXTERIOR LIGHTING

SCALE: 1/8" = 1-0'

B·H·Milliken
ELECTRICAL CONTRACTORS
235 PRESUMPSCOT STREET
PORTLAND, MAINE 04103
207.879.1877

Baskervill

- Property line shown in blue
- Areas with light trespass in excess of standard identified in red

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

EXTERIOR LIGHTING
E202

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

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Att. BB

July 3, 2019

Matthew Grooms, Planner
City of Portland Planning Division
389 Congress Street
Portland, ME 04101

Re: Center Street Hotel Level III Site Plan Submittal – Fathom CC, LLC
Response to Planning Staff Comments

Dear Matt:

Thank you for coordinating the review of the proposed Center Street Hotel Project located at the corner of Center Street and Commercial Street in Portland, Maine. To support the Level III Site Plan process, we provide the following responses to the comments we have received (we have repeated the original comment in *italics* below, and our response follows each comment):

Comments from Bruce Hyman from June 18, 2019 email:

- *The bike rack detail shall add that the final height of the racks is to be 33"-35" above finished grade.*
    - A note has been added to the detail.
- *The driveway detail is to be updated to show a pedestrian access route across the driveway of 5' in width minimum with a maximum cross-slope of 2%.*
    - A note has been added to the detail.
- *The site plan references "bike racks (typ. of 4)" but I only see 3 (2 on Commercial St, 1 on Center St).*
    - The site plan has been updated with a 4th bike rack in the Center Street Right-of-Way.
- *There is a Waterfront decorative lighting fixture standard to supplement cobrahead lighting - this should be explored in lieu of or in addition to a new utility pole with cobra light fixture on Commercial Street - Caitlin should assess this - I do not see a lighting/photometrics plan.*
    - A photometrics plan was provided with our previous response to comments submission, provided to the City on May 31, 2019. We have not received any further comments on lighting at this time.
- *I think we had collective comments last week that maybe the flush area at the hotel entrance could be reduced and didn't need to be a wide as it is currently designed - thoughts should be finalized on this.*
    - As was discussed at the July 2, 2019 meeting with Planning staff and reviewers, the flush section of curbing at the hotel entrance area will remain as previously submitted however additional bollards have been added to the site plan. A total of 5 bollards spaced at 10 feet on center are proposed.
- *The tree wells with grates on Commercial Street appear to be only 3'x5' - a larger size should be considered (min. 4'x6').*
    - The tree wells have been upgraded to 4'x6 as recommended.
- *I do not see a Bollard Detail for those to be placed along the hotel entrance, but may have missed it.*

- The lighted bollard detail from the recently updated City of Portland lighting standard has been added to the plans.

Comments from Matt Grooms (in black and red) and Tom Errico (blue) from July 1, 2019 email:

Note: These comments were all discussed in detail at a meeting with Planning staff and reviewers on July 2, 2019.

- *Construction management plan, or at least a framework that limits street and sidewalk closures. The meeting tomorrow will help to flush this out.*
  - As was discussed at the meeting, Cianbro has recently joined the project team in the role of Construction Manager. They have provided some preliminary documentation for construction management for the project to address the City's concerns with regards to issues like street and sidewalk closures, schedule, and safety. Preliminary construction management plan documents are attached.
- *Information on delivery vehicle loading and unloading, particularly tractor trailer trucks. The Applicant needs to provide a truck delivery management plan that includes large trucks that are unable to use the loading dock. This should include both existing and future Portland Square Build-Out.*
  - The attached figure shows a tractor trailer truck parked to the west of the hotel and the Portland Square parking lot entrance. As was discussed at the meeting, this space will be utilized for deliveries for short durations with minimal impact to traffic and no impact to parking.
- *Updated lease or shared-use agreement w/ Portland Sq. for parking based on peak demand.* ***This raises the question of TDM. We have not provided comments to this effect, but technically per site plan, they are required to do a TDM plan since the hotel is over 50,000 sf. The Applicant needs to provide a parking management plan for both daytime and nighttime or peak demand time periods.***
  - Per the City's Land Use Ordinances, a minimum of 62 parking spaces are required for the proposed hotel. During the early planning stages of the proposed project, Fathom estimated that the parking demand for the proposed 135 room boutique hotel would be closer to 75 parking spaces. This parking demand is based on Fathom's extensive hospitality management experience, including an understanding that high-end, boutique hotels tend to draw guests traveling by air more than guest traveling by car. The Center Street Hotel will provide shuttles to the airport to support guests traveling by air. Based on their estimate and calculated parking demand, Fathom negotiated a parking lease agreement with North River for 75 parking spaces as part of the Purchase and Sales Agreement.
- *Additional bollards in front of hotel entrance to prevent vehicles from coming up on the sidewalk. Mike and Bruce*
  - A total of 5 bollards spaced at 10 feet on center are proposed, to prevent vehicles from accessing the flush curbed area at the hotel entrance.
- *Traffic signal relocation plan and ongoing coordination w/ the City to figure out what type of system and where it should be located. With Commercial St. under moratorium, and us tentatively having given the green light to holding off on the curb extension at that location,* ***are we okay, or are there temporary solutions available for traffic control, if that delay prevents immediate relocation of the existing signal and permanent replacement? I have reached out to Jeremiah on this. I will provide direction tomorrow. My sense is that it will include short-term upgrades on the hotel corner and replacement requirements by the Portland Square TMP.***
  - We are currently proposing relocation of the existing span-wire pole to allow for construction of the proposed hotel. We understand that the City is evaluating the need for improvements to this intersection as part of the Portland Square TMP discussion.

Comments from Wright-Pierce in their June 26, 2019 memo:

Note: We have included items requiring responses, and have not included comments identified in the memo as "no further action necessary":

- *The Kraken system has not yet been approved by the MaineDEP as a proprietary treatment system. However, under Chapter 500's Innovative Treatment Measures protocol outlined in 4(C)(3)(e), on a case-by-case basis, approval may be allowed for "alternative treatment measures to those described in Subsections 4(C)(3)(a) through 4(C)(3)(d)".*
    - We are currently working with the MaineDEP and Wright-Pierce, and ask that MaineDEP approval of the Kraken system be a condition of approval.
- *Inverts for R-Tank on C2.02 and R-Tank detail for C3.04 have minor vertical discrepancies. Confirm difference prior to construction.*
    - The detail has been updated to match the grading and drainage plan.
- *Ability to serve letters have not been provided for utilities impacted by the proposed project, but have been requested by the applicant for applicable utilities. The applicant has indicated that ability to serve letters will be submitted to Planning upon receipt.*
    - Ability to serve letters are attached from Portland Water District and Unitil. We are waiting for sewer ability to serve from City's Department of Public Works.
- *It is our understanding that grease trap sizing is being reviewed by Department of Public works. Applicant shall defer to comments from Department of Public Works on this item.*
    - We are awaiting response to the grease trap design from City's Department of Public Works.
- *Connection to existing stormwater systems: email or otherwise written confirmation from the Department of Public Works accepting this connection is requested to confirm that this connection is appropriate under Land Use Section 14-526 (b) 3 a. (iv); and 14-526 (c)3a.*
    - We are awaiting response to proposed connection from City's Department of Public Works.
- *Details and siting for the electrical transformer vaults and electrical trenching and conduits is not provided.*
    - We are actively working with Central Maine Power on the details associated with the electrical trenching and transformer vaults. All electrical systems will be provided in accordance with CMP standards. Additional details have been provided with standard electrical conduit and CMP manhole vault details on sheet C3.05.

If you have any questions or require additional information, please do not hesitate to contact me at (207) 558-3763 or by email at lswett@woodardcurran.com.

Sincerely,

WOODARD & CURRAN INC.

Lauren Swett

Lauren Swett, PE
Technical Manager

cc: Jim Brady, Fathom CC, LLC

Marieke Thormann, Fathom CC, LLC
Bettina Reece, Fathom CC, LLC

Attachments

1. Updated Plans, sheets C2.01, C3.02, C3.04, and C3.05
2. Portland Water District Ability to Serve Confirmation
3. Unitil Ability to Serve Confirmation
4. Updated Autoturn Figure
5. Construction Management Plan Documentation (under separate cover)

PLAN REFERENCES

1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY OWEN HASKELL, INC. OF FALMOUTH, MAINE, DATED OCTOBER 12, 2018, TITLED "ALTA/NSPS LAND TITLE SURVEY, COMMERCIAL AND CENTER STREET, PORTLAND, CUMBERLAND COUNTY, MAINE", PREPARED FOR FATHOM CC, LLC, 80 EXCHANGE STREET, SUITE 30, PORTLAND, MAINE.

ZONING NOTES

1. SUBJECT PARCEL IS LOCATED WITHIN THE CITY OF PORTLAND B3 DOWNTOWN BUSINESS ZONE.
2. COMMERCIAL STREET AND CENTER STREET FRONTAGES ARE LOCATED WITHIN THE PEDESTRIAN ACTIVITY DISTRICT (PAD) OVERLAY ZONE.

PLAN NOTES

1. COMMERCIAL STREET IS UNDER A PAVING MORATORIUM UNTIL 5/25/2021. THE EXTENT OF PAVEMENT REPAIRS AT THE CORNER OF COMMERCIAL STREET AND CENTER STREET ARE BEING COORDINATED WITH THE CITY OF PORTLAND.
2. THE CITY OF PORTLAND STREET LIGHTING STANDARD IS CURRENTLY BEING REVISED. THE FINAL STANDARD IS ANTICIPATED TO EXPAND THE OLD PORT LIGHTING DISTRICT TO INCLUDE CENTER STREET ADJACENT TO THE PROJECT SITE. LIGHTING HAS BEEN SELECTED AND SITED BASED ON THE CURRENT OLD PORT LIGHTING DISTRICT STANDARD. THE CITY HAS INDICATED THAT COMMERCIAL STREET LIGHTING WILL REMAIN THE COBRAHEAD-STYLE, BUT THE SEPARATION DISTANCE HAS NOT YET BEEN CONFIRMED. TWO COBRAHEAD LIGHTS EXIST ON COMMERCIAL STREET ADJACENT TO THE PROJECT SITE ON UTILITY POLES THAT ARE TO BE RELOCATED. THE PLANS CURRENTLY CALL FOR THE COBRAHEAD LIGHTS TO REMAIN ON THE TWO RELOCATED UTILITY POLES. FINAL LOCATION AND SELECTION OF STREET LIGHTS WILL BE COORDINATED WITH THE CITY OF PORTLAND.

SYMBOLS

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER MANHOLE	S	
STORM DRAIN MANHOLE	D	
CATCH BASIN		
ELECTRICAL MANHOLE	E	
COMMUNICATIONS MANHOLE	T	
CABLE MANHOLE	C	
UTILITY POLE W/GUY		
UTILITY POLE		
UTILITY POLE W/LIGHT		
LIGHT POLE		
WATER GATE		
WATER SHUT OFF		
HYDRANT		
SIGN		
DECIDUOUS TREE		
IRON PIN (FOUND)		
MONUMENTS (FOUND)		
TEST PIT	TP	

LINE TYPES

DESCRIPTION	EXISTING	PROPOSED
CONTOUR (1' INTERVAL)	11	11
CONTOUR (INDEX)	10	10
SANITARY SEWER	S	S
STORM DRAIN	SD	SD
UNDERDRAIN	UD	
WATER MAIN	W	W
UNDERGROUND ELECTRIC	E	E
GAS LINE	G	G
OVERHEAD ELECTRIC	OE	OE
TRAFFIC SIGNAL		TS
UNDERGROUND ELECTRICAL /COMMUNICATIONS/CABLE	COMM	TS
PROPERTY LINE		
RIGHT OF WAY		
EASEMENT		
FENCE		
RETAINING WALL		
CURB		
TYPE 1 GRANITE CURB		
EDGE OF PAVEMENT		
BUILDING OUTLINE		
SAWCUT		

THREE PORTLAND SQUARE

EX. CB1

8 SPACES (8'x18')

4 SPACES (8'x18')

24' MIN. (TYP.)

TM 38-G-2
N/F
HARBOR LANDING
DECLARATION OF CONDOMINIUM
6505/312
SEE PLAN RECORDED IN C.C.R.D.
PLAN BOOK 143 PAGE 43

PAVED

MAINTAIN EXISTING DRIVEWAY APRON

MATCH BRICK SIDEWALK TO EXISTING GRADE AND PATTERN

RETAINING WALL

GUARDRAIL, SEE DETAIL

CB5

CB6

18' CONSTRUCTION EASEMENT

LOAM AND SEED

RESET SIGN, COORDINATE WITH CITY

PRESERVE AND PROTECT GRANITE CURB DURING SIDEWALK REPAIR ON COMMERCIAL STREET

NEW COBRAHEAD LIGHT AND UTILITY POLE, SEE PLAN NOTE 2

21 COMPACT CAR SPACES (8'x15')

18' CONSTRUCTION EASEMENT

FIRST FLOOR ROOF GARDEN AREA (SEE LANDSCAPE PLANS)

BRICK SIDEWALK, SEE DETAIL

CITY OF PORTLAND STANDARD BIKE RACK, SEE DETAIL

RESET PAY BOX, COORDINATE WITH CITY

COMMERCIAL STREET PROPERTY LINE VARIES, MIN. SIDEWALK WIDTH 11 LF

5-FT MAX. BUILDING SETBACK

COMMERCIAL STREET
PAVED – PUBLIC WAY

DMH5

CB4

CONCRETE SIDEWALK AND MONOLITHIC CONCRETE CURB/RETAINING WALL

FENCE W/GUARDRAIL

PROPOSED LOT
23,791 S.F. ±
0.55 ACRES ±

CENTER STREET HOTEL
(REFER TO ARCHITECTURAL PLANS FOR FINISH FLOOR ELEVATIONS)
PROPOSED LOT AREA 23,795 SF

TREE GRATE (TYP.) SEE LANDSCAPE PLANS

RESET SIGN, COORDINATE WITH CITY

RELOCATED TRAFFIC SIGNAL SUPPORT POLE WITH POLE-MOUNTED PEDESTRIAN CROSSING SIGNAL, COORDINATE WITH CITY OF PORTLAND

GATE

CITY OF PORTLAND STANDARD BIKE RACK, SEE DETAIL

CUSTOM BIKE RACK DESIGN TO BE DETERMINED

VESTIBULE

PLANTER, SEE LANDSCAPE PLAN (TYP.)

CITY OF PORTLAND STANDARD BIKE RACK, SEE DETAIL

RELOCATED UTILITY POLE AND COBRAHEAD LIGHT, SEE PLAN NOTE 2

DMH1

EXTENT OF PAVEMENT REPAIR, SEE PLAN NOTE 1

MATCH BRICK SIDEWALK TO EXISTING GRADE AND PATTERN

EX. MH3

DMH4

BRICK DRIVEWAY APRON

ADA ACCESSIBLE CURB RAMP

TYPE 1 VERTICAL GRANITE CURB (TYP.) CENTER STREET & INTERSECTION

DMH3

ADA ACCESSIBLE CURB RAMP

BOLLARD SPACED 10' O.C. (TYP. OF 5)

BUILDING OVERHANG

ADA ACCESSIBLE CURB RAMP

CB2

CB1

DMH2

ADA ACCESSIBLE CURB RAMP W/DETECTABLE WARNING SURFACE (TYP.)

PROPOSED FREESTANDING PEDESTRIAN CROSSING SIGNAL

RESET FIREBOX COORDINATE WITH CITY

RESTRIPE EXISTING CROSSWALK

STREET LIGHT, TYP. OF 2 COORDINATE LOCATION W/BELOW GRADE UTILITIES, SEE PLAN NOTE 2

71'

CENTER STREET
PAVED – PUBLIC WAY

BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

PERMIT SET - NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

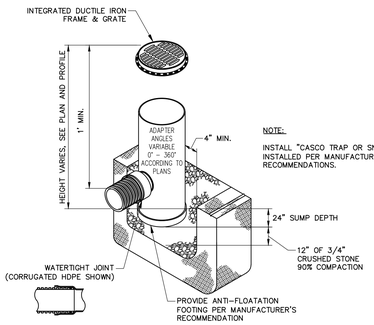
CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
06/07/2019 - PERMIT SET

SITE PLAN

C2.01

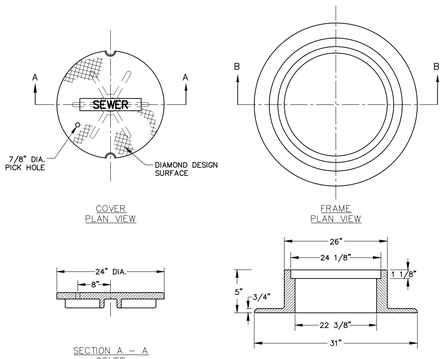


NOTE:

INSTALL "CASCO TRAP OR SNOUT" INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

24" DIAMETER CATCH BASIN

N.T.S.



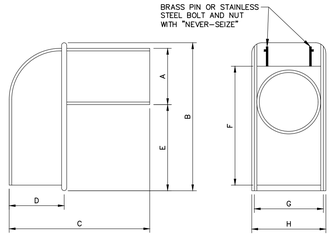
NOTE:

ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER.

ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.

CAST IRON MANHOLE FRAME AND COVER

N.T.S.



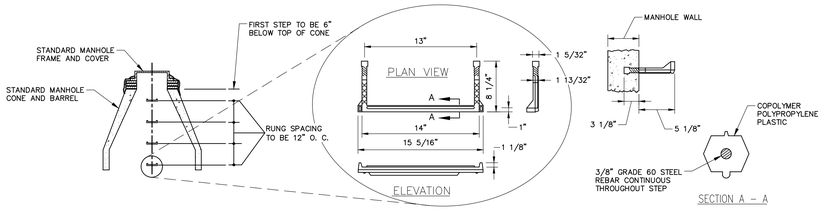
SIZE	A	B	C	D	E	F	G	H
10"	9 1/2"	16"	16 1/4"	6"	4 1/2"	14 1/8"	11 1/2"	12 3/8"
12"	11 1/2"	17"	22"	8"	3 1/2"	17"	12 1/2"	13 3/8"
15"	14 1/2"	22 1/2"	23"	10 1/4"	5 3/4"	21"	14 1/2"	15 3/4"

NOTE:

1. CASCO TRAP SHALL BE CAST IRON CASCO TRAP BY ETHERIDGE FOUNDRY OR APPROVED EQUAL.
2. BOLT AND NUT REQUIRED WHERE HOOD WILL NOT OPEN COMPLETELY.
3. CASCO TRAP SHALL BE INSTALLED ON ALL CATCH BASIN OUTLET PIPES, INCIDENTAL TO COST OF CATCH BASIN

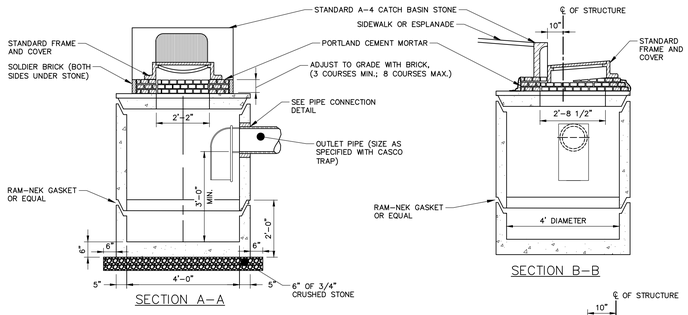
CASCO TRAP DETAIL

N.T.S.



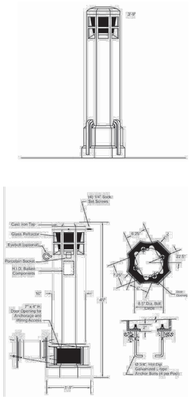
PLASTIC MANHOLE STEPS

N.T.S.



PRECAST CONCRETE CATCH BASIN

N.T.S.



LUMINAIRE
Holophane Freeport Series Cast Iron Lighted Bollard
Model: BOL-FP45-13-L/CI/BK-M70-II

Bollard shall be cast iron construction with a classic octagonal design.

The bollard shall be provided with an optical assembly including a glass refractor, and an octagonal top. Borosilicate glass refractor with IES Type II distribution.

Bollard shall be made from a one-piece casting; the top shall be attached to the bollard with four tamper resistant set screws.

LAMP
Light source shall be 70 watt Metal Halide. When bollard is made available in LED, light source must be LED option. 3000K color temperature.

DIMENSIONS
Height = 3'-0" or manufacturer's specification
Base Diameter = 13" octaflute base
Top Diameter = 10" octagonal top

MATERIALS
ASTM-A48 Class 30 cast iron
Refractor: Borosilicate glass with IES Type II dist.
Hardware: Exposed hardware shall be tamper resistant stainless steel. Anchor bolts to be completely hot dip galvanized.

FINISH
Black: CI/BL = Cast Iron/Black (standard)

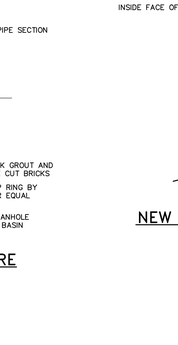
APPLICATION
Sidewalk lighting where height is limited - underpasses, parks, piers

Can be used as a security bollard.

Spacing: To be determined by Department of Public Works per specific project

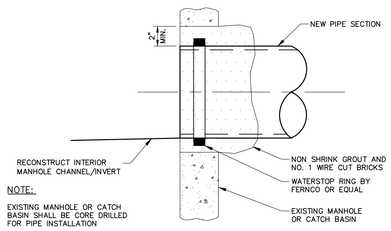
CAST IRON LIGHTED BOLLARD (CITY OF PORTLAND TECHNICAL MANUAL FIGURE X-3)

N.T.S.



NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL

N.T.S.

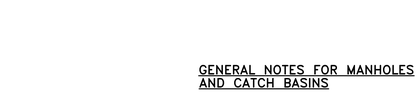


NOTE:

EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION

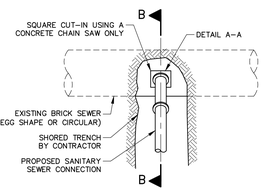
NEW PIPE TO EXISTING STRUCTURE

N.T.S.



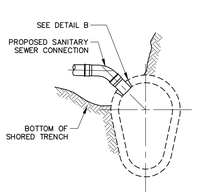
CAST IRON LIGHTED BOLLARD (CITY OF PORTLAND TECHNICAL MANUAL FIGURE X-3)

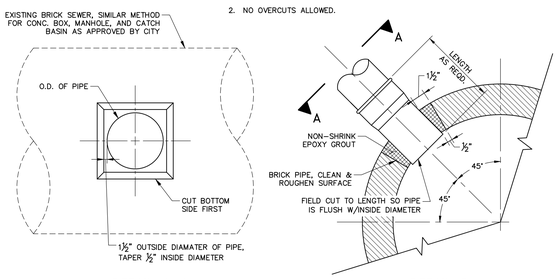
N.T.S.



NOTES:

1. USE CONCRETE CHAIN SAW FOR CUTS.
2. NO OVERCUTS ALLOWED.



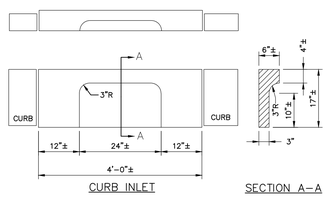


SANITARY SEWER SERVICE CONNECTION TO EXISTING BRICK SEWER

N.T.S.

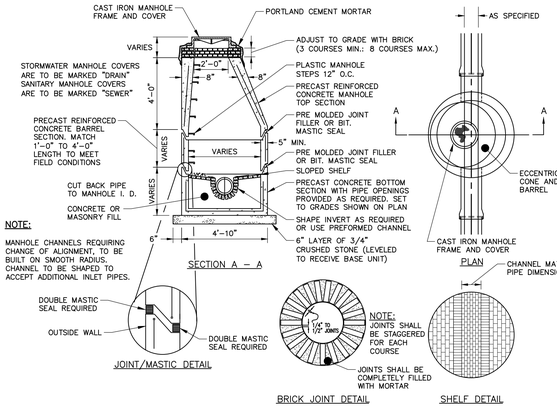
GENERAL NOTES FOR MANHOLES AND CATCH BASINS

1. ALL CONCRETE SHALL BE CLASS "A" AND HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
3. ALL MANHOLES SHALL HAVE A BITUMINOUS WATERPROOFING APPLIED TO THE EXTERIOR SURFACE. IF CONSTRUCTED OF BRICK MASONRY, SURFACE SHALL BE PLASTERED WITH A SMOOTH MORTAR FINISH 3/8" THICK. AFTER THE MORTAR HAS SET, THE SURFACE SHALL BE WATERPROOFED AS REQUIRED BY SUPPLEMENTAL SPECIFICATIONS SECTION 604.
4. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35. ALL PARTS OF CASTINGS, EXCEPT FINISHED SURFACE, SHALL RECEIVE A COAT OF COAL TAR PITCH VARNISH OR ASPHALTUM PAINT WHICH SHALL BE SMOOTH AND TOUGH BUT NOT BRITTLE.
5. MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
6. CONTRACTOR SHALL SUBMIT ANTIFLOATATION CALCULATIONS FOR ALL MANHOLE AND CATCH BASIN STRUCTURES.
7. ALL PRECAST MANHOLES AND CATCH BASINS SHALL BE IDENTIFIED BY STATION, OFFSET, AND STRUCTURE ID PAINTED ON THE SIDE OF THE STRUCTURE BY THE MANUFACTURER.
8. STORM AND SEWER MANHOLES SHALL HAVE SOLID COVERS WITH ONE DRILLED PICK HOLE.
9. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
10. WHEN THE FLOW CHANGES DIRECTION IN A MANHOLE, THE CHANNEL ALIGNMENT SHALL FOLLOW A SMOOTH RADIUS. CHANNELS SHALL BE FORMED TO ACCEPT ALL INLET PIPES.
11. ON STORM AND SEWER MANHOLES, THE SHELF AND CHANNEL SHALL BE FORMED BY BRICK SET IN CEMENT MORTAR OR BY FACTORY PRE-CAST CONCRETE. SUCH PRE-CAST CONCRETE SHALL BE EPOXY COATED AND THE SHELF SHALL HAVE A PERMANENT NON-SKID SURFACE.



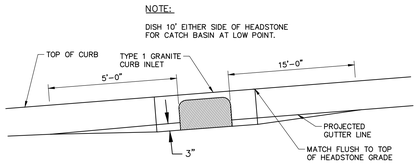
TYPE 1 GRANITE CURB INLET

N.T.S.



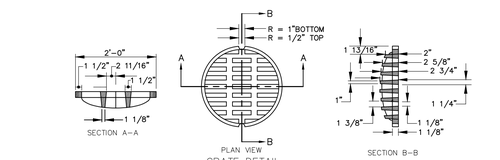
PRECAST CONCRETE MANHOLE

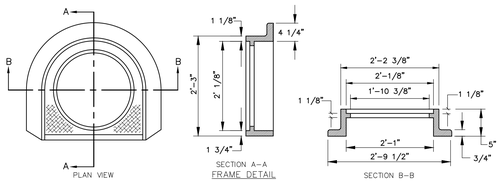
N.T.S.



TYPICAL PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLETS

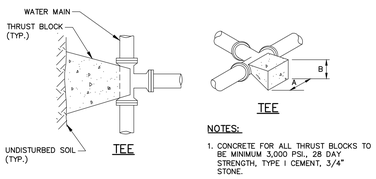
N.T.S.





CATCH BASIN TYPE "D" - FRAME & COVER DETAIL

N.T.S.



NOTES:

1. CONCRETE FOR ALL THRUST BLOCKS TO BE MINIMUM 3,000 PSI., 28 DAY STRENGTH, TYPE I CEMENT, 3/4" STONE.
2. WHERE POSSIBLE, CONSTRUCT THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE NOT POSSIBLE, PLACE FILL BETWEEN THE THRUST BLOCK AND THE UNDISTURBED SOIL COMPACTED TO 90% STANDARD PROCTOR DENSITY.
3. WRAP FITTINGS WITH POLYETHYLENE PRIOR TO CONSTRUCTING THRUST BLOCKS. NO JOINTS SHALL BE COVERED WITH CONCRETE.
4. THRUST BLOCK DIMENSIONS ARE BASED ON A MAXIMUM WATER MAIN PRESSURE OF 150 PSI.

TABLE 1: 4" THRU 10" FITTINGS				
SOIL TYPE	TEES		BENDS	
	A	B	A	B
SOFT CLAY	48"	24"	48"	24"
SAND	24"	24"	24"	24"
GRAVEL	24"	18"	24"	18"

TYPICAL THRUST BLOCK DETAIL

N.T.S.

PERMIT SET - NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
06/07/2019 - PERMIT SET

CIVIL DETAILS 1

C3.02

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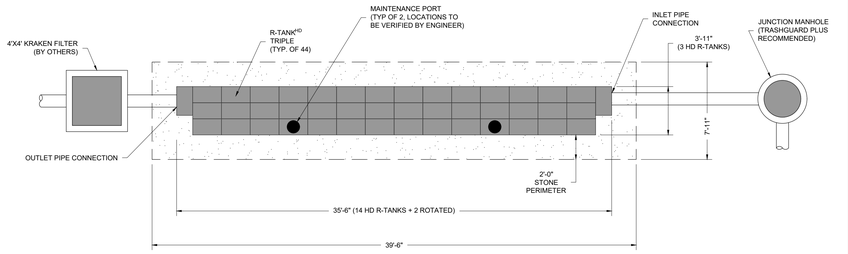
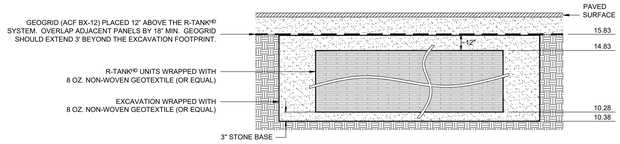


0 5' 10'
SCALE 1" = 5'

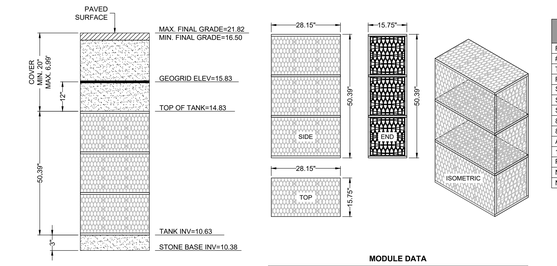
LAYOUT SCALE	1" = 5'
R-TANK^HD MODULE TYPE	TRIPLE
TRAFFIC LOAD	HS-20
# OF TRIPLE R-TANKS	44
TOTAL SYSTEM STORAGE	995 CF
R-TANK STORAGE VOLUME	540 CF
STONE STORAGE VOLUME (40% VOID RATIO)	455 CF
TOP OF COVER STONE ELEV. (12")	15.83
ACF BX-12 GEOGRID ELEV.	15.83
TOP OF R-TANK ELEV.	14.83
TANK INVERT	10.28
INVERT OF STONE BASE (3")	10.38
MIN. STONE PERIMETER WIDTH	2.0 FT
SEE SHEETS 3 - 6 FOR DETAILS AND ADDITIONAL INFORMATION	



R-TANK^HD TANK WRAP & EXCAVATION ENVELOPE DETAIL

R-TANK SYSTEM LAYOUT

N.T.S.



TRIPLE R-TANK^HD - ELEVATION

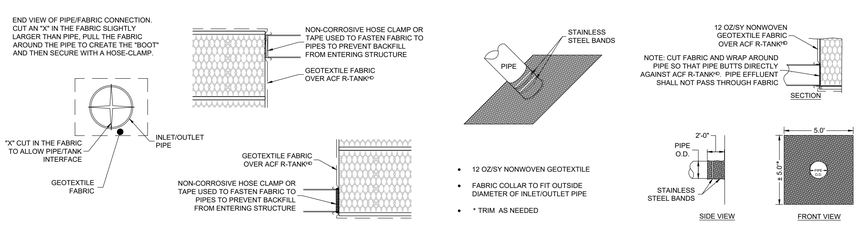
TRIPLE R-TANK^HD - MODULE DETAIL

MODULE DATA

GEOMETRY:
LENGTH = 28.15 IN. (715 MM)
WIDTH = 15.75 IN. (400 MM)
HEIGHT = 50.39 IN. (1280 MM)
TANK VOLUME = 12.93 CF
STORAGE VOLUME = 12.26 CF
VOID INTERNAL VOLUME: 95%
VOID SURFACE AREA: 90%

LOAD RATING:
33.4 PSI, (MODULE ONLY)
HS20, (WITH ACF COVER SYSTEM)
MATERIAL:
100% RECYCLED POLYPROPYLENE
SMALL PLATES PER SEGMENT/TOTAL:
5/15

R-TANK^HD QUANTITIES	
R-TANK^HD MODULE TYPE	TRIPLE
# OF TRIPLE R-TANKS	44
TOTAL SYSTEM STORAGE	995 CF
R-TANK STORAGE VOLUME	540 CF
STONE STORAGE VOLUME (40% VOID RATIO)	455 CF
STONE BED FOOTPRINT	313 SF
STONE QUANTITY	42 CY
8 OZ. NON-WOVEN GEOTEXTILE TANK WRAP	693 SF (77 SY)
8 OZ. NON-WOVEN GEOTEXTILE EXCAVATION WRAP	1,316 SF (146 SY)
ACF BX-12 GEOGRID	729 SF (81 SY)
12" MAINTENANCE PORTS	2
PIPE BOOTS (UNKNOWN SIZE)	2
NOTE: STONE QUANTITY INCLUDES 12" OF COVER AND 3" OF BASE.	
NOTE: GEOTEXTILE / LINER QUANTITIES INCLUDE A 15% WASTE FACTOR.	



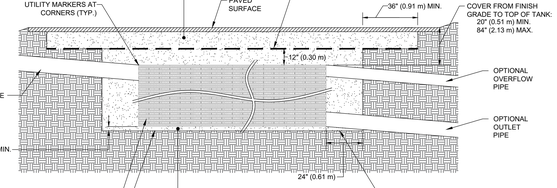
R-TANK^HD TYPICAL TANK INLET/OUTLET DETAIL

- 12 OZ/SY NONWOVEN GEOTEXTILE
- FABRIC COLLAR TO FIT OUTSIDE DIAMETER OF INLET/OUTLET PIPE
- * TRIM AS NEEDED

GEOTEXTILE PIPE BOOT FOR R-TANK^HD

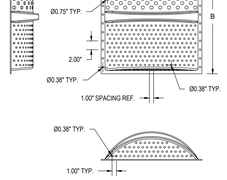
R-TANK SYSTEM DETAILS

N.T.S.



R-TANK^HD & H-20 LOADS - SECTION VIEW

NOTES:
1. FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK^HD MODULE SHEET.
2. INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
3. PRE-TREATMENT STRUCTURES NOT SHOWN.
4. FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK^HD FOOTPRINT.

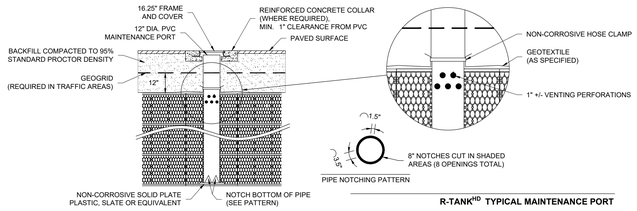


SIZE	A	B
23" x 24"	23"	26.51"
28" x 30"	28"	33.15"
34" x 36"	34"	38.69"

±0.25" TOLERANCE ON DIMENSIONS

TRASHGUARD PLUS PRETREATMENT DETAIL

NOTES
1. THIS PORT IS USED TO PUMP WATER INTO THE SYSTEM AND RE-SUSPEND ACCUMULATED SEDIMENT SO THAT IT MAY BE PUMPED OUT.
2. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH AS NEEDED.
3. ONLY R-TANK^HS AND R-TANK^HD MAY BE USED IN TRAFFIC APPLICATIONS.
4. SEE TRAFFIC LOADING DETAIL FOR MINIMUM & MAXIMUM COVER REQUIREMENTS.



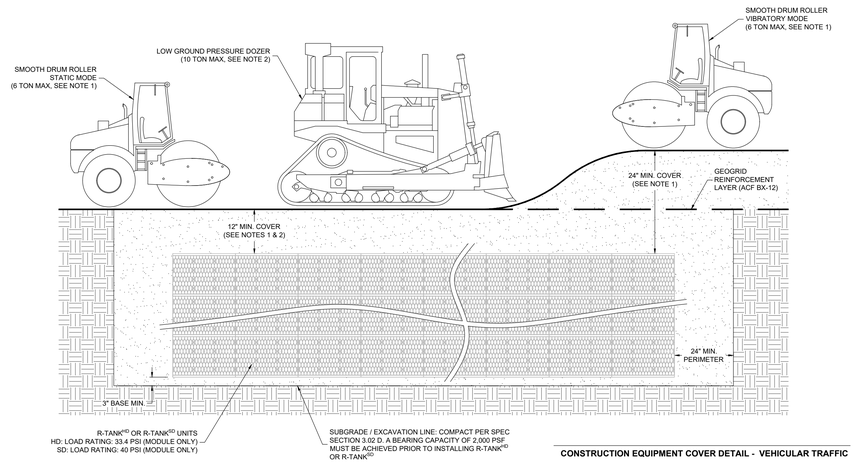
R-TANK^HD TYPICAL MAINTENANCE PORT

R-TANK SYSTEM DETAILS

N.T.S.

DUMP TRUCK DETAIL (SEE NOTE 3)

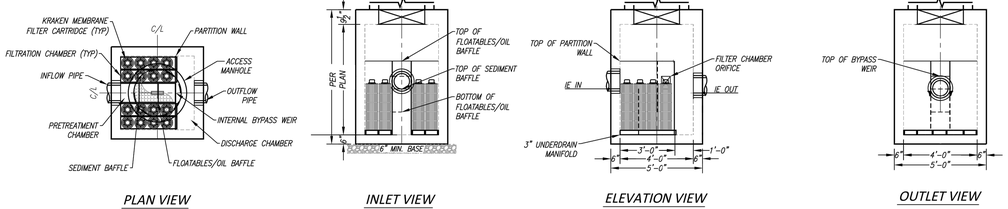
NOTES:
1. FOLLOWING PLACEMENT OF SIDE BACKFILL, A UNIFORM 12" LIFT OF THE FREELY DRAINING MATERIAL (SPEC SECTION 2.03 B) SHALL BE PLACED OVER THE R-TANK AND LIGHTLY COMPACTED USING A WALK-BEHIND TRENCH ROLLER. ALTERNATELY, A ROLLER (MAXIMUM GROSS VEHICLE WEIGHT OF 6 TONS) MAY BE USED. ROLLER MUST REMAIN IN STATIC MODE UNTIL A MINIMUM OF 24" OF COVER HAS BEEN PLACED OVER THE MODULES. SHEEP FOOT ROLLERS SHOULD NOT BE USED. **SPEC SECTION 3.05 A**
2. ONLY LOW PRESSURE TIRE OR TRACK VEHICLES (LESS THAN 7 PSI AND OPERATING WEIGHT OF LESS THAN 20,000 LBS) SHALL BE OPERATED OVER THE R-TANK SYSTEM DURING CONSTRUCTION. **SPEC SECTION 3.05 B**
3. DUMP TRUCKS AND PANS SHALL NOT BE OPERATED WITHIN THE R-TANK SYSTEM AT ANY TIME. WHERE NECESSARY, THE HEAVY EQUIPMENT SHOULD UNLOAD IN AN AREA ADJACENT TO THE R-TANK SYSTEM AND THE MATERIAL SHOULD BE MOVED OVER THE SYSTEM WITH TRACKED EQUIPMENT. **SPEC SECTION 3.05 B**
4. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC IS KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE. NO NON-INSTALLATION RELATED LOADING SHOULD BE ALLOWED OVER THE R-TANK SYSTEM UNTIL THE FINAL DESIGN SECTION HAS BEEN CONSTRUCTED (INCLUDING PAVEMENT). **SPEC SECTION 3.05 C**
5. SEE R-TANK INSTALLATION GUIDE OR CONTACT YOUR LOCAL ACF REPRESENTATIVE FOR ADDITIONAL INFORMATION.



CONSTRUCTION EQUIPMENT COVER DETAIL - VEHICULAR TRAFFIC

R-TANK CONSTRUCTION EQUIPMENT COVER DETAIL

N.T.S.



KRAKEN KF-4-4 MEMBRANE FILTRATION SYSTEM W/PRETREATMENT

N.T.S.

PERMIT SET - NOT FOR CONSTRUCTION

Baskervill

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
06/07/2019 - PERMIT SET

CIVIL DETAILS 3

C3.04

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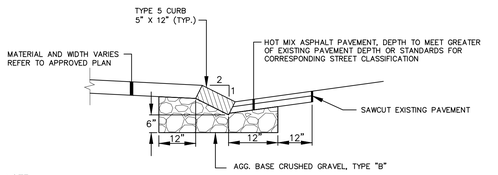


NOTE:
INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.

SLOPED GRANITE CURB
N.T.S.

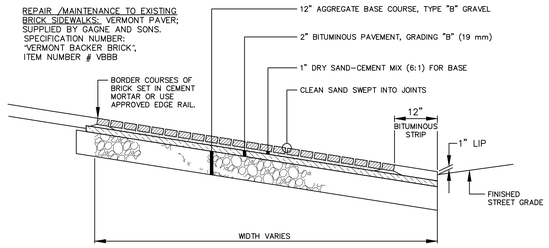
BRICKS TO BE USED:

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.

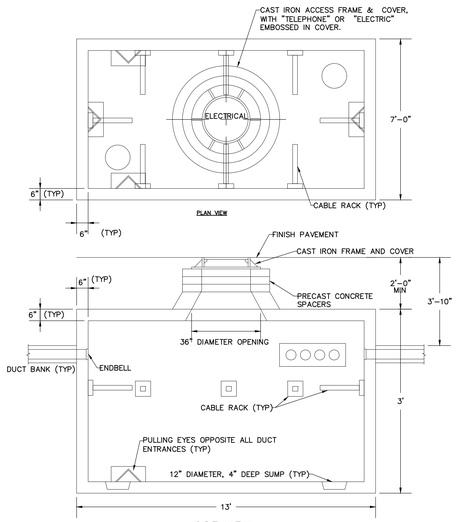
REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS. SPECIFICATION NUMBER: "VERMONT BACKER BRICK", ITEM NUMBER # VBBB

NOTE:

PROVIDE MINIMUM 5-FOOT PEDESTRIAN ACCESS ROUTE WITH MAXIMUM 2% CROSS SLOPE ACROSS DRIVEWAY IN LINE WITH SIDEWALK PEDESTRIAN ROUTE.

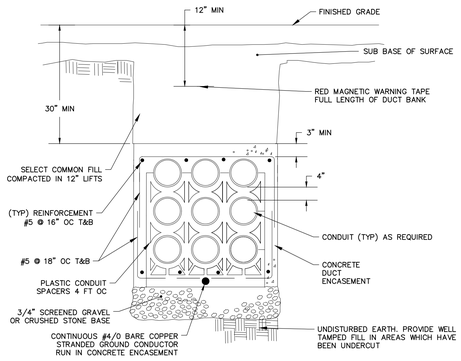


BRICK DRIVEWAY APRON
N.T.S.

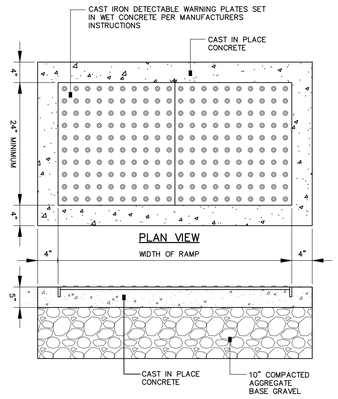


SIDE VIEW

ELECTRICAL VAULT DETAIL
N.T.S.



TYPICAL REINFORCED CONCRETE ENCASED UNDERGROUND DUCT BANK
N.T.S.



SECTION VIEW

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 MAINE D.O.T. 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 9 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
N.T.S.

NOTES:
ALL RAMPS SHALL COMPLY WITH ADA STANDARDS.

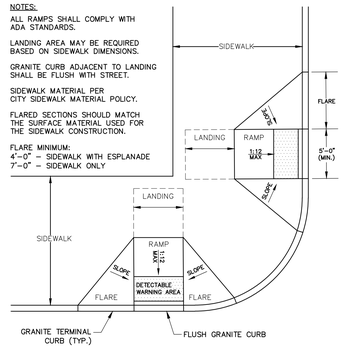
LANDING AREA MAY BE REQUIRED BASED ON SIDEWALK DIMENSIONS.

GRANITE CURB ADJACENT TO LANDING SHALL BE FLUSH WITH STREET.

SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

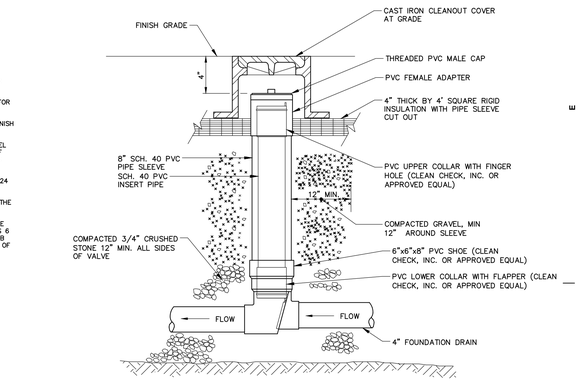
FLARED SECTIONS SHOULD MATCH THE SURFACE MATERIAL USED FOR THE SIDEWALK CONSTRUCTION.

FLARE MINIMUM:
4'-0" – SIDEWALK WITH ESPLANADE
7'-0" – SIDEWALK ONLY



SIDEWALK RAMP AT INTERSECTION

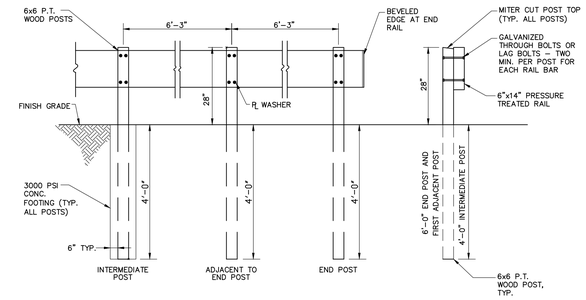
ADA ACCESSIBLE CURB RAMPS
N.T.S.



NOTES:

1. MATERIALS AND INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
2. SEE MECHANICAL PLANS FOR DETAIL OF BACK FLOW PREVENTOR LOCATED IN BELOW BUILDING PARKING LOT.

BACKFLOW PREVENTER
N.T.S.



NOTES:

- ALL POST SPACING SHALL BE 6'–3" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- GUARDRAIL SHALL BE CONSTRUCTED USING PRESSURE TREATED WOOD.

WOOD GUARDRAIL DETAIL
N.T.S.

Tools Needed for Installation

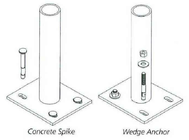
Tape Measure
Marker or Pencil
Masonry Drill Bit
Drill (Hammer drill recommended)
Hammer
Wrench 9/16"
Level
Washers (for leveling if necessary)

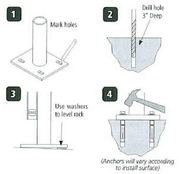
Recommended Base Materials:

Solid concrete is the best base material for installation. Ask your Dero Rack representative which anchor is appropriate for your application to ensure the proper anchors are shipped with your rack. Be sure nothing is underneath the base material that could be damaged by drilling.

Installation:

3/8" anchors are shipped with the rack. Place the rack in the desired location. Use a marker or pencil to outline the holes of the flange onto the base material. Drill the holes in accordance with the specifications shipped with the anchors. Make sure the holes are at least 6" away from any cracks in the base material.



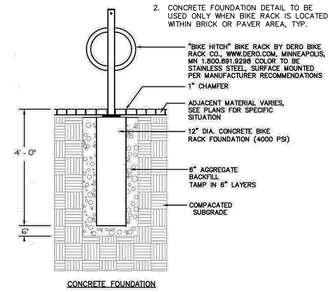


Tamper Resistant Fasteners

The concrete spike is a permanent anchor. The top of the wedge anchor can also be pounded sideways after installation so that it cannot be removed. Other tamper resistant fasteners are also available for purchase.

When using the special tamper resistant nuts, always set and first tighten the anchors. Once the rack is installed, replace two nuts from the bracket (opposite sides from each other) with the tamper resistant fasteners. DO NOT OVERTIGHTEN the tamper resistant nut.

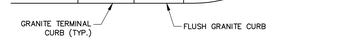
If you have any questions about installation or other features of the Bike Bike Rack, please call us toll free at 1-800-298-4915



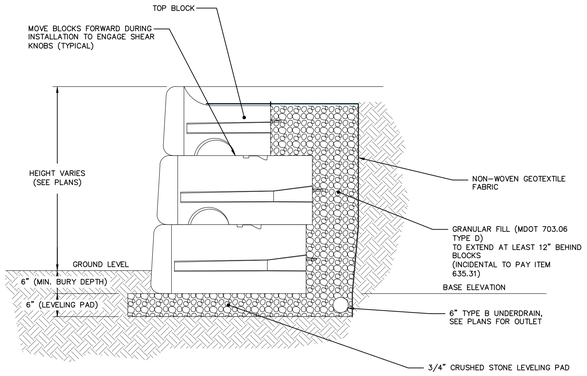
NOTES:

1. FINAL HEIGHT OF BIKE RACK IS TO BE 33" – 35" ABOVE FINISHED GRADE
2. CONCRETE FOUNDATION DETAIL TO BE USED ONLY WHEN BIKE RACK IS LOCATED WITHIN BRICK OR PAVER AREA, TYP.

TYPICAL BIKE RACK DETAIL IN R.O.W.
N.T.S.

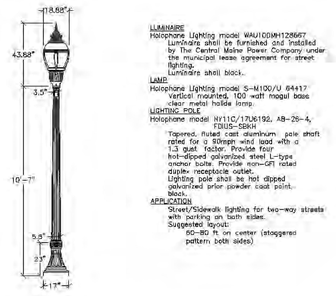


BITUMINOUS CONCRETE SIDEWALK
NOT TO SCALE



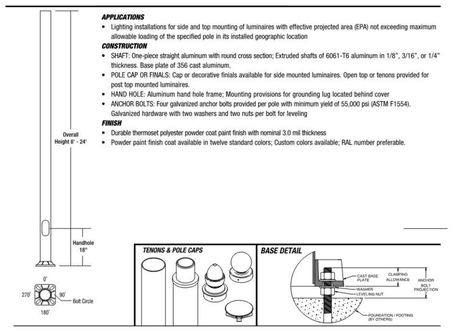
NOTE: PREFAB CONCRETE GRAVITY BLOCK WALL SHALL BE PER SUPPLEMENTAL SPECIFICATION SECTION 635. PREFAB CONCRETE GRAVITY BLOCK WALL DETAIL IS FOR REFERENCE PURPOSES TO AID IN LAYOUT AND DEVELOPMENT OF MANUFACTURER DETAILS. WALL MANUFACTURER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE. REFER TO SUPPLEMENTAL SPECIFICATION SECTION 635 FOR ADDITIONAL REQUIREMENTS.

SEGMENTED RETAINING WALL DETAIL
N.T.S.

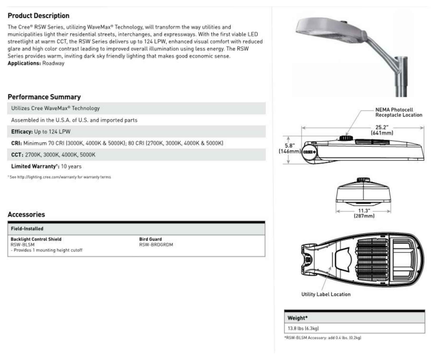


LUMINAIRE
Holophane Lighting model WAU1DDMH1226667
Luminaire shall be furnished and installed by The Central Maine Power Company under the municipal lease agreement for street lighting.
Luminaire shall be black.
LAMP
Holophane Lighting model S-M100/U 84417
Vertical mounted, 100 watt mogul base clear metal halide lamp.
LIGHTING POLE
Holophane model HV11C/17U6192, AB-26-4, FIBUS-SBKH
Tapered, fluted cast aluminum pole shaft rated for a 80mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Provide non-GFI rated duplex receptacle outlet. Lighting pole shall be hot dipped galvanized prior powder coat paint. Black.
APPLICATION
Street/Sidewalk lighting for two-way streets with parking on both sides.
Suggested layout:
80-110 ft on center (staggered pattern both sides)

OLD PORT DISTRICT STREET LIGHTING POLE
N.T.S.



LIGHTING UTILITY POLE
N.T.S.



COBRA HEAD LIGHT FIXTURE
N.T.S.

PERMIT SET - NOT FOR CONSTRUCTION

Baskervill

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
06/07/2019 - PERMIT SET

CIVIL DETAILS 4

C3.05

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Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

April 29, 2019

Lauren Swett, P.E.
Technical Manager
Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102

Re: 1 Center Street, PO
Ability to Serve with PWD Water

Dear Ms. Swett:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on December 18, 2018. Based on the information provided per plans submitted April 26, 2019, 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 8-inch fire service and a new 4-inch domestic service with a 3-inch meter may be installed from the water main in Center Street. The services should enter through the properties frontage on Center Street at least 10-feet from any side property lines.
- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.
- An approved backflow prevention device must be installed on the service line directly after the meter prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.

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 10-inch diameter cast iron water main in Center 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 110 psi.

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 City of 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

June 14, 2019

Lauren Swett
Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102

Re: Center Street Hotel

Dear Lauren,

Thank you for your interest in using natural gas for the above referenced project.

Unitil has evaluated and approved the request for gas to be extended from Fore St extending down Center St. approximately 300 feet to service the new hotel with an approximate service length of 50 feet. The load that was used in the evaluation was 5,745 CFH with a 2 PSI delivery pressure. If the load information changes, please let me know so that I can involve engineering department again to take a second look.

The below information highlighted in yellow will be needed in order to finalize evaluation and eventually go to contract.

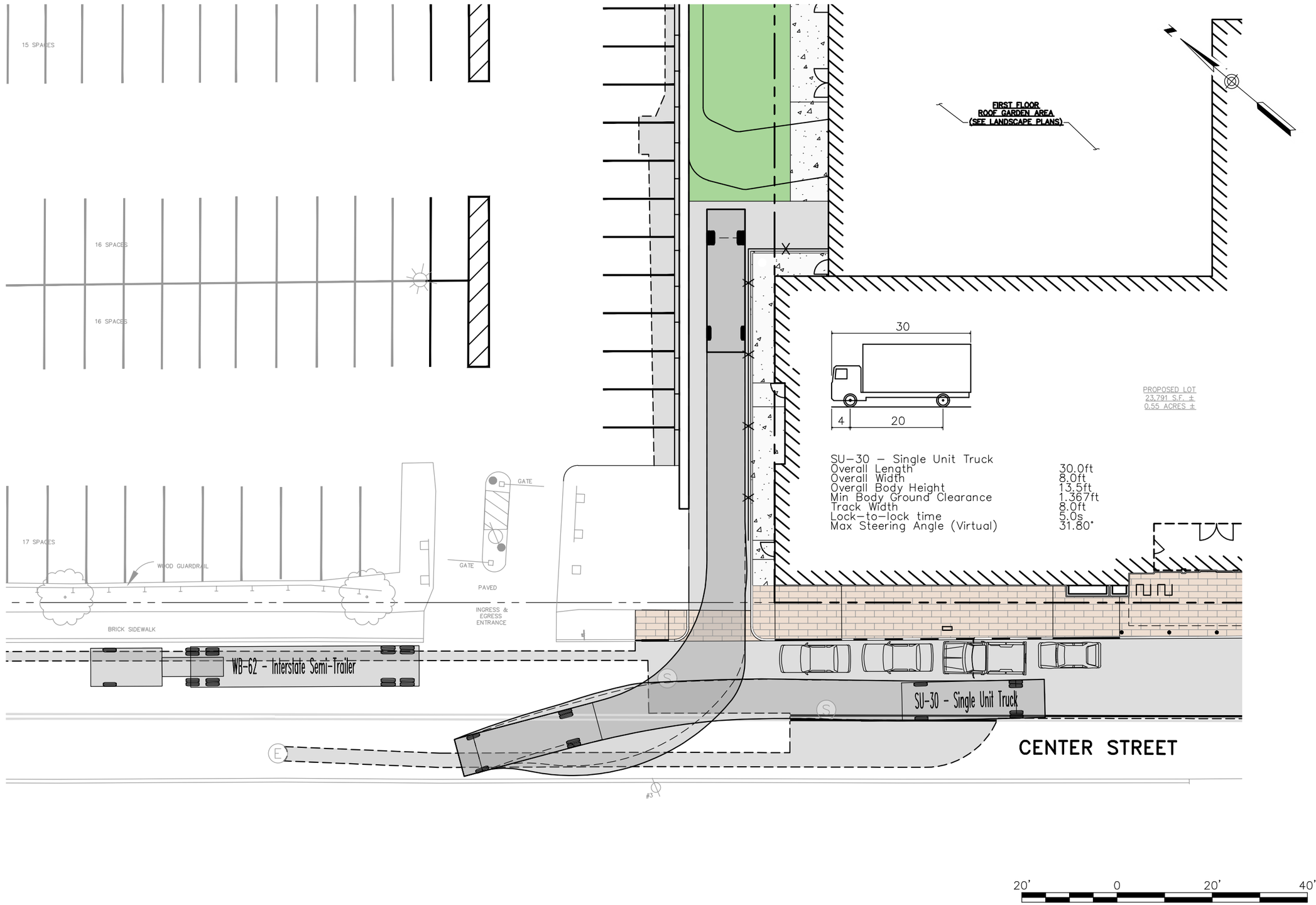
- Natural gas load requirements: 5,745,000 BTU/Hr
- Number of gas services and meters requested: one service and one meter
- Requested delivery pressure: 2 psi
- Legal Entity Property owner name, address, number and email
- Timeline for gas main and service installation
- Timeline for occupancy or when will gas be needed?
- Will gas be needed for construction heat and if so, what is the BTU/Hr requirement for that construction heat?
- Contact information for general contractor in charge of construction
- Determine how many feet of Center Street headed from the service location to Fore Street will be paved by the customer verses how much will Unitil need to include in our cost estimate to extend the gas main?

If you have any further questions or require additional information, please contact me directly at (207) 541-2543 or at carpenters@unitil.com.

Sincerely,

Scott Carpenter

Scott Carpenter
Senior Business Development Representative
Unitil Corporation
(o) 207-541-2543 (f) 207-541-2593



41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS
WOODARD & CURRAN

AASHTO SU-30 TURN MOVEMENT

DESIGNED BY: LJS
DRAWN BY: JBC
CHECKED BY: MDLM
0231538.01-C1.02 - C2.0*.dwg

FATHOM CC, LLC
P.O. BOX 7486
PORTLAND, MAINE 04112-7486

CENTER STREET BOUTIQUE HOTEL

JOB NO: 0231538.01
DATE: JULY 2019
SCALE: 1" = 20'

Turn Movement

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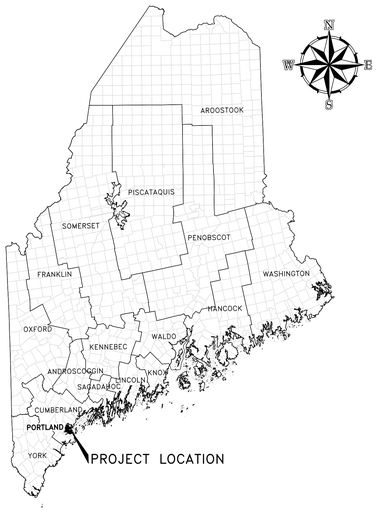
CENTER STREET BOUTIQUE HOTEL

FATHOM CC, LLC
P.O. BOX 7486
PORTLAND, MAINE 04112-7486

PERMIT SET - NOT FOR CONSTRUCTION

PROJECT NO. 0231538.01

12/21/2018



PROJECT LOCATION MAP

50 0 50 100
scale mile

WOODARD & CURRAN

41 Hutchins Drive | Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

SOURCE: USGS TOPOGRAPHIC MAP

SITE LOCATION MAP

1/2 0 1/2 1
scale mile

2000 0 2000 4000
scale feet

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HKS

ARCHITECT
HKS, INC.
350 N SAINT PAUL ST, SUITE 100
DALLAS, TX 75201- 4240

STRUCTURAL ENGINEER
BECKER STRUCTURAL ENGINEERS
75 YORK STREET
PORTLAND, MAINE 04101

OWNER
FATHOM CC, LLC
80 EXCHANGE STREET, SUITE 400
PORTLAND, MAINE 04101

OWNER'S CONSTRUCTION MANAGER
WRIGHT-RYAN CONSTRUCTION, INC.
10 DANFORTH STREET
PORTLAND, MAINE 04101

OWNER'S CIVIL ENGINEER
WOODWARD & CURRAN
41 HUTCHINS DRIVE
PORTLAND, MAINE 04102

OWNER'S INTERIOR ARCHITECT
EALAIN STUDIO.
408 FORE STREET, SUITE 201
PORTLAND, MAINE 04101

OWNER'S LANDSCAPE ARCHITECT
CARROLL ASSOCIATES LANDSCAPE ARCHITECT
217 COMMERCIAL STREET, SUITE 200
PORTLAND, MAINE 04101

CENTER STREET
BOUTIQUE HOTEL
PORTLAND, MAINE

STATE OF MAINE
LAUREN JANE SWETT
12284
LICENSED
PROFESSIONAL ENGINEER
12/21/2018

THESE DOCUMENTS ARE PARTIALLY DEVELOPED FROM ARCHITECTURAL AND STRUCTURAL DRAWINGS PROVIDED BY OTHERS. ALL AS-BUILT CONDITIONS SHOULD BE FIELD VERIFIED.

INTERIM REVIEW ONLY

These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect:
Arch. Reg. No.:
Date:

KEY PLAN
DATUM ELEVATION 12'-0"
(MSL) = 0.72 NGVD1929 = 0.70 Portland City Datum

REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER

DATE
12/21/2018
ISSUE

SHEET TITLE
COVER SHEET

SHEET NO.
G1.01

\\woodardcurran.net\shared\Projects\0231538.01 fathom - port sqr eng svs\wip\Drawings\General\0231538.01-G1.01.dwg, Dec 21, 2018 - 4:15pm
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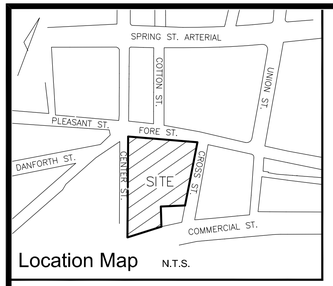


Location Map N.T.S.

Legend

● IRON PIPE OR ROD FOUND	CURB
■ GRANITE MONUMENT FOUND	SS SANITARY SEWER
⊗ WATER VALVE	SD STORM DRAIN
HYDRANT	SL SECURITY LINE
VALVE	E UNDERGROUND ELECTRIC
UTILITY POLE	PT PNEUMATIC TUBE
LIGHT POLE	W WATER LINE
MANHOLE	T TELEPHONE LINE
CATCH BASIN	C COMMUNICATION CABLE
BORING	25 1' CONTOUR
DEDUCIOUS TREE	N/F NOW OR FORMERLY
CONIFEROUS TREE	000/000 DEED BOOK/PAGE
	CONC. CONCRETE
	Ⓐ POSSIBLE ENCROACHMENT
	① SCHEDULE B EXCEPTION

Schedule B Section II Exceptions

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
TITLE INSURANCE COMMITMENT FILE NO. BTC4327/TF7674
COMMITMENT DATE: SEPTEMBER 17, 2018

1 – 7. NON SURVEY ITEMS

8. RIGHTS AND EASEMENTS GRANTED TO ARI NEWMAN AND LEE BEAMIS BY PINE STATE BEEF COMPANY AS SET FORTH IN A DEED DATED SEPTEMBER 12, 1967 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 3011, PAGE 321. – THE ROOFS DO NOT OVERHANG ONTO LOCUS PARCEL AND THE "EXISTING PLATFORMS" NO LONGER EXIST

9. RIGHTS AND EASEMENTS GRANTED TO CENTRAL MAINE POWER COMPANY BY POULTRY PROCESSING INC. AS SET FORTH IN AN INSTRUMENT DATED MAY 31, 1978 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 4278 PAGE 303. – REFERENCED POLE #1.1 OR VAULT #1.2 NOT FOUND, POSSIBLE LOCATION ON PROPOSED PARCEL

10. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR MGI ONE PORTLAND SQUARE, INC. LAND TITLE SURVEY" BY H. I. & E. C. JORDAN – SURVEYORS, DATED NOVEMBER 15, 1989, AS REVISED AND RE–CERTIFIED, AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 196, PAGE 219. – PERTINENT INFORMATION AS SHOWN

11. TITLE TO LAND AND GRADING RIGHTS ACQUIRED FROM PORTLAND SQUARE LIMITED PARTNERSHIP BY THE STATE OF MAINE BY ITS DEPARTMENT OF TRANSPORTATION AS SET FORTH IN A NOTICE OF LAYOUT AND TAKING DATED AUGUST 21, 1991 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9688, PAGE 341.– AS SHOWN

12. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "STATE OF MAINE, DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, PORTLAND, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. M–0685(4)", D.O.T. FILE NO. 3–388, DATED JUNE 1991 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 193, PAGE 342. – PERTINENT INFORMATION AS SHOWN

13. TERMS AND CONDITIONS STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MODIFICATION FINDINGS OF FACT AND ORDER ISSUED TO PORTLAND SQUARE LIMITED PARTNERSHIP DATED NOVEMBER 30, 1990 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 9418, PAGE 59, AS AFFECTED BY A TRANSFER DATED FEBRUARY 6, 1996 AND RECORDED IN BOOK 12350, PAGE 321, A MODIFICATION DATED FEBRUARY 14, 1996 AND RECORDED IN BOOK 12367, PAGE 325, AND TRANSFER DATED APRIL 21, 2015 AND RECORDED IN IN BOOK 32265, PAGE 156.– NON SURVEY ITEM

14. SUCH STATE OF FACTS AS SHOWN ON A PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 486 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR FATHOM CC, LLC" SEPTEMBER 18, 2018 BY OWEN HASKELL, INC. – SEE THIS PLAN

General Notes

1. OWNER OF RECORD: NORTH RIVER IV LLC, 224 12TH AVENUE, NEW YORK, NY 10001 C.C.R.D. BOOK 32163 PAGE 33

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM MAINE WEST NAD83. CITY POINT T124–18–1143 N:299542.1747 E:2928944.1068 AND T124–18–1155 N:299607.6956 E:2929152.2276 HELD.

3. ELEVATIONS ARE BASED ON CITY DATUM.

3. THE LOCUS IS SHOWN AS LOT 1, 3, 5 & 7 BLOCK G ON THE CITY OF PORTLAND ASSESSORS MAP 38.

4. THERE ARE 214 REGULAR PARKING SPACES, 76 COMPACT PARKING SPACES AND 3 HANDICAPPED PARKING SPACES FOR A TOTAL OF 293 PARKING SPACES ON THE SUBJECT PROPERTY.

Zoning Information

NONE PROVIDED

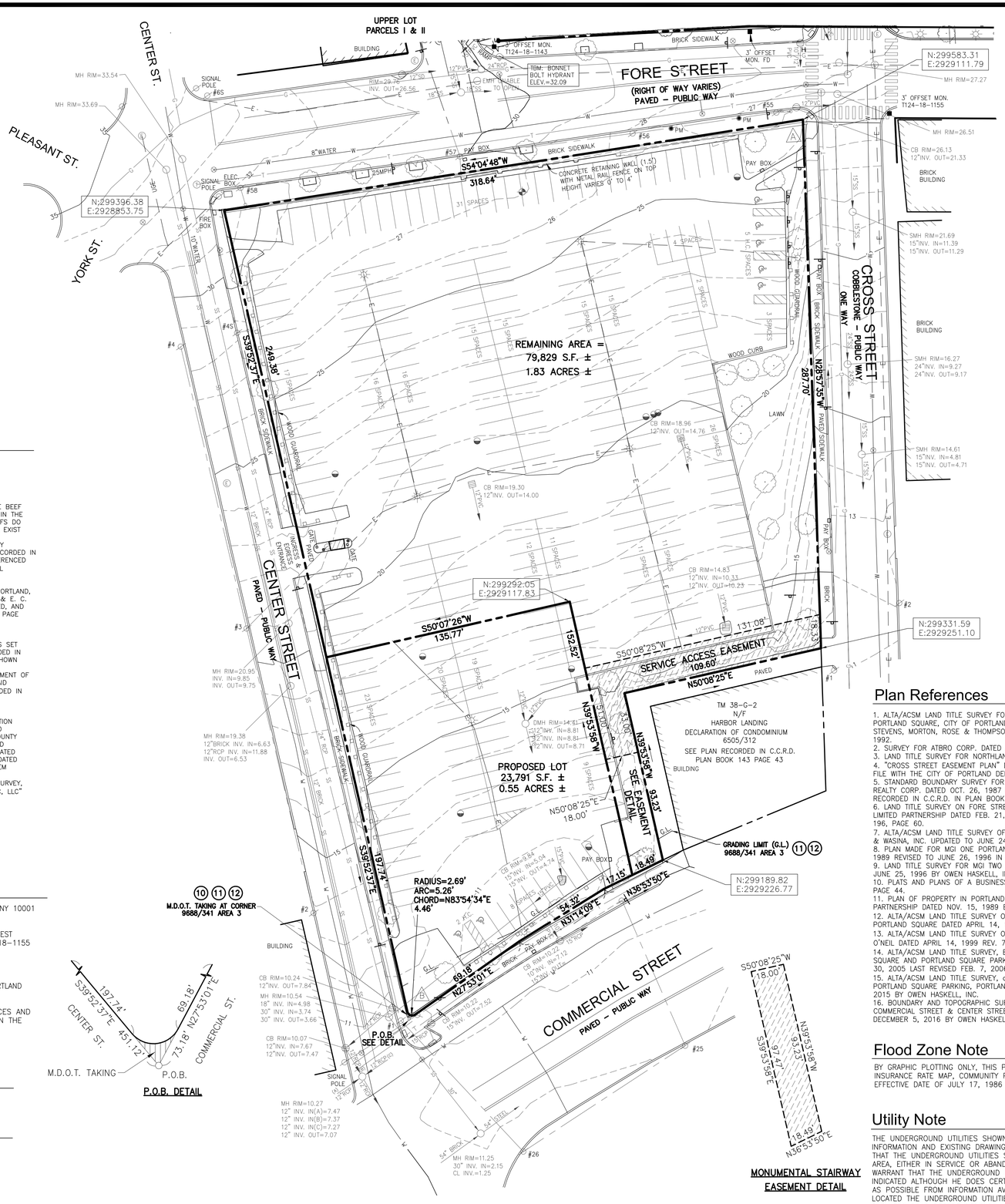
Possible Encroachments

Ⓐ 1.5' WIDE CONCRETE RETAINING WALL INTO CROSS STREET 1.8'±

Ⓑ BRICK SIDEWALK ON COMMERCIAL STREET ONTO SUBJECT PARCEL 2'±

SCALE : 1" = 30'

0' 15' 30' 60'



Legal Descriptions

PROPOSED LOT

A CERTAIN LOT OR PARCEL OF LAND AT THE INTERSECTION OF THE NORTHERLY SIDE OF COMMERCIAL STREET AND THE EASTERLY SIDE OF CENTER STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING ON THE NORTHERLY SIDELINE OF COMMERCIAL STREET AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, S 36°53'50" W ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 18.49 FEET TO THE POINT OF BEGINNING;

THENCE, FROM SAID POINT OF BEGINNING, N 39°53'58" W THROUGH THE LAND OF NORTH RIVER IV LLC 152.52 FEET;

THENCE, S 50°07'26" W CONTINUING THROUGH THE LAND OF NORTH RIVER IV LLC 135.77 FEET TO THE EASTERLY SIDELINE OF CENTER STREET;

THENCE, S 39°52'37" E ALONG THE EASTERLY SIDELINE OF CENTER STREET 197.74 FEET;

THENCE, ALONG A NON–TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 2.69 FEET, AN ARC LENGTH OF 5.26 FEET, A CHORD BEARING OF N 83°54'34" E AND CHORD DISTANCE OF 4.46 FEET TO THE NORTHERLY SIDELINE OF SAID COMMERCIAL STREET;

THENCE, N 27°53'01" E ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 69.18 FEET;

THENCE, N 31°14'09" E CONTINUING ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 54.32 FEET;

THENCE, N 36°53'50" E CONTINUING ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 17.15 FEET TO THE POINT OF BEGINNING, CONTAINING 23,791 S.F., OR 0.55 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BE DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

SERVICE ACCESS EASEMENT

A CERTAIN LOT OR PARCEL OF LAND ON THE WESTERLY SIDE OF CROSS STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE WESTERLY SIDELINE OF CROSS STREET AT THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, N 28°57'35" W ALONG THE WESTERLY SIDELINE OF CROSS STREET 18.33 FEET;

THENCE, S 50°08'25" W THROUGH THE LAND OF NORTH RIVER IV LLC 131.08 FEET TO THE PROPOSED LOT AS SHOWN ON SAID PLAN;

THENCE, S 39°53'58" E ALONG THE EASTERLY LINE OF SAID PROPOSED LOT 51.00 FEET;

THENCE, N 50°08'25" E THROUGH THE LAND OF NORTH RIVER IV LLC 18.00 FEET TO THE WESTERLY LINE OF LAND OF SAID HARBOR LANDING CONDOMINIUM, BEING AN EASTERLY LINE OF LAND OF SAID NORTH RIVER IV LLC;

THENCE, N 39°53'58" W ALONG SAID EASTERLY LINE OF LAND OF NORTH RIVER IV LLC 33.00 FEET;

THENCE, N 50°08'25" E ALONG THE SOUTHERLY LINE OF LAND OF NORTH RIVER IV LLC 109.60 FEET TO THE POINT OF BEGINNING, CONTAINING 2,922 S.F. OR 0.07 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BY DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

MONUMENTAL STAIRWAY EASEMENT

A CERTAIN LOT OR PARCEL OF LAND ON THE NORTHERLY SIDE OF COMMERCIAL STREET, CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTHERLY SIDELINE OF COMMERCIAL STREET AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF HARBOR LANDING CONDOMINIUM AS DESCRIBED IN A DECLARATION OF CONDOMINIUM RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 6505, PAGE 312;

THENCE, N 39°53'58" W ALONG THE WESTERLY LINE OF LAND OF SAID HARBOR LANDING CONDOMINIUM, BEING AN EASTERLY LINE OF LAND OF SAID NORTH RIVER IV LLC 93.23 FEET;

THENCE, S 50°08'25" W THROUGH THE LAND OF NORTH RIVER IV LLC 18.00 FEET TO THE PROPOSED LOT AS SHOWN ON SAID PLAN;

THENCE, S 39°53'58" E ALONG THE EASTERLY LINE OF SAID PROPOSED LOT 97.47 FEET TO THE NORTHERLY SIDELINE OF SAID COMMERCIAL STREET;

THENCE, N 36°53'50" E ALONG THE NORTHERLY SIDELINE OF COMMERCIAL STREET 18.49 FEET TO THE POINT OF BEGINNING, CONTAINING 1,716 S.F., OR 0.04 ACRES, MORE OR LESS.

BEING A PORTION OF THE PREMISES CONVEYED TO NORTH RIVER IV LLC BY RREEF AMERICA REIT III–Z4, LLC BY DEED DATED MARCH 26, 2015 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 32163, PAGE 33.

Plan References

1. ALTA/ACSM LAND TITLE SURVEY FOR PORTLAND SQUARE LIMITED PARTNERSHIP, TWO PORTLAND SQUARE, CITY OF PORTLAND, COUNTY OF CUMBERLAND, STATE OF MAINE, BY STEVENS, MORTON, ROSE & THOMPSON DATED DEC. 11, 1989, REVISED THROUGH DEC. 11, 1992.
2. SURVEY FOR ATBRO CORP. DATED JULY 1981 BY H.I. & E.C. JORDAN.
3. LAND TITLE SURVEY FOR NORTHLAND REALTY DATED NOV. 26, 1985 BY H.I. & E.C. JORDAN.
4. "CROSS STREET EASEMENT PLAN" DATED JAN. 3, 1986 BY HUNTER– BALLEW ASSOCIATES ON FILE WITH THE CITY OF PORTLAND DEPT. OF PLANNING AND URBAN DEVELOPMENT.
5. STANDARD BOUNDARY SURVEY FOR PORTLAND SQUARE LIMITED PARTNERSHIP, NORTHLAND REALTY CORP. DATED OCT. 26, 1987 BY STEVENS, MORTON, ROSE & THOMPSON, INC. RECORDED IN C.C.R.D. IN PLAN BOOK 182, PAGE 29.
6. LAND TITLE SURVEY ON FORE STREET, PORTLAND, MAINE MADE FOR TWO PORTLAND SQUARE LIMITED PARTNERSHIP DATED FEB. 21, 1996 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 196, PAGE 60.
7. ALTA/ACSM LAND TITLE SURVEY OF ONE PORTLAND SQUARE DATED MAY 16, 1996 BY LEWIS & WASINA, INC. UPDATED TO JUNE 24, 1996 IN PLAN BOOK 196, PAGE 221.
8. PLAN MADE FOR MGI ONE PORTLAND SQUARE, INC. BY H.I. & E.C. JORDAN DATED NOV. 15, 1989 REVISED TO JUNE 26, 1996 IN PLAN BOOK 196, PAGE 86 AND 219.
9. LAND TITLE SURVEY FOR MGI TWO PORTLAND SQUARE, INC., FORE STREET, PORTLAND, MAINE, JUNE 25, 1996 BY OWEN HASKELL, INC. IN PLAN BOOK 196, PAGE 220.
10. PLATS AND PLANS OF A BUSINESS CONDOMINIUM OCTOBER 29, 1987 PLAN BOOK 166, PAGE 44.
11. PLAN OF PROPERTY IN PORTLAND MAINE MADE FOR PORTLAND SQUARE LIMITED PARTNERSHIP DATED NOV. 15, 1989 BY H.I. AND E.C. JORDAN.
12. ALTA/ACSM LAND TITLE SURVEY ON FORE STREET PORTLAND, MAINE MADE FOR MGI, ONE PORTLAND SQUARE DATED APRIL 14, 1999 BY OWEN HASKELL, INC.
13. ALTA/ACSM LAND TITLE SURVEY ON FORE STREET PORTLAND, MAINE MADE FOR TIMOTHY O'NEIL DATED APRIL 14, 1999 REV. 7 3/23/04 BY OWEN HASKELL, INC.
14. ALTA/ACSM LAND TITLE SURVEY, BCIA PROJECT, ONE PORTLAND SQUARE, TWO PORTLAND SQUARE AND PORTLAND SQUARE PARKING, PORTLAND, MAINE, SHEETS 1 AND 2, DATED SEPT. 30, 2005 LAST REVISED FEB. 7, 2006 AND MARCH 3, 2006 BY OWEN HASKELL, INC.
15. ALTA/ACSM LAND TITLE SURVEY, oNE PORTLAND SQUARE, TWO PORTLAND SQUARE AND PORTLAND SQUARE PARKING, PORTLAND, MAINE, MADE FOR NORTH RIVER IV LLC FEBRUARY 12, 2015 BY OWEN HASKELL, INC.
16. BOUNDARY AND TOPOGRAPHIC SURVEY, LOWER PARKING LOT, FORE STREET, CROSS STREET, COMMERCIAL STREET & CENTER STREET, PORTLAND, MAINE MADE FOR CARROLL ASSOCIATES DECEMBER 5, 2016 BY OWEN HASKELL, INC.

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051 0013 B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

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.

ALTA / NSPS Land Title Survey

Commercial & Center Street
Portland, Cumberland County, Maine
Made For
Fathom CC, LLC
80 Exchange Street, Suite 30, Portland, Maine

Surveyor's Certification

TO: FATHOM CC, LLC, AND OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 11, 13, 14, 16, 17, 19 AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 5, 2016, WITH A FIELD INSPECTION ON SEPTEMBER 18, 2018.

Randy R. Loubier

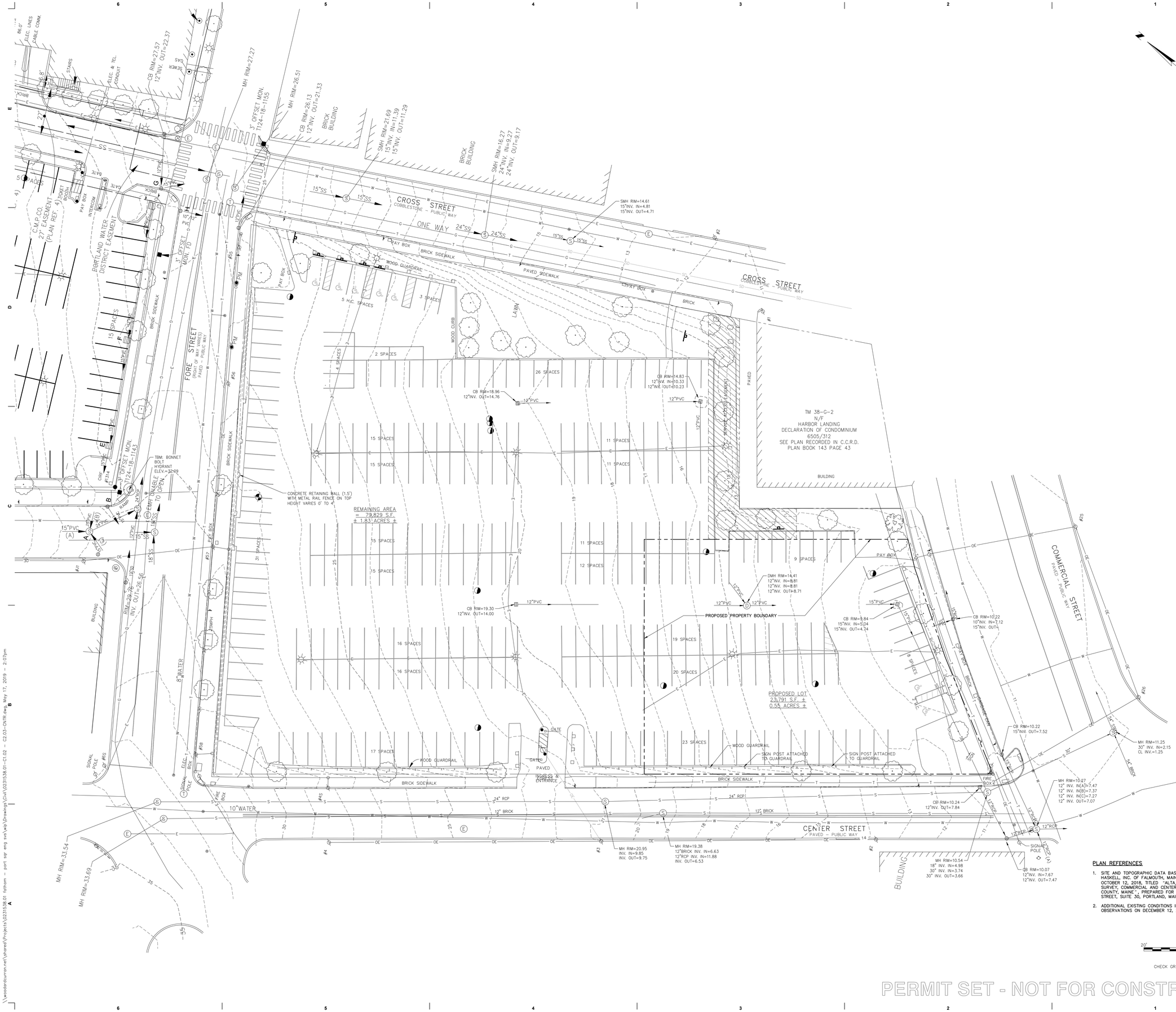
RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: OCTOBER 12, 2018
DATE OF LAST REVISION:

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: OHI / JLW	FIELD BOOK: FILE	JOB NO.	2018-239 P
CHECKED BY: RRL	SCALE: 1" = 30'	DRWG. NO.	1



PLAN REFERENCES

1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY OWEN HASKELL, INC. OF FALMOUTH, MAINE, DATED OCTOBER 12, 2018, TITLED "ALTA/NSPS LAND TITLE SURVEY, COMMERCIAL AND CENTER STREET, PORTLAND, CUMBERLAND COUNTY, MAINE", PREPARED FOR FATHOM CC, LLC, 80 EXCHANGE STREET, SUITE 30, PORTLAND, MAINE.
2. ADDITIONAL EXISTING CONDITIONS INFORMATION FROM SITE OBSERVATIONS ON DECEMBER 12, 2018.

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

PERMIT SET - NOT FOR CONSTRUCTION

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Baskervill

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT
12284
REGISTERED PROFESSIONAL ENGINEER
5/17/2019

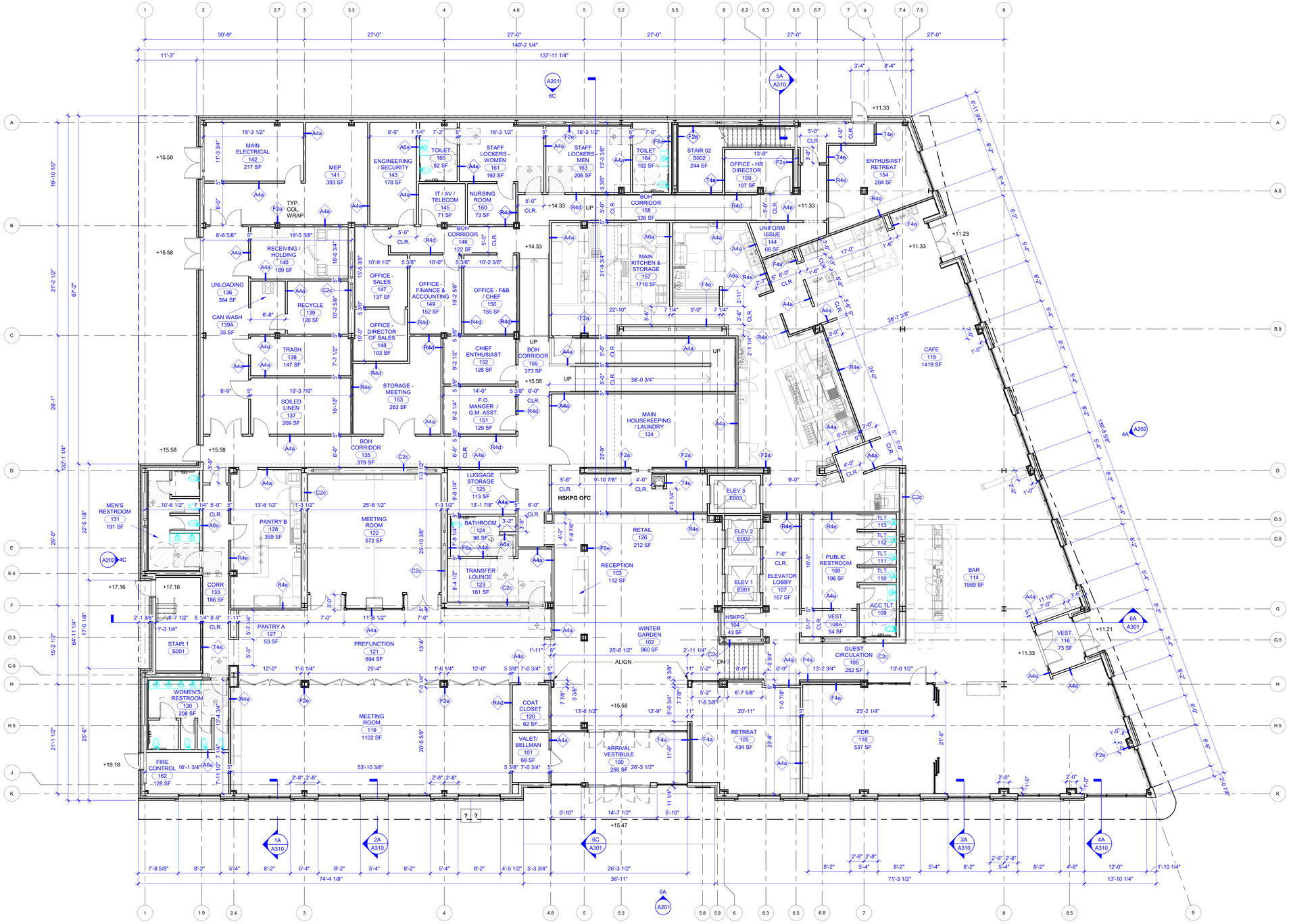
ISSUE
05/17/2019 - PERMIT SET

EXISTING CONDITIONS PLAN

C1.01

KEYNOTES

Baskerville



6A GROUND FLOOR PLAN - OVERALL

SCALE: 1/8" = 1'-0" DRAWING REF: A201

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

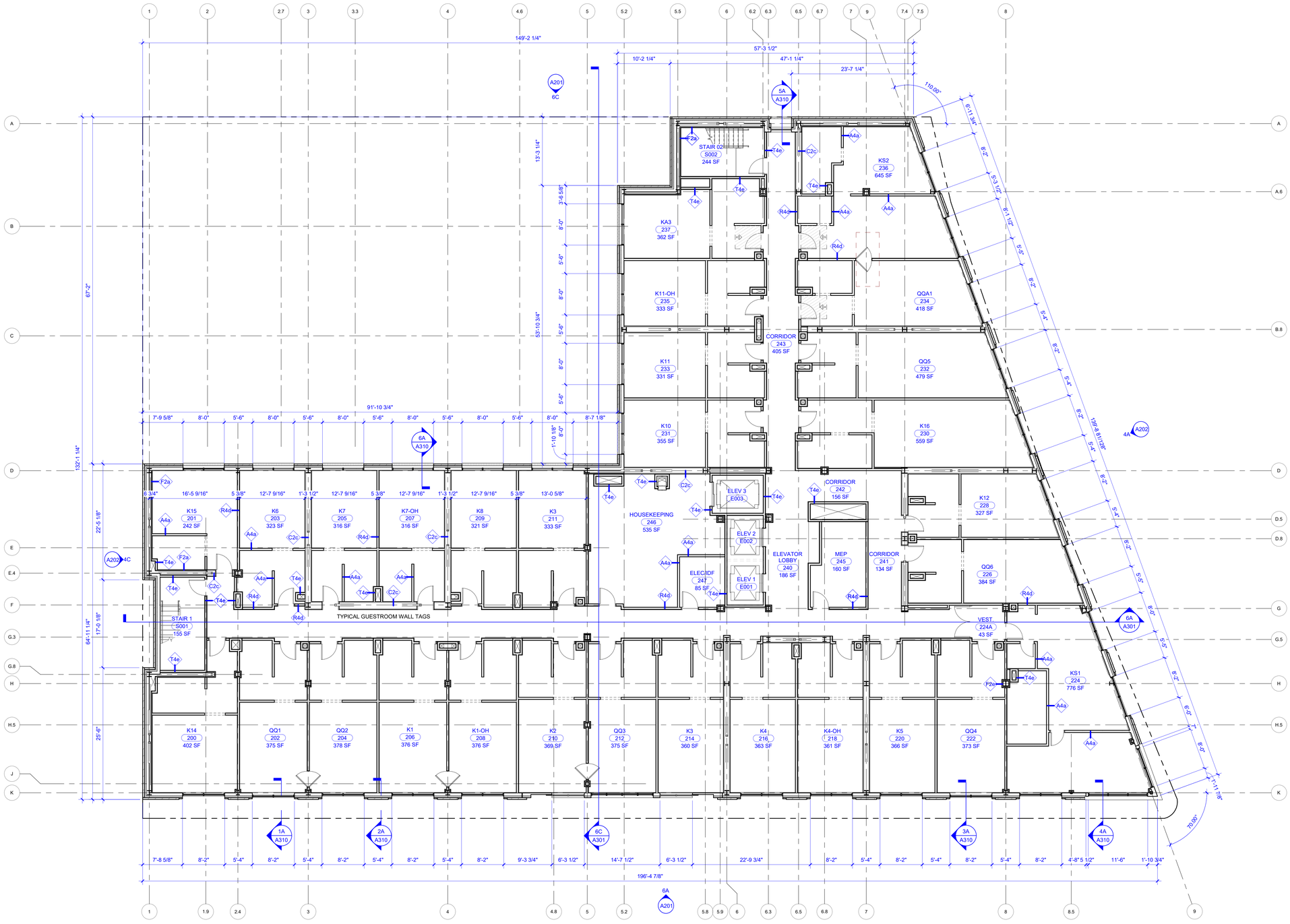
ISSUE
05/10/2019 - DESIGN DEVELOPMENT

1ST FLOOR - PLAN

A111

KEYNOTES

Baskerville



6A 2ND FLOOR PLAN - OVERALL
SCALE: 1/8" = 1'-0" DRAWING REF: A201

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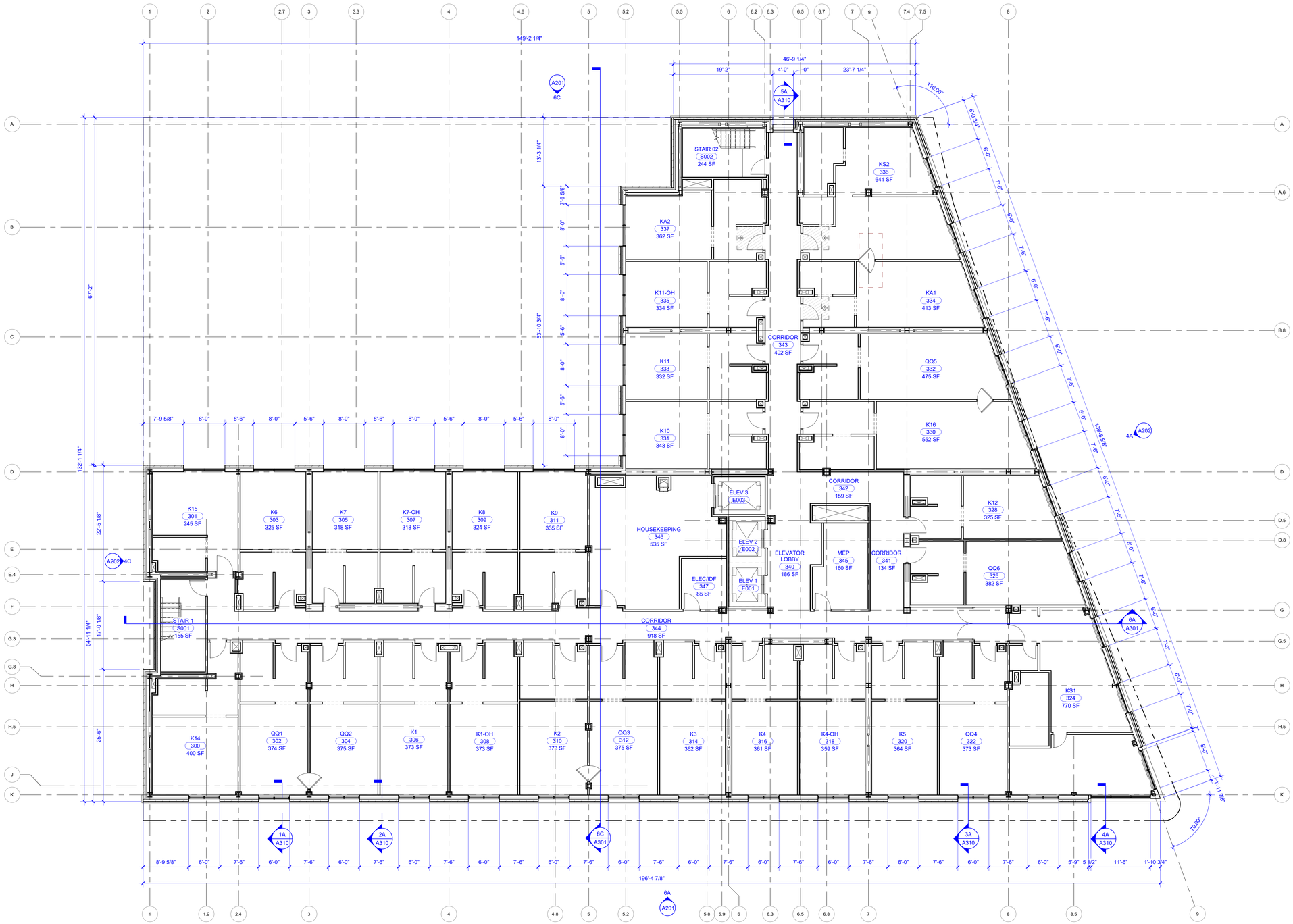
PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

2ND FLOOR PLAN
A112



6A 3RD FLOOR PLAN - OVERALL

SCALE: 1/8" = 1'-0" DRAWING REF: A201

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

3RD FLOOR - PLAN
A113

6A 4TH FLOOR PLAN - OVERALL
SCALE: 1/8" = 1'-0" DRAWING REF: A201

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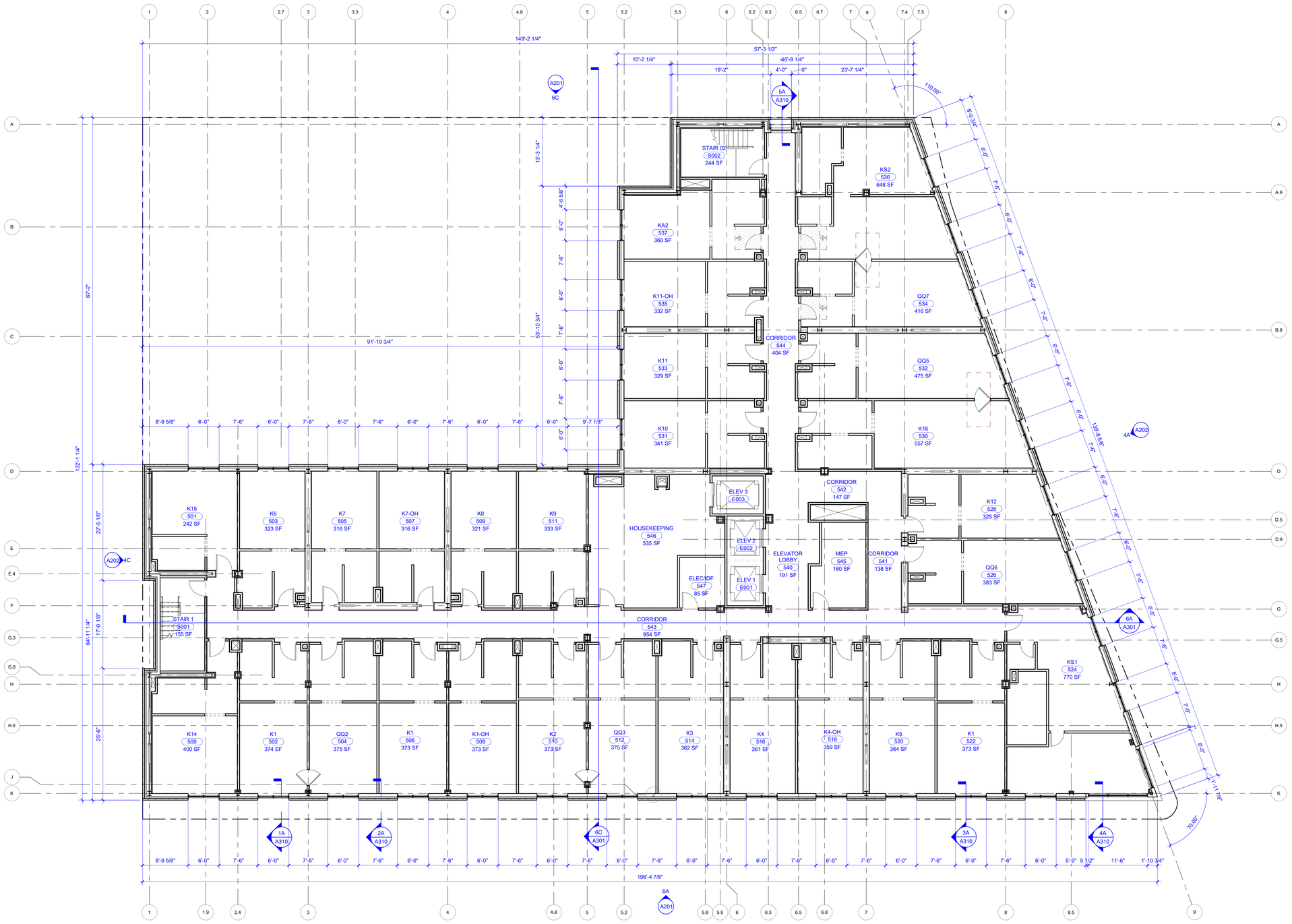
PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 -
DESIGN DEVELOPMENT

4TH FLOOR - PLAN
A114



6A 5TH FLOOR PLAN - OVERALL
SCALE: 1/8" = 1'-0" DRAWING REF: A201

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PROJECT NUMBER
2.180697.0

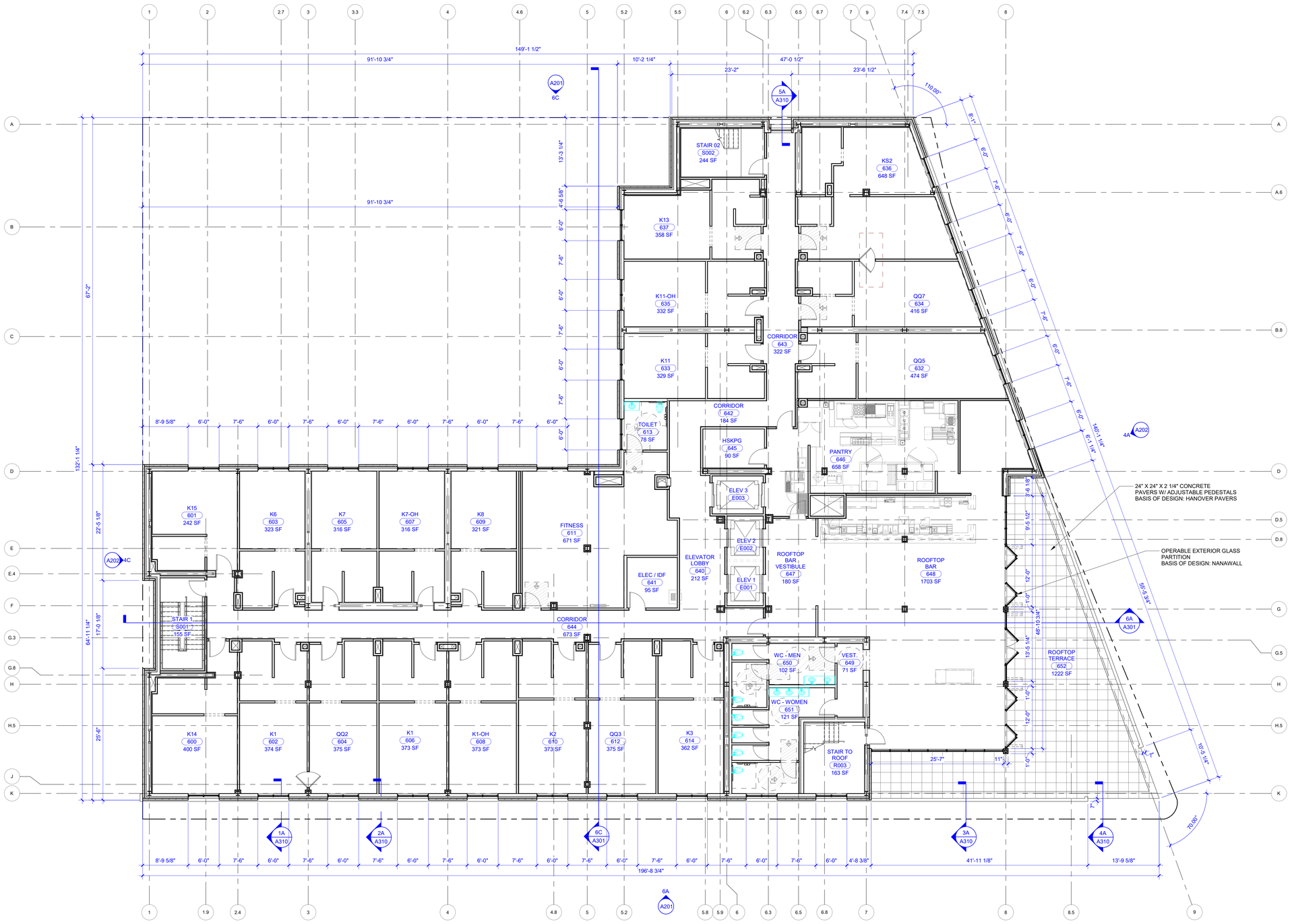
CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

5TH FLOOR - PLAN
A115

Baskervill



6A 6TH FLOOR PLAN / ROOFTOP TERRACE - OVERALL

SCALE: 1/8" = 1'-0" DRAWING REF: A201

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

6TH FLOOR - PLAN

A116

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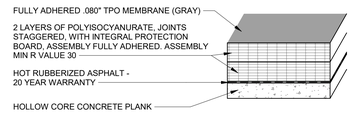


3E ROOF SYSTEM (TYPICAL)
SCALE: 1 1/2" = 1'-0"

ROOF LEGEND

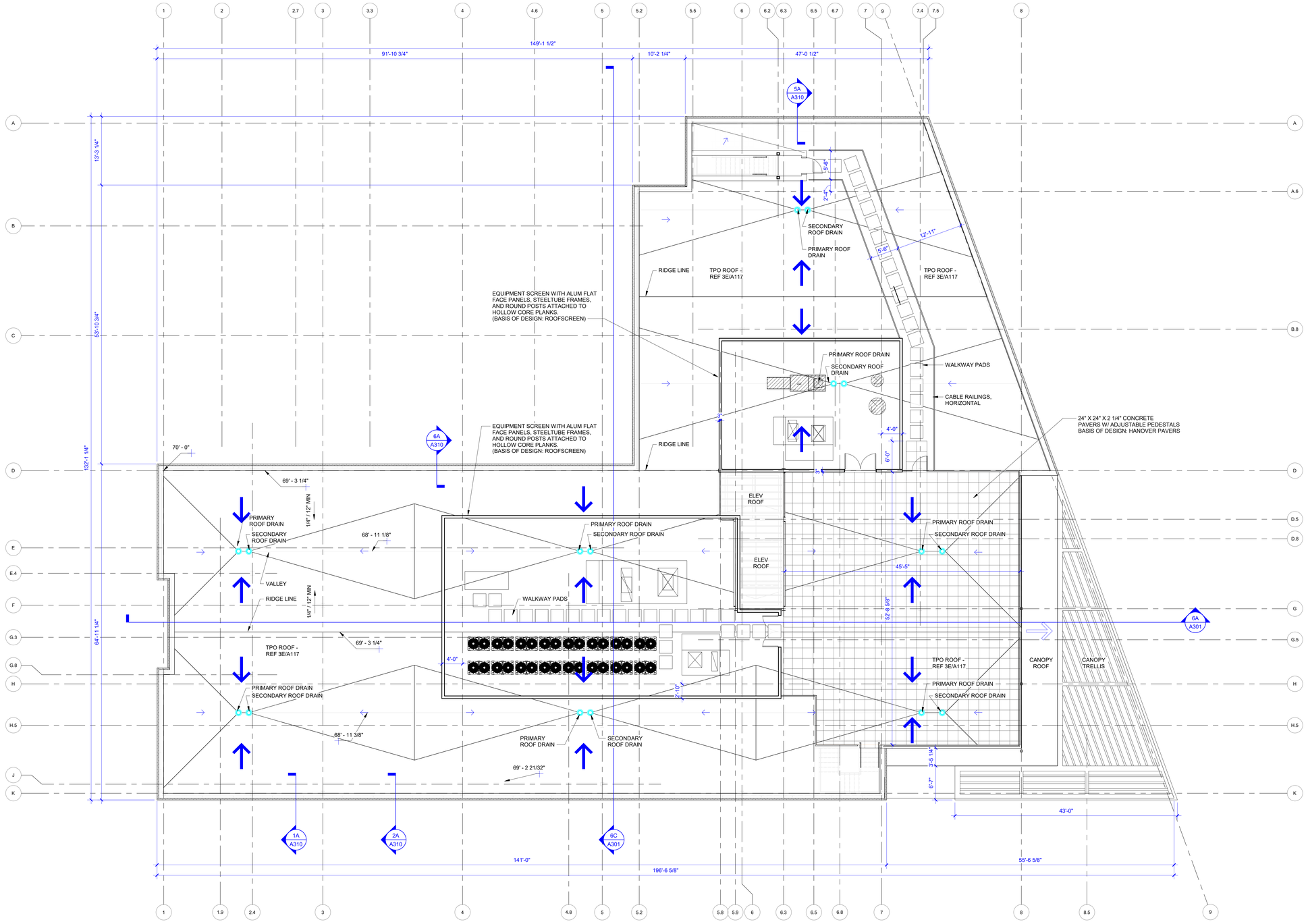
DIRECTION OF SLOPE IN STRUCTURE

DIRECTION OF SLOPE IN INSULATION

DIRECTION OF SLOPE IN CRICKET

WALK PAD

KEYNOTES



6A ROOF PLAN - OVERALL
SCALE: 1/8" = 1'-0" DRAWING REF: A201

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

ROOF PLAN
A117

HISTORIC PRESERVATION - PUBLIC HEARING

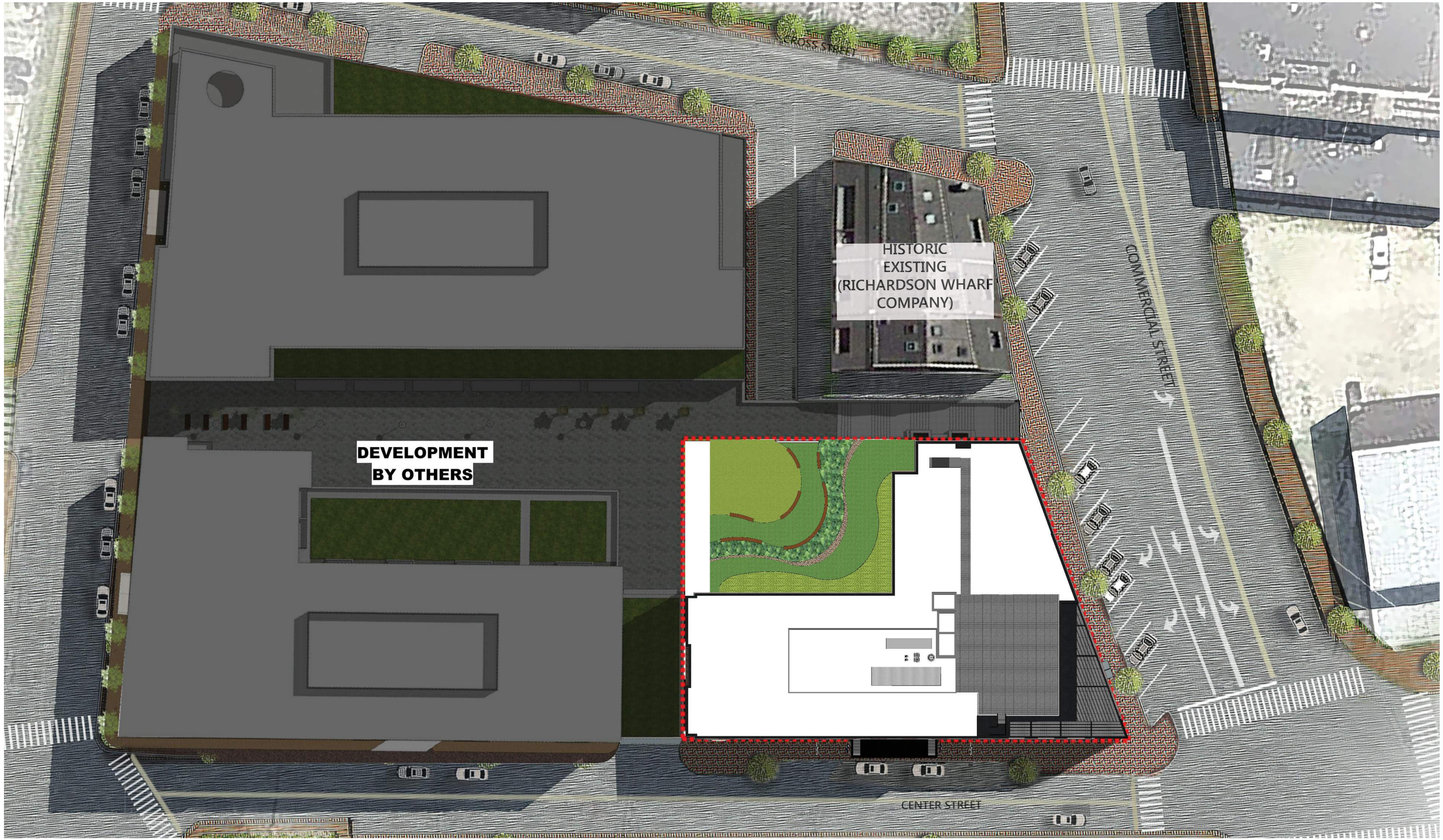
CENTER STREET

BOUTIQUE HOTEL

04.17.2019

Fathom

Baskerville



CENTER STREET HOTEL
PORTLAND, MAINE

HISTORIC PRESERVATION
04.17.2019

Fathom COMPANIES | Baskervill

SCALE: NTS

A1.01

RENDERINGS + ELEVATION

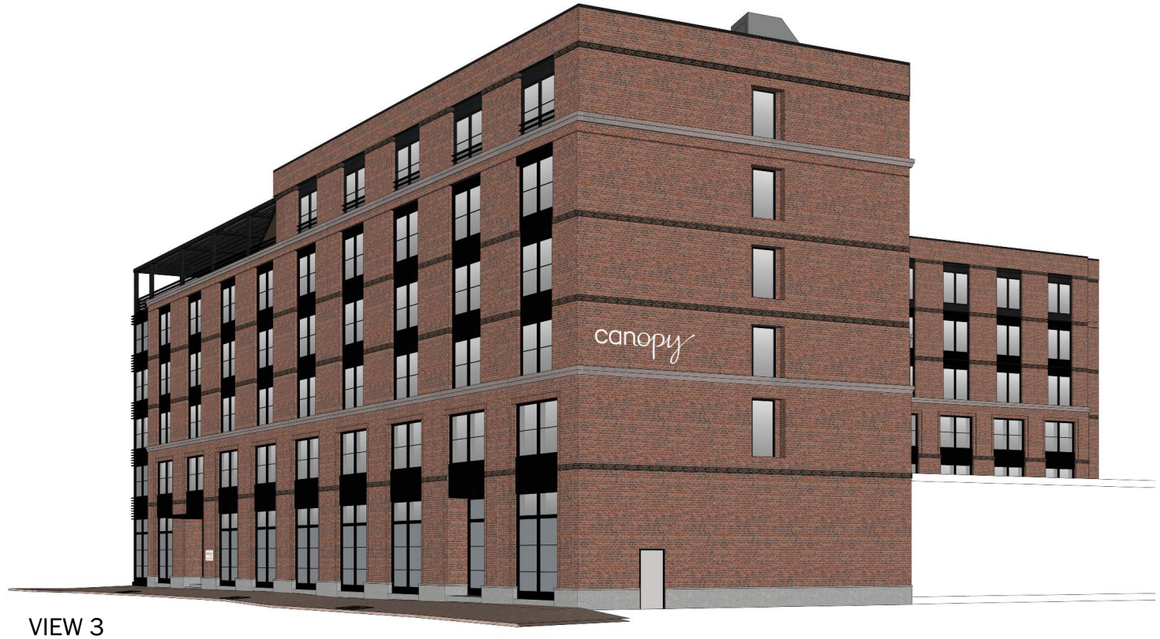
COMMERCIAL STREET

Fathom
COMPANIES

Baskerville

VIEW 1

VIEW 2



VIEW 3

ROOF CANOPY
VIEW 1

ROOF CANOPY - VIEW 2

ROOF CANOPY - VIEW 3

CO.
CROCKERY

COMMERCIAL ST. ELEVATION

UPDATED VISION FOR PUBLIC HEARING

RENDERINGS + ELEVATION

CENTER STREET

Fathom
COMPANIES

Baskervill

CENTER ST. ELEVATION

UPDATED VISION FOR PUBLIC HEARING

canopy
hotel

T.O.S.
68'-1"
F.F. LEVEL 06
55'-5"
F.F. LEVEL 05
45'-7"
F.F. LEVEL 04
35'-9"
F.F. LEVEL 03
25'-11"
F.F. LEVEL 02
16'-1"
F.F. LEVEL 01A
4'-1"
F.F. LEVEL 01
0'-0"
canopy

OVERALL VIEWS + DETAILS

Fathom
COMPANIES

Baskerville

CORNER VIEW AT COMMERCIAL ST. & CENTER ST.

UPDATED VISION FOR PUBLIC HEARING

canopy
PORTLAND | OLD PORT

canopy
canopy
PORTLAND | OLD PORT

EXTERIOR FINISH LEGEND

FINISH NO.	MATERIAL	MANUFACTURER	STYLE NAME / NO.	COLOR	SIZE	DESCRIPTION / REMARKS
BRICK						
BR1	FACE BRICK	MORIN BRICK COMPANY	OLD PORT SERIES	OLD PORT BLEND NARROW FLASHED RANGE	3-3/8" x 2-1/4" x 7-3/8"	MAIN FACE BRICK
BR2	ACCENT	MORIN BRICK COMPANY	WOODLAND BROWN COLLECTION	WOODLAND BROWN SMOOTH NARROW FLASH RANGE	3-3/8" x 2-1/4" x 7-3/8"	ACCENT FACE BRICK
CURTAIN WALL / STORE FRONT						
CW	METAL + GLASS	KAWNEER	METROVIEW FG601T - PG	BLACK	VARIES - SEE PLANS	CURTAIN WALL SYSTEM
SF	METAL + GLASS	KAWNEER	TRIFAB 451T	BLACK	VARIES - SEE PLANS	STOREFRONT SYSTEM
METAL						
MT1	METAL PANEL	CENTRIA ARCHITECTURAL SYSTEMS	INTERCEPT ENTYRE	9916 RICH BLACK	VARIES	METAL PANEL
MT2	PREFINISHED METAL COPING	PAC-CLAD	PAC-TITE COPING - TAPERED	TBD	SEE PLANS	PREFINISHED METAL COPING
RL	METAL RAILING	AGS STAINLESS RAILING SYSTEM	RAINIER CABLE RAILING SYSTEM	BLACK	SEE PLANS	METAL RAILING
MT3	METAL FINS			TBD	SEE PLANS	METAL FINS
STONE						
ST	GRANITE	J.C. STONE	OAK HILL	GRAY GRANITE	VARIES - SEE PLANS	GRANITE STONE PANELS
PC	PRECAST	READING ROCK	ROCKCAST LIGHTWEIGHT SERIES	BUFFSTONE	VARIES - SEE PLANS	PRECAST ACCENT BAND

LEGEND - EXTERIOR FINISHES

BR1 BRICK · BR2 BRICK · CW CURTAIN WALL
SF STORE FRONT · ST GRANITE STONE · PC PRECAST STONE
MT1 METAL PANEL · MT2 METAL COPING · MT3 METAL FINS
RL METAL RAILING

EXTERIOR ELEVATION NOTES

KEYNOTES

6C EXTERIOR ELEVATION - NORTH

SCALE: 1/8" = 1'-0" DRAWING REF: A111

6A EXTERIOR ELEVATION - SOUTH

SCALE: 1/8" = 1'-0" DRAWING REF: A111

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

EXTERIOR ELEVATIONS & DETAILS
A201

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EXTERIOR FINISH LEGEND

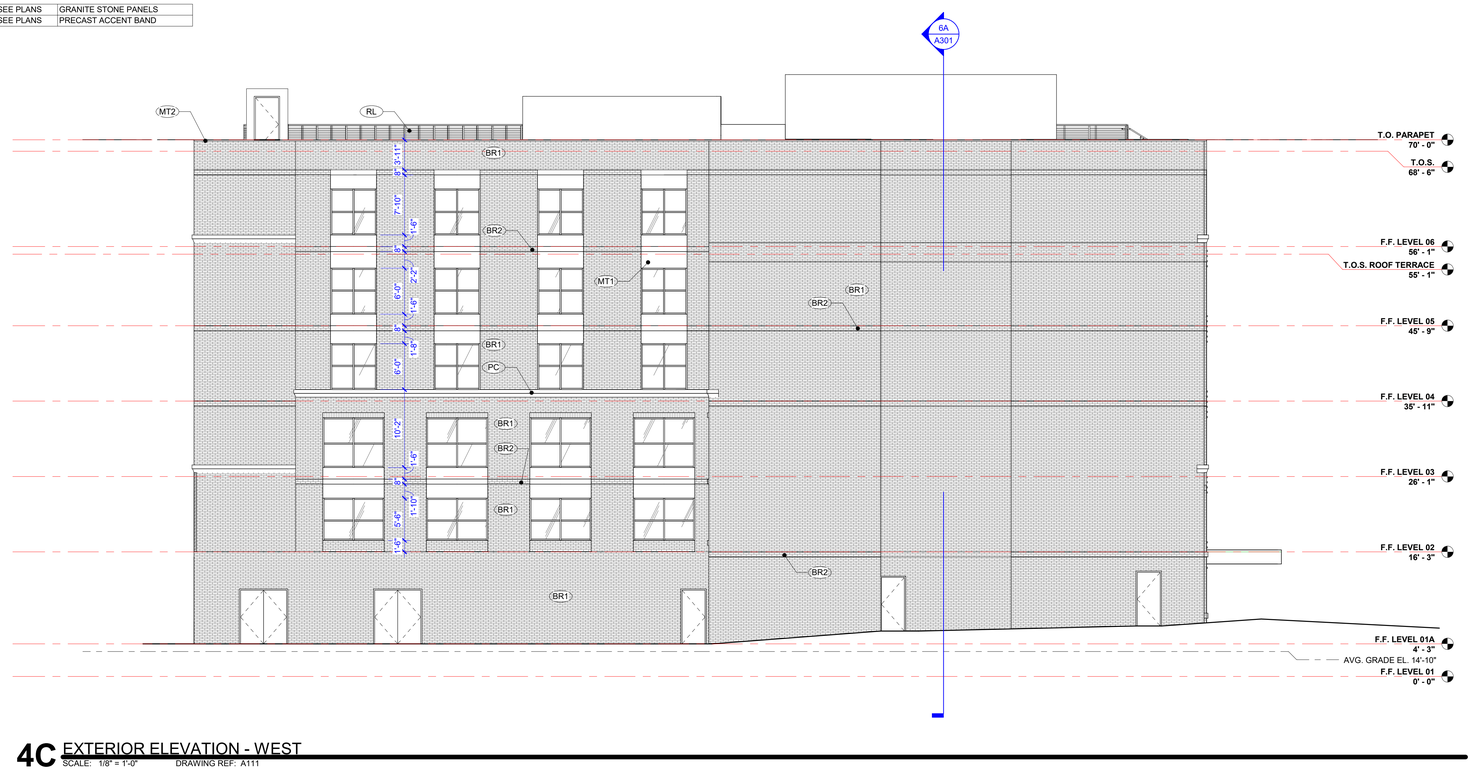
FINISH NO.	MATERIAL	MANUFACTURER	STYLE NAME / NO.	COLOR	SIZE	DESCRIPTION / REMARKS
BRICK						
BR1	FACE BRICK	MORIN BRICK COMPANY	OLD PORT SERIES	OLD PORT BLEND NARROW FLASHED RANGE	3-3/8" x 2-1/4" x 7-3/8"	MAIN FACE BRICK
BR2	ACCENT	MORIN BRICK COMPANY	WOODLAND BROWN COLLECTION	WOODLAND BROWN SMOOTH NARROW FLASH RANGE	3-3/8" x 2-1/4" x 7-3/8"	ACCENT FACE BRICK
CURTAIN WALL / STORE FRONT						
CW	METAL + GLASS	KAWNEER	METROVIEW FG601T - PG	BLACK	VARIES - SEE PLANS	CURTAIN WALL SYSTEM
SF	METAL + GLASS	KAWNEER	TRIFAB 451T	BLACK	VARIES - SEE PLANS	STOREFRONT SYSTEM
METAL						
MT1	METAL PANEL	CENTRIA ARCHITECTURAL SYSTEMS	INTERCEPT ENTYRE	9916 RICH BLACK	VARIES	METAL PANEL
MT2	PREFINISHED METAL COPING	PAC-CLAD	PAC-TITE COPING - TAPERED	TBD	SEE PLANS	PREFINISHED METAL COPING
RL	METAL RAILING	AGS STAINLESS RAILING SYSTEM	RAINIER CABLE RAILING SYSTEM	BLACK	SEE PLANS	METAL RAILING
MT3	METAL FINS			TBD	SEE PLANS	METAL FINS
STONE						
ST	GRANITE	J.C. STONE	OAK HILL	GRAY GRANITE	VARIES - SEE PLANS	GRANITE STONE PANELS
PC	PRECAST	READING ROCK	ROCKCAST LIGHTWEIGHT SERIES	BUFFSTONE	VARIES - SEE PLANS	PRECAST ACCENT BAND

LEGEND - EXTERIOR FINISHES

- BR1 BRICK
- BR2 BRICK
- CW CURTAIN WALL
- SF STORE FRONT
- ST GRANITE STONE
- PC PRECAST STONE
- MT1 METAL PANEL
- MT2 METAL COPING
- MT3 METAL FINS
- RL METAL RAILING

EXTERIOR ELEVATION NOTES

KEYNOTES



4C EXTERIOR ELEVATION - WEST

SCALE: 1/8" = 1'-0" DRAWING REF: A111

4A EXTERIOR ELEVATION - EAST

SCALE: 1/8" = 1'-0" DRAWING REF: A111

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

EXTERIOR ELEVATIONS & DETAILS

A202

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TEMPLATE 2018.2 5/13/2019 9:32:48 PM C:\Users\dha1\Documents\2.180697.0_Center St Hotel Portland_Arch_R19_dha1.rvt

20' 0 20' 40'

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

PERMIT SET - NOT FOR CONSTRUCTION

GENERAL NOTES:

1. PRIOR TO INITIATING DEMOLITION OR CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING HELD AT THE PROJECT SITE WITH THE CONTRACTOR, DEVELOPMENT REVIEW COORDINATOR, PUBLIC SERVICES REPRESENTATIVE, AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE WORK.
2. THE UNDERGROUND UTILITIES INFORMATION SHOWN ON THESE PLANS HAVE BEEN COMPILED BY OWEN HASKELL, INC. FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE UTILITY LOCATIONS SHOWN IN PLAN ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR. ALL INVERTS AND PIPE SIZES SHALL BE VERIFIED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 888-344-7233, PRIOR TO EXCAVATION.
3. CONTRACTOR SHALL MAINTAIN A SECURE WORKSITE, AND SHALL INSTALL AND MAINTAIN SAFETY AND SECURITY MEASURES, SUCH AS FENCING, BARRIERS, SIGNAGE, AND TRAFFIC CONTROL DEVICES. APPROPRIATE SECURITY AND SAFETY MEASURES SHALL BE IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
4. CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, IN ACCORDANCE WITH THESE PLANS AND THE LATEST EDITION OF THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BEST MANAGEMENT PRACTICES MANUAL. KEEP ALL STREETS FREE OF DUST, MUD AND DEBRIS. STREETS AND WALKWAYS SHALL BE SWEPT REGULARLY, AND TEMPORARY CONSTRUCTION ENTRANCES SHALL BE UTILIZED DURING CONSTRUCTION.
5. COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES, EMERGENCY SERVICES, CITY AND THE OWNER'S REPRESENTATIVE.
6. CONTRACTOR SHALL ANTICIPATE THE NEED TO RESET PROPERTY PINS AND MONUMENTS. THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE, BY A REGISTERED LAND SURVEYOR APPROVED BY THE OWNER AND PER REQUIREMENTS OF THE CITY OF PORTLAND.
7. EXISTING FACILITIES WITHIN THE CITY RIGHT-OF-WAY (I.E. GRANITE CURBING, SIDEWALK BRICKS, TREES, POLES, LIGHT POSTS, CATCH BASINS, SIGNS, PLAY EQUIPMENT, ETC) ARE THE PROPERTY OF THE CITY'S DEPARTMENT OF PUBLIC SERVICES. CONTRACTOR TO COORDINATE REMOVAL/DISPOSAL WITH THE CITY AND OWNER. AT THE DIRECTION OF THE CITY AND OWNER, CONTRACTOR SHALL DELIVER REMOVED FACILITIES TO THE CITY'S MATERIAL STOCKYARD ON OUTER CONGRESS STREET. CONTRACTOR TO DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF THE CITY OR OWNER, AT NO ADDITIONAL COST TO THE CONTRACT.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING STREET OPENING PERMITS, AND ALL OTHER NECESSARY PERMITS AND FEES ASSOCIATED WITH WORK WITHIN THE CITY'S RIGHT-OF-WAY. CONTRACTOR SHALL COMPLY WITH THE CITY'S STREET OPENING REQUIREMENTS WHEN WORKING WITHIN THE CITY'S RIGHT-OF-WAY.
9. MAINTAIN VEHICULAR AND PEDESTRIAN FLOW THROUGH CITY STREETS AT ALL TIMES. COORDINATE ALL SIDEWALK AND LANE CLOSURES WITH THE CITY.
10. ALL WALKWAYS, DRIVEWAYS, FACILITIES, UTILITIES, AND AMENITIES TO REMAIN SHALL BE PROTECTED AND REPAIRED/REPLACED IF DAMAGED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER.
11. EXISTING PAVEMENT SHALL BE REMOVED FROM SITE. PAVEMENT SHALL NOT BE MIXED WITH CONCRETE.
12. MATERIAL STORAGE, TEMPORARY FACILITIES, AND LAYDOWN AREAS SHALL BE LOCATED WITHIN THE TEMPORARY CONSTRUCTION FENCING. NO STORAGE OR TEMPORARY FACILITIES MAY BE LOCATED WITHIN THE CITY RIGHT-OF-WAY OR ON ABUTTING PROPERTIES WITHOUT WRITTEN APPROVAL FROM THE OWNER.
13. COORDINATE TRAFFIC SIGNAL SUPPORT AND STRUCTURE RELOCATION WITH CITY OF PORTLAND TRAFFIC ENGINEER JEREMIAH BARTLETT (207)-632-1062.
14. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLAN FOR SUBMITTAL TO ENGINEER, OWNER, AND CITY OF PORTLAND. CITY OF PORTLAND MUST APPROVE TRAFFIC CONTROL PLAN PRIOR TO WORK WITHIN PUBLIC RIGHT-OF-WAY OR COMMENCEMENT OF TRAFFIC SIGNAL SUPPORT STRUCTURE RELOCATION.
15. PRIOR TO ABANDONING ANY STORMWATER OR SANITARY SEWER LATERAL, THE CONTRACTOR SHALL ACQUIRE A PERMIT FROM THE DEPARTMENT OF PUBLIC SERVICES. THE APPLICANT SHALL PROVIDE A 48 HOUR NOTICE TO THE SEWER MAINTENANCE DIVISION STATING THE DATE AND TIME THE CONTRACTOR WISHES TO COMPLETE THE WORK. ABANDONING OF LATERALS SHALL BE DONE IN ACCORDANCE WITH CITY'S TECHNICAL STANDARDS, SECTION 2.6.11.
16. CONTRACTOR SHALL PREPARE A CONSTRUCTION MANAGEMENT PLAN, COORDINATED WITH AND APPROVED BY THE CITY OF PORTLAND. THE PLAN WILL INCLUDE BUT NOT LIMITED TO PROPOSED LIMITS OF WORK, TRAFFIC AND PEDESTRIAN CONTROL MEASURES, SIGNAGE, AND FENCING.
17. GEOTECHNICAL INVESTIGATIONS OF THE SITE HAVE NOTED THE PRESENCE OF MAN-PLACED FILL, MARINE SILT/CLAY SOILS AND DEMOLITION DEBRIS, INCLUDING GRANITE BLOCKS, WOOD PILES, CONCRETE SLABS, RAILROAD RAILS, FOOTINGS, PILE CAPS, FOUNDATION WALLS AND GRADE BEAMS. CONTRACTOR SHALL EXCAVATE, BACKFILL AND PREPARE SOILS IN ACCORDANCE WITH RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY HALEY & ALDRICH, INC. DATED DECEMBER 2016. CONTRACTOR SHALL DISPOSE OF EXCESS SOILS AND WATER FROM DEWATERING OPERATIONS PER LOCAL, STATE AND FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE TESTING OF SOILS AS NECESSARY FOR DISPOSAL.
18. CONTRACTOR SHALL PROVIDE THE CITY OF PORTLAND AND OWNER WITH A FINAL SET OF AS-BUILT PLANS IN PDF AND AUTOCAD FORMAT, AUTOCAD RELEASE 2004 OR GREATER.
19. COORDINATE CONSTRUCTION ACTIVITIES WITH CONSTRUCTION ON THE ADJACENT PROJECT SITE AT 3 PORTLAND SQUARE. SOME SITE FEATURES TO BE DEMOLISHED CROSS PROPERTY LINES.
20. COORDINATE WITH UTILITY COMPANIES FOR RELOCATION OF UTILITY POLE.

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT 12284
REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

DEMOLITION PLAN

C1.02

\\woodardcurran.net\shared\Projects\02315.38.01 fathom - port sqr eng sw\wip\Drawings\Civil\02315.38.01-C1.02 - C2.03-CNTR.dwg, May 17, 2019 - 2:07pm

THREE PORTLAND SQUARE

TM 38-G-2
N/F
HARBOR LANDING
DECLARATION OF CONDOMINIUM
6505/312
SEE PLAN RECORDED IN C.C.R.D.
PLAN BOOK 143 PAGE 43

PAVED

EX. CB1

8 SPACES (8'x18')

4 SPACES (8'x18')

24' MIN. (TYP.)

21 COMPACT CAR SPACES (8'x15')

RETAINING WALL

GUARDRAIL, SEE DETAIL

CB5

CB6

50

50

18'

18.0' CONSTRUCTION EASEMENT

CONSTRUCTION EASEMENT

LOAM AND SEED

FIRST FLOOR
ROOF GARDEN AREA
(SEE LANDSCAPE PLANS)

DMH5

CB4

CONCRETE SIDEWALK AND MONOLITHIC CONCRETE CURB/RETAINING WALL

FENCE W/GUARDRAIL

PROPOSED LOT
23,791 SF ±
0.55 ACRES ±

CENTER STREET HOTEL
(REFER TO ARCHITECTURAL PLANS FOR FINISH FLOOR ELEVATIONS)
PROPOSED LOT AREA 23,795 SF

GATE

CUSTOM BIKE RACK DESIGN TO BE DETERMINED

VESTIBULE

PLANTER, SEE LANDSCAPE PLAN (TYP.)

7.2'

16'

MAINTAIN EXISTING DRIVEWAY APRON

MATCH BRICK SIDEWALK TO EXISTING GRADE AND PATTERN

RESET SIGN, COORDINATE WITH CITY

PRESERVE AND PROTECT GRANITE CURB DURING SIDEWALK REPAIR ON COMMERCIAL STREET

NEW COBRAHEAD LIGHT AND UTILITY POLE, SEE PLAN NOTE 2

BRICK SIDEWALK, SEE DETAIL

CITY OF PORTLAND STANDARD BIKE RACK, SEE DETAIL (TYP. OF 4)

RESET PAY BOX, COORDINATE WITH CITY

COMMERCIAL STREET PROPERTY LINE VARIES, MIN. SIDEWALK WIDTH 11 LF

5-FT MAX. BUILDING SETBACK

TREE GRATE (TYP.) SEE LANDSCAPE PLANS

RESET SIGN, COORDINATE WITH CITY

RELOCATED TRAFFIC SIGNAL SUPPORT POLE WITH POLE-MOUNTED PEDESTRIAN CROSSING SIGNAL, COORDINATE WITH CITY OF PORTLAND

RELOCATED UTILITY POLE AND COBRAHEAD LIGHT, SEE PLAN NOTE 2

EXTENT OF PAVEMENT REPAIR, SEE PLAN NOTE 1

ADA ACCESSIBLE CURB RAMP W/DETECTABLE WARNING SURFACE (TYP.)

PROPOSED FREESTANDING PEDESTRIAN CROSSING SIGNAL

RESET FIREBOX COORDINATE WITH CITY

RESTRIPE EXISTING CROSSWALK

MATCH BRICK SIDEWALK TO EXISTING GRADE AND PATTERN

EX. MH3

DMH4

BRICK DRIVEWAY APRON

ADA ACCESSIBLE CURB RAMP

TYPE 1 VERTICAL GRANITE CURB (TYP.) CENTER STREET & INTERSECTION

DMH3

ADA ACCESSIBLE CURB RAMP

BUILDING OVERHANG

ADA ACCESSIBLE CURB RAMP

BOLLARD (TYP. OF 4)

CB2

DMH2

CB1

DMH1

STREET LIGHT, TYP. OF 2
COORDINATE LOCATION W/BELOW GRADE UTILITIES, SEE PLAN NOTE 2

71'

CENTER STREET
PAVED – PUBLIC WAY

COMMERCIAL STREET
PAVED PUBLIC WAY

#26

#3

#2

BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

PERMIT SET - NOT FOR CONSTRUCTION

PLAN REFERENCES

1. SITE AND TOPOGRAPHIC DATA BASED ON A PLAN BY OWEN HASKELL, INC. OF FALMOUTH, MAINE, DATED OCTOBER 12, 2018, TITLED "ALTA/NSPS LAND TITLE SURVEY, COMMERCIAL AND CENTER STREET, PORTLAND, CUMBERLAND COUNTY, MAINE", PREPARED FOR FATHOM CC, LLC, 80 EXCHANGE STREET, SUITE 30, PORTLAND, MAINE.

ZONING NOTES

1. SUBJECT PARCEL IS LOCATED WITHIN THE CITY OF PORTLAND B3 DOWNTOWN BUSINESS ZONE.
2. COMMERCIAL STREET AND CENTER STREET FRONTAGES ARE LOCATED WITHIN THE PEDESTRIAN ACTIVITY DISTRICT (PAD) OVERLAY ZONE.

PLAN NOTES

1. COMMERCIAL STREET IS UNDER A PAVING MORATORIUM UNTIL 5/25/2021. THE EXTENT OF PAVEMENT REPAIRS AT THE CORNER OF COMMERCIAL STREET AND CENTER STREET ARE BEING COORDINATED WITH THE CITY OF PORTLAND.
2. THE CITY OF PORTLAND STREET LIGHTING STANDARD IS CURRENTLY BEING REVISED. THE FINAL STANDARD IS ANTICIPATED TO EXPAND THE OLD PORT LIGHTING DISTRICT TO INCLUDE CENTER STREET ADJACENT TO THE PROJECT SITE. LIGHTING HAS BEEN SELECTED AND SITED BASED ON THE CURRENT OLD PORT LIGHTING DISTRICT STANDARD. THE CITY HAS INDICATED THAT COMMERCIAL STREET LIGHTING WILL REMAIN THE COBRAHEAD-STYLE, BUT THE SEPARATION DISTANCE HAS NOT YET BEEN CONFIRMED. TWO COBRAHEAD LIGHTS EXIST ON COMMERCIAL STREET ADJACENT TO THE PROJECT SITE ON UTILITY POLES THAT ARE TO BE RELOCATED. THE PLANS CURRENTLY CALL FOR THE COBRAHEAD LIGHTS TO REMAIN ON THE TWO RELOCATED UTILITY POLES. FINAL LOCATION AND SELECTION OF STREET LIGHTS WILL BE COORDINATED WITH THE CITY OF PORTLAND.

SYMBOLS

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER MANHOLE	S	
STORM DRAIN MANHOLE	D	
CATCH BASIN		
ELECTRICAL MANHOLE	E	
COMMUNICATIONS MANHOLE	T	
CABLE MANHOLE	C	
UTILITY POLE W/GUY		
UTILITY POLE		
UTILITY POLE W/LIGHT		
LIGHT POLE		
WATER GATE		
WATER SHUT OFF		
HYDRANT		
SIGN		
DECIDUOUS TREE		
IRON PIN (FOUND)		
MONUMENTS (FOUND)		
TEST PIT	TP	

LINE TYPES

DESCRIPTION	EXISTING	PROPOSED
CONTOUR (1' INTERVAL)	11	11
CONTOUR (INDEX)	10	10
SANITARY SEWER	S	S
STORM DRAIN	SD	SD
UNDERDRAIN	UD	
WATER MAIN	W	W
UNDERGROUND ELECTRIC	E	E
GAS LINE	G	G
OVERHEAD ELECTRIC	OE	OE
TRAFFIC SIGNAL		TS
UNDERGROUND ELECTRICAL /COMMUNICATIONS/CABLE	COMM	TS
PROPERTY LINE		
RIGHT OF WAY		
EASEMENT		
FENCE	X X	
RETAINING WALL		
CURB		
TYPE 1 GRANITE CURB		
EDGE OF PAVEMENT		
BUILDING OUTLINE		
SAWCUT		

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT
12284
REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

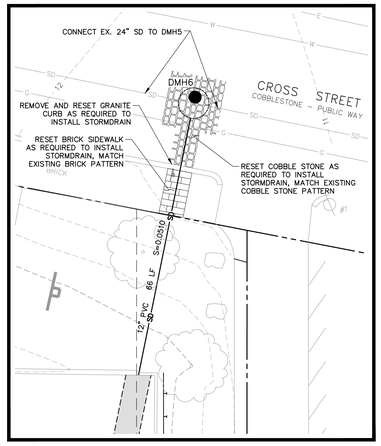
SITE PLAN

C2.01

\\woodardcurran.net\shared\Projects\02315538.01 fathom - port sqr eng sve\wip\Drawings\Civil\02315538.01-C2.03-CNTR.dwg, May 17, 2019 - 2:07pm

STRUCTURE TABLE				
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO
CB1	4'	10.63		7.30/12"SD/DMH2
CB2	4'	13.34		7.12/10"PVC/
CB4	2'	15.78		11.04/6"PVC/DMH5
CB5	4'	14.75	11.11/12"PVC/CB6	11.00/12"PVC/CB7
CB6	4'	13.80		11.62/12"PVC/CB5
CB7	4'	18.40	12.07/6"PVC/EX. CB3 10.79/12"PVC/CB5	10.69/12"PVC/EX. MH3
DMH1	5'	11.10	3.84/24"SD/DMH2 6.41/15"SD/EX. CB	3.34/30"RCP/EX. MH1
DMH2	5'	10.67	5.63/24"SD/DMH3 7.27/12"SD/CB1	5.53/24"SD/DMH1
DMH3	4'	16.35	7.15/24"RCP/DMH4	7.05/24"SD/DMH2
DMH4	4'	20.44	9.49/24"RCP/EX. MH3 9.70/15"PVC/KRAKEN	9.49/24"RCP/DMH3
DMH5	4'	17.50	10.96/6"PVC/CB4 11.46/6"PVC (ROOF & FND DRAIN)/	10.46/12"PVC/R-TANK
DMH6	4'	11.52	6.86/12"PVC/EX. CB1	
EX. CB1	4'	14.83	10.33/12"PVC/EX. CB2	10.23/12"PVC (PLUG)/ 10.23/12"PVC/DMH6
EX. MH3	5'	20.95	10.14/12"PVC/CB7 9.85/24"RCP/	9.75/24"RCP/DMH4
KRAKEN	4'x4'	19.80	10.28/15"PVC/R-TANK	9.78/15"PVC/DMH4
R-TANK	✳	19.03	10.28/12"PVC/DMH5	10.28/15"PVC/KRAKEN

✳ SEE R-TANK DETAILS



INSET A
SCALE: 1" = 10'
(NOT IN CURRENT SCOPE OF WORK)

THREE PORTLAND SQUARE

CONNECT 12" PVC TO EX. CB1
EX. CB1
12"PVC
CB RIM=14.83
12"INV. IN=10.33
12"INV. OUT=10.23
FILL EX. 12" PVC W/FLOWABLE FILL AND PROVIDE MASONRY PLUG

TM 38-G-2
N/F
HARBOR LANDING
DECLARATION OF CONDOMINIUM
6505/312
SEE PLAN RECORDED IN C.C.R.D.
PLAN BOOK 143 PAGE 43

PAVED

SEDIMENT BARRIER
STABILIZED CONSTRUCTION ENTRANCE
MATCH BRICK SIDEWALK TO EXISTING GRADE AND PATTERN

16.50 TW
15.50 BW
18.17 BW
18.67 TW
16.50 BW

CB5
CB6
12" PVC 36 LF S=0.0139
SLOPE
+14.10

FIRST FLOOR
ROOF GARDEN AREA
(SEE LANDSCAPE PLANS)

CB7
CONNECT EX. 12" PVC PIPE TO CB6
12" PVC 42 LF S=0.0530
DOWN
17.33 BW
6" PVC 8 LF S=0.0100
DMH5
CB4
17.33 TW
15.46 BW
17.33 TW
15.58 BW
18.73 BW
12" PVC 36 LF S=0.0050
19.23 TW
17.33 BW
18.98 BW
19.48 TW
17.67 BW
CB RIM 15.78
ROOF DRAIN CONNECTION
12" PVC 109 LF S=0.0050
R-TANK UNDERGROUND STORMWATER TANK
19.44 BW
19.94 TW
19.00 BW
15" PVC 25 LF S=0.0000
4'x4' KRAKEN FILTER
15" PVC 17 LF S=0.0050
FLUSH GRANITE CURB
14' GRANITE TIPDOWN
7' GRANITE TIPDOWN
CONNECT SD TO EX. MANHOLE
EX. MH3
DMH4
24" RCP
12" BRICK
DMH, R-TANK CONNECTION TO EXISTING 24" RCP

PROPOSED LOT
23,791 S.F. ±
0.55 ACRES ±

CENTER STREET HOTEL
(REFER TO ARCHITECTURAL PLANS FOR FINISH FLOOR ELEVATIONS)
PROPOSED LOT AREA 23,795 SF

PROVIDE TEMP. INLET PROTECTION (TYP. AT CB LOCATIONS)
CB RIM=10.22
10"INV. IN=7.12
15"INV. OUT=
2% SLOPE
24" SD 127 LF S=0.0111
10" PVC 6 LF S=0.0201
CB2
DMH3
CB1
DMH2
24" SD 13 LF S=0.1281
12" SD 3 LF S=0.0100
PROVIDE INSERTA-TEE CONNECTION TO 24" SD
CONNECT 15" SD TO EXISTING CB
FOUNDATION DRAIN CONNECTION
15" SD 11 LF S=0.0975
CB RIM=10.22
15"INV. OUT=7.52
10.33 BOC
DMH1
ADA ACCESSIBLE CURB RAMP W/DETECTABLE WARNING SURFACE (TYP.)
FLUSH GRANITE CURB
16.93 BOC
17.33 TOC
16.23
14.50
4' GRANITE TIPDOWN
14.70
14.92
16.39
16.45
16.29
15.58
15.56
15.29
14.90
15.47
15.32
17.55
19.89
19.83
19.73
19.80
19.46
19.56
19.57
19.09 BOC
19.67 TOC
19.78
21.58
20.50
MH RIM=20.95
INV. IN=9.85
INV. OUT=9.75
MH RIM=19.38
12"BRICK INV. IN=6.63
12"RCP INV. IN=11.88
INV. OUT=6.53
CB RIM=10.07
12"INV. IN=7.67
12"INV. OUT=7.47
SIGNAL POLE
MH RIM=11.25
30" INV. N=2.15
CL INV.=1.25
MH RIM=10.27
12" INV. IN(A)=7.47
12" INV. IN(B)=7.37
12" INV. IN(C)=7.27
12" INV. OUT=7.07
12"RCP
CENTER STREET
PAVED - PUBLIC WAY
COMMERCIAL STREET
PAVED - PUBLIC WAY
54" ELM
54" BIRCH

BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

PERMIT SET - NOT FOR CONSTRUCTION

Baskervill

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT
12284
REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

GRADING, DRAINAGE, AND EROSION CONTROL PLAN

C2.02

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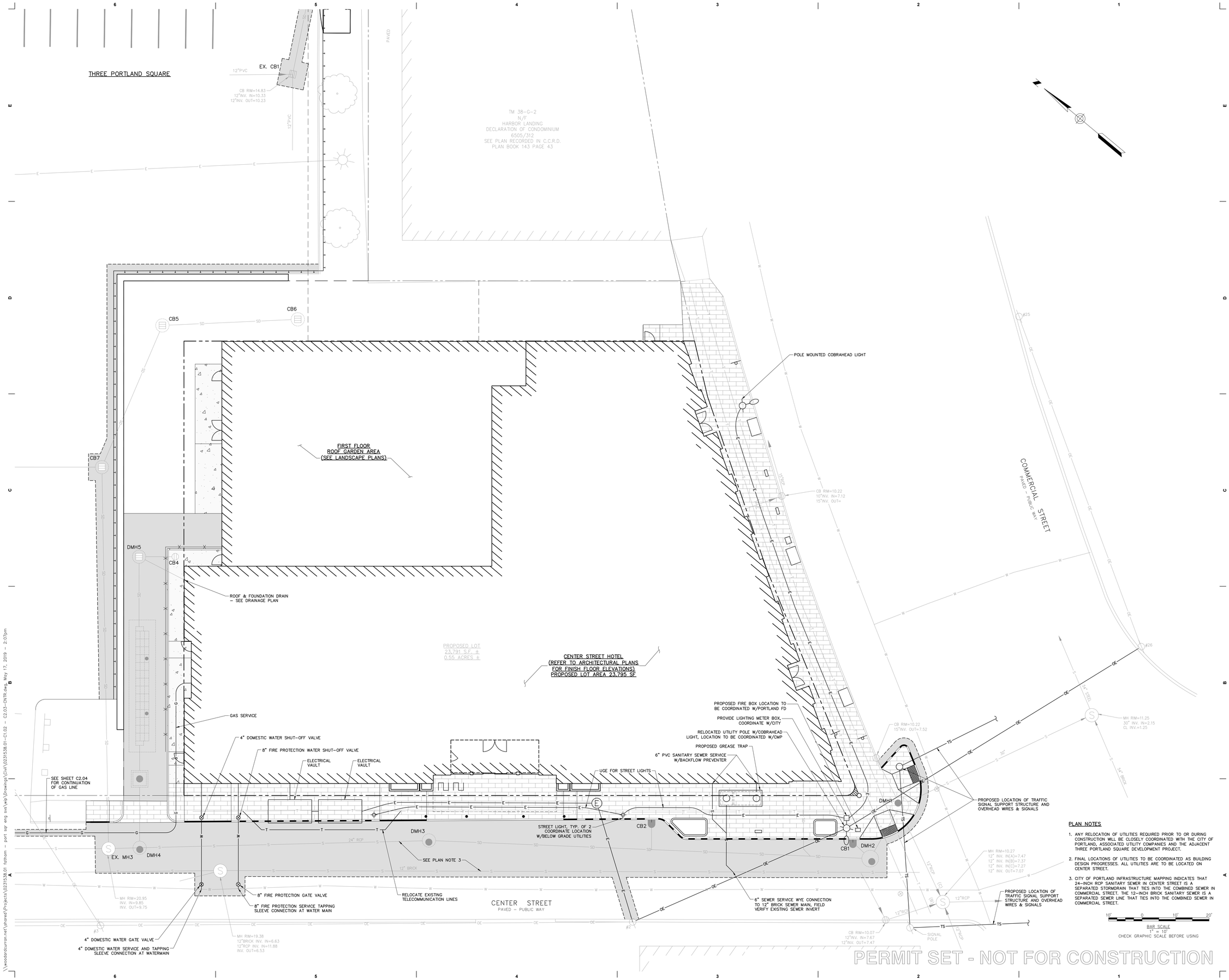

PLAN NOTES

1. ANY RELOCATION OF UTILITIES REQUIRED PRIOR TO OR DURING CONSTRUCTION WILL BE CLOSELY COORDINATED WITH THE CITY OF PORTLAND, ASSOCIATED UTILITY COMPANIES AND THE ADJACENT THREE PORTLAND SQUARE DEVELOPMENT PROJECT.
2. FINAL LOCATIONS OF UTILITIES TO BE COORDINATED AS BUILDING DESIGN PROGRESSES. ALL UTILITIES ARE TO BE LOCATED ON CENTER STREET.
3. CITY OF PORTLAND INFRASTRUCTURE MAPPING INDICATES THAT 24-INCH RCP SANITARY SEWER IN CENTER STREET IS A SEPARATED STORMDRAIN THAT TIES INTO THE COMBINED SEWER IN COMMERCIAL STREET. THE 12-INCH BRICK SANITARY SEWER IS A SEPARATED SEWER LINE THAT TIES INTO THE COMBINED SEWER IN COMMERCIAL STREET.

10' 0 10' 20'
BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

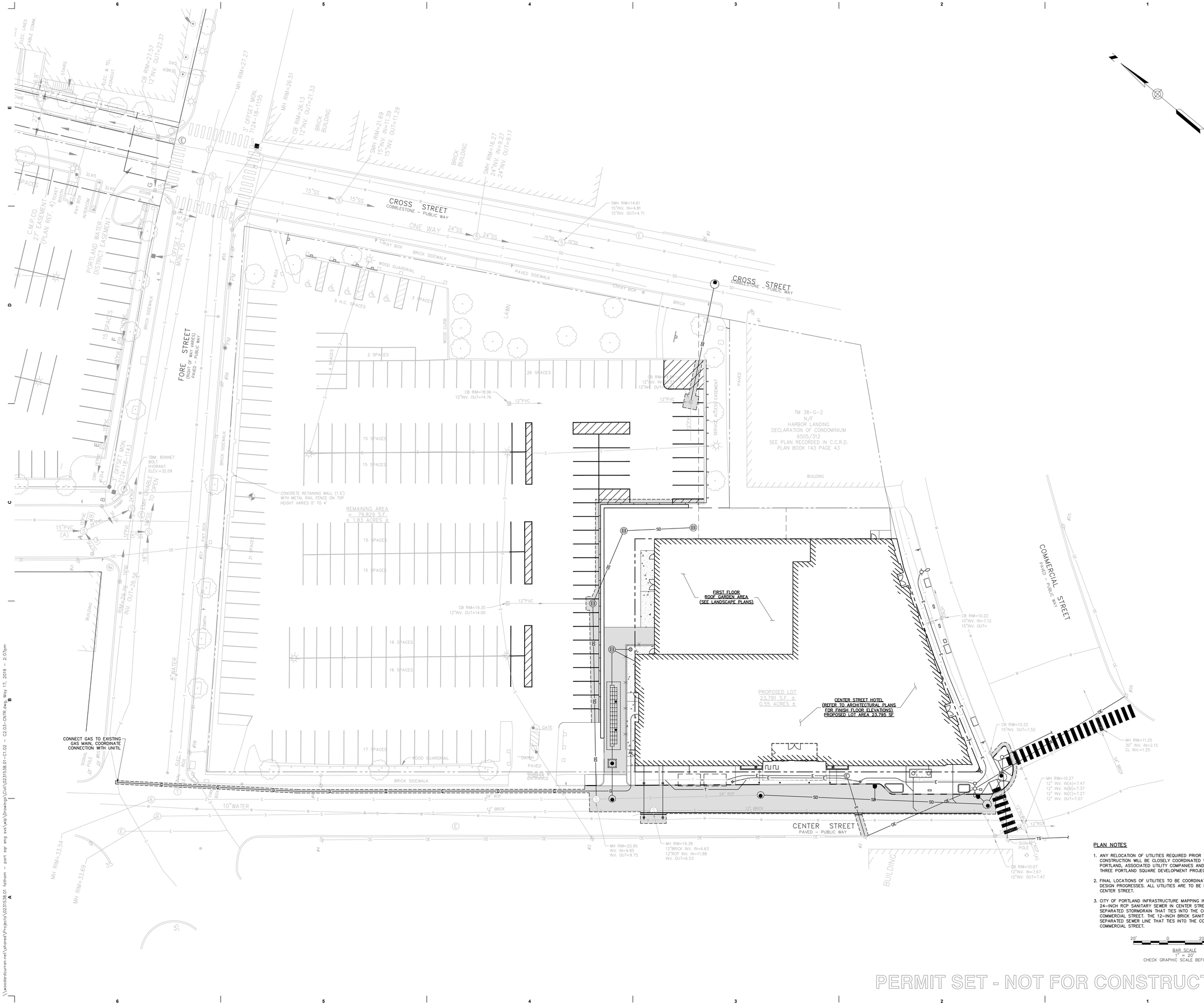
1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT
12284
LICENSED
PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

UTILITY PLAN

C2.03



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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT
12284
REGISTERED PROFESSIONAL ENGINEER
CIVIL
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

INTERIM CONDITIONS PLAN

C2.04

PLAN NOTES

1. ANY RELOCATION OF UTILITIES REQUIRED PRIOR TO OR DURING CONSTRUCTION WILL BE CLOSELY COORDINATED WITH THE CITY OF PORTLAND, ASSOCIATED UTILITY COMPANIES AND THE ADJACENT THREE PORTLAND SQUARE DEVELOPMENT PROJECT.
2. FINAL LOCATIONS OF UTILITIES TO BE COORDINATED AS BUILDING DESIGN PROGRESSES. ALL UTILITIES ARE TO BE LOCATED ON CENTER STREET.
3. CITY OF PORTLAND INFRASTRUCTURE MAPPING INDICATES THAT 24-INCH RCP SANITARY SEWER IN CENTER STREET IS A SEPARATED STORMDRAIN THAT TIES INTO THE COMBINED SEWER IN COMMERCIAL STREET. THE 12-INCH BRICK SANITARY SEWER IS A SEPARATED SEWER LINE THAT TIES INTO THE COMBINED SEWER IN COMMERCIAL STREET.

20' 0 20' 40'
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

PERMIT SET - NOT FOR CONSTRUCTION

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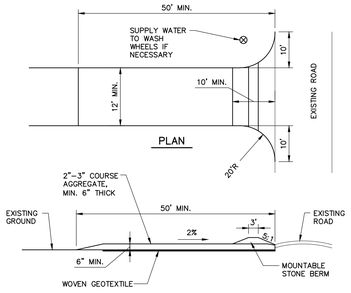


NOTES:

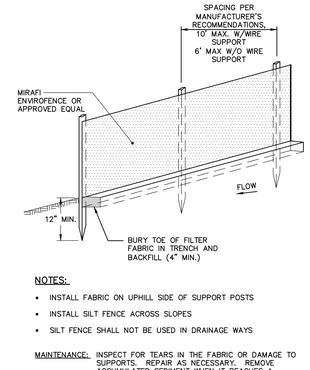
- CONSTRUCTION ENTRANCES MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
- WHEEL WASH PITS MAY ALSO BE USED, IF APPROVED.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN

MAINTENANCE: INSPECT FOR EFFECTIVE REMOVAL OF SOIL FROM VEHICLES PRIOR TO LEAVING THE SITE. SWEEP ANY SOIL FROM ADJACENT ROADWAYS.

REMOVAL: AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL AREAS OF THE SITE ARE STABILIZED.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.



NOTES:

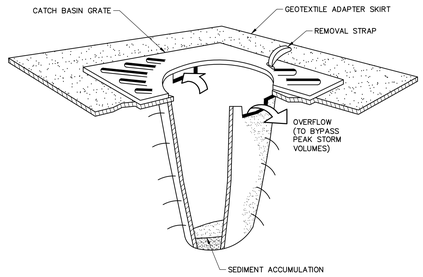
- INSTALL FABRIC ON UPHILL SIDE OF SUPPORT POSTS
- INSTALL SILT FENCE ACROSS SLOPES
- SILT FENCE SHALL NOT BE USED IN DRAINAGE WAYS

MAINTENANCE: INSPECT FOR TEARS IN THE FABRIC OR DAMAGE TO SUPPORTS. REPAIR AS NECESSARY. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES A DEPTH OF SIX–INCHES OR LESS.

REMOVAL: WHEN UPSLOPE AREAS ARE STABILIZED, THE STRUCTURE AND ANY ACCUMULATED SEDIMENT WILL BE REMOVED.

SEDIMENT BARRIER – SILTATION FENCE DETAIL CONTRACTOR OPTION

N.T.S.



NOTES:

CATCH BASIN PROTECTION TO BE "SILTSACK" (BY ACF ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES).

INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.

INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.

TEMPORARY INLET PROTECTION

N.T.S.

EROSION AND SEDIMENT CONTROL NOTES

Temporary Erosion Control

Contractor shall prepare and submit a soil erosion and water pollution control plan to engineer in accordance with section 656.

Measure	Dates For Use	Timing, Activity, and Location
Sedimentation Barrier	ALL	Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles.
Up–slope Diversion	ALL	Before soil disturbance, install uphill of areas to be disturbed and material stockpiles.
Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 1	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
Mulch	April 15 to Sept. 15	On all areas of exposed soil prior to rain events or every 7 days, apply 100–150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower.
Winter Mulch	Sept. 16 to Oct. 31	On all areas of exposed soil prior to precipitation or every 7 days, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower, Erosion control blanket may be used as a substitute for winter mulch.
	Nov. 1 to April 14	On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting at the end of each working day. Erosion control blanket may be used as a substitute for winter mulch.
Inspections	Until site is permanently stabilized	Inspect the erosion and sedimentation control measures per inspections table below, and maintain and repair as necessary.

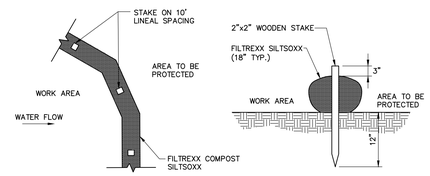
Permanent Erosion Control:

Measure	Dates For Use	Timing, Activity, and Location
Pavement – Base Course – Final Course	When no frost is in ground	Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project.
Permanent Seeding	April 15 to Sept. 15	On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application.
Dormant Seeding	Sept. 16 to April 15	On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch.
Ground Cover, Trees, Shrubs	April 15 to Nov. 1	Install with final landscaping.
Permanent Mulch	ALL	Install with final landscaping.

Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

Inspected Item	Look For
Mulched Surfaces	Thin mulch or inadequate application. Wind movement.
Seeded Surfaces	Poor seed germination. Loss of mulch. Development of rivulets.
Sediment Barrier	Sediment build–up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier.
Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build–up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build–up.
Construction Entrance	Sedimentation of roadways. Off–site dust complaints.



NOTE:

WHEN STAKING IS NOT POSSIBLE, HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SEDIMENT CONTROL TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.

SEDIMENTATION BARRIER – SILTSOXX CONTRACTOR OPTION

N.T.S.

EROSION AND SEDIMENTATION CONTROL NOTES

TEMPORARY EROSION CONTROL MEASURES MAY INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, HYDRAULIC MULCH, HAY AND STRAW MULCH, EROSION CONTROL BLANKET, TURF REINFORCED MATTING, RIPRAP AND TEMPORARY SEEDING. TEMPORARY SEDIMENT CONTROL MEASURES INCLUDE THE USE OF SILT FENCE, EROSION CONTROL MIX BERMS, PLUNGE POOLS, CHECK DAMS, SEDIMENT TRAPS, CATCHBASIN SEDIMENT COLLECTION BAGS AND GEOTEXTILE FILTER BAGS. PERMANENT MEASURES INCLUDE THE USE OF RIPRAP AT EXPOSED STORMDRAIN AND CULVERT INLETS AND OUTLETS, ARMORED SWALES AND SLOPES AND PERMANENT VEGETATION.

GENERAL

A. THE PROJECT SHALL CONFORM WITH THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT, IF APPLICABLE.

B. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK PUBLISHED BY THE MAINE DEP UNLESS OTHERWISE NOTED IN THESE PLANS.

C. ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.

D. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.

E. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE SITE WHENEVER POSSIBLE WHILE ALLOWING PROPER SITE DEVELOPMENT.

F. CONSTRUCTION STAGING SHALL BE CONDUCTED IN A WAY TO MINIMIZE THE POTENTIAL FOR STORMWATER RUN–ON TO DISTURBED AREAS.

G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

i. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS THAT 90% OF THE DISTURBED AREA IS COVERED WITH REASONABLY THICK UNIFORM STAND OF PERMANENT GRASS SPECIES, FREE FROM SIZABLE THIN OR BARE SPOTS.
ii. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THAT COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE OFF.
iii. FOR MULCHED AREAS, PERMANENT STABILIZATION MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.
iv. 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. STONE MUST BE SIZED APPROPRIATELY AND IN ACCORDANCE WITH SECTION E–6 OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
v. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE ASPHALT BINDER COURSE.
vi. FOR OPEN CHANNELS, LEVEL SPREADERS, ENGINEERED BUFFERS OR OTHER DESIGNED STORMWATER CONVEYANCE STRUCTURE, PERMANENT STABILIZATION MEANS THE CHANNELIZED AREA(S) IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH APPROVED RIPRAP, OR WITH OTHER NON–EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE SHALL BE NO EVIDENCE OF SLUMPING, UNDERCUTTING OR DOWNCUTTING OF THE DESIGNED CHANNEL.

H. IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, AND WILL NOT BE BUILT ON, THEN IMMEDIATELY PROVIDE PERMANENT STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD OR THROUGH THE USE OF PERMANENT MULCH OR RIPRAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED, OVERLY–COMPACTED SUBSOIL WITH TOPSOIL OR COMPOST AND LIGHTLY TILL 2–3" OF SOIL AMENDMENTS INTO THE TOP 8" OF SOIL.

I. PERMANENT SEEDING SPECIFICATION: IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOCK WINTER RYE OR MULCHED AT SPECIFIED RATES. SEE WINTER SEEDING AND MULCHING SPECIFICATIONS FOR STABILIZATION AFTER NOVEMBER 1.

i. APPLY TOPSOIL TO A DEPTH OF 4 INCHES. IN COMPACTED AREAS TILL 2–3" OF COMPOST INTO UPPER 8" OF DISTURBED SOIL AND THEN APPLY 4 INCHES OF TOPSOIL.
ii. APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 33 LBS PER 1000 SQUARE FEET AND GRANULAR, COMMERCIAL–GRADE FERTILIZER 10–10–10 AT A RATE OF 18 LBS PER 1000 SQUARE FEET.
iii. UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2.5 BALES PER 1000 SQUARE FEET AND ANCHOR AS NECESSARY.

J. PROTECT ALL SEEDED AREAS WITH MULCH OR EROSION CONTROL BLANKET IN AREAS OF SHEET OR CONCENTRATED FLOWS. MULCH ALL AREAS SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE. SCHEDULE SEEDING OR SODDING TO AVOID FAILURE DUE TO SUMMER DROUGHT AND FALL FROST. NEWLY SEEDED AREAS SHOULD BE PROTECTED FROM VEHICLE TRAFFIC, PEDESTRIAN TRAFFIC AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE OR SURFACE EROSION IS EVIDENT.

K. DITCH LININGS AND RIPRAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF THE CULVERT.

L. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1, IN THE BASE OF DITCHES AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (WETLANDS AND WATER RESOURCES). EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S150BN OR APPROVED EQUAL. EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

M. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURE UPON STABILIZATION OF PROJECT AREA & COST SHALL BE INCIDENTAL TO CONTRACT.

WINTER CONDITIONS

A. WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 1. IF AREAS WITHIN THE CONSTRUCTION AREA ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15 THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS.

GOOD HOUSEKEEPING AND POLLUTION PREVENTION

A. SPILL PREVENTION CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER RUNOFF AND APPROPRIATE SPILL PREVENTION, CONTAINMENT AND RESPONSE PLANNING AND IMPLEMENTATION.

B. DURING CONSTRUCTION, PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUND OR SURFACE WATERS MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO INFILTRATION AREAS. AN "INFILTRATION AREA" IS ANY ARE OF THE SITE THAT BY DESIGN, OR AS A RESULTS OF SOIL AND TOPOGRAPHY, ACCUMULATES RUNOFF THAT INFILTRATES IN THE SOIL. DIKES, BERMS, SUMPS AND OTHER FORMS OF TEMPORARY 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.

C. LOCATE ALL MATERIAL STOCKPILES WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.

D. TAKE ALL REASONABLE MEASURES TO MINIMIZE DUST RESULTING FROM THE PROJECT. OIL MAY NOT BE USED FOR DUST CONTROL.

E. LOCATE ALL LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.

F. TRENCH OR FOUNDATION DE–WATERING MUST BE SPREAD THROUGH SUFFICIENT NATURAL BUFFERS THAT HAVE CAPACITY TO INFILTRATE THE PUMPED WATER OR SHOULD BE PUMPED TO DESIGNED CONSTRUCTION DEWATERING DEVICES AS DESCRIBED IN THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK.

G. SEDIMENTS AND SOIL MATERIALS SHOULD BE SWEPT FROM PAVED SURFACES AT THE END OF EACH WORKDAY OR PRIOR TO RAIN EVENTS, WHENEVER POSSIBLE.

INSPECTION AND MAINTENANCE

A. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT, THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK OR ANY MUNICIPAL REQUIREMENTS MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF ADDITIONAL BMPS OR MODIFICATIONS TO BMPS ARE NECESSARY, THE MODIFICATIONS MUST BE IMPLEMENTED WITH 7 CALENDAR DAYS OR PRIOR TO ANY PRECIPITATION EVENT. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

B. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT BY THE CONTRACTOR, SUMMARIZING THE SCOPE OF THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO THE OPERATION OF EROSION AND SEDIMENT CONTROL BMPS, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE CONSTRUCTION AREA. THE INSPECTION LOG SHOULD BE DELIVERED TO THE PROPERTY OWNER OR RESPONSIBLE CONTRACTING ENTITY UPON COMPLETION OF THE PROJECT.

DEWATERING

A. ANY DEWATERING FLOW DIRECTED TO THE CITY'S COMBINED SEWER SYSTEM SHALL BE REVIEWED AND APPROVED BY THE DEPARTMENT OF PUBLIC SERVICES AND/OR THE PORTLAND WATER DISTRICT PRIOR TO COMMENCING DEWATERING ACTIVITIES.

PERMIT SET - NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE · LAUREN JANE SWETT · 12284 · REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

EROSION & SEDIMENT CONTROL DETAILS

C3.01

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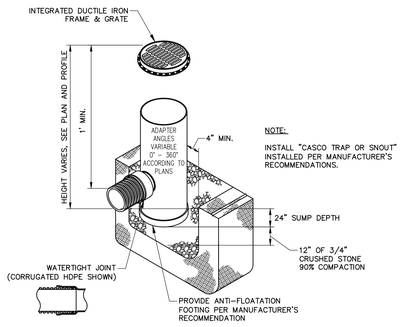
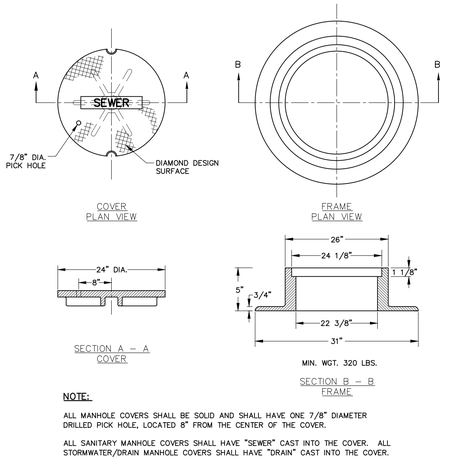


NOTE:

INSTALL "CASCO TRAP OR SNOUT" INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

24" DIAMETER CATCH BASIN

N.T.S.



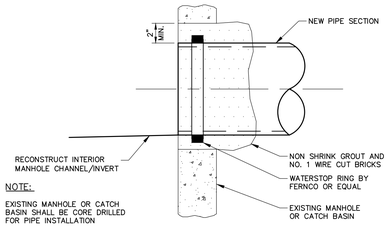
NOTE:

ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER.

ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.

CAST IRON MANHOLE FRAME AND COVER

N.T.S.

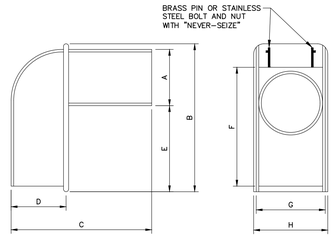


NOTE:

EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION

NEW PIPE TO EXISTING STRUCTURE

N.T.S.



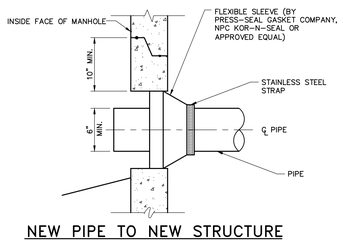
SIZE	A	B	C	D	E	F	G	H
10"	9 1/2"	16"	16 1/4"	6"	4 1/2"	14 1/8"	11 1/2"	12 3/8"
12"	11 1/2"	17"	22"	8"	3 1/2"	17"	12 1/2"	13 3/8"
15"	14 1/2"	22 1/2"	23"	10 1/4"	5 3/4"	21"	14 1/2"	15 3/4"

NOTE:

1. CASCO TRAP SHALL BE CAST IRON CASCO TRAP BY ETHERIDGE FOUNDRY OR APPROVED EQUAL.
2. BOLT AND NUT REQUIRED WHERE HOOD WILL NOT OPEN COMPLETELY.
3. CASCO TRAP SHALL BE INSTALLED ON ALL CATCH BASIN OUTLET PIPES, INCIDENTAL TO COST OF CATCH BASIN

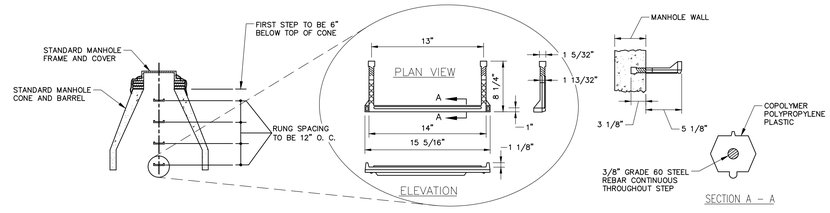
CASCO TRAP DETAIL

N.T.S.



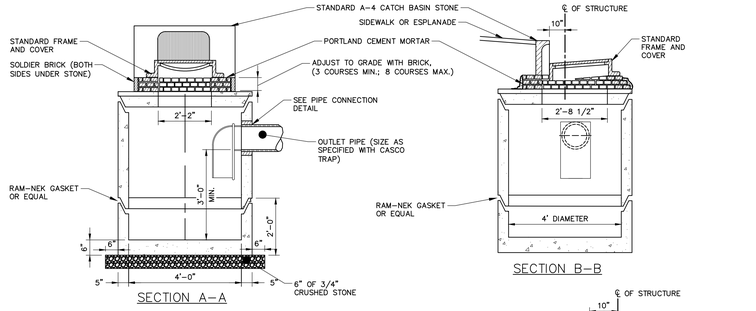
NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL

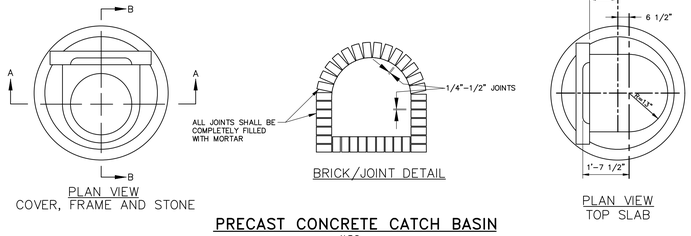
N.T.S.



PLASTIC MANHOLE STEPS

N.T.S.



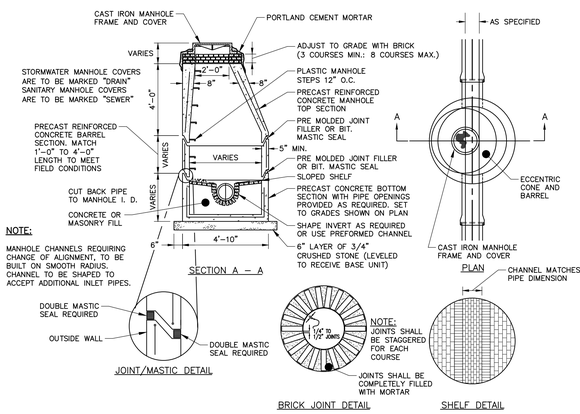


PRECAST CONCRETE CATCH BASIN

N.T.S.

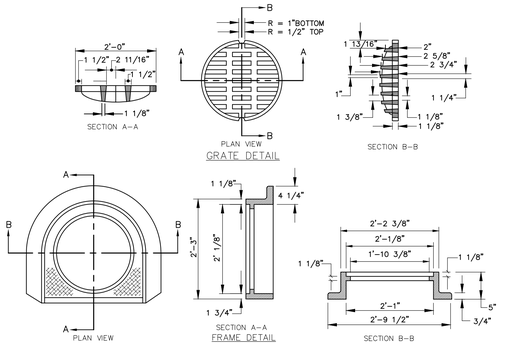
GENERAL NOTES FOR MANHOLES AND CATCH BASINS

1. ALL CONCRETE SHALL BE CLASS "A" AND HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
3. ALL MANHOLES SHALL HAVE A BITUMINOUS WATERPROOFING APPLIED TO THE EXTERIOR SURFACE. IF CONSTRUCTED OF BRICK MASONRY, SURFACE SHALL BE PLASTERED WITH A SMOOTH MORTAR FINISH 3/8" THICK. AFTER THE MORTAR HAS SET, THE SURFACE SHALL BE WATERPROOFED AS REQUIRED BY SUPPLEMENTAL SPECIFICATIONS SECTION 604.
4. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35. ALL PARTS OF CASTINGS, EXCEPT FINISHED SURFACE, SHALL RECEIVE A COAT OF COAL TAR PITCH VARNISH OR ASPHALTUM PAINT WHICH SHALL BE SMOOTH AND TOUGH BUT NOT BRITTLE.
5. MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
6. CONTRACTOR SHALL SUBMIT ANTIFLOATATION CALCULATIONS FOR ALL MANHOLE AND CATCH BASIN STRUCTURES.
7. ALL PRECAST MANHOLES AND CATCH BASINS SHALL BE IDENTIFIED BY STATION, OFFSET, AND STRUCTURE ID PAINTED ON THE SIDE OF THE STRUCTURE BY THE MANUFACTURER.
8. STORM AND SEWER MANHOLES SHALL HAVE SOLID COVERS WITH ONE DRILLED PICK HOLE.
9. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
10. WHEN THE FLOW CHANGES DIRECTION IN A MANHOLE, THE CHANNEL ALIGNMENT SHALL FOLLOW A SMOOTH RADIUS. CHANNELS SHALL BE FORMED TO ACCEPT ALL INLET PIPES.
11. ON STORM AND SEWER MANHOLES, THE SHELF AND CHANNEL SHALL BE FORMED BY BRICK SET IN CEMENT MORTAR OR BY FACTORY PRE-CAST CONCRETE. SUCH PRE-CAST CONCRETE SHALL BE EPOXY COATED AND THE SHELF SHALL HAVE A PERMANENT NON-SKID SURFACE.



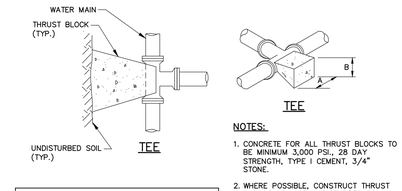
PRECAST CONCRETE MANHOLE

N.T.S.



CATCH BASIN TYPE "D" - FRAME & COVER DETAIL

N.T.S.



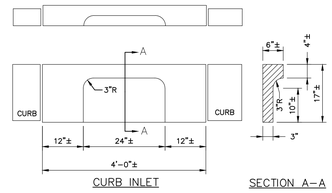
NOTES:

1. CONCRETE FOR ALL THRUST BLOCKS TO BE MINIMUM 3,000 PSI., 28 DAY STRENGTH, TYPE I CEMENT, 3/4" STONE.
2. WHERE POSSIBLE, CONSTRUCT THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE NOT POSSIBLE, PLACE FILL BETWEEN THE THRUST BLOCK AND THE UNDISTURBED SOIL COMPACTED TO 90% STANDARD PROCTOR DENSITY.
3. WRAP FITTINGS WITH POLYETHYLENE PRIOR TO CONSTRUCTING THRUST BLOCKS. NO JOINTS SHALL BE COVERED WITH CONCRETE.
4. THRUST BLOCK DIMENSIONS ARE BASED ON A MAXIMUM WATER MAIN PRESSURE OF 150 PSI.

TABLE 1: 4" THRU 10" FITTINGS				
SOIL TYPE	TEES		BENDS	
	A	B	A	B
SOFT CLAY	48"	24"	48"	24"
SAND	24"	24"	24"	24"
GRAVEL	24"	18"	24"	18"

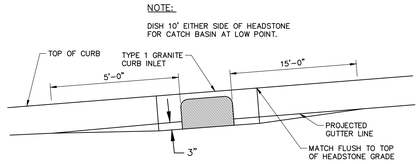
TYPICAL THRUST BLOCK DETAIL

N.T.S.



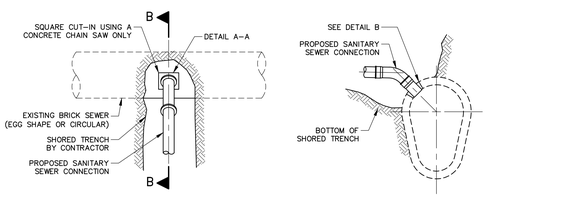
TYPE 1 GRANITE CURB INLET

N.T.S.



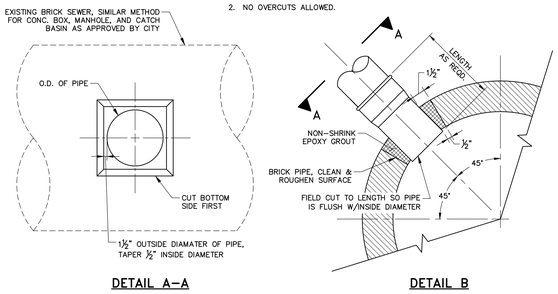
TYPICAL PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLETS

N.T.S.



NOTES:

1. USE CONCRETE CHAIN SAW FOR CUTS.
2. NO OVERCUTS ALLOWED.



SANITARY SEWER SERVICE CONNECTION TO EXISTING BRICK SEWER

N.T.S.

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE · LAUREN JANE SWETT · 12284 · REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

CIVIL DETAILS 1

C3.02

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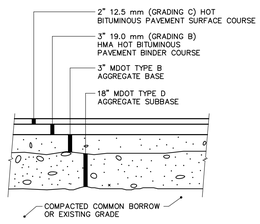
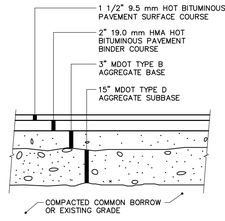


COMMERCIAL STREET

BITUMINOUS PAVEMENT REPAIR SECTION COMMERCIAL STREET (MINOR ARTERIAL)

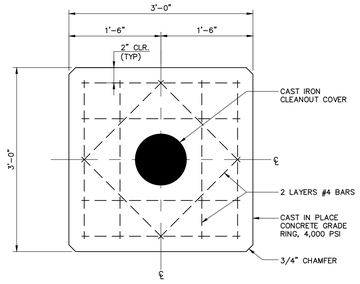
N.T.S.



CENTER STREET AND SERVICE ACCESS DRIVEWAY

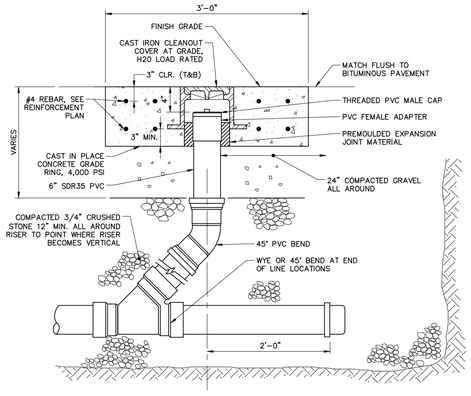
BITUMINOUS PAVEMENT REPAIR SECTION CENTER STREET (LOCAL)

N.T.S.



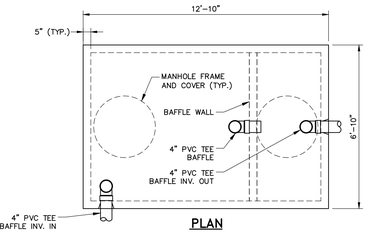
CONCRETE GRADE RING REINFORCEMENT PLAN

N.T.S.



CLEANOUT DETAIL

N.T.S.



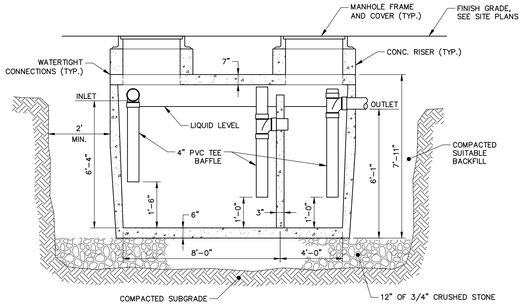
CONCRETE SPECIFICATIONS

1. 5,000 PSI AT 28 DAYS
2. 4% – 6% ENTRAINED AIR
3. TANK PENETRATIONS ARE INTEGRALLY CAST
4. ALL JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT
5. H–20 LOADING

GREASE TRAP INFORMATION

1. TANKS SHOULD BE PUMPED AS NEEDED
2. ACCESS COVERS SHOULD HAVE RISERS TO BRING COVER ACCESS TO GRADE.

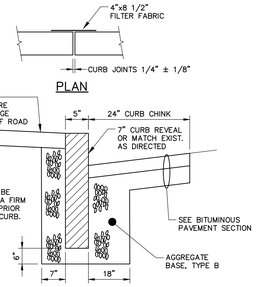
PLAN



SECTION

3,000 GALLON EXTERNAL GREASE TRAP DETAIL

N.T.S.



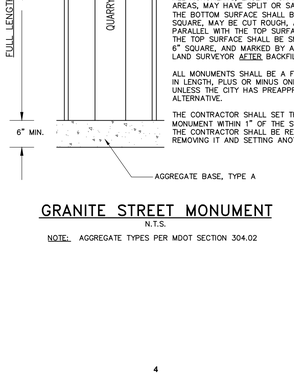
SECTION

CURB TYPE 1 ON CURVES			
TYPE	RADIUS OF CURVE	LENGTH	STONE IS CUT OR CAST
1	0' TO 60' INCL.	4' MIN.	ARC TO FIT CURVE
	OVER 60' TO 160'	4' TO 6'	STRAIGHT PIECES

TYPICAL NEW AND RESET CURB INSTALLATION

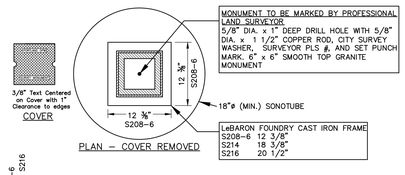
N.T.S.

NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02

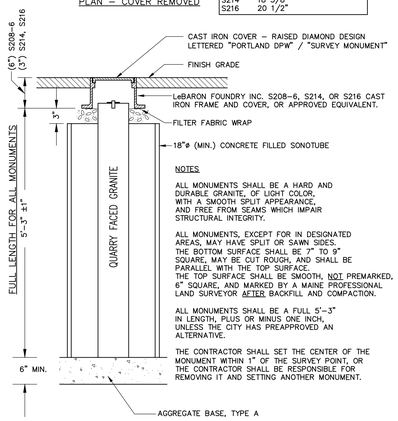


GATE VALVE WITH VALVE BOX

N.T.S.



PLAN – COVER REMOVED



NOTES

ALL MONUMENTS SHALL BE A HARD AND DURABLE GRANITE, OF LIGHT COLOR, WITH A SMOOTH SPLIT APPEARANCE, AND FREE FROM SEAMS WHICH IMPAIR STRUCTURAL INTEGRITY.

ALL MONUMENTS, EXCEPT FOR IN DESIGNATED AREAS, MAY HAVE SPLIT OR SAWN SIDES. THE BOTTOM SURFACE SHALL BE 7" TO 9" SQUARE, MAY BE CUT ROUGH, AND SHALL BE PARALLEL WITH THE TOP SURFACE. THE TOP SURFACE SHALL BE SMOOTH, NOT PREMARKED, 6" SQUARE, AND MARKED BY A MAINE PROFESSIONAL LAND SURVEYOR AFTER BACKFILL AND COMPACTION.

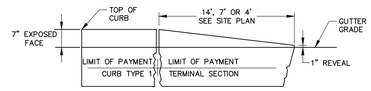
ALL MONUMENTS SHALL BE A FULL 5'–3" IN LENGTH, PLUS OR MINUS ONE INCH, UNLESS THE CITY HAS PREAPPROVED AN ALTERNATIVE.

THE CONTRACTOR SHALL SET THE CENTER OF THE MONUMENT WITHIN 1" OF THE SURVEY POINT, OR THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING IT AND SETTING ANOTHER MONUMENT.

GRANITE STREET MONUMENT

N.T.S.

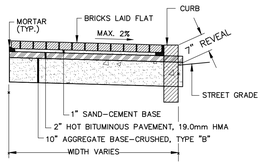
NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02



TERMINAL SECTION TYPE "1"

TERMINAL CURB SECTION

N.T.S.



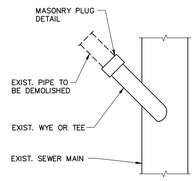
SECTION

NOTE:

SEE LANDSCAPE PLANS FOR GRANITE PAVER SECTIONS.

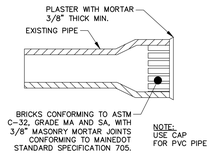
BRICK SIDEWALK DETAIL

N.T.S.



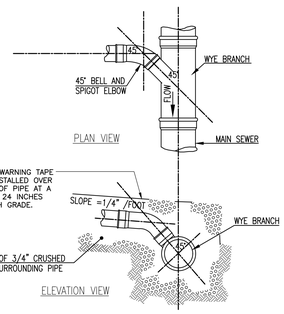
MASONRY PLUG @ MAIN

N.T.S.



MASONRY PLUG DETAIL

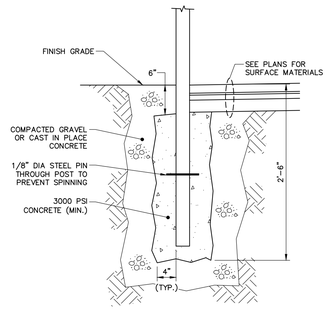
N.T.S.



TYPICAL SEWER LATERAL WYE CONNECTION DETAILS

N.T.S.

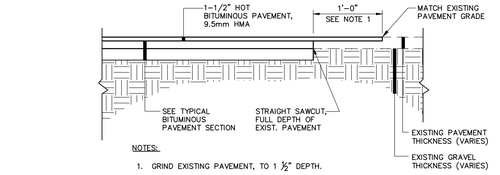
NOTE: FOR INSERTA TEE CONNECTIONS TO SEWER AND STORMDRAIN MAINS, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.



POST SPECIFICATION			
TYPE	HEIGHT ABOVE FIN. GRADE	POST DIAMATER	POST MATERIAL
STREET SIGNAGE	7'–0"	2 3/8" (O.D.)	GALV. STEEL

TYPICAL SIGN POST DETAIL

N.T.S.



NOTES:

1. GRIND EXISTING PAVEMENT, TO 1 ½" DEPTH.
2. PROVIDE BITUMINOUS TACK COAT ON VERTICAL AND HORIZONTAL SURFACES PRIOR TO PAVING.
3. DETAIL APPLICABLE TO PAVEMENT BUTT JOINTS AT ROADWAY WORK LIMITS. REFER TO PIPE INSTALLATION DTL. OR BITUMINOUS PAVEMENT SECTION DTLS. FOR TRENCH REPAIR REQUIREMENTS.

PAVEMENT BUTT JOINT DETAIL

N.T.S.

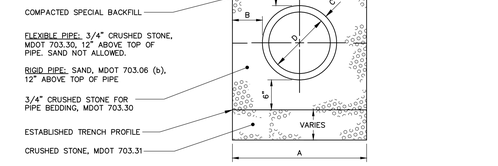
PIPE INSTALLATION DETAIL – NOTES

1. 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.
2. 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 "B" SHALL BE AT LEAST 9".
3. DIMENSION "A" SHALL BE BASED ON PIPE DIAMETER, AS SET FORTH IN THE FOLLOWING TABLE.

PIPE DIAMETER, "D" (INCHES)	MAX. TRENCH WIDTH, "A" (FEET)
6	4.0
8	4.0
10	4.0
12	4.0
15	4.0
18	5.0
21	5.0
24	5.5
27	6.0
30	6.0
36	7.0
42	8.0
48	8.0

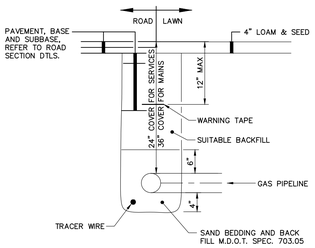
NOTES:

ANY ALTERNATE TRENCHING SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES.



PIPE INSTALLATION DETAIL

N.T.S.



NOTE:

CONTRACTOR SHALL PERFORM EXCAVATION AND PROVIDE BEDDING, BACKFILL, AND SURFACE RESTORATION; UNITIL SHALL PROVIDE PIPING, VALVES AND FITTINGS. CONTRACTOR SHALL COORDINATE ALL WORK WITH UNITIL, INC.

NATURAL GAS PIPE

N.T.S.

PERMIT SET - NOT FOR CONSTRUCTION

Baskerville

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE · LAUREN JANE SWETT · 12284 · REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

CIVIL DETAILS 2

C3.03

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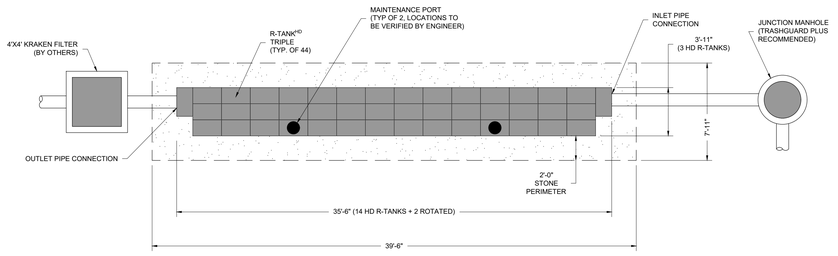
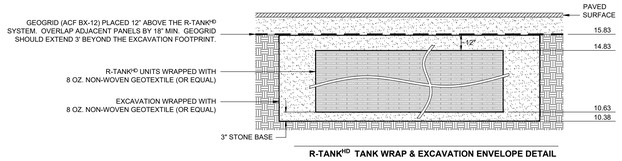


0 5' 10'
SCALE 1" = 5'

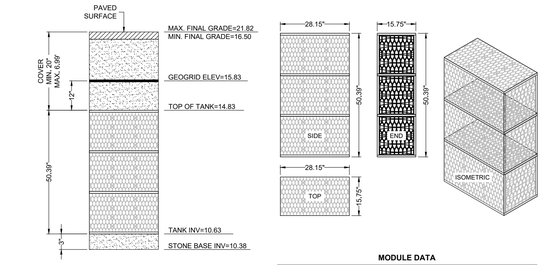
LAYOUT SCALE	1" = 5'
R-TANK^HD MODULE TYPE	TRIPLE
TRAFFIC LOAD	HS-20
# OF TRIPLE R-TANKS	44
TOTAL SYSTEM STORAGE	995 CF
R-TANK STORAGE VOLUME	540 CF
STONE STORAGE VOLUME (40% VOID RATIO)	455 CF
TOP OF COVER STONE ELEV. (12")	15.83
ACF BX-12 GEOGRID ELEV.	15.83
TOP OF R-TANK ELEV.	14.83
TANK INVERT	10.63
INVERT OF STONE BASE (3")	10.38
MIN. STONE PERIMETER WIDTH	2.0 FT
SEE SHEETS 3 - 6 FOR DETAILS AND ADDITIONAL INFORMATION	



R-TANK^HD TANK WRAP & EXCAVATION ENVELOPE DETAIL

R-TANK SYSTEM LAYOUT

N.T.S.



TRIPLE R-TANK^HD - ELEVATION

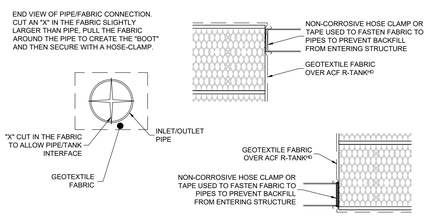
MODULE DATA

GEOMETRY:
LENGTH = 28.15 IN. (715 MM)
WIDTH = 15.75 IN. (400 MM)
HEIGHT = 50.39 IN. (1280 MM)
TANK VOLUME = 12.93 CF
STORAGE VOLUME = 12.28 CF
VOID INTERNAL VOLUME: 95%
VOID SURFACE AREA: 90%

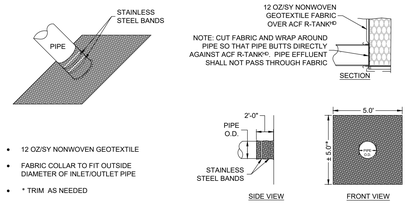
LOAD RATING:
33.4 PSI, (MODULE ONLY)
HS20, (WITH ACF COVER SYSTEM)
MATERIAL:
100% RECYCLED POLYPROPYLENE
SMALL PLATES PER SEGMENT/TOTAL:
5/15

TRIPLE R-TANK^HD - MODULE DETAIL

R-TANK^HD QUANTITIES	
R-TANK^HD MODULE TYPE	TRIPLE
# OF TRIPLE R-TANKS	44
TOTAL SYSTEM STORAGE	995 CF
R-TANK STORAGE VOLUME	540 CF
STONE STORAGE VOLUME (40% VOID RATIO)	455 CF
STONE BED FOOTPRINT	313 SF
STONE QUANTITY	42 CY
8 OZ. NON-WOVEN GEOTEXTILE TANK WRAP	693 SF (77 SY)
8 OZ. NON-WOVEN GEOTEXTILE EXCAVATION WRAP	1,316 SF (146 SY)
ACF BX-12 GEOGRID	729 SF (81 SY)
12" MAINTENANCE PORTS	2
PIPE BOOTS (UNKNOWN SIZE)	2
NOTE: STONE QUANTITY INCLUDES 12" OF COVER AND 3" OF BASE.	
NOTE: GEOTEXTILE / LINER QUANTITIES INCLUDE A 15% WASTE FACTOR.	



R-TANK^HD TYPICAL TANK INLET/OUTLET DETAIL

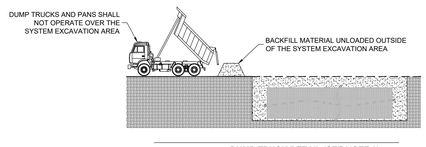


- 12 OZ/SY NONWOVEN GEOTEXTILE
- FABRIC COLLAR TO FIT OUTSIDE DIAMETER OF INLET/OUTLET PIPE
- * TRIM AS NEEDED

GEOTEXTILE PIPE BOOT FOR R-TANK^HD

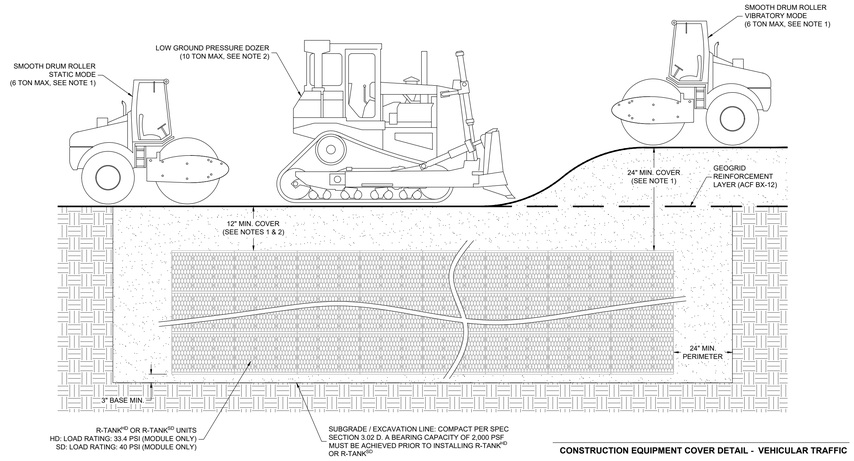
R-TANK SYSTEM DETAILS

N.T.S.



DUMP TRUCK DETAIL (SEE NOTE 3)

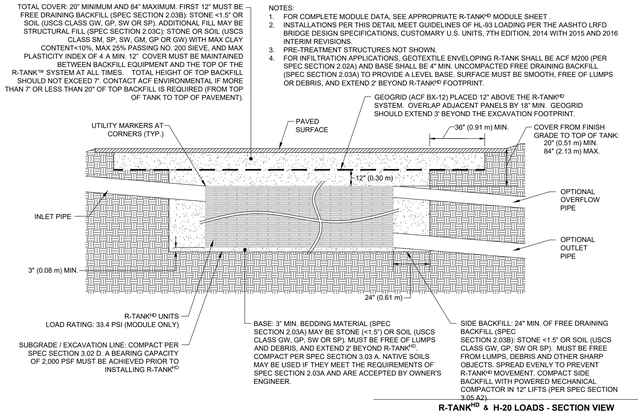
NOTES:
1. FOLLOWING PLACEMENT OF SIDE BACKFILL, A UNIFORM 12" LIFT OF THE FREELY DRAINING MATERIAL (SPEC SECTION 2.03.B) SHALL BE PLACED OVER THE R-TANK AND LIGHTLY COMPACTED USING A WALK-BEHIND TRENCH ROLLER. ALTERNATELY, A ROLLER (MAXIMUM GROSS VEHICLE WEIGHT OF 6 TONS) MAY BE USED. ROLLER MUST REMAIN IN STATIC MODE UNTIL A MINIMUM OF 24" OF COVER HAS BEEN PLACED OVER THE MODULES. SHEEP FOOT ROLLERS SHOULD NOT BE USED. **SPEC SECTION 3.05 A**
2. ONLY LOW PRESSURE TIRE OR TRACK VEHICLES (LESS THAN 7 PSI AND OPERATING WEIGHT OF LESS THAN 20,000 LBS) SHALL BE OPERATED OVER THE R-TANK SYSTEM DURING CONSTRUCTION. **SPEC SECTION 3.05 B**
3. DUMP TRUCKS AND PANS SHALL NOT BE OPERATED WITHIN THE R-TANK SYSTEM AT ANY TIME. WHERE NECESSARY, THE HEAVY EQUIPMENT SHOULD UNLOAD IN AN AREA ADJACENT TO THE R-TANK SYSTEM AND THE MATERIAL SHOULD BE MOVED OVER THE SYSTEM WITH TRACKED EQUIPMENT. **SPEC SECTION 3.05 B**
4. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC IS KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE. NO NON-INSTALLATION RELATED LOADING SHOULD BE ALLOWED OVER THE R-TANK SYSTEM UNTIL THE FINAL DESIGN SECTION HAS BEEN CONSTRUCTED (INCLUDING PAVEMENT). **SPEC SECTION 3.05 C**
5. SEE R-TANK INSTALLATION GUIDE OR CONTACT YOUR LOCAL ACF REPRESENTATIVE FOR ADDITIONAL INFORMATION.



CONSTRUCTION EQUIPMENT COVER DETAIL - VEHICULAR TRAFFIC

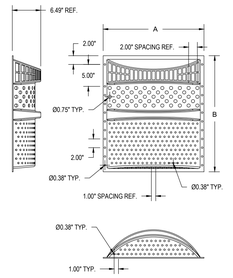
R-TANK CONSTRUCTION EQUIPMENT COVER DETAIL

N.T.S.



R-TANK^HD & H-20 LOADS - SECTION VIEW

NOTES:
1. FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK^HD MODULE SHEET.
2. INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
3. PRE-TREATMENT STRUCTURES NOT SHOWN.
4. FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK^HD FOOTPRINT.

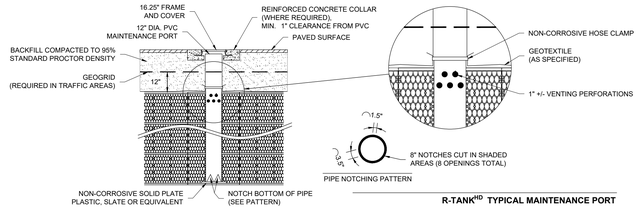


SIZE	A	B
23" x 24"	23"	26.51"
28" x 30"	28"	33.15"
34" x 36"	34"	38.69"

±0.25" TOLERANCE ON DIMENSIONS

TRASHGUARD PLUS PRETREATMENT DETAIL

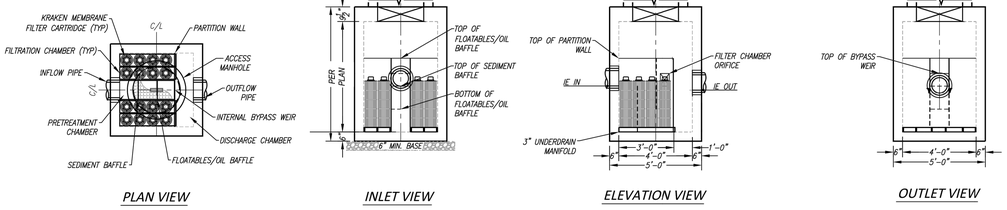
NOTES
1. THIS PORT IS USED TO PUMP WATER INTO THE SYSTEM AND RE-SUSPEND ACCUMULATED SEDIMENT SO THAT IT MAY BE PUMPED OUT.
2. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH AS NEEDED.
3. ONLY R-TANK^HD AND R-TANK^HD MAY BE USED IN TRAFFIC APPLICATIONS.
4. SEE TRAFFIC LOADING DETAIL FOR MINIMUM & MAXIMUM COVER REQUIREMENTS.



R-TANK^HD TYPICAL MAINTENANCE PORT

R-TANK SYSTEM DETAILS

N.T.S.



KRAKEN KF-4-4 MEMBRANE FILTRATION SYSTEM W/PRETREATMENT

N.T.S.

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Baskervill

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

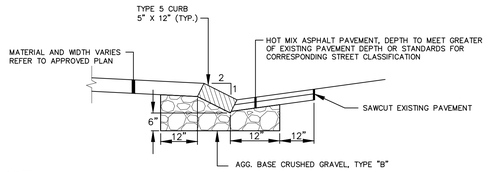
STATE OF MAINE · LAUREN JANE SWETT · 12284 · REGISTERED PROFESSIONAL ENGINEER · CIVIL
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

CIVIL DETAILS 3

PERMIT SET - NOT FOR CONSTRUCTION

C3.04



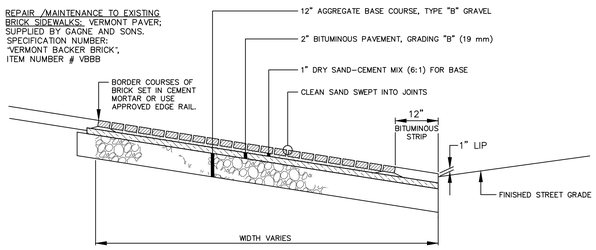
NOTE:
INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.

SLOPED GRANITE CURB
N.T.S.

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
N.T.S.

Tools Needed for Installation

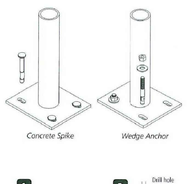
Tape Measure
Marker or Pencil
Masonry Drill Bit
Drill (Hammer drill recommended)
Hammer
Wrench 9/16"
Level
Washers (for leveling if necessary)

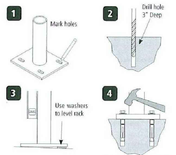
Recommended Base Materials:

Solid concrete is the best base material for installation. Ask your Dero Rack representative which anchor is appropriate for your application to ensure the proper anchors are shipped with your rack. Be sure nothing is underneath the base material that could be damaged by drilling.

Installation:

3/8" anchors are shipped with the rack. Place the rack in the desired location. Use a marker or pencil to outline the holes of the flange onto the base material. Drill the holes in accordance with the specifications shipped with the anchors. Make sure the holes are at least 6" away from any cracks in the base material.



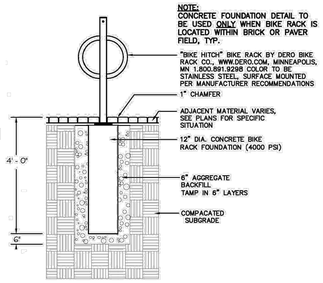


Tamper Resistant Fasteners

The concrete spike is a permanent anchor. The top of the wedge anchor can also be pounded sideways after installation so that it cannot be removed. Other tamper resistant fasteners are also available for purchase.

When using the special tamper resistant nuts, always set and first tighten the anchors. Once the rack is installed, replace two nuts from the bracket (opposite sides from each other) with the tamper resistant fasteners. DO NOT OVERTIGHTEN the tamper resistant nut.

If you have any questions about installation or other features of the Bike Bike Rack, please call us toll free at 1-800-298-4915



CONCRETE FOUNDATION

TYPICAL BIKE RACK DETAIL IN R.O.W.
N.T.S.

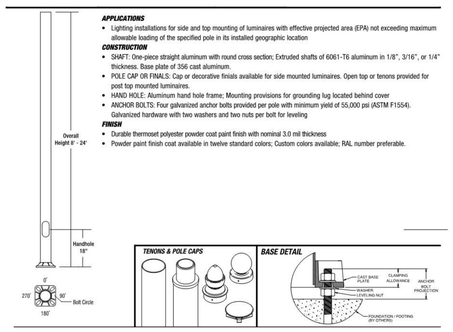
LUMINAIRE
Holophane Lighting model WAUTOOMH128667
Luminaire shall be furnished and installed by The Central Maine Power Company under the municipal lease agreement for street lighting.
Luminaire shall block.

LAMP
Holophane Lighting model S-M100/U 84417
Vertical mounted, 100 watt mogul base, clear metal halide lamp.

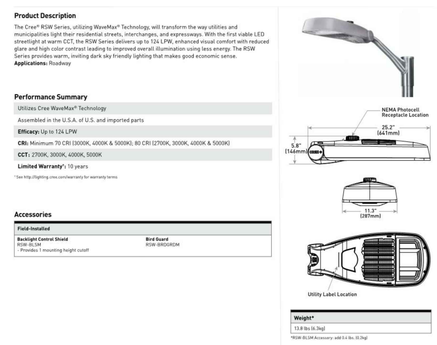
LIGHTING POLE
Holophane model HY11C/17U6192, AB-26-4, FINISH-SBKH
Tapered, fluted cast aluminum pole shall rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Provide non-GFI rated duplex receptacle outlet. Lighting pole shall be hot dipped galvanized prior powder coat paint. block.

APPLICATION
Street/Sidewalk lighting for two-way streets with parking on both sides.
Suggested layout:
60-80 ft on center (staggered pattern both sides)

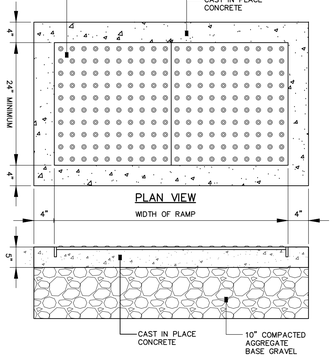
OLD PORT DISTRICT STREET LIGHTING POLE
N.T.S.



LIGHTING UTILITY POLE
N.T.S.



COBRA HEAD LIGHT FIXTURE
N.T.S.



SECTION VIEW

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 MAINE D.O.T. 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
N.T.S.

NOTES:
ALL RAMPS SHALL COMPLY WITH ADA STANDARDS.

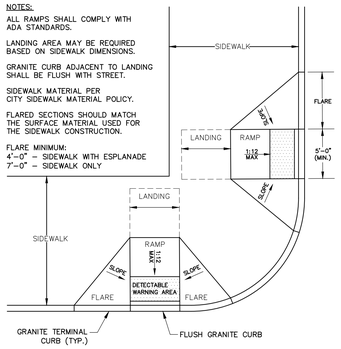
LANDING AREA MAY BE REQUIRED BASED ON SIDEWALK DIMENSIONS.

GRANITE CURB ADJACENT TO LANDING SHALL BE FLUSH WITH STREET.

SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

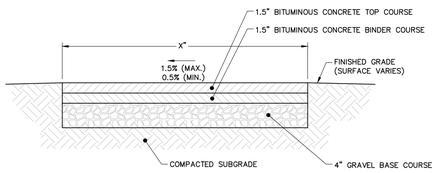
FLARED SECTIONS SHOULD MATCH THE SURFACE MATERIAL USED FOR THE SIDEWALK CONSTRUCTION.

FLARE MINIMUM:
4'-0" - SIDEWALK WITH ESPLANADE
7'-0" - SIDEWALK ONLY

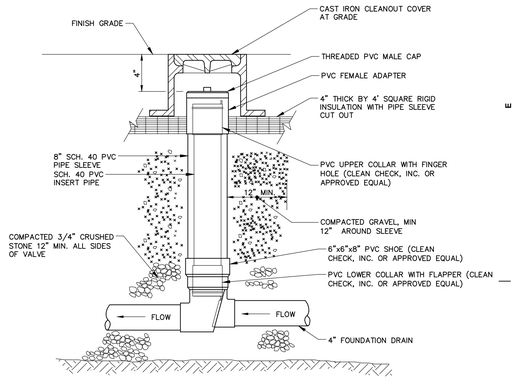


SIDEWALK RAMP AT INTERSECTION
N.T.S.

ADA ACCESSIBLE CURB RAMPS
N.T.S.

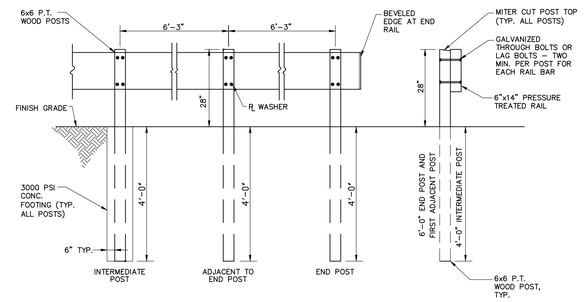


BITUMINOUS CONCRETE SIDEWALK
NOT TO SCALE



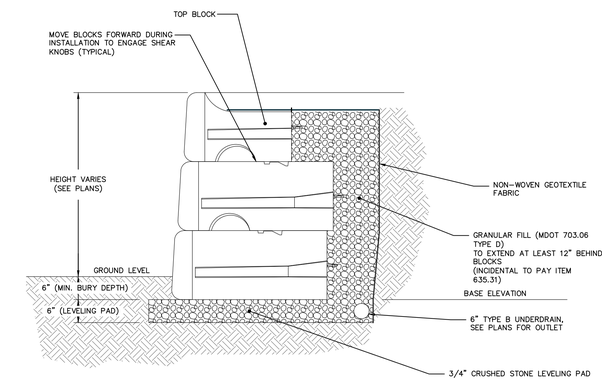
NOTES:
1. MATERIALS AND INSTALLATION PER MANUFACTURER'S INSTRUCTIONS.
2. SEE MECHANICAL PLANS FOR DETAIL OF BACK FLOW PREVENTOR LOCATED IN BELOW BUILDING PARKING LOT.

BACKFLOW PREVENTER
N.T.S.



NOTES:
• ALL POST SPACING SHALL BE 6'-3" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
• GUARDRAIL SHALL BE CONSTRUCTED USING PRESSURE TREATED WOOD.

WOOD GUARDRAIL DETAIL
N.T.S.



NOTE: PREFAB CONCRETE GRAVITY BLOCK WALL SHALL BE PER SUPPLEMENTAL SPECIFICATION SECTION 635. PREFAB CONCRETE GRAVITY BLOCK WALL DETAIL IS FOR REFERENCE PURPOSES TO AID IN LAYOUT AND DEVELOPMENT OF MANUFACTURER DETAILS. WALL MANUFACTURER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE. REFER TO SUPPLEMENTAL SPECIFICATION SECTION 635 FOR ADDITIONAL REQUIREMENTS.

SEGMENTED RETAINING WALL DETAIL
N.T.S.

PERMIT SET - NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL
1 CENTER STREET PORTLAND, MAINE 04101

STATE OF MAINE
LAUREN JANE SWETT
12284
REGISTERED PROFESSIONAL ENGINEER
5/17/2019

ISSUE
05/17/2019 - PERMIT SET

CIVIL DETAILS 4

C3.05

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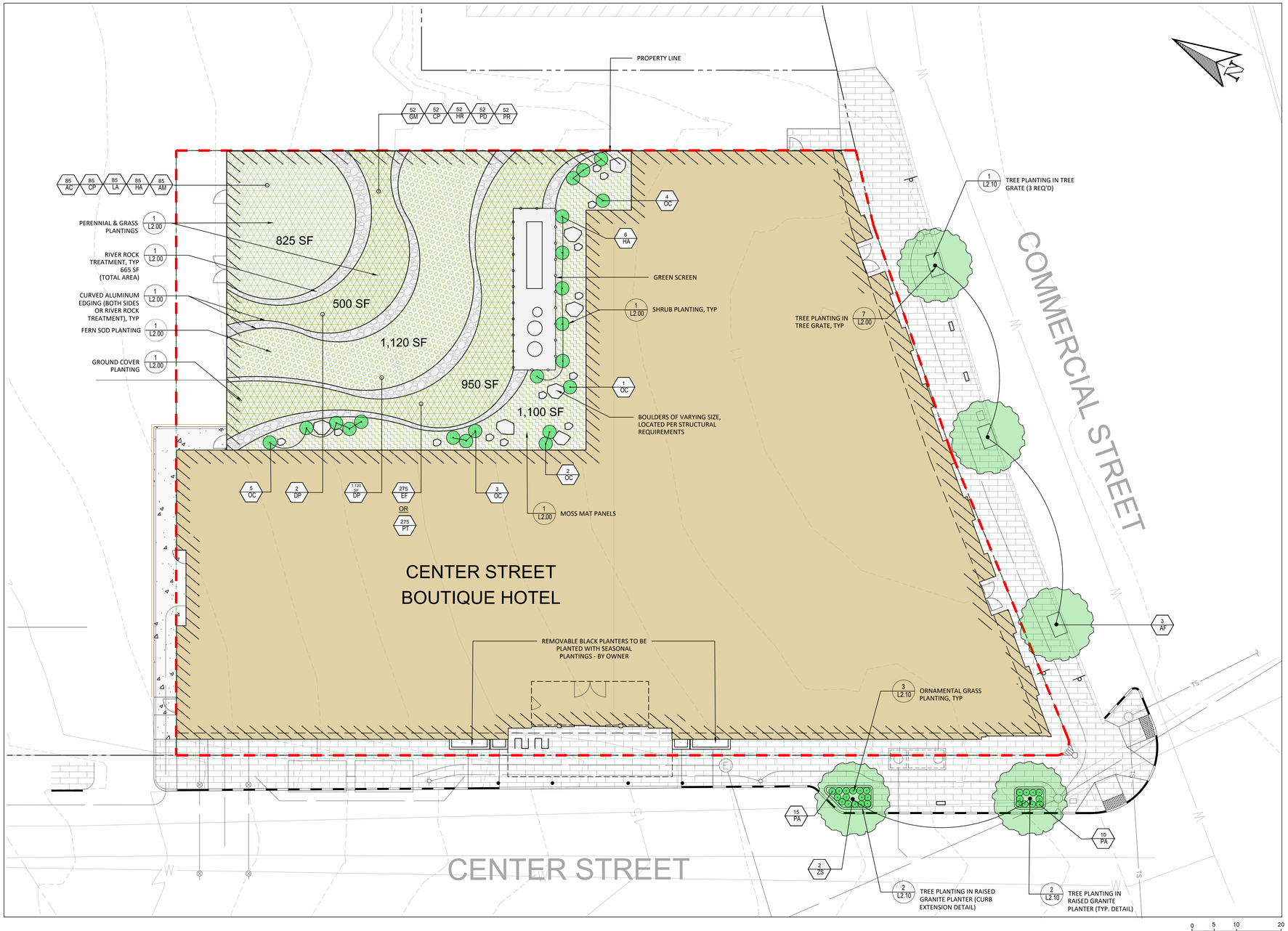

LEGEND (PROPOSED IMPROVEMENTS)

- PROPERTY LINE
- PROPOSED BUILDING "CENTER STREET HOTEL"
- BRICK PAVING
- CONCRETE PAVING
- BITUMINOUS CONCRETE PAVING
- SPECIAL PAVING
- PERENNIAL, GROUNDCOVER & GRASS PLANTING
- MOSS MAT
- FERN SOD PLANTING
- RIVER ROCK
- PROPOSED SHRUB PLANTING
- PROPOSED TREE
- TREE GRATE
- RAISED PLANTER

PLANTING NOTES

1. CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
2. CONTRACTOR SHALL SUPPLY PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN ON THE PLAN. ANY DISCREPANCY BETWEEN THE QUANTITIES SHOWN IN THE PLANT SCHEDULE AND THOSE REQUIRED ON THE PLAN SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL RENUMERATION. ANY DISCREPANCIES SHALL BE CLARIFIED WITH THE LANDSCAPE ARCHITECT PRIOR TO ORDERING PLANT MATERIAL.
3. ALL MATERIALS SHALL CONFORM TO SPECIFICATIONS OF THE AMERICAN STANDARDS FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THE ORIGINAL GRADES BEFORE DIGGING.
5. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
6. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AT THE NURSERY AND AT THE SITE.
7. ALL PLANT BEDS SHALL MEET MINIMUM TOPSOIL REQUIREMENTS (SEE SPECIFICATIONS).
8. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRUBBING, BED PREPARATION, AND FINISH GRADING HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
9. ALL PLANT BEDS AND TREE WELLS SHALL HAVE A MINIMUM OF 3" OF UNIFORMLY DISTRIBUTED, DARK, SHREDDED BARK MULCH.
10. CONTRACTOR SHALL SUBMIT SOIL SAMPLE AND TEST OF TOPSOIL TO LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. - SOIL ADMIXTURE SHALL BE ADDED TO EXISTING SOIL (BY CONTRACTOR) IF DEEMED NECESSARY BY SOIL TEST RESULTS.
11. ROUGH GRADING AND BED PREPARATION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANT INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO REQUIRED SITE VISIT.
12. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. ALL ROOT WRAPPING AND CONTAINER MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING.
13. ALL BROAD LEAF EVERGREEN PLANTS SHALL BE SPRAYED WITH AN ANTI-DESSICANT AT THE BEGINNING OF THEIR FIRST WINTER.
14. ALL PLANTS SHALL BE INSTALLED AS PER DETAILS AND THE CONTRACT SPECIFICATIONS. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. CONTRACTOR SHALL STAKE TREES IF DEEMED NECESSARY BY LANDSCAPE ARCHITECT.
16. THE LANDSCAPE CONTRACTOR SHALL PROVIDE LOAM FILL AS PER THE CONTRACT SPECIFICATIONS.
17. ALL PLANTS SHALL BE WATERED BY THE CONTRACTOR, AS NECESSARY TO INSURE HEALTH UNTIL FINAL ACCEPTANCE.
18. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE PLANT LIST AND PLANTING SPECIFICATIONS FOR SEASONAL REQUIREMENTS AND OTHER RESTRICTIONS RELATED TO THE TIME AND SEASON OF PLANTING.
19. PLANTING SOIL MIX: 1 PART COMPOST, 8 PARTS TOPSOIL, 3 PARTS HUMUS.

TOPSOIL: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS GREATER THAN 1" IN ANY DIMENSION, PH RANGE 5.0-7.0 , AND SHALL CONTAIN NOT LESS THAN 6% ORGANIC MATTER BY WEIGHT.

SANDY LOAM OR LOAM SOIL AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE, AND HAVE THE FOLLOWING MECHANICAL ANALYSIS:

TEXTURAL CLASS	% OF TOTAL WEIGHT	AVERAGE %
SAND (0.05- 2.0 MM)	45 TO 75%	60%
SILT (0.002- 0.05 MM)	15 TO 35%	25%
CLAY (< 0.002 MM)	5 TO 25%	15%

PLANT SCHEDULE -TREES

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
3	AF	ACER FREEMANII ARMSTRONG	ARMSTRONG MAPLE	3"	B&B
2	ZS	ZELKOVA SERRETA 'GREEN VASE'	GREEN VASE ZELKOVA	3"	B&B

PLANT SCHEDULE -SHRUBS FERNS & GROUNDCOVERS

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
245	EF	EUONYMUS FORTUNEI	WINTERCREEPER	#2	CONT, 24" O.C.
1,120 SF	DP	DENNSTAEDTIA PUNCTILOBULA	HAY-SCENTED FERN		SOD
10	DC	DESCHAMPSIA CESPITOSA 'PIXIE FOUNTAIN'	DESCHAMPSIA CESPITOSA 'PIXIE FOUNTAIN'	#2	CONT
245	HA	HYDRANGEA ANOMALA SUBSP. PETIOLARIS	CLIMBING HYDRANGEA	#5	CONT
245	OC	OSMUNDASTRUM CINNAMOMEUM	CINNAMON FERN	#2	CONT
-	PT	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	#1	CONT, 24" O.C.
2	PV	PANICUM VIRGATUM 'HEAVY METAL'	SWITCH GRASS	#2	CONT
25	PA	PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	FOUNTIAN GRASS	#2	CONT

PLANT SCHEDULE -PERENNIALS & GRASSES FOR ROOF GARDEN

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
85	AC	ALLIUM CERNUUM	NODDING WILD ONION (PINK FLOWER)	#1	CONT, SUN TO PART SHADE
85	AM	ARMERIA MARITIMA	SEA THRIFT	#1	CONT, SUN TO PART SHADE
137	CP	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	#1	CONT, WILL TAKE FULL SHADE
85	HA	GEUM TRIFLORUM	PRAIRIE SMOKE (PINK)	#1	CONT, SUN TO PART SHADE
52	GM	GERANIUM MACULATUM	WILD GERANIUM	#1	CONT, WILL TAKE FULL SHADE
52	HR	HEUCHERA RICHARDSONII	ALUMROOT	#1	CONT, WILL TAKE FULL SHADE
85	LA	LIATRIS ASPERA	BLAZING STAR	#1	CONT, SUN TO PART SHADE
52	PD	PHLOX DIVARICATA	WOODLAND PHLOX	#1	CONT, WILL TAKE FULL SHADE
52	PR	POLEMONIUM REPTANS 'STAIRWAY TO HEAVEN'	JACOBS LADDER (VARIEGATED)	#1	CONT, WILL TAKE FULL SHADE

PLANT SCHEDULE - MOSS

1,110 SF		MOSS MAT (SPECIES TBD)			PANELS

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PROJECT NUMBER
2.180697.0

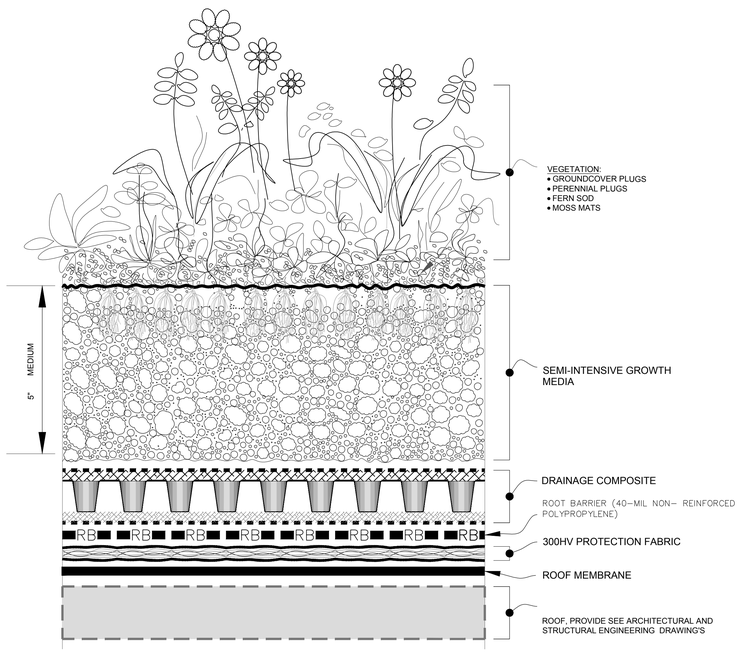
CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 -
DESIGN DEVELOPMENT

LANDSCAPE PLAN

L1.00



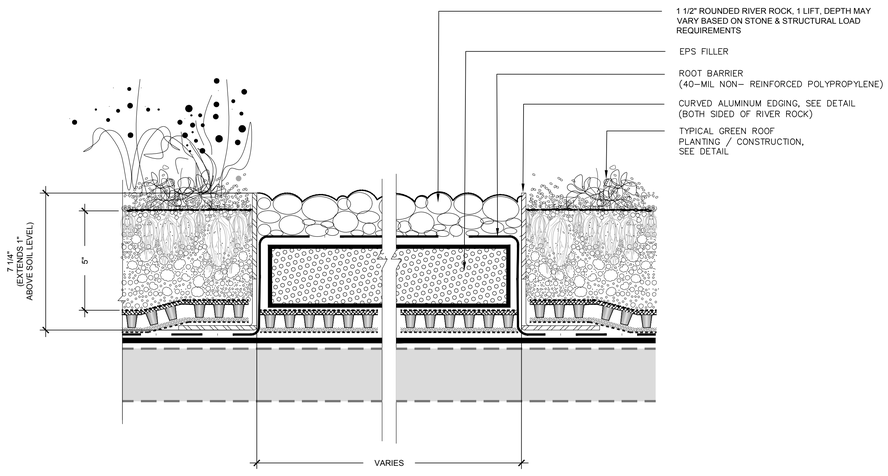
NOTES:

A. POSITIVE SLOPE MUST BE PROVIDED AT MEMBRANE SURFACE LEVEL, EITHER BY SLOPING THE STRUCTURAL DECK OR BY ADDING TAPERED INSULATION BOARD ON FLAT STRUCTURAL DECK.

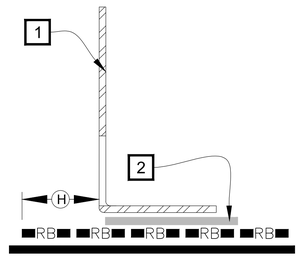
B. ACCEPTABLE MEMBRANE ON CONCRETE: WHEN WATERPROOFING MEMBRANE TO BE APPLIED DIRECTLY TO STRUCTURAL OR LIGHTWEIGHT CONCRETE SUBSTRATE, FleeceBACK OR FleeceBACK AFX MEMBRANE MUST BE USED.

C. SEAMS: REFER TO SPECIFICATIONS.

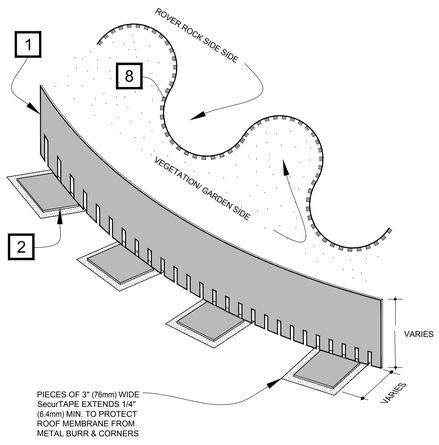
1 TYPICAL GREEN ROOF CONSTRUCTION
SCALE: N.T.S



2 RIVER ROCK TREATMENT
SCALE: N.T.S



TYPICAL SECTION
N.T.S



TYPICAL AXON
N.T.S

NOTES:

1. CARLISLE EASY BEND ROOF GARDEN EDGE (OR APPROVED EQUAL), WITH SLOTTED HOLES FOR DRAINAGE.
2. 3" (76mm) WIDE SECURTAPE EXTENDS 1/4" (6.4mm) TO PROTECT ROOF MEMBRANE FROM METAL BURR & CORNERS.
3. 6" (152mm) WIDE PRESSURE-SENSITIVE COVER STRIP
4. UNIVERSAL SINGLE-PLY SEALANT, ONE TUBE EVERY 10 FEET (3048mm).
5. EXPANDED/EXTRUDED POLYSTYRENE INSULATION.
6. UNIVERSAL SINGLE-PLY SEALANT.
7. PROVIDE 1/8" (3.2mm) SPACE BETWEEN EACH GARDEN EDGE UNIT.
8. HORIZONTAL FLANGES MUST FACE TOWARDS ROOF VEGETATION ASSEMBLY

3 CURVED ALUMINUM EDGING
SCALE: N.T.S

Baskervill

LICENSED LANDSCAPE ARCHITECT
PATRICK J. CARROLL
NO. 127
STATE OF MAINE

NOT FOR CONSTRUCTION

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PROJECT NUMBER
2.180697.0

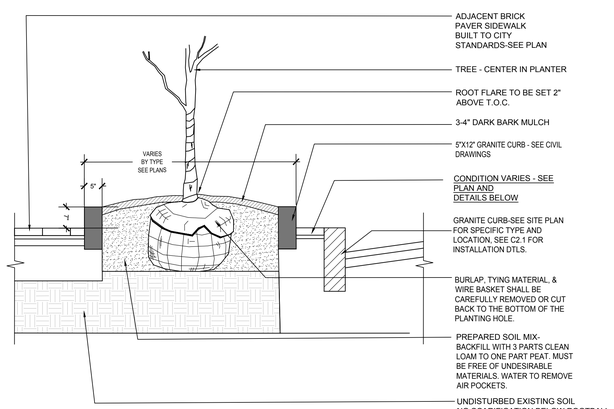
CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 -
DESIGN DEVELOPMENT

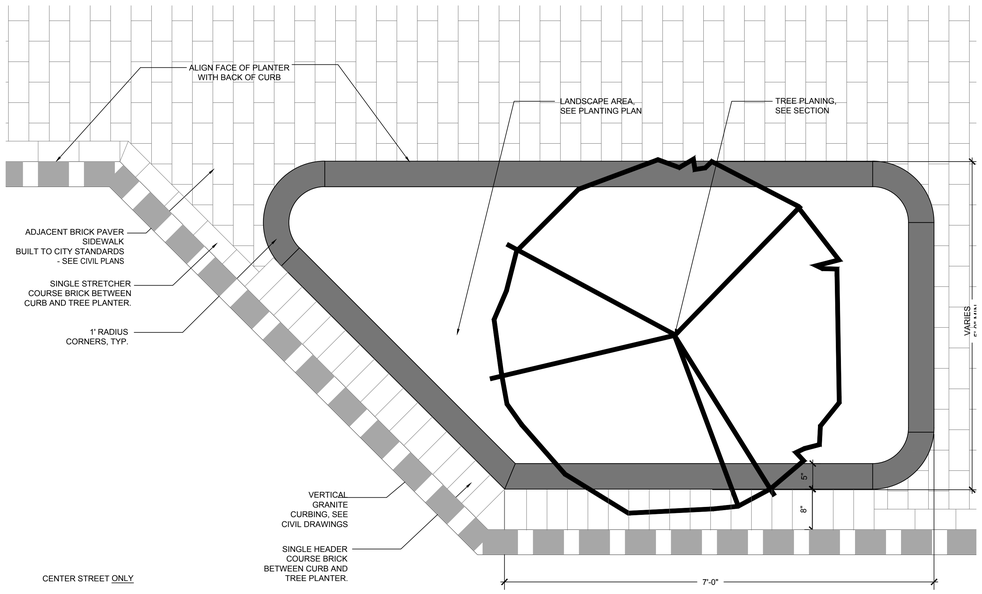
LANDSCAPE DETAILS ROOF GARDEN

L2.00



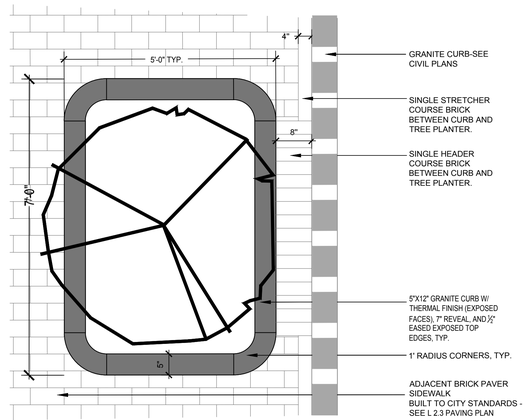
TYPICAL SECTION
(N.T.S)

1 RAISED GRANITE PLANTER
SCALE: N.T.S



CENTER STREET ONLY

PLANTER @ CURB EXTENSION
(N.T.S)



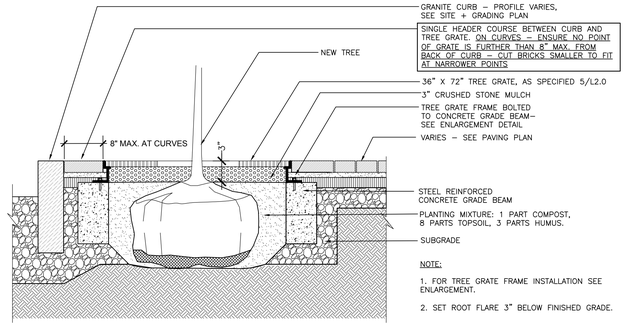
NOTES:
1. CURB TO BE CONTINUOUS, ONE SECTION PER SIDE.

2. JOINTS TO BE TIGHT. MORTAR AND PLACE FILTER FABRIC BEHIND TO PREVENT SOIL WASHOUT.

CENTER STREET ONLY

TYPICAL PLANTER
(N.T.S)

2 TREE IN TREE GRATE
SCALE: N.T.S

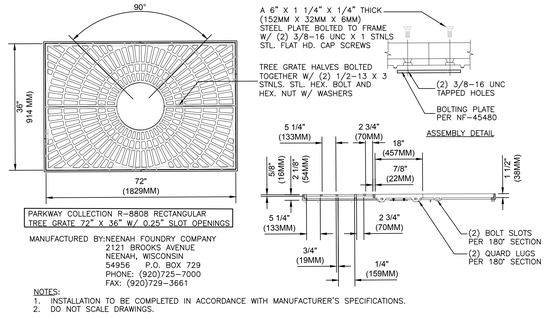


NOTE:

1. FOR TREE GRATE FRAME INSTALLATION SEE ENLARGEMENT.

2. SET ROOT FLARE 3" BELOW FINISHED GRADE.

TREE GRATE SECTION VIEW
(N.T.S)

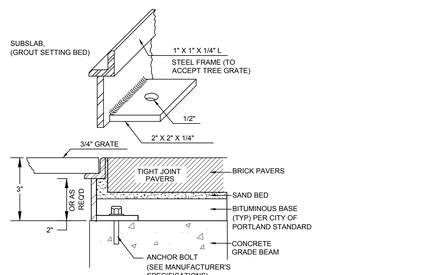


PARKWAY COLLECTION R–8808 RECTANGULAR
TREE GRATE 72" X 36" W/ 0.25" SLOT OPENINGS

MANUFACTURED BY:NEENAH FOUNDRY COMPANY
2121 BROOKS AVENUE
NEENAH, WISCONSIN
54956 P.O. BOX 729
PHONE: (920)725–7000
FAX: (920)729–3661

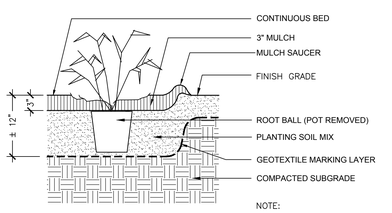
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.

TREE GRATE PLAN VIEW
(N.T.S)



TREE GRATE FRAME ANCHORING DETAIL
(N.T.S)

3 ORNAMENTAL GRASS PLANTING (IN TREE PLANTER)
SCALE: N.T.S



NOTE:

1. PLANT GRASS IN STAGGERED ROWS

4 REMOVABLE PLANTER
SCALE: N.T.S

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PATRICK J. CARROLL NO. 127 REGISTERED LANDSCAPE ARCHITECT STATE OF MAINE

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PROJECT NUMBER
2.180697.0

CENTER STREET BOUTIQUE HOTEL

1 CENTER STREET PORTLAND, MAINE 04101

ISSUE
05/10/2019 - DESIGN DEVELOPMENT

LANDSCAPE DETAILS STREETSCAPE

L2.10

PLANNING BOARD REPORT
PORTLAND, MAINE

Mixed-Use Redevelopment
46 (40) Free Street
Conditional Use, Subdivision & Site Plan Review
40 Free, LLC, J.B. Brown & Sons, Applicant
PL-000602-2019 CBL: 038 I018001

Submitted to: Portland Planning Board Public Hearing Date: July 9, 2019	Prepared by: Andrew Tufts, Planner Date: July 9, 2019

I. INTRODUCTION

40 Free, LLC has submitted a Level III Site Plan, Subdivision and Conditional Use (Inclusionary Zoning) application for a six-story, fifty-one residential unit, and five retail unit mixed-use building. Located on a 16,863 square foot parcel at 40 Free Street in the Downtown District. This neighborhood consists of largely commercial buildings with some mixed-use properties, and it is located in the B-3 Zone, Congress Street Historic District, and the Pedestrian Activities District Overlay Zone. The proposed development, replacing existing surface parking, involves demolition of the existing guard shack and entrance at Free Street.

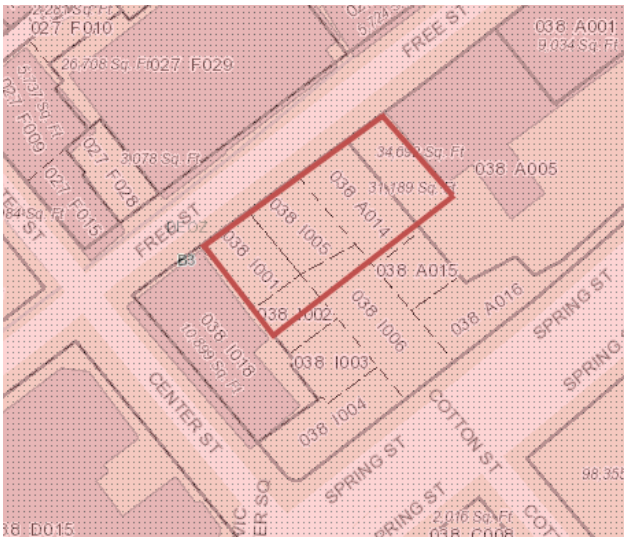
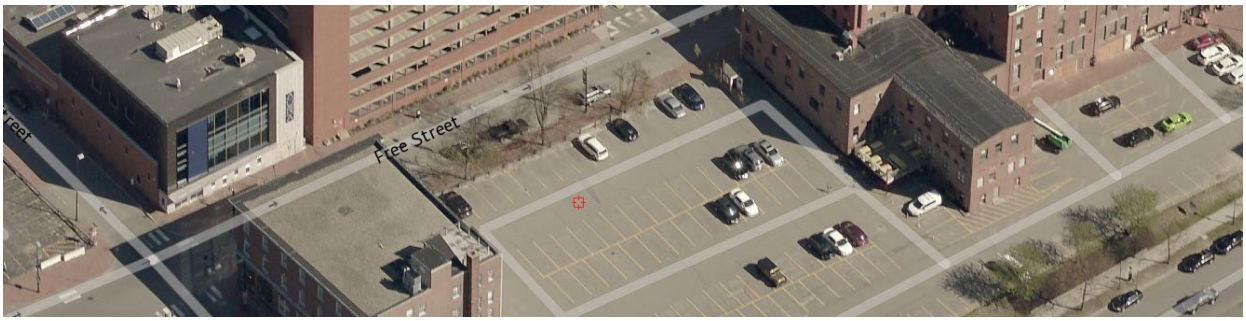


Figure 1 87 Spring Street Site Location

A total of 139 notices were sent to property owners within 500 feet of the site and a legal ad ran in the May 31st and June 1st 2019 editions of the Portland Press Herald.

Applicant: Vin Veroneau, 40 Free, LLC
Consultants: Will Savage, P.E. (Acorn Engineering) Ryan Senatore Architecture; John Schwanda (Owen Haskell Inc.)



II. REQUIRED REVIEWS

Waiver Requests	*Applicable Standards*
Driveway Aisle width – 20' feet Staff Comments: The City's Traffic Engineer supports a waiver from the City's Technical Standards for driveway width given low traffic volumes and traffic characteristics of Free Street.	Technical Manual, *Section 1.14 & Figure I-29,* requiring 24.00' wide drive aisle for two-way access aisles with 90 degree parking.
Compact parking spaces – 49% of the provided parking. Staff Comments: Parking for the project is supported by City Staff with the understanding that spaces are to be for recurring residential use.	Technical Manual, *Section 1.14,* Parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces.
Review	*Applicable Standards*
Site Plan	*Section 14-526*
Subdivision	*Section 14-497*
Inclusionary Zoning (IZ)	*Section 14-474, Section 14-487*

III. PROJECT DATA

Existing Zoning	B-3 Zone
Existing Use	Surface Parking
Proposed Use	51 Residential Units, 5 Retail spaces
Bedroom Mix	14 two-bedroom units, 37 one-bedroom units
Parcel Size	16,863 SF

	Existing	*Proposed*	*Net Change*
Building Footprint	32 SF	9,685 SF	9,653 SF
Building Floor Area	32 SF	58,563 SF	58,531 SF
Impervious Surface Area	16,863 SF	16,343 SF	-520 SF
Parking Spaces	92	60	-32
Bicycle Parking Spaces	0	24	24
Estimated Cost of Project	Not Provided		

IV. EXISTING CONDITIONS

The proposed development site consists entirely of surface parking and extends across two parcels, both currently owned by J.B. Brown & Sons. J.B. Brown & Sons also owns all abutting parcels located in this block. Land from the two parcels will be deeded to a new parcel to be controlled by 40 Free LLC. New easements granting access for construction, maintenance, parking and access will be created for all affected parcels. The adjacent parcel to the south, also owned by J.B. Brown & Sons, is proposed to provide additional parking to meet capacity. The applicant has expressed a desire to redevelop the southern parcel at a future date. Spring Street, which borders the site to the south, has two years remaining on a five-year moratorium on any street openings.

V. PROPOSED DEVELOPMENT

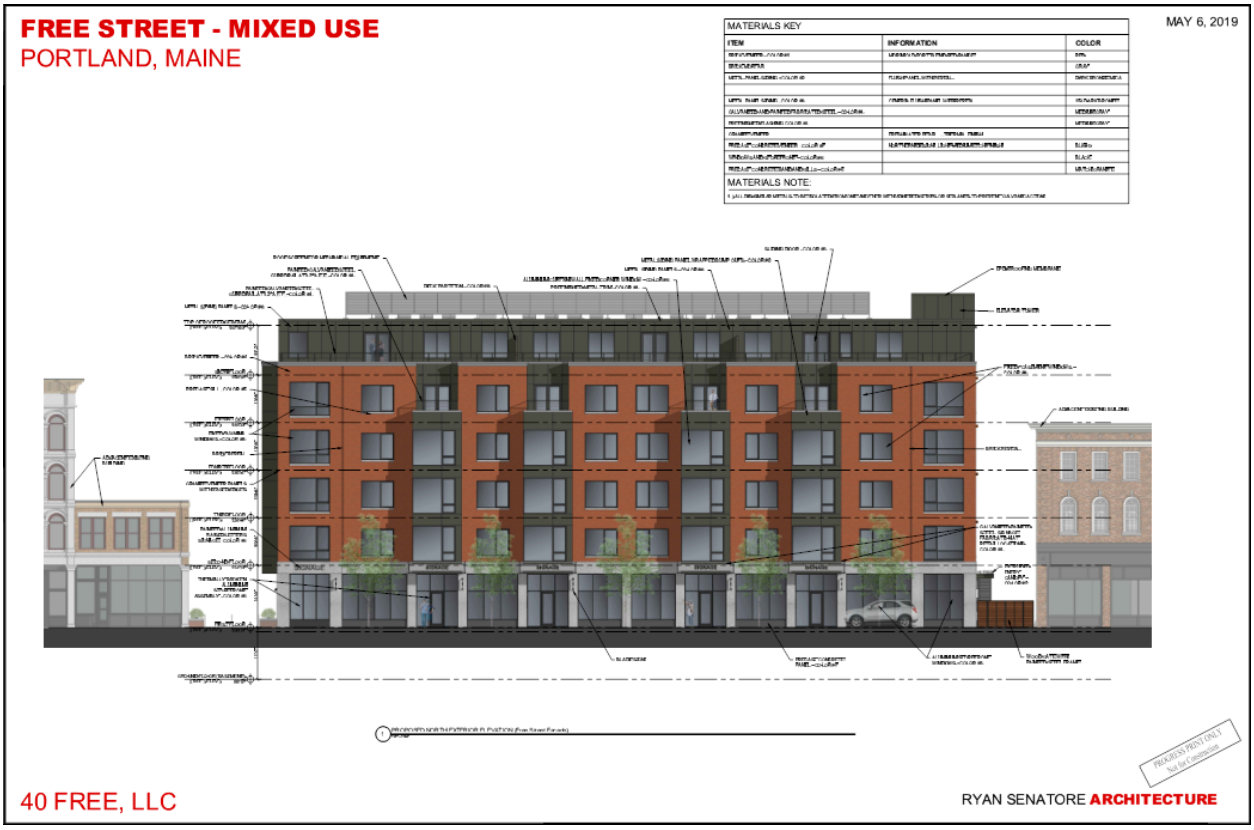


Figure 3 Proposed Building Elevation

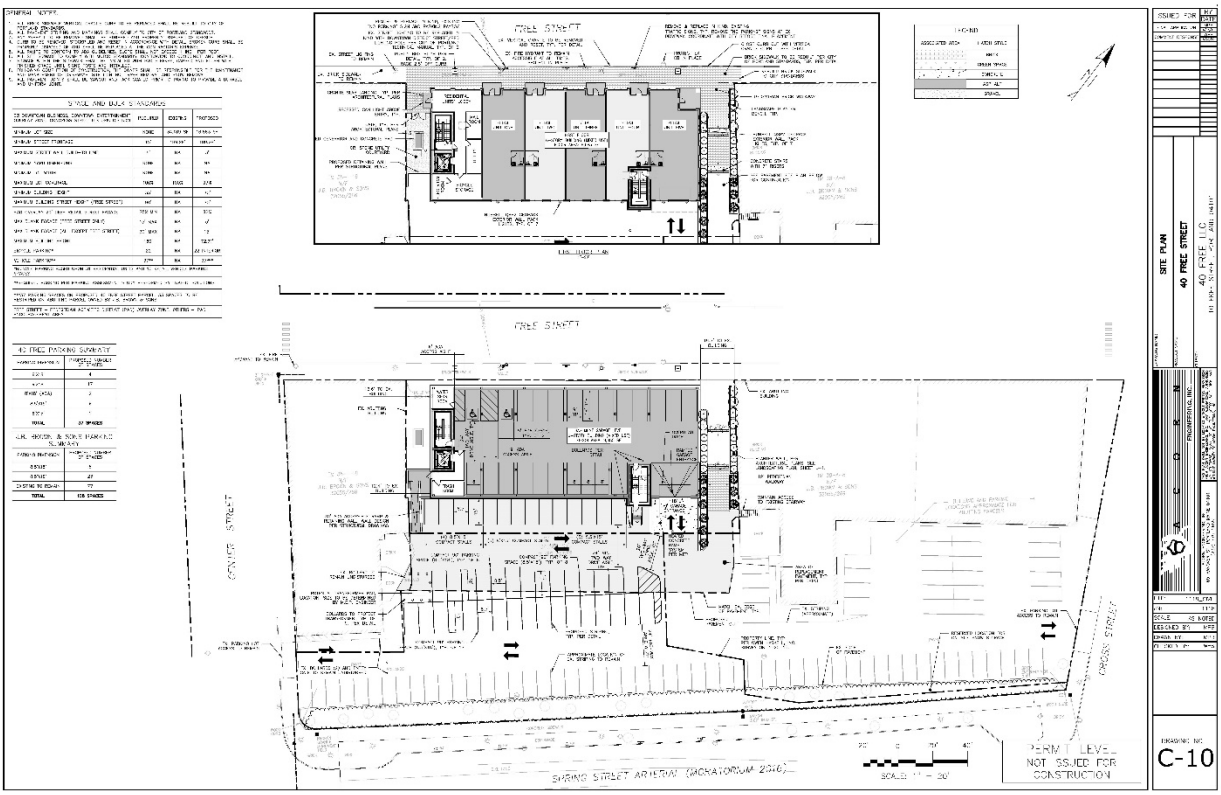


Figure 4 Proposed Site Plan

The development is proposed as a new six-story, fifty-one residential unit, five-retail unit, mixed-use building, with subsurface structured parking for 23 vehicles. There are an additional 14 exterior spaces at surface-level adjacent to the rear of the building. As measured from average grade, the building is 72.71 feet tall. The building itself emphasizes pedestrian access and activity at street level, with front retail entrances and with side and rear residential entrances. The 2nd through the 6th floors will contain 51 residential units. Vehicular access is deemphasized by shifting the garage entrance towards the rear of the site, that is accessible via a 20 foot driveway located along the southerly property boundary. The project also features the closure of one (1) existing curb cut off Free Street, leaving the remaining two at the rear of the site on Center Street and Cross Street. A new pedestrian walkway between 40 Free Street and 22 Free Street will further encourage pedestrian activities on Free Street.

Utilities to the site are provided via existing infrastructure along Free Street, Center Street & Spring Street. The electrical service will be wired underground. A pad mounted transformer is proposed at the rear of the building. This will allow for flexibility in future developments along Spring Street. The water and sewer lines will connect into Free Street. The proposed gas connection by Unitil will connect via an easement to Center Street. The site is currently 100% covered by a paved surface parking lot.

VI. Public Comment and Neighborhood Meeting

As of the writing of this report, no written comments have been received by the Planning Division. The neighborhood meeting was held Wednesday, May 22, 2019, at 5:30pm at J.B. Brown & Sons at 10 Free Street. One member of the public attended.

VII. PLANNING BOARD WORKSHOP – 6/11/19

The project was introduced by Andrew Tufts, the assigned project planner. The applicant, Vin Veroneau, then provided a description of the project followed by the project engineer, Will Savage, and project architect, Ryan Senator. The proposal includes multiple easements, which the applicant described in detail. All proposed easements are on properties also owned by the applicant. The board appreciates the role that the pedestrian corridor will play in pedestrian connectivity in the downtown district. ADA concerns were raised but multiple members of the board acknowledged the dimensional constraints of the site and were comfortable with the proposed stair design. The project is well ahead of the Portland Square redevelopment, so no overlap and traffic impairments are anticipated.

The parking waiver is supported by the board and recommends updating the technical standards for size requirements. The board would like to see some improvements to the condensers and mechanical approach along the south elevation. The architect is working to move the equipment to the roof.

VIII. RIGHT, TITLE, & INTEREST AND FINANCIAL & TECHNICAL CAPACITY

The owner of the property is J.B. Brown & Sons. The applicant has provided a copy of the warranty deed, recorded at the Cumberland County Registry of Deeds (Book 32055, Page 302), which demonstrates their right, title and interest in the property. (Attachment C)

b. As evidence to demonstrate sufficient financial and technical capacity, the applicant has provided a letter from Camden National Bank indicating that between the applicant's funds and bank financing, that applicant has sufficient financial capacity to complete the proposed project. Similarly, information has been provided on the development team demonstrating the capacity to design and construct the project. (Attachment G)

IX. ZONING ANALYSIS

The proposed project is a six-story mixed-use retail/residential building with fifty-one (51) residential units, five (5) retail units, and thirty-seven (37) off-street parking spaces. The property is located in the B-3 Zone, Congress Street Historic District, and the Pedestrian Activities District Overlay Zone.

The proposed use, a mixed-use retail/residential development, is a permitted use within the B-3 and the project as proposed is fully compliant with all dimensional requirements as shown in the table below.

	Required	Proposed
Lot Size	None	16,863 SF
Area Per Dwelling Unit	None	652 SF min.
Minimum Street Frontage	15' FT	189.29' FT
Front Yard Minimum	None	3' FT
Front Yard Maximum	5' FT	3' FT
Rear Yard	None	20' FT
Yard Right	5' FT	29.5' FT (Right), 10.5' FT (Left)
Yard Left	None	12.4' FT
Side Street Setback	NA	NA
Step Back	None	None
Maximum Lot Coverage	100%	97%
Minimum Lot Coverage	NA	97%
Maximum Height	90' FT	72.71' FT
Open Space	None	NA
Maximum Impervious Surface	100%	97%
Pavement Setback	NA	NA

Floor Area Ratio	NA	NA
Off-Street Parking	37	37
Loading Bays	0	0

X. 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. Any waivers granted must be recorded at the Registry of Deeds within two years of a Planning Board decision.

B. SUBDIVISION (Section 14-496)

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)*
   The majority of proposed surface runoff will be from the roof with some additional runoff from the pedestrian walkway and the repaved portion of the surface parking lot. Therefore, the proposed development produces cleaner runoff than the existing, uncovered surface parking lot. The repaved portions of the surface parking lot will maintain the existing flow patterns and as such, are considered a maintenance activity not subject to water quality treatment requirements of the general standards.

   Lauren Swett, P.E. with Woodard and Curran Engineering, has reviewed the erosion and sediment control plans and details, and inspection and maintenance requirements and offers the following comment **(Attachment 1):**

   - The Applicant has provided erosion and sedimentation control details and a written plan in accordance with the Basic Standards. Erosion control features have been called out on the Construction Management Plan, sheet C-03.
   - The Applicant is not increasing impervious surface, and is not required to provide any treatment or flooding control as required for the General and Flooding Standards.
   - The Applicant is not increasing non-roof redeveloped impervious surface, and is not required to provide any treatment as required for the Redevelopment Standard.

2. *Sufficient Water Available (Section 14-497 (a) 2 and 3)*

   Ability to serve from Portland Water District has been received and provided.

3. *Will Not Cause Unreasonable Traffic Congestion (Section 14-497 (a) 5)*
   The applicant proposes to close the curb cut on Free Street, leaving two access points to the parking lot, one off Center Street and one off Cross Street. This will affect how users enter and exit the parking lot. A traffic analysis, including, but not limited to, existing and net new trip generation and local trip distribution, is being requested for final review.

   Below are Mike Tremblay's comments pertaining to the above:

   > *The applicant claims that a traffic analysis is not needed because the Free Street driveway removal will be relatively low-impact and is in fact within the city's goals. I am concerned about additional left-turning vehicles queuing up on Center Street, particularly during events*

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 applicant is proposing a new five (5) inch sanitary sewer service connection into the existing sewer main beneath Free Street. The Department of Public Works is currently reviewing this request, and will weigh in prior to the public hearing.
The applicants have received and submitted a Wastewater Capacity Authorization Letter.

5. *Comprehensive Plan (Section 14-497 (a) 9)*
The development has been designed to be consistent with the City's Comprehensive Plan, adopted in June of 2017.

B. 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
   ADA compliance is provided at all door locations and for the sidewalk cross-slopes. ADA access will be provided from Free St to the users of the retail stores. Furthermore, ADA access will be provided to the residential units to and from the Free St, the subsurface parking garage and to the rear surface parking lot.
   There are ongoing discussions regarding the potential for an ADA compliant ramp along the pedestrian corridor.
   Mike Tremblay S.E., City Engineering, has provided a number of comments that are found in the attachments.

   b. Sidewalks
   A brick sidewalk exists along Free Street which will be rebuilt as part of this project. The existing sidewalk will be rebuilt from the property line to the extent of the existing tipdown at the existing driveway to be removed.

   c. Public Transit Access
   The public transit requirements do not apply to this project.

   d. Parking
   Thirty-Seven parking spaces are being proposed, including twenty-three subsurface structured parking spaces, and fourteen (14) surface parking spaces along the back of the building. Two accessible spaces are provided in the subsurface garage.

   The applicant is requesting a waiver that allows 49% of the provided parking to be compact spaces. The Technical Manual standard for parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces.

   The Technical Manual standard for parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces. The applicant is requesting a waiver that allows a Driveway Aisle width of 20' feet.

   The City's Traffic Engineer supports a waiver from the City's Technical Standards for driveway width given low traffic volumes and traffic characteristics of Free Street.

   Mike Tremblay S.E., City Engineering, has provided a number of comments that are found in the attachments, and summarized below:

   The applicant's shared parking analysis ends at 6pm, which arguably before peak parking occupancy for a combined retail + residential use. A more robust, 18-hour (7am-1am)

analysis should be provided. The SmartCode suggests that 20% of parking spaces can be shared between retail and residential, bringing their total demand down to 43 spaces from 51, but still above the 37 proposed.
The applicant defended their compact space allocation by stating that most of the spaces in the garage will be standard, and that the exterior compact spaces will be low-turnover residential spaces adjacent to a 24-foot drive aisle. I'm generally fine with this logic if they want to ask for a waiver; however, the fact that they have identified these spaces as residential spaces means that these spaces should not be included in a shared parking analysis.

The compact spaces had initially warranted additional information, however the applicant demonstrated significant justification and the staff supports the waiver.

The applicant defended the 20 foot drive aisle west of the garage entrance by stating that 20 feet is our minimum drive aisle width per our tech manual; however, I think it's pretty clear that minimum widths are only acceptable if they work as intended, and there is potentially some awkward turning movements here.
One of the compact garage spaces still seems impossible to maneuver into, as it is between a column and a wall and is only 8 feet wide.

e. Bicycle Parking
The proposal includes a bicycle storage room with space for twenty-two (22) bicycles which meets the site plan standard requiring a minimum of two bicycle parking spaces for every five dwelling units. An additional two Dero bike racks will be provided along Free Street.

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
A landscaping plan was submitted as part of the application. The plan shows five street trees, a variety of shrubs and perennials as buffer plantings along the easterly pedestrian corridor.

Jeff Tarling, the City Arborist, has reviewed the proposed landscaping plan and offers the following comments:

> Proposed Street Trees are in a tight, heavily salted pedestrian area and have low probability of survival. They also conflict with ADA requirements
>
> Alternative: Include exterior bicycle racks on pedestrian right of way on Free Street & elevated planters or beds against the proposed building, as done in front of the parking garage across the street. Please consult with the planner who will coordinate with the Urban Designer and City Arborist.

The applicants response is "Per discussions with planner Andrew Tufts, DPW, Planning and the City Arborist, street trees will be removed, and streetlights and a bicycle rack will be proposed in their place."

Based upon the city's street tree requirements, a total of fifty-one (51) trees are required. The applicant will contribute to the City's Street Tree Fund in place of the fifty-one (51) trees that will not be planted.

c. Water Quality, Storm Water Management and Erosion Control
Lauren Swett has reviewed the applicants plans and project details, and offers the following comments **(Attachment 1):**

a. The Applicant has provided erosion and sedimentation control details and a written plan in accordance with the Basic Standards. Erosion control features have been called out on the Construction Management Plan, sheet C-03.

b. The Applicant is not increasing impervious surface, and is not required to provide any treatment or flooding control as required for the General and Flooding Standards.

c. The Applicant is not increasing non-roof redeveloped impervious surface, and is not required to provide any treatment as required for the Redevelopment Standard.

3. Public Infrastructure and Community Safety Standards

a. Public Safety and Fire Prevention
Mike Thompson, Division Chief of the Fire Prevention and Community Outreach Division, has reviewed the submitted plans and found them to be acceptable, noting the following points (Attachment 1):

The official address shall be approved by the City E911 addressing officer prior to the building permit process.
The approved street address shall be marked on the structure in numerals.

b. Availability and Adequate Capacity of Public Utilities
The project will be served by Central Maine Power, the Portland Water District, City Department of Public Works. Evidence of utility capacity has been provided for all but sewer capacity, which is currently being reviewed.

4. Site Design Standards

a. Snow and Ice Loading
Based upon the roof design, it is not anticipated that snow or ice loading will be a concern to pedestrians within the public right-of-way or on the applicant's property.

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 development is located in the Congress Street Historic District and was approved by the Historic Preservation Review Board on Wednesday June 5, 2019.

d. Exterior Lighting
The applicant has submitted a lighting and photometric plan.

e. Noise and Vibration
Exterior mechanical equipment is to be roof-mounted, and a screen will be installed. Some additional exterior equipment may be mounted on the side or rear of the building but is currently undergoing a massing analysis by the architect. It is not anticipated that this equipment will result is adverse conditions related to noise and vibration.

Evidence that the mechanicals will meet the zoning noise standards shall be submitted prior to the issuance of a permit.

f. Signage and Wayfinding
All street and wayfinding signage shall meet the requirements of the Manual of Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

- Because the site is located in the Congress Street Historic District, any new sign or change in appearance shall be subject to the standards of Article IX and shall require a Certificate of Appropriateness.

g. Zoning Related Design Standards
Because this building is in the Congress Street Historic District, the Historic Preservation Board has reviewed the exterior elevations and issued an approval.

5. *Construction Management Plan*
The applicant has submitted a construction management plan which has been reviewed by staff.

XI. INCLUSIONARY ZONING – Conditional Use (Section 14-487)

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 46 Free Street proposes the creation of 51 rental units consisting of thirty-seven (37) one-bedroom units, and fourteen (14) two-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 unit with seven (7) bedrooms and pay a fractional fee-in-lieu of $10,609 into the City's Housing Trust Fund. Should at a later date any changes in total unit count be considered, a revised proportional fee-in-lieu payment will also be required. The Applicant has elected to provide five (5) Workforce Units, on-site, which will need to consist of seven (7) bedrooms 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 agrees to:

1. Pay an agreed upon fee-in-lieu of $10,609 into the City's Housing Trust Fund prior to issuance of the certificate of occupancy.
2. Enter into an agreed upon Affordable Housing Agreement (AHA) with the City before a Building Permit may be issued. The Affordable Housing Agreement will outline the details of the affordability restrictions placed on the Workforce Units 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.

XII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board find the 40 Free Street mixed-use project meets the applicable standards of Portland's Land Use Code.

XIII. PROPOSED MOTIONS FOR THE BOARD TO CONSIDER

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 9, 2019, for application #PL-000602-2019, relevant to the Site Plan Standards of the Land Use Code and Portland's Technical and Design Standards, and other regulations, and the testimony presented at the Planning Board hearing:

1. Driveway Aisle Width
   The Planning Board [**finds / does not find**] based upon the City Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Section 1.14 [Figure I-29]) which requires that, for 24.00' wide drive aisle for two-way access aisles with 90 degree parking, that substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [**waives/ does not waive**] the Technical Manual standard Section 1.14 to allow the driveway aisle width of 20 feet.

2. Compact Parking Spaces
   The Planning Board [**finds / does not find**] based upon the City Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Section 1.14) which requires that, for parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces, that substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [**waives/ does not waive**] the Technical Manual standard Section 1.14 to allow 49% of the parking to be compact spaces.

i. 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 July 9, 2019, for application PL-000602-2019, relevant to Portland's Inclusionary Zoning Conditional Use Standards and other regulations, and the testimony presented at the Planning Board hearing, the Planning Board [**finds/does not find**] the proposed conditional use for workforce housing meets the standards of Section 14-484 with the following condition(s), to be met prior to issuance of a Certificate of Occupancy:

1. Enter into an agreed upon Affordable Housing Agreement (AHA) with the City before a Building Permit may be issued. The Affordable Housing Agreement will outline the details of the affordability restrictions placed on the Workforce Units 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.

2. The applicant shall provide 5 Inclusionary Zoning Units on site, consisting of two-two bedroom units, and three- one-bedroom units. The applicant must also pay a fractional fee in-lieu of $10,609.

ii. SUBDIVISION 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 9, 2019, for application # PL-000602-2019 40 Free Street relevant to the subdivision regulations, and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the subdivision standards of the land use code subject to the following conditions of approval:

PRIOR TO THE SUBMISSION OF THE PLAT FOR PLANNING BOARD SIGNATURE

1. The subdivision plat shall be finalized to the satisfaction of the Planning Authority, Corporation Counsel and Department of Public Works and include clear descriptions of the number, location, type and size of all subdivided units, along with relevant notes and conditions.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The signed subdivision plat shall be recorded at the Cumberland County Registry of Deeds.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

3. Condominium documents shall be finalized to the satisfaction of the Planning Authority and Corporation Counsel before being recorded.

iii. SITE PLAN 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 9, 2019, for application #PL-000602-2019, 40 Free Street relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the site plan standards of the land use code, subject to the following conditions of approval:

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

1. Based upon the city's street tree requirements, a total of fifty-one (51) trees are required. The applicant will contribute to the City's Street Tree Fund in place of the fifty-one (51) trees that will not be planted. This amounts to a total of $20,500 (51 trees x $400).

iv. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Planning, Fire, Landscape Review and Civil Engineering Comments
2. Traffic Review Comments
3. Inclusionary Zoning Review Comments
4. No Public Comment Received

APPLICANT'S SUBMITTALS

A. Cover Letter
B. Application Form
C. Right, Title & Interest
D. Zoning Assessment
E. Easements
F. Waivers

G. Financial Capacity
H. Technical Capacity
I. Conformity with Land Use Ordinance
J. Stormwater Management Report
K. Erosion and Sedimentation Control Report
L. Fire Department Letter
M. Wastewater Capacity
N. Lighting
O. Architectural Design Narrative
P. Utility Cover
Q. Construction Management Report
R. Solid Waste Disposal
S. Stormwater Maintenance Agreement
T. Certification Letter
U. Comment Response Letter
V. Design Review Response Letter
W. Sign in Sheet
X. Neighborhood Meeting Notice
Y. Neighborhood Meeting Minutes

PLANS

Plan 1. Cover Sheet
Plan 2. General Notes
Plan 3. Existing Conditions Plan
Plan 4. Demolition, Construction Management
Plan 5. Site Plan
Plan 6. Landscape Plan
Plan 7. Utility Plan
Plan 8. Grading & Drainage Plan
Plan 9. Site Details I
Plan 10. Site Details II
Plan 11. Landscape Details
Plan 12. Utility Details I
Plan 13. Utility Details II
Plan 14. Drainage Details
Plan 15. USSF Details
Plan 16. Erosion & Sedimentation Control Notes
Plan 17. Garage Floor Plan
Plan 18. First Floor Plan
Plan 19. Second Floor Plan
Plan 20. Third Floor Plan
Plan 21. Roof Plan
Plan 22. Front Elevation
Plan 23. Rear Elevations
Plan 24. South Elevation
Plan 25. North Elevation
Plan 26. Contextual Rendering from Hammond
Plan 27. Contextual Rendering from Winthrop
Plan 28. Building Renderings
Plan 29. Subdivision Plat
Plan 30. Contextual Rendering from 30 Fox Street
Plan 31. Contextual Rendering from Downhill Fox Street

Att. 1

ACORN ENGINEERING, INC.

Andrew Tufts – Planner
Planning Division, City of Portland
389 Congress Street
Portland, ME 04101

May 30, 2019

Subject: Comment Response Letter
40 Free St. Redevelopment – Portland, Maine

On behalf of 40 Free LLC, we are pleased to respond to the comments that we've received by multiple reviewers. The comment is provided in italics followed by Acorn's response.

Planning/Zoning

Comment – *The proposal indicates all bike parking to be included inside the building in a room also to be used for storage. Additional explanation is needed.*

Response – The Bike room / storage room will be used for Bike Storage to the extent it is required to provide 22 bike rack spaces, the remaining space will be built with a chainlink divider system for general building storage space.

Comment – *In addition to the internal bike parking, bike parking should be provided street side for both residential and retail use.*

Response – Two Dero bike racks will be provided along Free St.

Comment – *Conditional Use - Inclusionary Zoning – Comments Pending*

Response – No response at this time.

Landscape: City Arborist, Jeff Tarling

Comment – *Proposed Street Trees conflict with ADA requirements*

Response – Per discussions with planner Andrew Tufts, DPW, Planning and the City Arborist, street trees will be removed, and streetlights and a bicycle rack will be proposed in their place.

Comment – *Proposed Street Trees are in a tight, heavily salted pedestrian area and have low probability of survival.*

Alternative: Include exterior bicycle racks on pedestrian right of way on Free Street & elevated planters or beds against the proposed building, as done in front of the parking garage across the street. Please consult with the planner who will coordinate with the Urban Designer and City Arborist.

Response – Per discussions with planner Andrew Tufts, DPW, Planning and the City Arborist, street trees will be removed, and streetlights and a bicycle rack will be proposed in their place.

Traffic and Parking: DPW Mike Tremblay P.E. Senior Engineer

Comment – *The 37 proposed parking spaces to be associated with the site; may not be enough, considering there are 51 residential units proposed. Additional analysis is required and ongoing. [Please note that the planning board will determine the required number of spaces based upon the submitted analysis]*

Response – *Reviewed and Approved by Bill Bray, P.E. – Traffic Solutions* - A parking assessment performed by Traffic Solutions was provided. Demand assumptions for the mixed-use nature of the development are provided, as well as hourly peak parking demand summaries to account for the "shared" parking recommended by the Institute of Transportation Engineers "Parking Generation" publication in mixed-use projects.

Comment – *Of the 37 proposed spaces, nearly half (18, or 48.6%) are substandard in size. The technical manual allows for 20% of spaces to be compact. Some of these spaces are located close to walls and/or columns, which makes maneuvering into and out of these spaces very difficult. DPW has concerns that the spaces that are provided may not be suitable for the typical vehicle.*

Response – 19 of 23 (83%) spaces located within the garage are full size spaces, allowing for easier maneuvering around walls or columns. The exterior compact spaces are adjacent to a drive aisle that are 24' or greater in width for most of its length allowing for easier access, and the width of stalls matches those currently existing. The residential units will have assigned parking spaces resulting in a high parking lot/space familiarity. Additionally, this use provides a low turnover.

Comment – *The drive aisle is only 20 feet in one location, where vehicles will be entering and exiting a parking area on a curve. This can be rectified by removing one compact 8.5x15 space at the corner of the parking area.*

Response – In accordance with Section 1.7.2.3 the minimum driveway width is 20 ft. When the driveway transitions to a parking drive aisle with 90 degree compact spaces, the standard 24 ft width is met.

Comment – *The applicant proposes to close the curb cut on Free Street, leaving two access points to the parking lot. This will affect how users enter and exit the parking lot. A traffic analysis, including, but not limited to, existing and net new trip generation and local trip distribution, should be required.*

Response – *Reviewed and Approved by Bill Bray, P.E. – Traffic Solutions* - Directional arrows clarifying direction of travel and gate access have been added to the plans at the Center Street and Cross Street curb cuts. Access to and from the lot will be unaffected as Free Street is a one-way street. Users attempting to enter the lot at the closed Free St access could continue on Free Street, to the forced turn to Cross Street and circle back to the existing Center Street ingress. Center Street will remain 2-way and provides access from either direction. Furthermore, the closure of the Free Street curb cut is in alignment with the city's goals and purpose of the Pedestrian Activities District Overlay Zone on Free Street by promoting pedestrian uses at the street level. A traffic analysis should not be required.

Utilities

Comment – *The water and sewer connections to Free Street should be spaced close enough together to be repaired in a single trench.*

Response – The sewer connection has been revised to be closer to the water connection. There is now 5' of horizontal separation which is the minimum separation required by PWD when the sewer is at least two feet below the water.

Comment – *Please identify the electrical conduit along Free Street. Ensure it is not running along the proposed tree line.*

Response – Electrical conduit has been added to the plans. It is located on the opposite side of Free Street adjacent to the parking garage.

Comment – *Can the electric grate be moved outside of the primary pedestrian path? Note potential for variable settlement.*

Response – The electrical grate is proposed to be removed. Based on as-built drawings, it appears to be abandoned in place.

Comment – *The proposed sewer lateral is shown within 4-5 feet of a proposed tree pit. Sewer lateral should be located outside the tree canopy zone; coordinate with city arborist and water resources.*

Response – Trees have been removed from the plans.

Comment – *The Applicant needs to install a hood system and grease trap for any retail unit(s) that is to be a restaurant use (with some exceptions, if it's not a full restaurant).*

Response – No restaurant uses are proposed.

Right of Way

Comment – The sidewalk grades may need additional detail to ensure that a 2% maximum cross-slope is being met at all locations.

Response – Slopes have been added to the plans.

Comment – *If at all possible, a 5-foot pedestrian sidewalk (2% max cross-slope) should be provided between the tree pit and the property line. If this is not possible, an easement for the necessary width will be required. The sidewalk should be a uniform material for the full 5-foot width, including any part of the sidewalk within the easement. This may affect the material at building entrances, which appear to be concrete pads.*

Response – Trees have been removed and a min. 5' wide 2% max cross-slope sidewalk is provided. Flush granite will be provided at the building entrance in alignment with the character of the neighborhood.

Comment – *Does the applicant plan on removing and resetting the granite curb to ensure the sidewalk is built correctly? Also, the applicant should ensure that the finished grade elevations of the building entrances are correct to allow for ADA access.*

Response – Granite curb will be removed and reset per sheet C-10. ADA requirements will be met at all door locations and for the sidewalk cross-slopes.

Comment – *Please be aware of and conform to the correct street light standards.*

Response – Street lights will be updated to the downtown streetlights and have been added to the Utility Plan. The detail will be added to the plan set prior to construction.

Comment – *Is there a way to provide an ADA ramp along the east side of the site where the stairs are shown? Would be advantageous to have a mid-block, accessible route between Free and Spring streets.*

Response – The change in grade is too large to have an ADA compliant ramp with required landings between Free Street and the parking lot. An ADA compliant ramp would be almost double overall length of the adjacent building wall and would result in multiple switchbacks. ADA access will be provided from Free St to the users of the retail stores. Furthermore, ADA access will be provided to the residential units to and from the Free St, the subsurface parking garage and to the rear surface parking lot.

Comment – *The proposed signs shall be City of Portland standard and shall be installed by the contractor. PVC sleeves should be installed during sidewalk work, flush with the finished sidewalk grade and capped until signs are installed, so that signs can be installed without a breakout.*

Response – A note has been added to the Site Plan for the installation of the PVC sleeves and for the Contractor to coordinate with DPW on the location of the sleeves.

Civil Engineering Peer Review – Lauren Swett

Comment – *Projects applying for Level III Site Plans are required to comply with the City of Portland's Section 5 Stormwater Standards as well as Chapter 500 Regulations. The project must consider the Basic, General, Flooding, and Redevelopment Standards.*

a. The Applicant has provided erosion and sedimentation control details and a written plan in accordance with the Basic Standards. Erosion control features have been called out on the Construction Management Plan, sheet C-03.

b. The Applicant is not increasing impervious surface, and is not required to provide any treatment or flooding control as required for the General and Flooding Standards.

c. The Applicant is not increasing non-roof redeveloped impervious surface, and is not required to provide any treatment as required for the Redevelopment Standard.

Response – No action required.

Comment – *The Applicant has received ability to serve letters for all utilities except for sewer and water. Final ability to serve will be provided by the City of Portland for the sewer service and Portland Water District for the water service.*

Response – Ability to serve from Portland Water District has been received and provided. Sewer service ability to serve will be provided on receipt.

Comment – *Additional clarification should be provided on the area to the west of the proposed building.*

a. The project is proposing to fill against the existing building on the corner of Center Street and Free Street, and it also appears that a retaining wall will be built against the existing building in some areas. The Applicant should confirm that this change to the adjacent building on another property will be acceptable, and that a construction easement or some other type of agreement isn't required.

b. A gravel utility courtyard is proposed between the proposed and existing buildings. This has almost a 12% slope, and it appears that water in this area will flow down to a retaining wall. Additional consideration may be needed for drainage in this area – ensure that stormwater flow won't undermine the surrounding building and retaining walls, and that the gravel surface is adequate permanent surface treatment to prevent erosion on the slope. This is a small area that likely won't see much stormwater flow, but we suggest the applicant review.

Response –

a. Please refer to the attached letter from Structural Integrity. An easement will be granted by JB Brown to 40 Free LLC for the work.
b. A field inlet has been added adjacent to the retaining wall and the gravel surface has been changed to crushed stone.

Comment – *Proposed contours are not shown on the stairs to the east of the proposed building. Slope arrows indicate a change in grade before the brick area transitions to pavement (1.2% to 4.4%). Additional spot grades and topography lines should be provided to show how this area is graded.*

Response – Contours occur within the stairs themselves and are not shown for clarity. Additional spot grades will be added to the plans.

Comment – *On the Site Plan and Grading Plan, views of two different levels are provided. The lower view only shows some of the at-grade level improvements outside of the building footprint. There would be a benefit to show all of the at-grade work outside of the building on both plans to avoid confusion. For example, proposed contours are shown only on the first-floor plan, but existing contours are shown on both plans. Also, the lower plan shows foundation drains and cleanouts, but the first-floor plan does not – cleanouts should be shown on the first-floor plan to see proximity to other site features like the granite slabs at doorways.*

Response – The plans have been updated to provide more clarity.

Fire – Robert Thompson

Comment – *The official address shall be approved by the City E911 addressing officer prior to the building permit process.*

Response – The developer will work with the City to achieve this.

Comment – *The approved street address shall be marked on the structure in numerals.*

Response – The developer and architect will work with the City to achieve this.

Water Resources – Bradley Roland, P.E.

Comment - *Existing Conditions:*

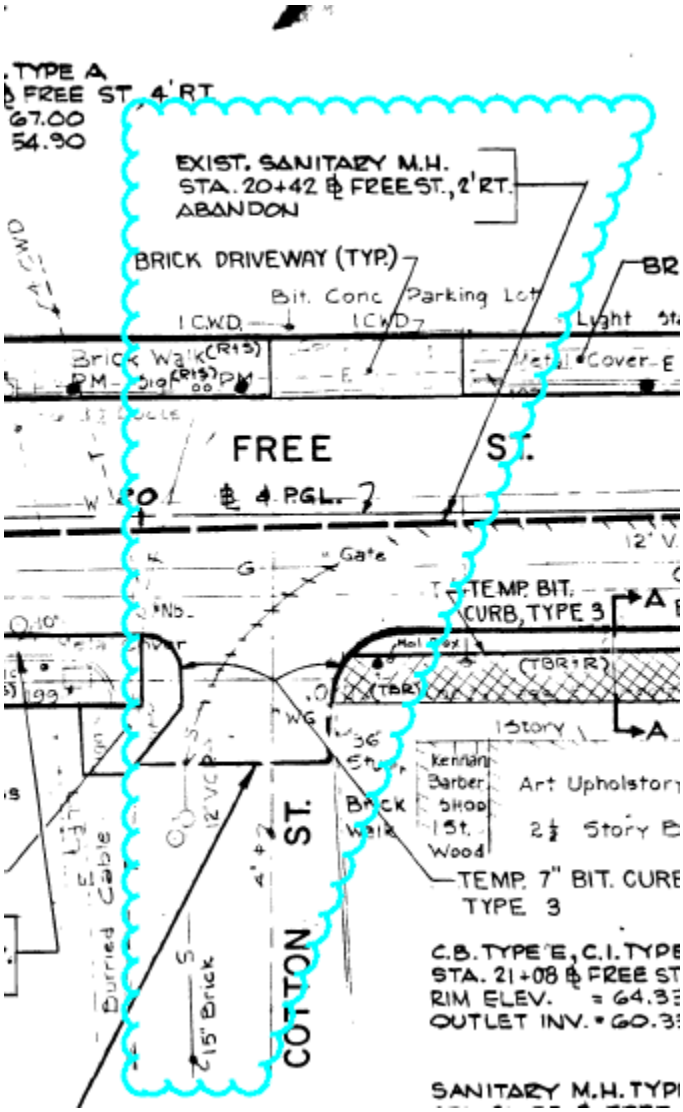
a. Electrical conduit in Free Street sidewalk not shown on the existing condition plans – may impact tree placement and other utility grades.

b. No information given to the sewer manhole near Free Street and if the services entering manhole are active.

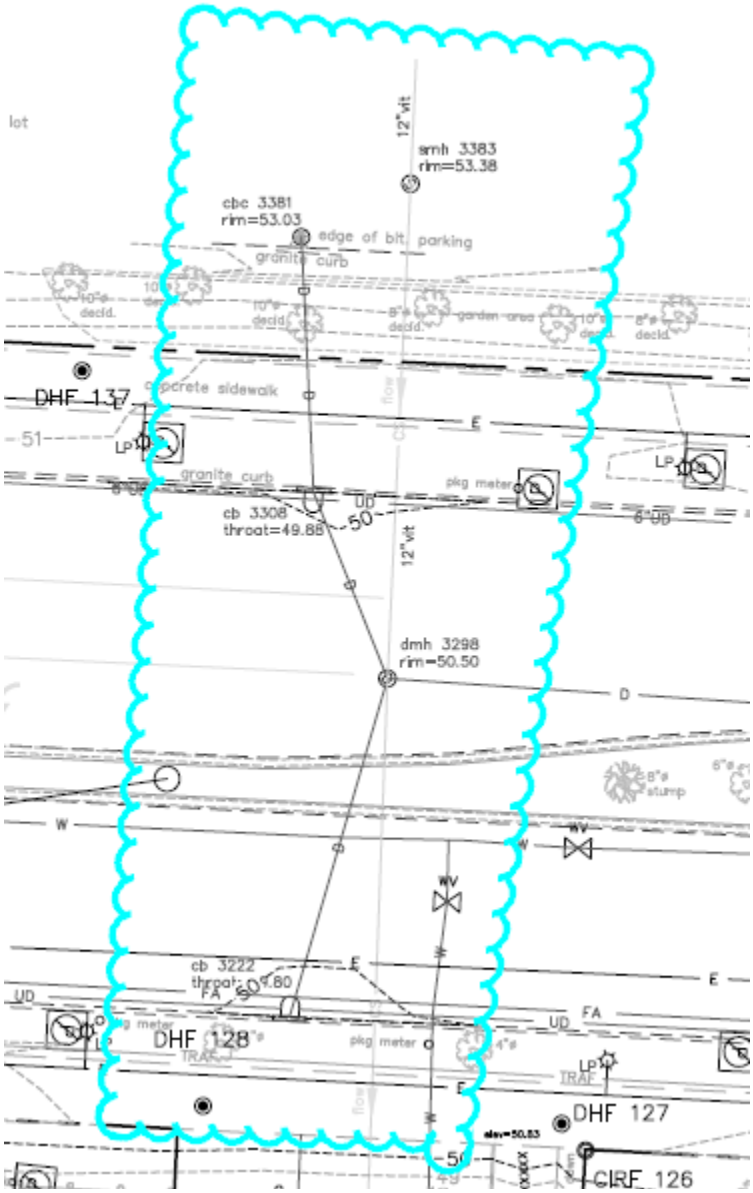
c. Additional information needed regarding the connection of to the Spring Street sewer and connection to site sewer/ drainage manholes.

Response – a. The conduit has been added to the plans on opposite side of Free St.

b. Services are abandoned per the plan titled Mainway Renewal Project, by FST General Plan – Part 1 Free Street, dated July 1972, Sheet 5 of 26. Drawing clip is below.



c. The Plan is to install a catch basin within the parking lot and utilize the existing 12" drain as an outlet. The drain is tributary to DMH 3298 within Spring St per the Spring/Middle Arterial Streetscape Plan Existing Conditions Plan, dated Nov. 21, 2013, Sheet 4 of 5.



Comment – *Sheet C-20:*

a. Roof drains should be connected to the storm drain discharging from the site into Spring Street.

b. Information needed for connection of oil water separator into sewer in Free Street.

c. Trench drain connection ?? discussion.

Response – a. Roof drains have been revised to connect to Spring Street.

b. The internal garage drains will be tributary to an oil water separator prior to any

flow being pumped up and into the sewer gravity drain tributary to Free St.
c. The trench drain is necessary to intercept stormwater flows for the concrete ramp prior to the garage door. The concrete ramp and trench drain is proposed to be heated in the winter. The relatively small stormwater flows would be tributary to Spring St.

Comment – *P. Utilities Description:*
a. Sewer: is listed as discharging into Hammond Street
b. Stormwater:
i. Confirm existing site sewer/ storm lines uphill of proposed MH-1 are not connected to anything.
ii. Roof runoff will be directed to the storm drain (MH-1) and Spring Street.

Response – a. The document has been corrected to read "Free Street".
b.
i. Please refer to the plan drawing clip above noting the abandoned sewer. The Construction Management Plan also included a note to demolish and plug the existing abandoned sewer in accordance with The City of Portland Technical Standards.
ii. Roof runoff has been revised such that it will be routed to a catch basin out out to Spring Street.

Comment – *Wastewater Capacity: Will be issued separately*

Response – No action required

Please let me know if there are any further comments or questions.

Sincerely,

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

Attached: Structural Integrity Letter, dated 5/28/19

Structural Integrity
Consulting Engineers, Inc.

May 28, 2019

Ryan Senatore
Ryan Senatore Architecture
500 Congress Street
Portland, Maine

Reference:
Excavation for New Foundation
40 Free Street Portland, Maine
Structural Integrity Job Number: 19-0051

Dear Ryan,

As requested, I am writing in regards to the proposed excavation for new foundations at the above-mentioned location, and its effect on the adjacent existing building. The low area behind the new retaining wall is expected to be above the existing footing elevation, which will be verified in the field. Frost protection will be reduced in this area, so rigid foam insulation will be added against the exposed foundations as required to counteract the effects of frost. Undermining or other negative impacts toward this existing foundation are not anticipated, so long as adequate drainage is provided within the area.

Please let me know if you have any questions or comments.

Sincerely,

Ben D. Heidebrink, P.E.
Project Manager

Aaron C. Jones, P.E., SECB, LEED AP
President

STATE OF MAINE
BENJAMIN D. HEIDEBRINK
No. 15235
LICENSED
PROFESSIONAL ENGINEER

STATE OF MAINE
AARON C. JONES
No. 10968
LICENSED
PROFESSIONAL ENGINEER

5/28/2019

Portland Maine | Yes. Google's good here.

Andrew Tufts <atufts@portlandmaine.gov>

40 Free Street

Lauren Swett <lswett@woodardcurran.com> Wed, May 15, 2019 at 12:17 PM
To: Andrew Tufts <atufts@portlandmaine.gov>

Hi Andrew,

That works. My first comment below is just commentary that they are meeting the stormwater standards (no action required on their part).

1. Projects applying for Level III Site Plans are required to comply with the City of Portland's Section 5 Stormwater Standards as well as Chapter 500 Regulations. The project must consider the Basic, General, Flooding, and Redevelopment Standards.
    a. The Applicant has provided erosion and sedimentation control details and a written plan in accordance with the Basic Standards. Erosion control features have been called out on the Construction Management Plan, sheet C-03.
    b. The Applicant is not increasing impervious surface, and is not required to provide any treatment or flooding control as required for the General and Flooding Standards.
    c. The Applicant is not increasing non-roof redeveloped impervious surface, and is not required to provide any treatment as required for the Redevelopment Standard.
2. The Applicant has received ability to serve letters for all utilities except for sewer and water. Final ability to serve will be provided by the City of Portland for the sewer service and Portland Water District for the water service.
3. Additional clarification should be provided on the area to the west of the proposed building.
    a. The project is proposing to fill against the existing building on the corner of Center Street and Free Street, and it also appears that a retaining wall will be built against the existing building in some areas. The Applicant should confirm that this change to the adjacent building on another property will be acceptable, and that a construction easement or some other type of agreement isn't required.
    b. A gravel utility courtyard is proposed between the proposed and existing buildings. This has almost a 12% slope, and it appears that water in this area will flow down to a retaining wall. Additional consideration may be needed for drainage in this area – ensure that stormwater flow won't undermine the surrounding building and retaining walls, and that the gravel surface is adequate permanent surface treatment to prevent erosion on the slope. This is a small area that likely won't see much stormwater flow, but we suggest the applicant review.
4. Proposed contours are not shown on the stairs to the east of the proposed building. Slope arrows indicate a change in grade before the brick area transitions to pavement (1.2% to 4.4%). Additional spot grades and topography lines should be provided to show how this area is graded.
5. On the Site Plan and Grading Plan, views of two different levels are provided. The lower view only shows some of the at-grade level improvements outside of the building footprint. There would be a benefit to show all of the at-grade work outside of the building on both plans to avoid confusion. For example proposed contours are shown only on the first floor plan, but existing contours are shown on both plans. Also, the lower plan shows foundation drains and cleanouts, but the first floor plan does not – cleanouts should be shown on the first floor plan to see proximity to other site features like the granite slabs at doorways.

Let me know if you have any questions.

Thanks,

Lauren

[Quoted text hidden]

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Att. 2

Portland Maine | Yes. Google's good here.

Andrew Tufts <atufts@portlandmaine.gov>

40 Free Comments

Mike Tremblay <mtremblay@portlandmaine.gov> Fri, Jun 7, 2019 at 11:47 AM
To: Andrew Tufts <atufts@portlandmaine.gov>

**Parking study
The applicant uses a shared parking analysis to justify a 37-space parking allocation for the site. They used ITE Shared Parking data to show that, while the peak demand for retail and residential would typically be 52 spaces, difference in the peak utilization time would mean that, at any given time, the highest utilization of spaces will be 37. However, the shared parking analysis runs only from 7am-6pm; the peak demand is found to be at 5-6pm. It is possible that a higher peak demand would occur from 6pm-7pm or 7pm-8pm, as residents come home from work and retail uses are still open. Furthermore, the parking study was conducted for weekdays and not Saturdays, when retail demand is as high, if not higher, than weekday evenings, while residential utilization is likely higher than on weekday afternoons. A more robust shared parking analysis is required. Other publications, such as the Urban Land Institute's Shared Parking manual, provide 24-hour shared parking analysis. The SmartCode suggests that 20% of all spaces can be shared between residential and retail uses, which equates to about 9 shared spaces compared to the Applicant's suggested 15 shared spaces.

**Parking space size
The Applicant appears to suggest that a large proportion of compact spaces should be acceptable because a) the garage has a higher proportion of standard size spaces, which is appropriate given the additional maneuvering obstacles in the garage, and b) the exterior compact spaces are adjacent to a wider drive aisle and mirror the existing stall size. The Applicant also suggests that the exterior spaces will be assigned to retail.
Regardless of the location and context of the compact spaces, the proposed parking layout still consists of a much higher proportion of compact spaces than currently allowed by the City's technical standards. A waiver will be required.
Additionally, the Applicant's statement that the residential parking spaces will be specifically assigned seems to contradict the Applicant's shared parking analysis. A shared parking setup only works if all spaces can be used by all users of a site; otherwise, retail patrons may find themselves needing to park in a space that is assigned to a specific resident. Additional clarity is needed. Finally, at least one space in the garage (the 8-foot compact space adjacent to the trash room) appears to be difficult to maneuver into. This particular space is narrower than standard and is located between a column and a solid wall. If a vehicle is parked in the HP space opposite this constrained space, it appears unlikely that a vehicle will be able to maneuver into this space. An AutoTURN analysis is required to determine if this space is a viable parking space.

**20-foot drive aisle
Section 1.7.2.3 of the technical manual states that the minimum width of a two-way driveway is 20 feet with a preferred width of 24 feet. This particular location on the site is located where vehicles will be turning, possibly including vehicles turning directly from the garage into the external parking area. These maneuvers may require more than the minimum required driveway width. An AutoTURN analysis is required.

**Traffic analysis of reconfigured driveways
DPW does not disagree that the closure of the lot access from Free Street is in alignment with the City's goals; however, we need to understand how access patterns may change with the new configuration. The Applicant provided a plan that shows that both driveways (at Center and Cross streets) will be in-out driveways; the response to comment memo seems to suggest that entering vehicles will need to enter via Center Street. Clarification needed. The Free Street entrance closure would appear to reroute vehicles directly southbound on Center Street, entering the lot via an uncontrolled left turn. DPW would like to know the volume of such vehicles. A breakdown of turning movements into and out of all remaining entrances/egresses is required. If any volumes appear to be problematic, the Applicant should suggest mitigation up to, but not necessarily limited to, signage restricting left turns entering and/or exiting the parking lot.

**Utilities
All comments addressed.

**Right of Way
ADA accessibility appears to be possible if the slope was achieved using ADA-maximum ramp slopes (8.33% for 30 feet with 5-foot level landing areas (2% slope) for every every 30 feet of ramp run. This scheme allows 7.7 feet of grade change over 100 feet (excluding level landings at the top and bottom of ramp), compared to 5.0 feet of grade change over 100 feet using a constant 5% slope. The Applicant should consider this scheme.

**Curb use
The Applicant should specify proposed curb use as part of site plan approval so that it does not need to be approved separately. The closure of the Free Street driveway will allow for additional curb use on Free Street. DPW suggests that the curb use be designated as follows:
- 2-hour metered parking between the western site frontage and the existing (to remain) hydrant (no change from existing)
- Three 15-minute parking spaces east of the existing (to remain) hydrant (two more than existing)
- Commercial loading zone east of the 15 minute spaces to the eastern edge of the site frontage (extends existing commercial loading zone in front of El Reyo, which is relatively small, by about 15 feet). This will serve the existing commercial loading needs in the area as well as the proposed retail uses.

Mike Tremblay, P.E.
Senior Engineer
Engineering Division
Department of Public Works
City of Portland, ME
mtremblay@portlandmaine.gov
P. 207.874.8881 F. 207.874.8852

[Quoted text hidden]

Att. 3

Portland Maine Yes. Google's good here.

Andrew Tufts <atufts@portlandmaine.gov>

Re: 40 -46 Free Street

5 messages

Victoria Volent <vvolent@portlandmaine.gov> Tue, Jul 2, 2019 at 10:13 AM
To: Vin Veroneau <veroneau@jbbrown.com>
Cc: "Andrew Tufts (atufts@portlandmaine.gov)" <atufts@portlandmaine.gov>

Hi Vin.

Please note, under the IZ regulations, ten percent of the units and ten percent of the total bedroom count must be IZ units.

For 40 Free Street, this 51 units project has 37 one-bedroom and 14 two-bedroom units. Ten percent of 51 is 5.1; meaning the project must include 5 IZ units and pay a fractional fee in-lieu of .10% or $10,609 (due at the time the Certificate of Occupancy is issued). The bedroom count is 37 + 28 = 65. Ten percent of 65 is 6.5 or 7; meaning the project must include a minimum of 5 IZ units with a total of 7 bedrooms.

Please let me know if any of my bedroom count information is incorrect.

Thank you,

Victoria

Victoria Volent
Housing Program Manager
Housing and Community Development
Phone: 207-482-5028
Fax: 207-874-8949
www.portlandmaine.gov

On Tue, Jul 2, 2019 at 10:05 AM Vin Veroneau <veroneau@jbbrown.com> wrote:

> Good morning Victoria,
>
> Sorry for the delay – I've been evaluating various options over the past week, but nothing new has developed.
>
> Given the new requirement to add sprinklers to substantially improved properties, it no longer makes economic sense to pursue upgrading the Pleasant Street building further. We now intend to incorporate the IZ units in the 40 Free Street building, which I communicated to Andrew Tufts yesterday.
>
> Please let me know if you have questions or need anything form me.
>
> Thanks,
>
> Vin
>
> **From:** Victoria Volent <vvolent@portlandmaine.gov>
> **Sent:** Wednesday, June 26, 2019 1:46 PM
> **To:** Vin Veroneau <veroneau@jbbrown.com>
> **Subject:** 40 -46 Free Street

Hi Vin,

Jeff Levine has reviewed the proposed 3 three-bedroom IZ plan but has indicated the developer will need to adhere to the ordinance requirement of 10% of the units and 10% of the bedrooms.

However, there may be a way to move forward with the proposal. The developer would be required to pay the fee-in-lieu for the two units not created. That fee-in-lieu would be 2 X $106,090 or $212,180. And a site-walk is necessary before the three units are determined to be acceptable.

Thank you,

Victoria

Victoria Volent

Housing Program Manager

Housing and Community Development

Phone: 207-482-5028

Fax: 207-874-8949

www.portlandmaine.gov

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.

Vin Veroneau <veroneau@jbbrown.com> Tue, Jul 2, 2019 at 10:57 AM
To: Victoria Volent <vvolent@portlandmaine.gov>
Cc: "Andrew Tufts (atufts@portlandmaine.gov)" <atufts@portlandmaine.gov>, RSA <ryan@senatorearchitecture.com>

Victoria,

We intend to have 5 units in the building set aside as IZ units and pay the required fractional fee of $10,609. Regarding the 7 bedrooms, and per the IZ regulations (pasted below), we intend to increase the size of a 1-bedroom (Unit 211) to 800+ sf, so it accounts for 2 of the 7 bedrooms. The remaining 5 bedrooms will be accounted for in the other 4 IZ units (1- 2 bed unit and 3 – 1 bed units).

Do not hesitate to reach out with any questions.

Thank you,

Vin

Size and Bedroom Count

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 ten percent (10%) of the total number of bedrooms in the development. For the purposes of this section, 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.

[Quoted text hidden]

Victoria Volent <vvolent@portlandmaine.gov> Tue, Jul 2, 2019 at 1:10 PM
To: Vin Veroneau <veroneau@jbbrown.com>
Cc: "Andrew Tufts (atufts@portlandmaine.gov)" <atufts@portlandmaine.gov>, RSA <ryan@senatorearchitecture.com>

Hi Vin,

Regarding the IZ units, to confirm, Unit 211 will be a two-bedroom unit, Another one unit will be two-bedrooms, and three other units will be one-bedroom each. That is 5 IZ units with a total of seven bedrooms.

Thank you

Victoria Volent
Housing Program Manager
Housing and Community Development
Phone: 207-482-5028
Fax: 207-874-8949
www.portlandmaine.gov

[Quoted text hidden]

Andrew Tufts <atufts@portlandmaine.gov> Tue, Jul 2, 2019 at 1:20 PM
To: Christine Grimando <cdg@portlandmaine.gov>

[Quoted text hidden]
--
Andrew Tufts
Project Planner
Planning and Urban Development Department

389 Congress Street 4th Floor
Portland, ME 04101
atufts@portlandmaine.gov
(207) 874-8724

Vin Veroneau <veroneau@jbbrown.com> Tue, Jul 2, 2019 at 4:26 PM

To: Victoria Volent <vvolent@portlandmaine.gov>
Cc: "Andrew Tufts (atufts@portlandmaine.gov)" <atufts@portlandmaine.gov>, RSA <ryan@senatorearchitecture.com>

Yes – 211 will become a two bedroom unit, so the floor plan for that unit is being modified.

[Quoted text hidden]

ACORN ENGINEERING, INC.

Barbara Barhydt
Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

April 18, 2019

Re: Preliminary Civil Application
40 Free St. Development
40 Free St. Portland, ME 04101

Barbara:

Acorn Engineering, Inc., in coordination with the project team, is pleased to submit the accompanying package of submission materials related to the proposed redevelopment along 40 Free Street. This application includes a Preliminary Application for a Level III Site Plan and subdivision for the 40 Free LLC mixed-use redevelopment.

Located within the B-3 zone, Congress Street Historic District, Pediestrian Activities District, and the Downtown Entertainment Overlay zone, the design for this 6-story mixed use building will have 5 retail units and 51 residential units and is consistent with the city's goals. It will encourage a safe, pedestrian focused environment along what is currently underutilized space along Free Street, while complying with permitted uses in the zone. A new pedestrian walkway will encourage foot traffic between Free Street and the surface parking lot, while also screening the parking from view.

Based upon the 10% workforce unit requirement, the project currently anticipates either building five units on site and paying the fee-in-lieu for the remaining 0.1 requirement or building units off site.

We are pleased to submit this application which will increase the housing stock, and further the city's vision of the Spring Street-Free Street Area Streetscape plan by focusing on pedestrian oriented uses, and closing a curb cut on Free Street.

Please do not hesitate to contact our office with any questions or comments.

Sincerely,

Matthew Ballog, P.E.
Project Manager
Acorn Engineering, Inc.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

Documents:

- Section A: Cover Letter
- Section B: Level III Final Site Plan Application & Checklist
- Section C: Right, Title, Interest
- Section D: Zoning Assessment
- Section E: Easements
- Section F: Waiver Table
- Section G: Financial Capacity
- Section H Technical Capacity
- Section I: Conformity with Land Use Ordinance
- Section J: Stormwater Management Report
- Section K: Erosion & Sedimentation Control Report
- Section L: Fire Department Letter
- Section M: Wastewater Capacity Letter
- Section N: Lighting
- Section O: Architectural Design Narrative
- Section P: Utility Cover
- Section Q: Construction Management Plan
- Section R: Solid Waste
- Section S: Parking Assessment

Drawings:

- Civil Site Plan Set, Dated 4/15/19
- Architectural Plan Set, Dated 4/1/19

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

Att. B

CITY OF PORTLAND
Planning & Urban Development Department

LEVEL II and LEVEL III SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST
Please submit each document as a separate PDF file
Please confirm by electronically checking the boxes to the left

** PLEASE FILL OUT AND UPLOAD SEPARATELY THE ZONING TABLE AND WAIVER TABLE AS NOTED BELOW **

GENERAL APPLICATION DOCUMENTS		
Yes ☑	NA ☐	**Project Description** • Cover Letter with detailed project description
Yes ☑	NA ☐	**Completed Checklist – Level I: Site Alteration** (this document)
Yes ☑	NA ☐	**Right, Title and Interest** • Deeds, leases, or purchase and sales agreements
Yes ☐	NA ☑	**Evidence of State or Federal Approvals** • Permits or letters of non-jurisdiction, if applicable
Yes ☑	NA ☐	**Zoning Assessment** • Table listing required and proposed uses and dimensional standards Zoning Assessment Table
Yes ☑	NA ☐	**Existing and/or Proposed Easements or Covenants, applicable.** • Evidence of existing easements and any proposed easements
Yes ☑	NA ☐	**Waiver Requests** • Written request for waiver describing request and reason Waiver Table
Yes ☑	NA ☐	**Financial Capability** • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
Yes ☑	NA ☐	**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
Please Submit each document as a separate PDF file

TRANSPORTATION

Yes	NA	
☐	☑	**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
☑	☐	**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
☐	☑	**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
☑	☐	**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)
☐	☑	**Public Transit (14-526 (a) 3), if applicable** • Existing available transit services • Proposed site plan design details, such as easement, pad base, and shelter
☑	☐	**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
☑	☐	**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)
☑	☐	**Snow Storage (14-526 (a) 4 d)** • Management plan for snow removal and locate snow storage areas on plan
☐	☑	**Traffic Demand Management (TDM) (14-526 (a) 5), if applicable** • Develop TDM with Trip Reduction Targets and Strategies

ENVIRONMENTAL AND LANDSCAPE FEATURES	
Yes ☐ NA ☑	**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 ☑	**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 ☐	**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 ☑	**Parking Lot Landscaping (14-526 (b) 2 b ii), if applicable** • Landscaped islands within parking areas (Technical Manual, Section 4)
Yes ☑ NA ☐	**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
ENVIRONMENTAL AND STORMWATER	
Yes ☑ NA ☐	**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

PUBLIC INFRASTRUCTURE AND SAFETY	
Yes ☑ NA ☐	**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 ☐	**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 ☐	**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
SITE DESIGN	
Yes ☑ NA ☐	**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 ☑	**Shadows (14-526 (d) 2), if applicable** • Shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes ☑ NA ☐	**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 ☑	**View Corridors (14-526 (d) 4), if applicable** • Protection of designated view corridors (Portland Design Manual, Appen. 1)

Yes	NA	
☑	☐	**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
☑	☐	**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)
☐	☑	**Noise and Vibration (14-526 (d) 7)** • Evidence of noise levels for equipment, such as equipment specifications, to demonstrate consistency with zoning requirements
☐	☑	**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
☑	☐	**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
Construction Management Plan		
☑	☐	**Construction Management Plan** • Construction Management Document and Plan

LEVEL II AND LEVEL III SITE PLAN
DRAWINGS CHECKLIST

Please upload the following DRAWINGS with the listed details into e-Plan as separate pdfs

RECENT BOUNDARY SURVEY (stamped by Maine Licensed Surveyor)

- [x] Must be in compliance with Technical Manual, Section 13

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

Existing Conditions

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

Proposed Site Plan

- [x] Ground floor area, and grade elevations for all buildings

Access, Circulation, and Parking

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

Site Considerations

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

UTILITY PLAN including:

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

GRADING AND DRAINAGE PLAN including:

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

EROSION CONTROL

- [x] Must be in compliance with Technical Manual, Section 5

LANDSCAPE PLAN including:

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

RECORDING PLAT, if applicable

- [ ] If Subdivision, must be in compliance with requirements of Section 14-496 (b)

ARCHITECTURAL PLANS AND RENDERINGS including:

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

C. Right, Title & Interest

40 Free LLC will own a newly created parcel comprised of land from two existing parcels owned by J.B. Brown & Sons. Draft deed and easements, as attached in this report, are currently waiting to be finalized and recorded. The finalized deed and easements will be recorded with Cumberland County Registry of Deeds prior to City of Portland Planning Board hearing and will include any necessary revisions as determined during the site plan review process.

Attachments:
Draft Deed – 40 Free Street
Existing Deed – 46 Free Street
Existing Deed – 48 Free Street
Existing Deed – 22 Free Street

Draft Deed

40 Free Street

Book _____ Page _____

WHEN RECORDED RETURN TO:

VERRILL DANA, LLP
One Portland Square
Portland, ME 04112-0586
Attention: David L. Galgay, Jr.

QUITCLAIM DEED WITH COVENANT
(Statutory Short Form)

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J.B. BROWN & SONS, a Maine corporation, of Portland, Maine ("Grantor"), for consideration paid, hereby GRANTS to **40 FREE LLC**, a Maine limited liability company, its successors and assigns, with a mailing address of P.O. Box 207, Portland, Maine 04112-0207 ("Grantee") with QUITCLAIM COVENANT, certain real property, together with any improvements thereon, located on the southeasterly side of Free Street in the City of Portland, County of Cumberland, and State of Maine, bounded and described as follows:

Beginning at the northeasterly corner of the land now or formerly of J.B. Brown & Sons as described in a certain deed from New GMN dated January 30, 2015 and recorded in the Cumberland County Registry of Deeds in Book 32055, Page 266 (the "48 Free Parcel"), being a point 70.58 feet, more or less, easterly from Center Street on the southeasterly sideline of Free Street (the "point of beginning"), as shown on that certain survey entitled "Land Title Survey on Free Street, Portland, Maine" made for J.B. Brown & Sons dated _____, 2019 by Owen Haskell, Inc.;

Thence, N 52° 31' 53" E by Free Street a distance of 189.31 feet to the land now or formerly of J.B. Brown & Sons as described in Book 32055 Page 269;

Thence, S 37° 28' 07" E by the building on said land of J.B. Brown & Sons and by its extension a distance of 1.54 feet;

Thence, S 39° 30' 56" E by said building and its extension a distance of 86.97 feet;

Thence, S 52° 31' 53" W a distance of 190.46 feet to the land of said J.B. Brown & Sons as described in Book 32055, Page 266;

Thence, the following courses by said land of said J.B. Brown & Sons;

N 40° 02’ 59” W a distance of 5.95 feet;
N 39° 43’ 59” W a distance of 14.57 feet;
S 52° 02’ 41” W a distance of 1.55 feet;
N 37° 05’ 59” W a distance of 67.97 feet to the point of beginning.

The above-described premises being portions of the premises conveyed to J.B. Brown & Sons by: (i) a certain deed from Free Street Associates, LLC dated January 30, 2015 and recorded in the said Registry of Deeds in Book 32055, Page 269 (“22 Free Parcel”), and (ii) a certain deed from the City of Portland dated June 29, 2017, and recorded in the said Registry of Deeds in Book 34124, Page 18 (“Parking Lot Parcel”).

TOGETHER WITH the premises hereby conveyed, the Grantor hereby grants to Grantee, its successors and assigns, a non-exclusive perpetual right, privilege and easement for the benefit of the said parcel hereby conveyed, at all times, and in common with the Grantor, for purposes of ingress and egress by pedestrians or vehicles (including construction and service vehicles), and also for purposes of ingress and egress to and from the lower level of the parking garage situated thereon, including the right, at Grantee’s sole expense, to install access gates to and from the parking area, electronic ticket control equipment, cameras and security fencing that limits public access (vehicle and pedestrian) to the Grantee’s parking garage, utilities services (as defined in 33 MRSA Section 458), a certain rock/brick wall with landscaping on the easterly side of the building to be constructed by Grantee, and for wall and exterior building maintenance, through, on, across and by, access ways, now existing or hereafter constructed, on the Grantor’s adjacent land herein referred to as the Parking Lot Parcel in the area labelled “**Easement A**” and on adjacent land herein referred to as the 22 Free Parcel in the area labelled “**Easement B**”, each as depicted on that certain plan entitled “Easement Plan for 40 Free LLC made for J.B. Brown & Sons” dated _____, 2019 by Acorn Engineering, Inc., and recorded in the Cumberland County Registry of Deeds in Plan Book ____, Page ___ (the “Easement Plan”), a reduced copy of said Easement Plan is attached hereto as Exhibit A and made a part hereof, and depicted as the cross-hatched squares on the southerly side of the property conveyed above. Grantee, its successors and assigns, shall have the sole liability and obligation to maintain the foregoing access easement to and from its parking area and garage, including, without limitation, snow-plowing, ice removal, sanding and liability insurance.

ALSO TOGETHER WITH the premises hereby conveyed, the Grantor hereby grants to Grantee, its successors and assigns, a non-exclusive perpetual right, privilege and easement for the benefit of the said parcel hereby conveyed, at all times, and in common with the Grantor, stormwater drainage, together with an easement for electricity, gas, water, sewer, telecommunications, wireless signals and other utility services (and as defined in 33 MRSA Section 458) in the said easement areas to, from and across the Grantor’s land in the areas generally as depicted on the Easement Plan as “**Easement C**”, and as “**Easement F**”; and for purposes of ingress and egress by pedestrians or vehicles to and from Grantee’s land hereby conveyed, and further for temporary construction activities relating to the initial construction of buildings and improvements on the

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premises hereby conveyed, including construction workers and vehicles and laydown areas for construction materials and components. Easement C is generally located in the area depicted on the Easement Plan as "Easement C" (southerly of the premises hereby conveyed and situated on the Parking Lot Parcel), and Easement F is generally located in the area depicted on the Easement Plan as "Easement F" (southeasterly of the premises hereby conveyed and situated on the 22 Free Parcel). As to the access easement hereinabove granted by Grantor to Grantee for ingress and egress for pedestrian and vehicle access to, by, through and across Easement C and/or Easement F to Grantee's land, the Grantor, its successors and assigns, hereby reserve, and shall have the absolute, unilateral right at all times upon reasonable prior notice to Grantee, to limit such access to a designated area within the Easement C parcel, or within the Easement F parcel, and/or to relocate the entrance and exit driveways to and from either Cross Street, Center Street, or, if available, Spring Street, and to regulate and locate the interior driveways or walkways within Easement C and Easement F for ingress and egress; meaning and intending, that for all of the easement and access rights granted to Grantee in this paragraph, Grantor, its successors and assigns, shall have the sole right to designate and control such easement and access locations within the parcels designated for the Easement C area and/or the Easement F area.

TOGETHER WITH, as to the utilities, including the storm water drain pipes, the right to enter from time to time upon said land now or formerly of J.B. Brown & Sons as described above (i.e., Easement C and/or Easement F, as applicable), Grantee shall have the right to inspect, install, construct, maintain, repair, rebuild, replace and remove pipes, conduits, pipeline, manholes, mains and other equipment necessary for the maintenance of the underground storm drain line, and to lay repair, maintain and remove storm drain pipe within said described area together with all necessary fixtures and appurtenances and together with a further right to generally work, excavate trench and/or backfill within and upon said strip of land and to trim, cut down and remove trees and bushes to such extent as in the reasonable judgment of Grantee is necessary for any of the above purposes and to enter upon said described area for any of the foregoing purposes, and to enter upon other land now or formerly of J.B. Brown & Sons (i.e., Easement C and/or Easement F, as applicable), for purposes of access or convenience in exercising the rights herein granted (but such right of access to said land shall not in any way limit the right of J.B. Brown & Sons, its successors and assigns, to build on or use such land, i.e., Easement C area and/or Easement F area, as applicable, in any way) provided, further however, that the Grantee, its successors assigns, agrees (i) that prior to such entry for any of the foregoing activities Grantee shall give J.B. Brown & Sons, its successors and assigns, reasonable advance notice of the nature and scope of such activities all of which shall be subject to the prior written approval of J.B. Brown & Sons, or its successors and assigns, which approval shall not be unreasonably withheld, (ii) to exercise such rights in such manner so as to cause a minimum of inconvenience to J.B. Brown & Sons, its successors and assigns, and any tenants or occupants of buildings on said land of J.B. Brown & Sons, and (3) to restore the surface of the land immediately following each such entry to substantially the condition which existed thereon just prior to such entry.

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ALSO, Grantee, its successors and assigns, agrees to indemnify and hold the owner(s) of the Parking Lot Parcel and/or the 22 Free Parcel, as applicable, or their successors and assigns, harmless from and against any and all liability, loss, cost, damage or expense, including court costs or fees related to litigation or alternative dispute resolution and attorneys' fees, incurred by such owner(s), and their respective successors and assigns, as a result of or in connection with the use of the aforesaid easements on Grantor's property by Grantee or Grantee's employees, agents, or contractors, except to the extent attributable to the misconduct or gross negligence of Grantor or its employees, agents or contractors. Said easements shall run with the land and be for the benefit of the Grantee, its successors and assigns, their tenants, agents, and business invitees, in common with the Grantor, its successors and assigns. The cost and expense of installation, maintenance, repair, rebuilding and restoration of the said easement improvements shall be allocated to the property owner exercising its rights hereunder. In the event, however, that any uninsured damage occurs which is due to the negligence or intentional acts of only one of the two owners or such owner's agent, such negligent or liable party shall be responsible for all such costs and expenses resulting from or attributable to such conduct.

FURTHER, RESERVING HEREBY, a non-exclusive perpetual right, privilege and easement for exterior wall and building maintenance generally located in the areas depicted on the Easement Plan as "**Easement E**" (depicted as horizontal lines situated on the easterly side of the premises hereby conveyed and adjacent to its common boundary with the 22 Free Parcel), and "**Easement D**" (depicted as horizontal rows of boxes situated on the westerly side of the premises hereby conveyed and adjacent to its common boundary with the 48 Free Parcel); pursuant to which, Grantor and Grantee, and each of their respective successors and assign, hereby agree as follows:

(a) The owner now or formerly of the 48 Free Parcel, and the owner, now or formerly of the 22 Free Parcel, as applicable (sometimes hereinafter referred to collectively as the "Owners", and singularly as an "Owner"), shall have the limited right and easement to enter onto the Grantee's land (Easement D or Easement E, as applicable), and to erect temporary staging or scaffolding thereon in connection with any maintenance and repairs to the exterior improvements now or in the future situated on the Owner's, as applicable, adjacent land (sometimes herein called the "maintenance access easement").

(b) The applicable Owner shall be responsible for any damage caused to any portion of the Grantee's land, the improvements thereon or its contents arising from its respective exercise of the said maintenance access easement rights.

(c) Any materials used or debris generated by an Owner, its agents, licensees, invitees or employees in the exercise of its maintenance access easement rights will be cleaned and removed no less frequently than daily, except for any temporary staging or scaffolding or similarly constructed apparatus used in the proper exercise of such Owner's rights under this maintenance access easement, provided that any such staging or related structure shall be removed after such Owner's maintenance or repair is completed.

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(d) The Owner, as applicable, agrees to give the Grantee notice at least seventy-two (72) hours in advance of exercising the maintenance access easement, except in emergencies.

(e) All work done in the exercise of the maintenance access easement, shall be in accordance with all federal, state and local laws, with all applicable permits and approvals having been obtained by the applicable Owner doing the work in advance of any such work.

(f) All work done in connection with the maintenance access easement, shall be done by competent licensed and bondable professionals, provided however, that minor tasks such as cleaning need not be performed by bonded professionals.

(g) All work done in connection with the maintenance access easement, shall be in a safe manner and in such a manner as not to pose a health or safety risk to either the applicable Owner or the Grantee, and their respective invitees, licensees, guests and the like, or to the public.

(h) All work done in connection with the maintenance access easement, shall be done with minimal interference with the business of the Grantee and its tenants, invitees, licensees, guests, customers, clients and the like.

(i) Any and all destruction of, damage to, or disturbance of the Grantee's property shall be repaired, replaced or restored to its original condition at the sole cost of the Owner accessing the Grantee's land under this maintenance access easement.

(j) The Grantee shall not be liable to the applicable Owner exercising its rights under the maintenance access easement for any cost or expense relating to or arising from the maintenance access easement or its use.

(k) Each Owner (as defined in paragraph (a) above), as applicable, agrees to indemnify and hold harmless the Grantee, its successors and assigns, for any liability, claim, damage, loss or cost, including reasonable attorneys' fees, arising out of the exercise of such Owner's rights described in this maintenance access easement.

(l) This maintenance access easement is binding on, and shall inure to the benefit of, the Owners and their respective successors in interest; meaning and intending that the easements, covenants and agreements contained in the Easement E area, so-called, shall benefit the 22 Free Parcel, and in the Easement D area, so-called, shall benefit the 48 Free Parcel, and shall run with the land.

Each of the Grantor and Grantee hereby reserves, for itself, its successors and assigns, the use

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and enjoyment of its respective Parcel for all purposes consistent with the use of the foregoing easements, including without limitation: (a) the right to construct, install, repair, alter, maintain, demolish, remove, relocate and replace any buildings and improvements from time to time situated upon its respective Parcel; (b) the right to regulate traffic in, upon, over and across its respective Parcel; and (c) the right to maintain, repair, relocate and replace any such driveways, and any entrances, exits and other paved surfaces, sidewalks, and curbing located upon its respective Parcel. The owner of each Parcel burdened by an easement herein described shall have the right to relocate such easement, including without limitation, the improvements of utilities thereon at its sole cost and expense so long as reasonably equivalent and convenient easements are provided to the benefitted parcel, in which event the easements granted herein shall be deemed to be relocated accordingly.

The easement rights, obligations and restrictions created hereby shall be rights, obligations and restrictions running with the land and shall be binding upon and inure to the benefit of the owner of premises hereby conveyed and the Grantor, and their respective successors and assigns. Except as otherwise expressly set forth for a particular easement described herein, each owner, its respective successors and assigns, of the benefited land as it applies to the applicable easement, agrees to indemnify and hold harmless the other owner (of the burdened land) for any liability, claim, damage, loss or cost, including reasonable attorneys' fees, arising out of the exercise of such benefited owner's rights described herein. Each owner shall obtain and maintain at all times commercial general liability insurance with respect to its respective land and its improvements thereon.

[End of Page / Signature Page Follows]

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IN WITNESS WHEREOF, J.B. Brown & Sons has caused this instrument to be executed by its President, thereunto duly authorized, this ____ day of April, 2019.

J.B. BROWN & SONS

_____ By: _____
Vincent P. Veroneau
Its President

STATE OF MAINE
COUNTY OF CUMBERLAND April __, 2019

Then personally appeared before me the above-named Vincent P. Veroneau, President of J. B. Brown & Sons, and acknowledged the foregoing instrument to be his free act and deed in said capacity, and the free act and deed of J. B. Brown & Sons.

_____
Notary Public/Attorney-at-Law
Print Name: _____
My Commission Expires: _____

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JOINDER OF GRANTEE

40 Free LLC, as the Grantee of the premises hereby conveyed, joins in executing this deed for purposes of granting and affirming the easement rights, obligations and restrictions created hereby, acknowledging the easements reserved by the Grantor, and agreeing that each of the easements granted, reserved and created hereby shall be easements, rights, obligations and restrictions running with the land and, as applicable, shall be binding upon, and inure to the benefit of, the owners of the Grantor's property and of the premises hereby conveyed to Grantee, and their respective successors and assigns.

40 FREE LLC
By: J.B. Brown & Sons,
its Managing Member

_____ By: _____
Vincent P. Veroneau
Its President

STATE OF MAINE
COUNTY OF CUMBERLAND April __, 2019

Then personally appeared before me the above-named Vincent P. Veroneau, President of J. B. Brown & Sons, on behalf of J. B. Brown & Sons in its capacity as the Managing Member of 40 Free LLC and acknowledged the foregoing instrument to be his free act and deed in said capacity, and the free act and deed of 40 Free LLC.

_____
Notary Public/Attorney-at-Law
Print Name: _____
My Commission Expires: _____

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NOT RECORDED

MORTGAGEE CONSENT TO EASEMENT AND SUBORDINATION

CAMDEN NATIONAL BANK, successor by merger with The Bank of Maine, and owner and holder of (i) a certain Mortgage, Security Agreement and Fixture Filing given by J.B. Brown & Sons to The Bank of Maine, dated January 30, 2015 and recorded in the Cumberland County Registry of Deeds in **Book 32055, Page 276**, and (ii) an Assignment of Leases and Rentals dated January 30, 2015 and recorded in the said Registry of Deeds in **Book 32055, Page 302** (collectively referred to herein as the "Mortgage"), does hereby (1) consent to the execution and delivery by J.B. Brown & Sons of the foregoing easements on land subject to the lien of the Mortgage set forth the its deed to 40 Free LLC dated of near or even date (the "Easements"), and (2) subordinates its rights and interests under the Mortgage to the provisions of the Easements with the same force and effect as if the Easements had been granted, executed, delivered and recorded prior to the execution, delivery and recording of the Mortgage.

IN WITNESS WHEREOF, Camden National Bank has caused this Consent to be executed as of this ____ day of April, 2019.

Signed, Sealed and Delivered in the Presence of:

CAMDEN NATIONAL BANK

_____

By: _____
Mark V. Stasium
Its Senior Vice President

STATE OF MAINE
COUNTY OF CUMBERLAND

April __, 2019

Personally appeared before me the above-named Mark V. Stasium, Senior Vice President of Camden National Bank, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Camden National Bank.

_____
Notary Public/Attorney-at-Law
Print Name: _____
My Commission Expires: _____

DRAFT
NOT RECORDED

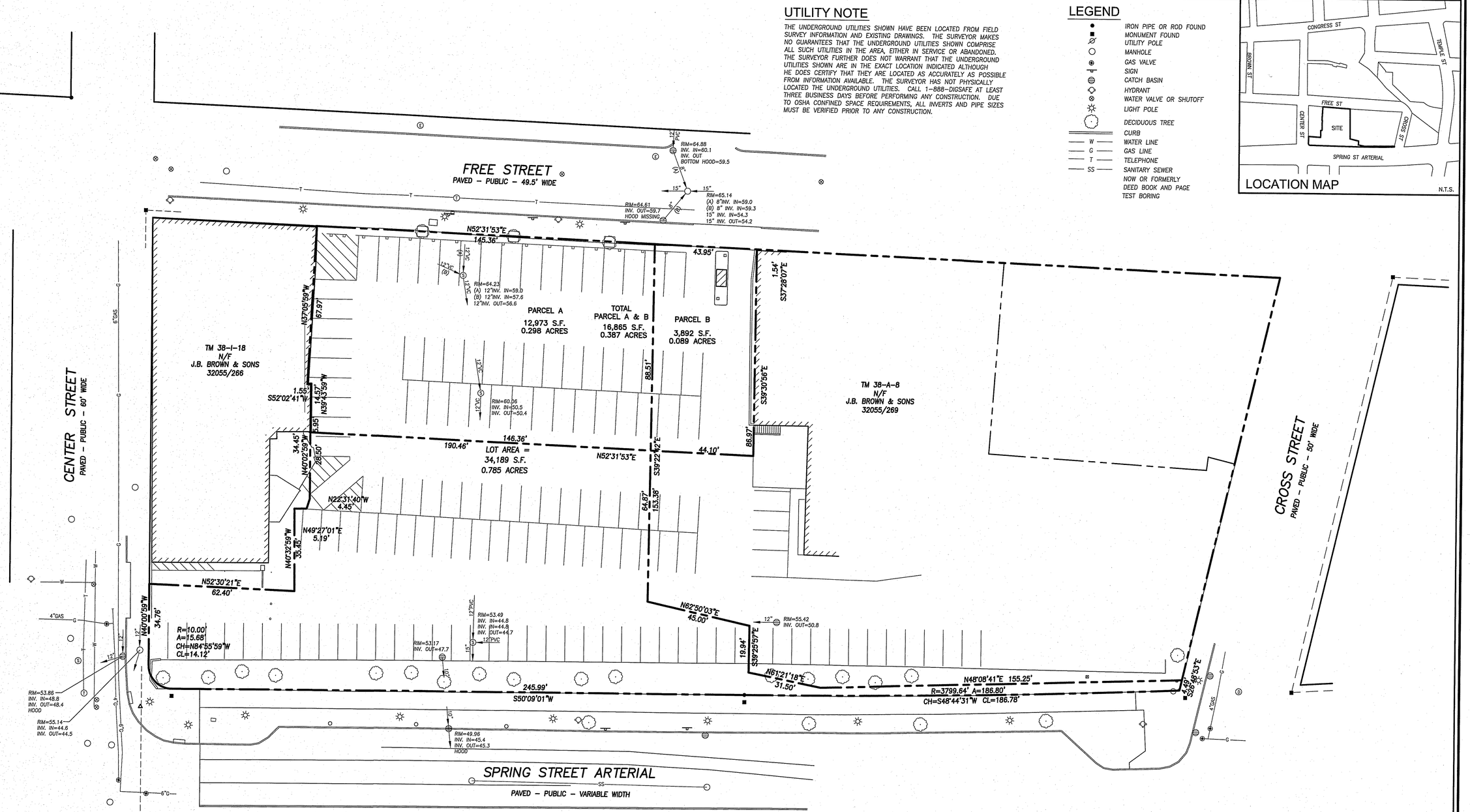
UTILITY NOTE

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
- UTILITY POLE
- MANHOLE
- GAS VALVE
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- LIGHT POLE
- DECIDUOUS TREE
- CURB
- W — WATER LINE
- G — GAS LINE
- T — TELEPHONE
- SS — SANITARY SEWER
- NOW OR FORMERLY
- DEED BOOK AND PAGE
- TEST BORING

LOCATION MAP N.T.S.



PLAN REFERENCES

1. *"BOUNDARY & TOPOGRAPHIC SURVEY THE ASYLUM 121 CENTER STREET PORTLAND, MAINE MADE FOR VALERIE J. LEVY 3-18-16 SURVEY BY: OWEN HASKELL, INC."*
2. *"ALTA/ACSM LAND TITLE SURVEY ON FREE STREET & CENTER STREET PORTLAND, MAINE MADE FOR FORE RIVER CO. NOV. 6, 2002 OWEN HASKELL, INC."*
3. *"PORTLAND RENEWAL AUTHORITY MAINE WAY ME. R-78 DISPOSITION AREAS 5 & 14 JUNE 6, 1974 OWEN HASKELL, INC."*
4. *"LAND TITLE SURVEY ON CROSS ST., FREE ST. & SPRING ST. ARTERIAL PORTLAND, MAINE MADE FOR FREE STREET ASSOCIATES, LLC APRIL 29, 1999 OWEN HASKELL, INC."*
5. *"PLAN OF TOPOGRAPHY IN PORTLAND, MAINE MADE FOR J.B. BROWN & SONS SEPT. 29, 1978 H.I. & E.C. JORDAN – SURVEYORS" RECORDED IN PLAN BOOK 140, PAGE 2.*
6. *"PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR PROPOSED 10 FREE STREET CONDOMINIUM ASSOCIATION AUG. 5, 1988 H.I. AND E.C. JORDAN – SURVEYORS" RECORDED IN PLAN BOOK 176, PAGE 13.*

GENERAL NOTES

1. *OWNER OF RECORD: CITY OF PORTLAND*
2. *LOCUS IS SHOWN AS PROPERTY MAP 38 BLOCK A LOTS 14, 15, AND 16; MAP 38 BLOCK I LOTS 1, 2, 3, AND 4; AND COTTON STREET BETWEEN SPRING STREET ARTERIAL AND FREE STREET. FOR LOTS 38-A-14, 15 AND A PART OF 16 AND FOR LOTS 38-I-1, 2, 3, AND 4 SEE DEED TO THE CITY OF PORTLAND FROM THE PORTLAND RENEWAL AUTHORITY IN BOOK 4922, PAGE 168. (SEE ALSO DEEDS TO PORTLAND RENEWAL AUTHORITY IN 3313/158, 3313/160, 3426/312, AND 3451/71) FOR THE REMAINDER OF LOT 38-A-16 SEE DEEDS TO THE CITY OF PORTLAND IN 3208/374 AND 3209/566.*
3. *BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 1983. CITY CONTROL POINTS T124-19-1162 AND T124-19-1160 USED FOR HORIZONTAL CONTROL.*
4. *ELEVATIONS ARE BASED ON NGVD 1929. CITY BENCHMARK: M MONUMENT AT THE WESTERLY CORNER OF FOREST AND CUMBERLAND AVENUES ELEVATION=80.57'.*
5. *SEE BOOK 1351 PAGE 307 FOR A NON-PERMANENT AGREEMENT ABOUT A GAP BETWEEN TWO BUILDINGS AND A DRAIN OR SEWER LINE. SAID ITEMS MAY NO LONGER EXIST.*
6. *TOPOGRAPHY DONE WITH THICK ICE AND SNOW AND SHOULD BE VERIFIED IN SPRING.*

GRAPHIC SCALE
0 10' 20' 40' 80'

CERTIFICATE

TO: THE CITY OF PORTLAND, MAINE

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.

4-16-2019
DATE

JOHN C. SCHWANDA, PLS NO. 1252

STATE OF MAINE
JOHN C. SCHWANDA
1252
PROFESSIONAL LAND SURVEYOR

TOPOGRAPHIC SURVEY
ON
FREE STREET, PORTLAND, MAINE
MADE FOR
J.B. BROWN & SONS
10 FREE STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207)774-0424

Drawn By RRL	Date MARCH 20, 2019	Job No. 2017-058 P
Trace By JLW	Scale 1" = 20'	Drwg. No. 1
Check By JCS		
Book No. FILE		

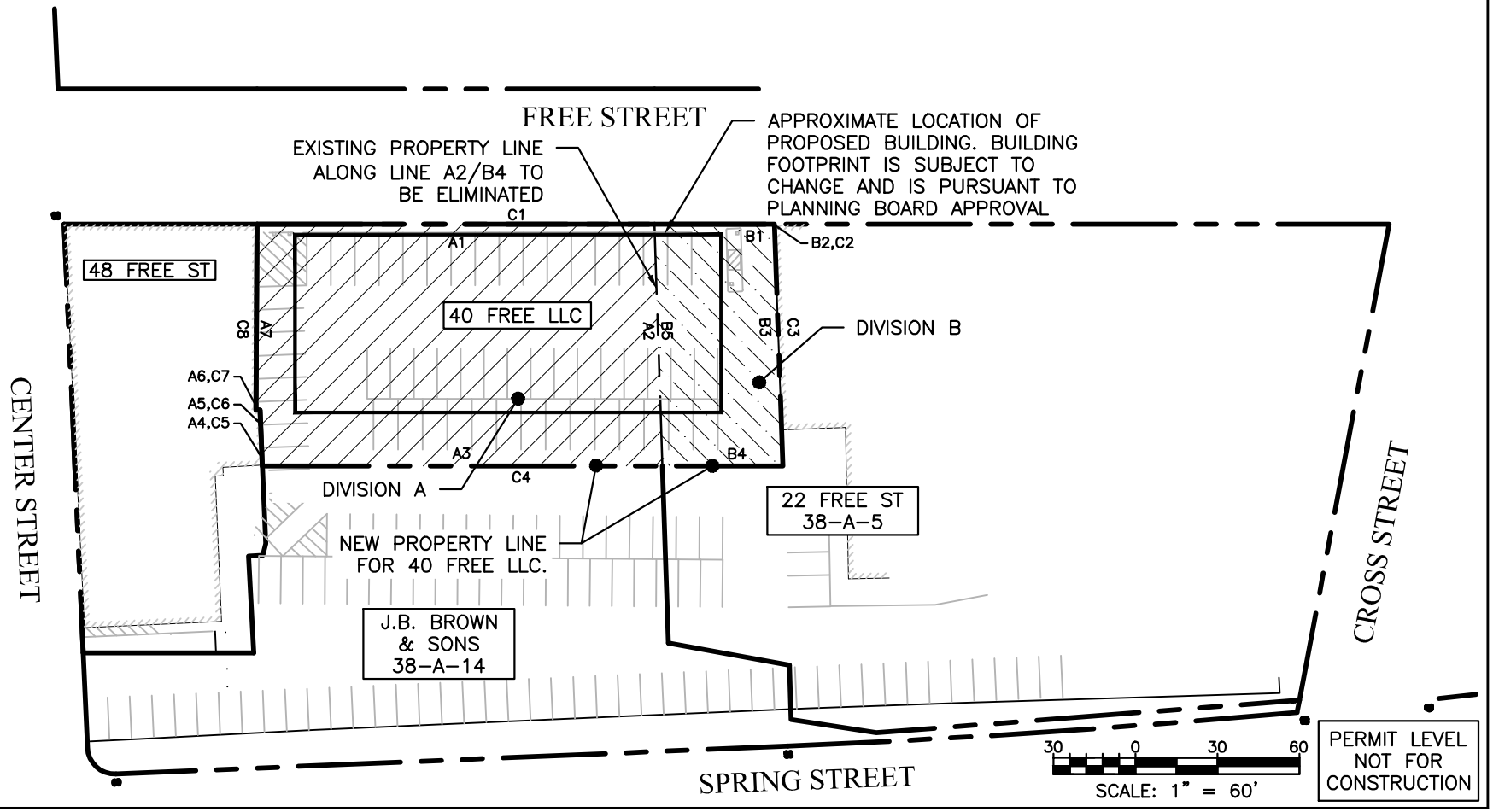
DIVISION A TABLE		
LINE	BEARING	DISTANCE
A1	N52°31'53"E	145.36'
A2	S39°22'42"E	88.51'
A3	S52°31'53"W	146.36'
A4	N40°02'59"W	5.95'
A5	N39°43'59"W	14.57'
A6	S52°02'41"W	1.55'
A7	N37°05'59"W	67.97'
12,973 SF DEEDED TO 40 FREE LLC, FROM J.B. BROWN & SONS (38–A–14)		

DIVISION B TABLE		
LINE	BEARING	DISTANCE
B1	N52°31'53"E	43.95'
B2	S37°28'07"E	1.54'
B3	S39°30'56"E	86.97'
B4	S52°31'53"W	44.10'
B5	N39°22'42"W	88.51'
3,892 SF DEEDED TO 40 FREE LLC, FROM 22 FREE STREET (38–A–5)		

NEW PARCEL TABLE, 40 FREE LLC		
LINE	BEARING	DISTANCE
C1	N52°31'53"E	189.31'
C2	S37°28'07"E	1.54'
C3	S39°30'56"E	86.97'
C4	S52°31'53"E	190.46'
C5	N40°02'59"W	5.95'
C6	N39°43'59"W	14.57'
C7	S52°02'41"W	1.55'
C8	N37°05'59"W	67.97'
NEW 16,865 SF PARCEL SUBDIVIDED FROM 38–A–14 & 38–A–5. NEW MAP AND LOT NUMBER TO BE DETERMINED.		

NOTE:

1. EXISTING CONDITIONS AND BOUNDARY SURVEY FROM THE PLAN TITLED LAND TITLE SURVEY BY OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS FOR J.B. BROWN & SONS, DATED MARCH 20, 2019.
2. REFER TO EXHIBIT 2 FOR EASEMENT BOUNDARIES.



ISSUED FOR	BY DATE
ATTORNEY REVIEW	MPB 3/18/19
APPLICATION	MPB 4/15/19
	REV. DATE

DRAWING NAME: DIVISION OF LAND PLAN FOR 40 FREE LLC

PROJECT NAME: 40 FREE STREET

CLIENT: 40 FREE

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775–2655

FILE:	1118_CIVIL
DATE:	3/6/2019
JN:	1118
SCALE:	1":60'
DESIGN BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WSJ

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.

EX–1

Existing Deed

46 Free Street

Book 34124 Page 018

QUITCLAIM DEED WITHOUT COVENANT

KNOW ALL PERSONS BY THESE PRESENTS, that the **CITY OF PORTLAND**, a body politic and corporate in the County of Cumberland, State of Maine, in consideration of one dollar ($1.00) and other valuable consideration paid by **J.B. BROWN & SONS,** a Maine corporation, of Portland, Maine with a mailing address of P.O. Box 207, Portland, Maine 04112-0207 the receipt whereof is hereby acknowledged, does hereby release, without covenant, to the said **J.B. BROWN & SONS**, its successors and assigns, a certain lot or parcel of land, together with any improvements thereon, located in the City of Portland, Cumberland County, Maine and more particularly described in Schedule A, attached hereto and incorporated herein by reference.

MAINE REAL ESTATE TAX PAID

Grantee covenants and agrees by acceptance of this Deed that Grantee will not and shall not effect any covenant, agreement, lease, or other instrument whereby the property hereby conveyed is restricted on the basis of race, creed, color, or national origin in the sale, lease or occupancy thereof, and will and shall comply with all federal, state and local laws, in effect from time to time, prohibiting discrimination or segregation by reason of race, religion, color or national origin in the sale, lease or occupancy of the said property, and further, covenants and agrees not to discriminate on the basis of race, color, creed or national origin in the sale, lease or rental, or in the use or occupancy of the said property or any improvement erected or to be erected therein, or any part thereof. The foregoing covenant, which is customary in deeds to property conveyed by the Portland Renewal Authority, shall be a covenant running with the land herein conveyed in perpetuity, shall be included or referenced in any future conveyancing instruments for all or any portion of the property herein conveyed, and shall be enforceable by the Portland Renewal Authority, the United States of America, or their respective successors or assigns.

Signature page follows

IN WITNESS WHEREOF, the said City of Portland has hereunto caused this instrument to be signed by Brendan O'Connell, its Director of Finance, duly authorized this 29th day of June, 2017.

CITY OF PORTLAND

Witness

By: Brendan T O'Connell
Brendan O'Connell
Its Director of Finance

STATE OF MAINE
CUMBERLAND, ss.

June 29, 2017

Personally appeared the above-named Brendan O'Connell, the Director of Finance of the City of Portland, and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of the City of Portland.

Before me,

~~Notary Public~~/Attorney at Law

Michael Goldman Bar No. 9842
Printed Name

SCHEDULE A

A certain parcel of land situated on the northwesterly side of Spring Street Arterial, on the southwesterly side of Cross Street, on the southeasterly side of Free Street and on the northeasterly side of Center Street in the City of Portland, County of Cumberland, and State of Maine, bounded and described as follows:

Beginning at the point of intersection of the northwesterly sideline of Spring Street Arterial and the southwesterly sideline of Cross Street, as shown on "Land Title Survey on Free Street, Portland, Maine made for J.B. Brown & Sons May 24, 2017 Owen Haskell, Inc.";

Thence, southwesterly by Spring Street Arterial by a curve to the right having a radius of 3,799.64 feet an arc distance of 186.80 feet, which curve has a chord of S 48° 44' 31" W and 186.78 feet;

Thence, S 50° 09' 01" W by Spring Street Arterial 245.99 feet;

Thence, southwesterly, westerly and northwesterly by a curve to the right having a radius of 10.00 feet and an arc distance of 15.68 feet to Center Street, which curve has a chord of N 84° 55' 59" W and 14.12 feet;

Thence, N 40° 00' 59" W by Center Street 34.76 feet to the land now or formerly of J.B. Brown and Sons (see Book 32055 Page 266);

Thence, the following courses by the land of said J.B. Brown & Sons:

N 52° 30' 21" E a distance of 62.40 feet;
N 40° 32' 59" W a distance of 35.45 feet;
N 49° 27' 01" E a distance of 5.19 feet;
N 22° 31' 40" W a distance of 4.45 feet;
N 40° 02' 59" W a distance of 34.45 feet;
N 39° 43' 59" W a distance of 14.57 feet;
S 52° 02' 41" W a distance of 1.55 feet;
N 37° 05' 59" W a distance of 67.97 feet to Free Street;

Thence, N 52° 31' 53" E by Free Street 145.36 feet to the land now or formerly of J.B. Brown & Sons (see Book 32055 Page 269);

Thence, the following courses by the land of said J.B. Brown & Sons:

S 39° 22' 42" E a distance of 153.38 feet;
N 62° 50' 03" E a distance of 45.00 feet;
S 39° 25' 57" E a distance of 19.94 feet;
N 61° 21' 18" E a distance of 31.50 feet;
N 48° 08' 41" E a distance of 155.25 feet to Cross Street;

Thence, S 26° 48' 53" E by Cross Street 4.49 feet to the point of beginning.

Said parcel contains 34,189 square feet and is shown on the above-mentioned plan.

Reference is hereby made to a deed to Grantor dated January 19, 1982, recorded in the Cumberland County Registry of Deeds, Book 4922, Page 168; a deed to Grantor dated January 10, 1972, recorded in the Cumberland County Registry of Deeds, Book 3208 Page 374; a deed to the Grantor dated January 19, 1972, recorded in the Cumberland County Registry of Deeds, Book 3209, Page 566; a deed to the Portland Renewal Authority dated October 11, 1972, recorded in the Cumberland County Registry of Deeds, Book 3313, Page 158; a deed to Portland Renewal Authority dated October 11, 1972, recorded in the Cumberland County Registry of Deeds, Book 3313, Page 160; a deed to the Portland Renewal Authority dated June 22, 1973, recorded in the Cumberland County Registry of Deeds, Book 3426, Page 312; and a Statement Of Taking by the Portland Renewal Authority dated August 29, 1973, recorded in the Cumberland County Registry of Deeds, Book 3451, Page 71.

Received
Recorded Register of Deeds
Jun 30,2017 10:26:18A
Cumberland County
Nancy A. Lane

Existing Deed

48 Free Street

Book 32055 Page 266

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT

KNOW ALL BY THESE PRESENTS, that **NEW GMN INC.** (the "Grantor"), a Maine corporation, having a mailing address of P.O. Box 7525, Portland, Maine 04112, for consideration paid, grants to **J.B. BROWN & SONS**, a Maine corporation (the "Grantee") with a mailing address of 39 Danforth Street, P.O. Box 207, Portland, Maine 04112, with Quitclaim Covenant, a certain lot or parcel of land in the City of Portland, Cumberland County, Maine, as more fully described on **Exhibit A** attached hereto and made a part of hereof.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed by Peter W. Quesada, its Vice President, thereunto duly authorized this 30 day of January, 2015.

NEW GMN INC.,
a Maine corporation

By: _____
Peter W. Quesada
Its: Vice President

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

On the 30 day of January, 2015, personally appeared the above-named Peter W. Quesada, Vice President of NEW GMN INC. and acknowledges the foregoing to be his free act and deed in his said capacity and the free act and deed of said NEW GMN INC.

Before me,

~~Notary Public~~/Maine Attorney-at-Law
~~Printed Name:~~ DENNIS C. KEELER
Commission Expiration:

EXHIBIT A
(44-48 Free Street)

A certain lot or parcel of land, with the buildings thereon, situated on the southeasterly corner of Free and Center Streets in the City of Portland, County of Cumberland, and State of Maine, bounded and described as follows:

Beginning at the intersection of Free Street and Center Street;

Thence running southerly by said Center Street one hundred fifty-seven and nine hundredths (157.09) feet;

Thence easterly, parallel with Free Street, sixty-two and three hundred ninety-six thousandths (62.396) feet;

Thence northerly thirty-five and forty-five hundredths (35.45) feet to a point which lies easterly from Center Street in a line parallel with Free Street sixty-two and sixty-five thousandths (62.065) feet;

Thence easterly, at right angles, five and one hundred eighty-five thousandths (5.185) feet;

Thence northerly four and forty-six hundredths (4.46) feet to a wall, and continuing northerly by said wall thirty-four and nine hundredths (34.09) feet, more or less, to land formerly of the City of Portland;

Thence northerly fourteen and fifty-seven hundredths (14.57) feet;

Thence westerly two and five hundredths (2.05) feet by land of Bosworth Post G.A.R.;

Thence northerly by land of said Bosworth Post G.A.R. sixty-eight and ninety-four hundredths (68.94) feet, more or less, to the southerly line of Free Street;

Thence westerly by Free Street seventy and fifty-eight hundredths (70.58) feet, more or less, to the corner of Center and Free Streets and the point of beginning.

The herein described property is conveyed SUBJECT TO the following:

Terms and conditions of a Cable Television Installation Agreement between Public Cable d.b.a. Time Warner Cable of Maine and New GMN Inc. dated August 11, 1998 and recorded in the Cumberland County Registry of Deeds in Book 15936, Page 344.

Received
Recorded Register of Deeds
Jan 30,2015 12:54:20P
Cumberland County
Nancy A. Lane

Existing Deed

22 Free Street

Book 32055 Page 269

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT

KNOW ALL BY THESE PRESENTS, that **FREE STREET ASSOCIATES, LLC** (the "Grantor"), a Maine limited liability company, having a mailing address of P.O. Box 7525, Portland, Maine 04112, for consideration paid, grants to **J.B. BROWN & SONS**, a Maine corporation (the "Grantee") with a mailing address of 39 Danforth Street, P.O. Box 207, Portland, Maine 04112, with Quitclaim Covenant, a certain lot or parcel of land in the City of Portland, Cumberland County, Maine, as more fully described on **Exhibit A** attached hereto and made a part of hereof.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed by Peter W. Quesada, its Manager Member, thereunto duly authorized this 30th day of January, 2015.

FREE STREET ASSOCIATES, LLC,
a Maine limited liability company

By: _____
Peter W. Quesada
Its: Manager Member

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

On the 30 day of January, 2015, personally appeared the above-named Peter W. Quesada, Manager Member of Free Street Associates, LLC and acknowledges the foregoing to be his free act and deed in his said capacity and the free act and deed of said Free Street Associates, LLC.

Before me,

~~Notary Public~~/Maine Attorney-at-Law
Printed Name: DENNIS C. KEELER
Commission Expiration:

EXHIBIT A
(22 Free Street)

A certain lot or parcel of land, together with the buildings thereon, situated on the southerly side of Free Street and the westerly side of Cross 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 Free Street, at the northwesterly corner of the herein described premises, and the northeasterly corner of land now or formerly of the Portland Renewal Authority, which point is situated on a course of North 68° 11' 20" East a distance of one hundred forty-five and forty-three hundredths (145.43) feet from the northeasterly corner of land now or formerly of Lawrence E. Hatch;

Thence North 68° 11' 20" East along the southerly side of Free Street a distance of one hundred fifty and eleven-hundredths (150.11) feet to a party wall and the northwesterly corner of land now or formerly of Frank N. Brown Co.;

Thence South 20° 16' 50" East along said party wall and said land of Frank N. Brown Co. a distance of eighty-two and two-hundredths (82.02) feet to the southerly end of said party wall and the southwesterly corner of said Frank N. Brown Co. land;

Thence North 69° 20' 45" East along land of said Frank N. Brown Co. and land now or formerly of Lawrence L. Young and Manuel K. Young a distance of ninety-three and seventy-eight hundredths (93.78) feet to a corner in said land of Lawrence L. Young and Manuel K. Young;

Thence North 17° 10' 30" West along said Young land a distance of five and seventy-five hundredths (5.75) feet to another corner in said Young land;

Thence North 79° 43' 30" East along said Young land a distance of eleven and seventy-one hundredths (11.71) feet to the westerly side of Cross Street;

Thence South 11° 09' 15" East along the westerly side of Cross Street a distance of ninety-five and thirty-eight hundredths (95.38) feet to a corner of land conveyed by J.B. Brown & Sons to the City of Portland, by deed dated January 10, 1973, and recorded in the Cumberland County Registry of Deeds in Book 3208, Page 374;

Thence South 63° 48' West along said land of the City of Portland a distance of one hundred fifty-five and twenty-four hundredths (155.24) feet to an angle point in said land now or formerly of the City of Portland, conveyed to said City of Portland by Day's Inc., by deed dated January 19, 1972, and recorded in said Registry of Deeds in Book 3209, Page 566;

Thence South 77° 00' 45" West along said City of Portland land a distance of thirty-one and fifty hundredths (31.50) feet to land conveyed to the City of Portland, by deed dated January 28, 1972, and recorded in said Registry of Deeds in Book 3210, Page 720;

Thence North 23° 46' 30" West along said City of Portland land a distance of nineteen and ninety-four hundredths (19.94) feet to the northeasterly corner of said land conveyed to the City of Portland by deed recorded in said Registry of Deeds in Book 3210, Page 720;

Thence South 78° 29' 30" West along said land of the City of Portland a distance of forty-five (45.00) feet to an angle point in said City of Portland land;

Thence North 23° 43' 15" West along said City of Portland land and land now or formerly of the Portland Renewal Authority a distance of one hundred fifty-three and thirty-eight hundredths (153.38) feet to the point of beginning.

The herein described property is conveyed SUBJECT TO the following:

Subject to and with the benefit of an Indenture and Access and Air Rights Easement and Release Deed by and among JBG&H Associates, Southern Maine Properties and Free Street Associates dated December 6, 1988, recorded in the Cumberland County Registry of Deeds in Book 8591, Page 47.

Cable Television Installation Agreement by and between Public Cable d.b.a. Time Warner Cable of Maine and Free Street Associates dated August 21, 1998, recorded in the Cumberland County Registry of Deeds in Book 15936, Page 342.

Agreement for Installation of Gas Facilities by and between Northern Utilities, Inc. D/B/A/ Unitil and Free Street Associates, LLC dated April 1, 2013, recorded in the Cumberland County Registry of Deeds in Book 30638, Page 108.

Terms and conditions of a Lease dated August 1, 2014 by and between Portland Integrites Advisors, LLC and Free Street Associates, LLC, an Affidavit of which was recorded in the Cumberland County Registry of Deeds on December 22, 2014 in Book 31989, Page 221.

Received
Recorded Register of Deeds
Jan 30,2015 12:56:03P
Cumberland County
Nancy A. Lane

Section D

Zoning Assessment

ZONING ANALYSIS Relevant Zone(s) B-3

All Projects:

	Required	Proposed
Lot Size	None	16,863 SF
Area Per Dwelling Unit	None	652 SF min.
Minimum Street Frontage	15'	189.29'
Front Yard Minimum	None	3'
Front Yard Maximum	5'	3'
Rear Yard	None	20'
Yard Right	None	19.5'
Yard Left	None	12.4'
Side Street Setback	NA	NA
Step Back	None	None
Maximum Lot Coverage	100%	97%
Minimum Lot Coverage	NA	97%
Maximum Height	90'	72.71'
Open Space	None	NA
Maximum Impervious Area	100%	97%
Pavement Setback	NA	NA
Floor Area Ratio	NA	NA
Off Street Parking Spaces	37	37
Loading Bays	0	0
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):			

E. Summary of Written Easements

- Existing Easement
  - Easement 'G' benefitting 40 Free LLC and burden 48 Free Street. Releases existing permanent easement (Book 3656, Page 198) for temporary off-street truck loading/unloading access of 48 Free Street Building. See Exhibit 2: Easement Plan for 40 Free LLC.

- Proposed
  - Easement 'A' to benefit 40 Free LLC and burden J.B. Brown & Sons. Provides for permanent rear access for rear wall maintenance, vehicle/pedestrian access for ingress/egress and parking. Total area of 2,703.10 square feet, as shown in Exhibit 2: Easement Plan for 40 Free LLC.
  - Easement 'B' to benefit 40 Free LLC and burden 22 Free Street. Provides for permanent rear access for rear wall maintenance, vehicle/pedestrian access for ingress/egress and parking. Total area of 415.65 square feet, as shown in Exhibit 2: Easement Plan for 40 Free LLC.
  - Easement 'C' to benefit 40 Free LLC and burden J.B. Brown & Sons. Provides for temporary construction access and laydown. Provides for permanent parking access and for potential permanent utilities, drainage and landscaping. Total area of 21,216.92 square feet, as shown in Exhibit 2: Easement Plan for 40 Free LLC.
  - Easement 'D' to benefit 48 Free and burden 40 Free LLC. Provides for permanent side wall maintenance access. Total area of 1,176.81 square feet, as shown in Exhibit 2: Easement Plan for 40 Free LLC.
  - Easement 'E' to benefit 48 Free and burden 40 Free LLC. Provides for permanent side wall maintenance access and pedestrian access. Total area of 1,893.48 square feet, as shown in Exhibit 2: Easement Plan for 40 Free LLC.
  - Easement 'F' to benefit 40 Free LLC and burden 22 Free Street. Provides for temporary construction access and laydown. Provides for permanent parking access and for potential permanent utilities, drainage and landscaping. Total area of 19,476.41 square feet, as shown in Exhibit 2: Easement Plan for 40 Free LLC.

EASEMENT 'A' TABLE		
LINE	BEARING	DISTANCE
A1	N52°31'53"E	134.82'
A2	S39°22'42"E	20.01'
A3	S52°31'53"W	135.49'
A4	N37°28'07"W	20.00'

2,703.10 SF. BENEFITS 40 FREE LLC. BURDENS J.B. BROWN & SONS. PROVIDES FOR PERMANENT REAR ACCESS FOR REAR WALL MAINTENANCE, VEHICLE/PEDESTRIAN ACCESS FOR INGRESS/EGRESS AND PARKING.

EASEMENT 'B' TABLE		
LINE	BEARING	DISTANCE
B1	N52°31'53"E	21.12'
B2	S37°28'07"E	20.00'
B3	S52°31'53"W	20.45'
B4	N39°22'42"W	20.01'

415.65 SF. BENEFITS 40 FREE LLC. BURDENS 22 FREE STREET. PROVIDES FOR PERMANENT REAR ACCESS FOR REAR WALL MAINTENANCE, VEHICLE/PEDESTRIAN ACCESS FOR INGRESS/EGRESS AND PARKING.

EASEMENT 'C' TABLE		
LINE	BEARING	DISTANCE
C1	N52°31'53"E	146.35'
C2	S39°22'42"E	64.88'
C3	S62°50'03"E	45.00'
C4	S39°25'57"E	19.94'
C5	N61°21'18"E	31.50'
C6	N48°08'41"E	155.25'
C7	N26°48'53"E	4.49'
C8	R=3799.64'	186.80'
C9	S50°09'01"W	245.99'
C10	R=10.00'	15.68'
C11	N40°00'59"W	34.76'
C12	N52°30'21"E	62.40'
C13	N40°32'59"W	35.45'
C14	N49°27'01"E	5.19'
C15	N22°31'40"W	4.45'
C16	N40°02'59"W	28.51'

21,216.92 SF. BENEFITS 40 FREE LLC. BURDENS J.B. BROWN & SONS. PROVIDES FOR TEMPORARY CONSTRUCTION ACCESS AND LAYDOWN. PROVIDES FOR PERMANENT PARKING ACCESS AND FOR POTENTIAL PERMANENT UTILITIES, DRAINAGE AND LANDSCAPING.

EASEMENT 'D' TABLE		
LINE	BEARING	DISTANCE
D1	N52°31'53"E	13.49'
D2	S37°28'07"E	88.45'
D3	S52°31'53"W	11.53'
D4	N40°02'59"W	5.94'
D5	N39°43'59"W	14.57'
D6	S52°02'41"W	1.55'
D7	N37°05'59"W	67.97'

1,176.81 SF. BENEFITS 48 FREE. BURDENS 40 FREE LLC. PROVIDES FOR PERMANENT SIDE WALL MAINTENANCE ACCESS.

EASEMENT 'E' TABLE		
LINE	BEARING	DISTANCE
E1	N52°31'53"E	19.86'
E2	S37°28'07"E	1.54'
E3	S39°30'56"E	86.97'
E4	S52°31'53"W	22.96'
E5	N37°28'07"W	88.45'

1,893.48 SF. BENEFITS 48 FREE. BURDENS 40 FREE LLC. PROVIDES FOR PERMANENT SIDE WALL MAINTENANCE ACCESS & PEDESTRIAN ACCESS.

EASEMENT 'F' TABLE		
LINE	BEARING	DISTANCE
F1	N52°31'53"E	44.07'
F2	S39°41'17"E	13.37'
F3	N51°24'35"E	22.93'
F4	S38°35'25"E	28.41'
F5	N51°24'35"E	34.27'
F6	N37°28'07"W	47.97'
F7	N53°41'18"E	129.05'
F8	S37°28'07"E	48.23'
F9	N63°11'07"E	9.46'
F10	S26°48'53"E	41.22'
F11	S48°08'41"W	155.25'
F12	S61°21'18"W	31.50'
F13	N39°25'57"W	19.94'
F14	S62°50'03"W	45.00'
F15	N39°22'42"W	64.88'

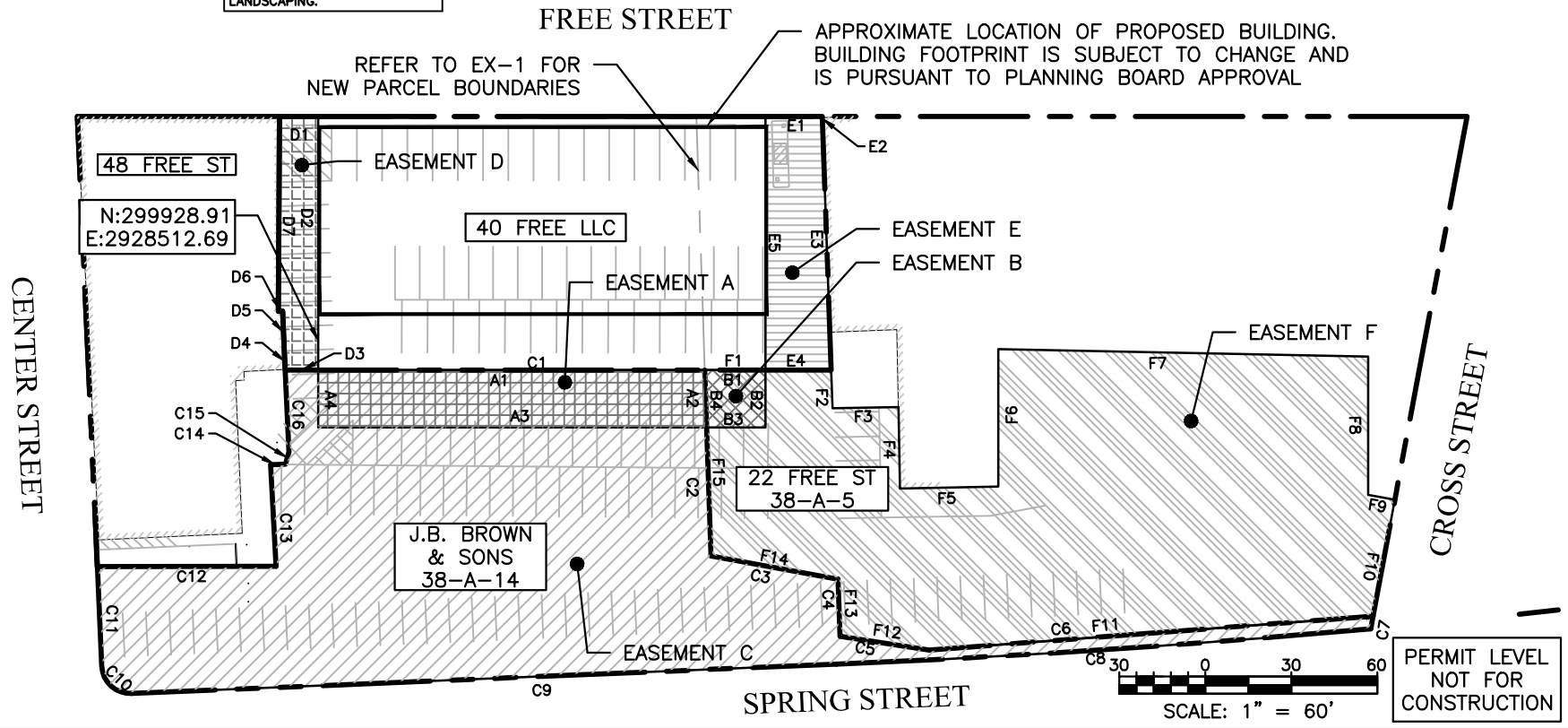
19,476.41 SF. BENEFITS 40 FREE LLC. 22 FREE STREET. PROVIDES FOR TEMPORARY CONSTRUCTION ACCESS AND LAYDOWN. PROVIDES FOR PERMANENT PARKING ACCESS AND FOR POTENTIAL PERMANENT UTILITIES, DRAINAGE AND LANDSCAPING.

EASEMENT 'G' TABLE		
LINE	BEARING	DISTANCE
NA	NA	NA

BENEFITS 40 FREE LLC. BURDENS 48 FREE STREET. RELEASES EXISTING PERMANENT EASEMENT (BOOK 3656 PAGE 198) FOR TEMPORARY OFF-STREET TRUCK LOADING/UNLOADING ACCESS OF 48 FREE STREET BUILDING.

NOTE:

1. REFER TO THE RECORDED EASEMENT LANGUAGE AND EXHIBIT 1 FOR MORE INFORMATION



PERMIT LEVEL NOT FOR CONSTRUCTION

ISSUED FOR	BY DATE
ATTORNEY REVIEW	MPB 3/18/19
APPLICATION	MPB 4/15/19
	REV. DATE

DRAWING NAME: EASEMENT PLAN FOR 40 FREE LLC

PROJECT NAME: 40 FREE STREET

CLIENT: J.B. BROWN & SONS

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1118_CIVIL
DATE:	3/6/2019
JN:	1118
SCALE:	1":60'
DESIGN BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WSJ

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DRAWING NO.

EX-2

Section F

Request For Waivers

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.
Technical Manual Section 1.14 Parking Lot and Parking Space Design	Parking lots with greater than 10 spaces may be comprised of up to 20% compact parking spaces.	A waiver is requested for the compact parking space count to exceed the specified 20%. We are proposing compact stalls for 49% of the provided parking.	Due to the underground parking garage column locations, several stalls must be limited to 8-feet wide. Compact stalls on the surface lot are proposed to allow a 24-feet wide drive aisle for expanded fire access.
Technical Manual Section 1.14 & Figure I-29 Parking Lot and Parking Space Design	24.00' wide drive aisle for two-way access aisles with 90 degree parking.	A waiver is requested to reduce the drive aisle at a single pinch point location to 20' wide. It is located where the garage ramp meets the surface parking.	There are 24-feet wide or greater aisles on both sides of the narrowed location. No parking stalls are located at the narrowed aisle and as a result will not inhibit site circulation.

Att. G

Camden NATIONAL BANK

MARK V. STASIUM
SENIOR VICE PRESIDENT
Direct Dial: 207.699.3392
mstasium@camdennational.com

March 20, 2019

City of Portland Planning Division
389 Congress Street, 4th Floor
Portland, ME 04101

Re: 40 Free Street Residential Building

Dear Planning Board Members:

I am writing regarding the proposed residential/retail building being proposed by 40 Free Street LLC at 40 Free Street in Portland.

The LLC member is an experienced developer and commercial real estate owner and manager. It has completed a number of successful projects in recent years including the 25 High Street condominium project, the Portland Marriott Courtyard, and renovation of the former Saunders Brothers factory in Westbrook, to name a few. Financially, the company is stable with sufficient cash flow, liquidity, and balance sheet strength to finance the project. We provide financing for a number of the company's projects, and all loan obligations and deposit accounts with Camden have been handled in a fully satisfactory manner.

We have reviewed the preliminary information for the proposed project, and based on the information we have, Camden has provided preliminary terms for financing the project which the developer has accepted. Our interest remains subject to full credit underwriting by Camden's credit department, approval from Camden's loan committee, and receipt of all municipal permits by the developer. Based on the company's track record and financial strength, I have a high degree of confidence that Camden's loan committee will approve the loan request and provide a commitment to finance the project.

Please do not hesitate to contact me if you have further questions.

Very Truly Yours,

Mark V. Stasium
Senior Vice President

Section H - Technical Capacity

Acorn Engineering, Inc. and Ryan Senatore Architecture have successfully permitted and engineered over 20 level II/III projects in Portland in the past 5 years, many of which have been constructed. Some examples include:

- Eldredge Lumber Expansion
- 127 York Street – Harborview Townhomes
- Munjoy Heights
- 89 Anderson St. – East Bayside Lofts
- 667 Congress St – The Hiawatha

I. Conformity with Land Use Ordinance

The following outline is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14-526 as well as the City of Portland Technical Manual, Chapter 14 Standards for Local Site Location of Development Review.

OVERVIEW

The proposed 6-story, 51-residential unit and 5-retail unit mixed-use building space has been designed to conform to City standards where possible as well as improve upon existing non-conformities. This project conforms with the majority of the applicable standards of Portland's Land Use Ordinance Section 14-526 as demonstrated in the following narrative.

(a) Transportation Analysis-Traffic Impact

1. Impact on Surrounding Street Systems:

   The site is located on Free Street between Center Street and Cross Street. Free Street and Cross Street are both classified as local streets and Center Street is classified as a collector. A minimal traffic increase along Center Street and Cross Street are anticipated due to the relocation of the parking lot access on Free Street.

2. Access and Circulation:

   a. Site Access and Circulation:

      This project conforms with the majority of design standards of Section 14-526 as demonstrated in the following narrative, with a minor dimensional variance of a drive aisle at a pinch point near the garage ramp:

      (i) The development will provide safe access and internal circulation for both pedestrians and vehicles as seen on the Site Plan.

      (ii) No new curb cuts are proposed. Additionally, the site will reduce the curb cuts from three to two.

      (iii) The site does not feature drive up services as mentioned in this requirement.

   b. Loading and Servicing:

      (i) There are no anticipated loading and servicing needs.

   c. Sidewalks:

      (i) A brick sidewalk exists along Free Street which will be rebuilt as part of the project.

      (ii) The existing sidewalk will be rebuilt from the property line to the extent of the existing tipdown at the existing driveway to be removed.

      (iii) A new pedestrian walkway will be built to encourage pedestrian activities along Free Street, in accordance with the goals of the Pedestrian Activities District Overlay Zone.

a. The ground floor on Free Street will be comprised of pedestrian oriented retail establishments, in accordance with the goals of the Pedestrian Activities District Overlay Zone.

b. Pedestrians can access the garage via the elevator or through 2 entrances from the surface parking lot, one of which is accessible.

3. Public Transit Access:

a. Not applicable.

b. Not applicable.

c. Not applicable.

4. Off-Street Parking:

a. Location and Required Number of Vehicle Parking Spaces:

(i) As a structure with a total floor area greater than 50,000 SF, a parking study has been performed. The proposed project will provide 37 parking spaces which meets the requirement as determined by a Parking Assessment performed by Traffic Solutions.

(ii) A parking study has been performed and is included as an attachment in this section required.

(iii) The amount of parking does not exceed the minimum requirement by more than 10%.

(iv) Two waivers are being requested, one for compact spaces to comprise more than 20% of the total, and another for a 20' wide drive aisle at a pinch point. Both waivers will improve the usage and circulation of the site.

(v) The driveway and parking areas will be constructed with pavement which will drain water without eroding.

b. Location and Required Number of Bicycle Parking Spaces:

(i) The site plan includes an interior bicycle storage room. This will allow for the minimum storage of 22 bicycles to be parked in a secure location, with the potential for additional storage in this room.

c. Motorcycles and Scooter Parking:

(i) There are no areas designated for motorcycles or scooters at this time; however, adequate room exists for the storage of these motor vehicles.

d. Snow Storage:

(i) The snow storage area can be seen on the site plan near Spring Street on an abutting Parcel. Easements will be recorded protecting the right to this snow storage location.

(ii) The snow storage has not been located where it will adversely impact the functionality of any part of the site.

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. Not applicable.

b. Not applicable.

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation.

(i) The disturbance of trees and vegetation that are not proposed to be removed as part of the project will be limited as much as possible.

(ii) There are no trees 10 inches DBH or greater identified by the Surveyor within the setbacks.

(iii) It is not anticipated that the project will necessitate any tree protection.

(iv) A waiver is not requested.

(v) Not applicable.

b. Site Landscaping.

(i) Landscaped Buffers:

a. A gate will screen utility meters from view on Free Street.

b. The project does not have applicable zoning setbacks. Shrubs are to be installed along the proposed pedestrian walkway.

c. Not applicable.

d. Not applicable.

(ii) Parking Lot Landscaping:

a. Per Section 4.6 of the Portland Maine Technical Manual, 51 street trees are required (one per unit). Based on the property's frontage and the utilities – public and private, five shade trees are proposed to be planted within the sidewalk. The applicant will contribute to the City's Street Tree Fund in place of the 46 trees that will not be planted.

b. There is no proposed area with greater than 40 parking spaces without interrupted

pavement.

c. Not applicable.

d. Not applicable.

e. Not applicable.

f. Not applicable.

(iii) Street Trees:

a. Street trees are to be provided every 30 to 45 feet along the street frontage. This ratio equates to a minimum of four trees. Five shade trees are proposed to be planted within the sidewalk, thus fulfilling the requirement.

b. Not applicable.

3. Water Quality, Stormwater Management and Erosion Control:

a. Stormwater:

(i) The site is currently 100% impervious. The drainage pattern will be altered to intercept the roof runoff and direct it to the Free St sewer, instead of the Spring Street Sewer. Surface flow patterns outside the building footprint will remain the same and are thus considered maintenance activities by Chapter 500 standards.

(ii) Any stormwater that flows onto adjacent lots will not exceed the pre-development flows.

(iii) The runoff from the site into the City property will not increase from the pre-development condition.

(iv) Not applicable.

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 standards of MEDEP Chapter 500. Please refer to sections J and K, the Stormwater Management and Erosion & Sedimentation Control Plans, respectively, for more information.

c. The project is not located in a watershed of an urban impaired stream as listed by the MEDEP.

d. Not applicable.

e. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The project will be 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 project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure. Special emphasis on the pedestrian activities district requirements and considerations has been made. The site is also designed in consideration of future plans for development along Spring Street, consistent with the Spring Street – Free Street Area Streetscape plan.

   b. Not applicable.

2. Public Safety and Fire Prevention:

   a. The site has been designed to promote safe and inviting public access.

   b. Adequate emergency access has been provided. Access is available from Free Street as well as the rear parking lot, accessible by vehicle from Center Street and Cross Street.

   c. A fire hydrant is located on the same side of the street as the site on Free Street, directly in front of the building.

3. Availability and Adequate Capacity of Public Utilities:

   a. Public utilities in the vicinity of the site have capacity to serve the project. Ability to Serve letters have been sent to the respective companies. Responses have been included in the submission and any remaining responses will be submitted upon receipt.

   b. The electrical service will be wired underground. A pad mounted transformer is proposed at the rear of the building. This will allow for flexibility in future developments along Spring Street.

   c. The new sewer and stormwater infrastructure will meet the provisions of the Technical Manual.

   d. The project will be served by connection to the public sewer system within Hammond 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. Although not required, the project anticipates providing internal solid waste storage with private hauling of the waste.

(d) Site Design Standards

1. Massing, Ventilation and Wind Impact:

   a. Not applicable.

   b. Not applicable.

   c. Not applicable.

2. Shadows:

   a. The shadows created by the building will not influence public open spaces.

3. Snow and Ice Loading:

   a. The structures will not distribute snow and ice onto adjacent properties.

4. View Corridors:

   a. The project site is located outside the Downtown Vision View Corridor Protection Plan.

5. Historic Resources:

   a. The development is located in the Congress Street historic district and is currently under review by the Historic Review Board.

   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. A photometric plan has been included with this submission.

      (ii) Any lighting that may adversely impact the abutting residential properties will feature house-side shielding.

   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:

   a. The HVAC system will meet the applicable state and federal emissions requirements and will also be screened and directed away from abutters.

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) Because the site is located in the Congress Street Historic District, any new sign or change in appearance shall be subject to the standards of Article IX and shall require a Certificate of Appropriateness.

      (ii) All street and wayfinding signage shall be designed to complement the subject building.

(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 standards set forth in the B-3 zone, Congress Street Historic District, and the Pedestrian Activities District Overlay Zone. Please refer to the Site Plan for more information on the Space & Bulk Standards.

(i) This B-3 Zone site is designed to support the development of dense, mixed-use neighborhoods, with attractive, safe pedestrian environments, consistent with the Design Manual.

ACORN ENGINEERING, INC.

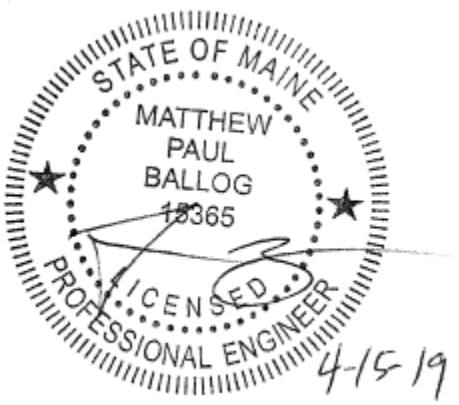
J. STORMWATER MANAGEMENT REPORT

Prepared For:

40 Free Street LLC
10 Free Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
65 Hanover Street
Portland, Maine 04102



April 2019

INTRODUCTION

Acorn Engineering, Inc. has been retained by 40 Free Street LLC to provide civil engineering services for the proposed redevelopment of existing surface parking at 40 Free Street. The project proposes to construct a new, mixed-use six-story building with a basement level 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
- Maine DEP Chapter 500 Stormwater Management

EXISTING CONDITIONS

The proposed project is located at 40 Free Street. A boundary plan has been prepared by Owen Haskell Inc. of Falmouth, Maine dated March 20, 2019.

The site resides within the B-3 Business, Downtown Entertainment Overlay & Congress Street Historic District zones. Approximately 100% of the site is impervious in the form of pavement, brick or concrete.

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 mixed-use, six-story building with a basement level parking garage and 51 residential and 5 retail units. Direct pedestrian access to the site will be provided via the existing brick sidewalk on the southeast side of Free Street that will adjoin a proposed brick and concrete walkway between the proposed building and existing building at 22 Free Street. Pedestrian access to the site will also be provided via the existing concrete sidewalk along Spring Street on the southerly side of the parcel and existing brick sidewalk along Center Street on the westerly side of the parcel.

The development will be served by CMP (electric), Portland Water District (water), Until (natural gas), Charter Communications (communication), Consolidated Communications (communications) and Portland Department of Public Works (sewer and storm). Sewer, storm and natural gas utilities will be routed underground. Telephone & cable will be routed on overhead lines. A new three-phase electric service will be fed through a proposed transformer with service originating from an existing CMP manhole within Center Street.

Due to the creation of less than 1,000 square feet of impervious area, stormwater management features for quality control that meet Maine DEP's Chapter 500 General Standards are not required

and have not been designed. However, the replacement of existing high use paved parking with a building rooftop will provide a passive improvement in water quality. Any surface parking pavement that is to be replaced is to maintain existing drainage patterns and as such is considered "maintenance" by the Chapter 500 General Standards and is not subject to water quality requirements.

Furthermore, the total proposed impervious area is expected to slightly reduce the existing impervious area by approximately 506 square feet. which is well under the 5,000 square-foot increase threshold. Please refer to the attached exhibits that display the existing and proposed impervious covers.

In addition to the vegetation, stormwater will be managed by implementing a series of foundation drains, catch basins, storm drains and a trench drain. Please refer to Sheet C-30 for more information.

SOILS

Onsite soil information has and will be gathered from the following resources:

- United States Department of Agriculture (USDA) Web Soil Survey (WSS)
- Explorations and Geotechnical Engineering Services Report, per City of Portland Technical Manual, Section 7, prepared by S.W. Cole Engineering, Inc to be submitted at a further date.

The area surrounding the project includes soil types listed in Table 1 below. The susceptibility of soils to erosion is indicated on a relative "Kf" scale of values over a range of 0.02 to 0.69. Higher "Kf" values indicate more erodible soils. The Kf value listed was derived from the Universal Soil Loss Equation. The Soil Type and associated depth was derived from the USDA WSS Hydrologic Soil Group report, as attached at the end of this report.

Table 1		
Soils Type	**Depth (feet)**	**Kf Value**
Hinckley loamy sand, 3 to 8% slopes	> 6.5	0.17

The "Kf" value for the soil, listed above, shows a low susceptibility to erosion; however, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance**.**

Conclusion

The proposed redevelopment was designed to meet the requirements set forth in the City of Portland Technical Manual, "Section 5. Portland Stormwater Management Standards." The proposed project as designed is anticipated to maintain existing drainage patterns while increasing the quality and decreasing the overall volume and flowrate of stormwater runoff through the replacement of pavement with a building roof and introduction of landscaped elements. The project will not cause

flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way.

Attachments

Exhibit 1: Existing Impervious Cover
Exhibit 2: Proposed Impervious Cover
Exhibit 3: United States Department of Agriculture Web Soil Survey
Exhibit 4: Explorations and Geotechnical Engineering Services Report, at a further date

Exhibit 1

Existing Impervious Cover

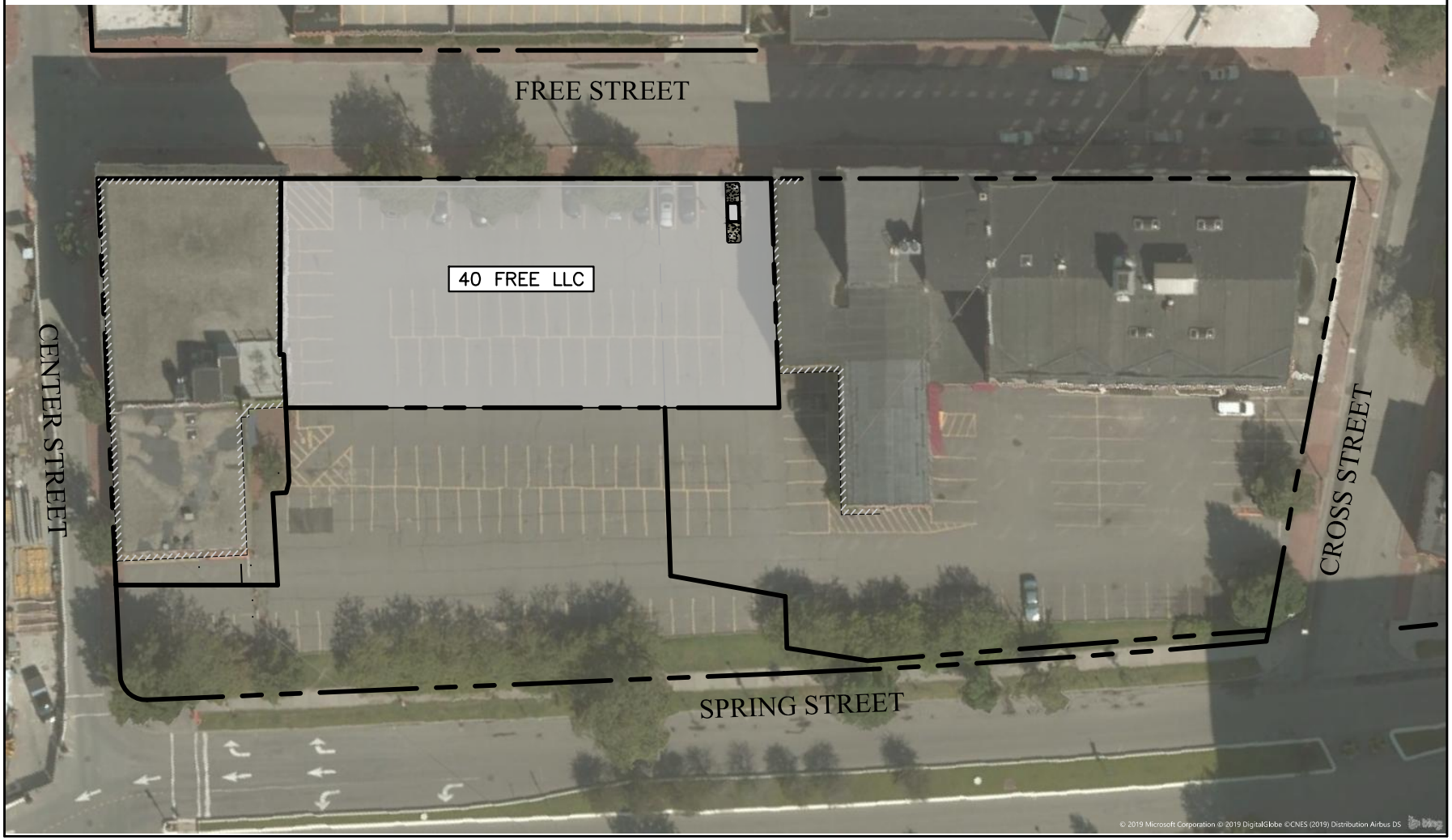
EXISTING IMPERVIOUS COVER WITHIN PROPERTY

STYLE	LOCATION	EXISTING (SF)
	ROOF	32
	PAVEMENT	16,739
	CONCRETE	92
	TOTAL COVER	16,863
	% IMPERVIOUS	100%

30 0 30 60

SCALE: 1" = 60'

PERMIT LEVEL NOT FOR CONSTRUCTION



ISSUED FOR	BY DATE
APPLICATION	MPB 4/15/19
	REV. DATE

DRAWING NAME: EXISTING IMPERVIOUS COVER

PROJECT NAME: 40 FREE STREET

CLIENT: 40 FREE LLC

ACORN ENGINEERING, INC

ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1118_CIVIL
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DRAWING NO.

IMP-1

Exhibit 2

Proposed Impervious Cover

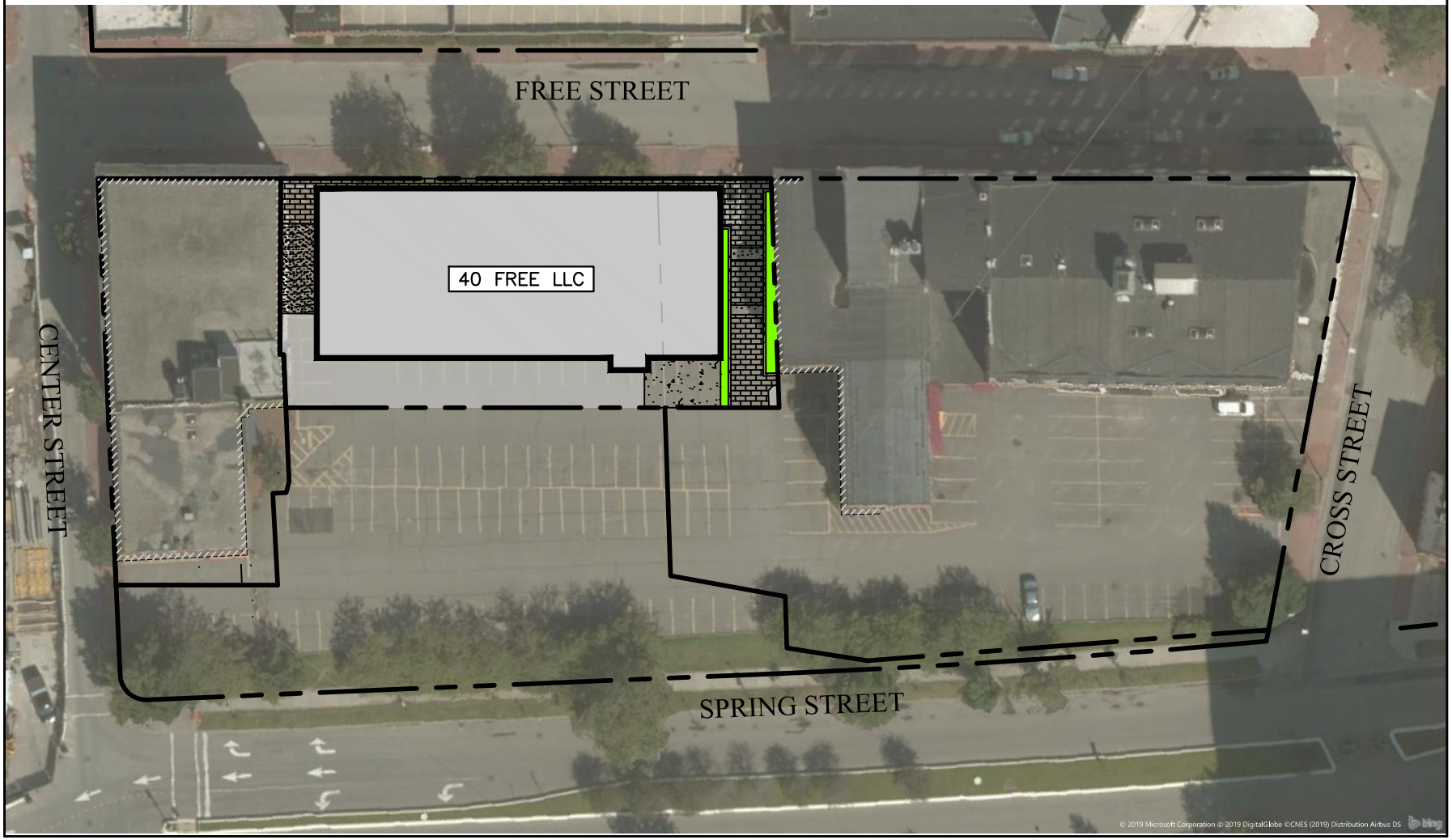
PROPOSED IMPERVIOUS COVER WITHIN PROPERTY

STYLE	LOCATION	EXISTING (SF)
	ROOF	10,277
	BRICK	1,957
	PAVEMENT	2,867
	GRAVEL	471
	CONCRETE	838
	TOTAL COVER	16,410
	% IMPERVIOUS	97%

30 0 30 60

SCALE: 1" = 60'

PERMIT LEVEL NOT FOR CONSTRUCTION



ISSUED FOR	BY DATE
APPLICATION	MPB 4/15/19
	REV. DATE

DRAWING NAME: PROPOSED IMPERVIOUS COVER

PROJECT NAME: 40 FREE STREET

CLIENT: 40 FREE LLC

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1118_CIVIL
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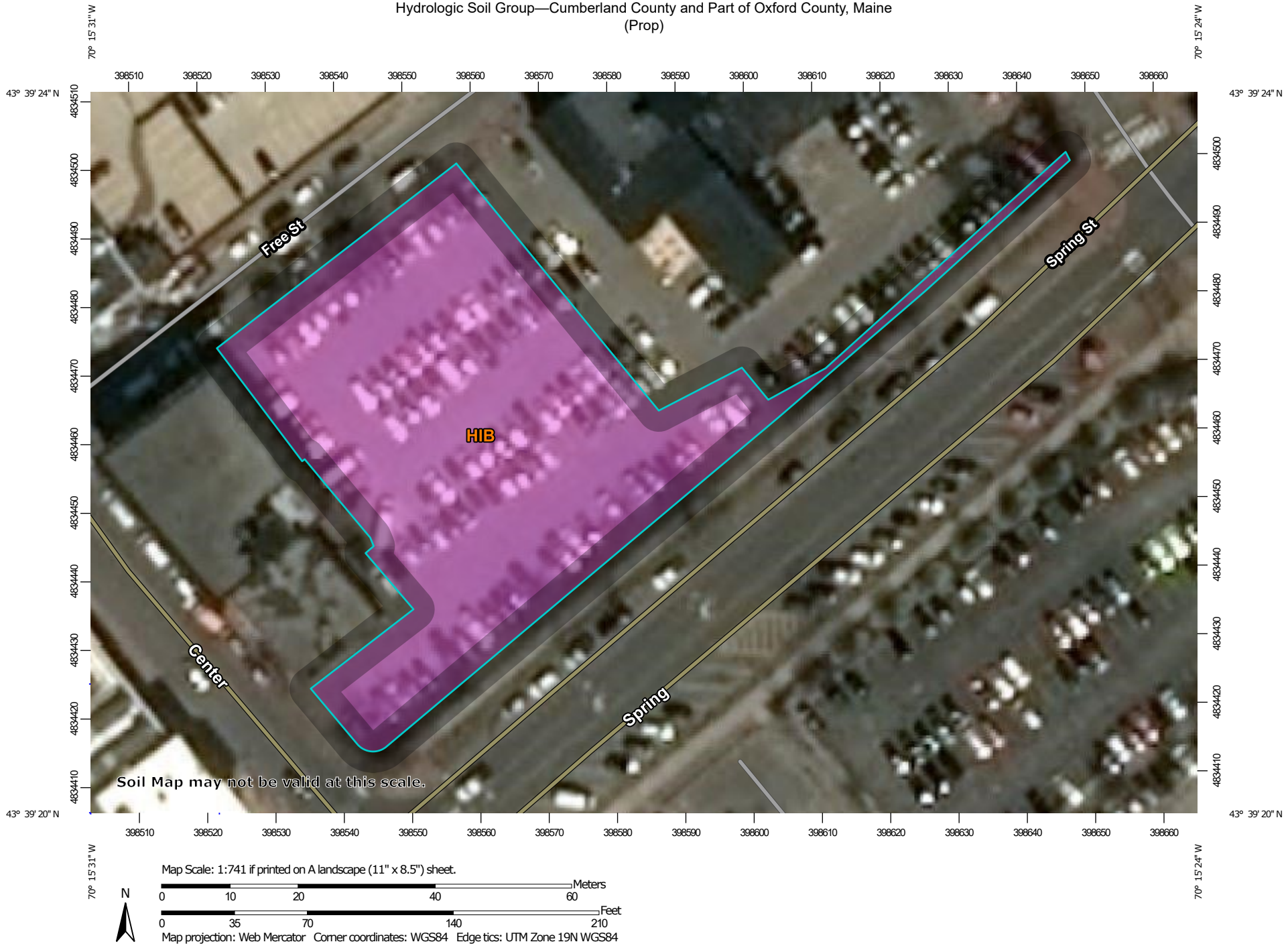
DRAWING NO.

IMP-2

Exhibit 3

United States Department of Agriculture Web Soil Survey

Hydrologic Soil Group—Cumberland County and Part of Oxford County, Maine
(Prop)



Map Scale: 1:741 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 35 70 140 210

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 Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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 15, Sep 6, 2018

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	A	0.8	100.0%
Totals for Area of Interest			**0.8**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Depth to Any Soil Restrictive Layer—Cumberland County and Part of Oxford County, Maine
(Prop)

Map Scale: 1:741 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 35 70 140 210

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 Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

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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 15, Sep 6, 2018

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.

Depth to Any Soil Restrictive Layer

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
HIB	Hinckley loamy sand, 3 to 8 percent slopes	>200	0.8	100.0%
Totals for Area of Interest			**0.8**	**100.0%**

Description

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

This theme presents the depth to any type of restrictive layer that is described for each map unit. If more than one type of restrictive layer is described for an individual soil type, the depth to the shallowest one is presented. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Map Scale: 1:3,830 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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 Rating Polygons

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Lines

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Points

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

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 15, Sep 6, 2018

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.

K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cu	Cut and fill land	.05	6.7	10.2%
HlB	Hinckley loamy sand, 3 to 8 percent slopes		58.6	89.8%
Totals for Area of Interest			**65.3**	**100.0%**

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

Exhibit 4

Explorations and Geotechnical Engineering Services Report

REPORT

19-0139 S

April 9, 2019

Explorations and Geotechnical Engineering Services

Proposed Mixed–Use
Commercial-Residential Building
40 Free Street
Portland, ME

Prepared For:
J.B. Brown & Sons
Attention: Vin Veroneau
10 Free Street, Suite 100
Portland, ME

Prepared By:
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039
T: 207-657-2866

S.W.COLE ENGINEERING, INC.

- *Geotechnical Engineering*
- *Construction Materials Testing and Special Inspections*
- *GeoEnvironmental Services*
- *Test Boring Explorations*

www.swcole.com

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4.0 EVALUATION AND RECOMMENDATIONS 3
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Appendix C Historical Aerial Photos and Fire Insurance Maps
Appendix D Exploration Logs & Key
Appendix E Laboratory Test Results

19-0139 S

April 9, 2019

J.B. Brown & Sons
Attention: Vin Veroneau
10 Free Street, Suite 100
Portland, ME 04101

Subject: Explorations and Geotechnical Engineering Services
Proposed Mixed-Use Commercial-Residential Building
40 Free Street
Portland, ME

Dear Vin:

In accordance with our Proposal, dated March 8, 2019, we have performed subsurface explorations for the subject project. This report summarizes our findings and geotechnical recommendations and its contents are subject to the limitations set forth in Appendix A.

1.0 INTRODUCTION

1.1 Scope and Purpose

The purpose of our services was to obtain subsurface information at the site in order to develop geotechnical recommendations relative to foundations and earthwork associated with the proposed construction. Our scope of services included eight test boring explorations, soils laboratory testing, a geotechnical analysis of the subsurface findings and preparation of this report.

1.2 Site and Proposed Construction

The site is a surface parking lot on Free Street between Center Street, Spring Street and Cross Street. Existing grades slope gently downward from Free Street toward Spring Street. Based on the information provided, we understand development plans call for construction of a 6-story commercial and residential building with one level of parking below. The proposed garage will be about 12 feet below Free Street with a

proposed garage floor elevation of 53 feet (project datum). The parking garage will be accessed from the on-grade parking lot to remain along the southeast side of the proposed building. We understand the building will occupy a plan area of approximately 150 feet along Free Street by 75 feet deep into the site.

Proposed and existing site features are shown on the "Exploration Location Plan" attached in Appendix B.

1.3 Historical Site Conditions

S. W. Cole Engineering, Inc. (S.W.COLE) obtained historical aerial photos and Sanborn fire insurance maps from Environmental Data Resources, Inc. Based on the historical aerial photos and Sanborn fire insurance maps it is evident that the site had been previously developed. Prior to 1980, Cotton Street crossed the western portion of the site with multiple buildings on each side and likely associated buried utilities.

Historical aerial photos and fire insurance maps are attached in Appendix C.

2.0 EXPLORATION AND TESTING

2.1 Explorations

Eight test borings (B-101 through B-108) were made at the site on March 21 and 22, 2019 by New England Boring Contractors working under subcontract to S.W.COLE. The exploration locations were selected and established in the field by S.W.COLE using measurements from existing site features. The approximate exploration locations are shown on the "Exploration Location Plan" attached in Appendix B. Logs of the explorations and a key to the notes and symbols used on the logs are attached in Appendix D. The elevations shown on the logs were estimated based on topographic information shown on the "Exploration Location Plan".

2.2 Field Testing

The test borings were drilled using a combination of hollow stem auger and cased wash-boring techniques. The soils were sampled at 2 to 5 foot intervals using a split spoon sampler and Standard Penetration Testing (SPT) methods. Rock coring was performed in B-107 to confirm the presence of bedrock and quality of rock mass as assess by Rock Quality Designator (RQD).

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2.3 Laboratory Testing

Soil samples obtained from the explorations were returned to our laboratory for further classification and testing. The results of moisture content tests are noted on the logs. The results of gradation tests are attached in Appendix E.

3.0 SUBSURFACE CONDITIONS

3.1 Soil and Bedrock

The test borings were made in the area of the proposed building and encountered a soils profile generally consisting of asphalt pavement overlying sand and gravel with brick fragments (fill) overlying native deposits of sandy silt/silty sand with gravel overlying refusal surfaces (probable bedrock) at depths of 9 to 15 feet. Based on rock cores taken in boring B-107, the bedrock generally consisted of weathered, blue-gray, fine-grained, fractured Phyllite with RQDs ranging from very poor to fair, increasing with depth. Not all the strata were encountered at each exploration; refer to the attached logs for more detailed subsurface information.

3.2 Groundwater

The soils encountered at the test borings were dry to damp from the ground surface to the native deposits of silty sand/sandy silt with gravel, which was generally damp to moist. Free water was not observed in the test borings. We anticipate that groundwater likely becomes perched on the relatively impervious native deposit of silty sand/sandy silt. Long term groundwater information is not available. It should be anticipated that groundwater levels will fluctuate, particularly in response to periods of snowmelt and precipitation, as well as changes in site use.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

Based on the subsurface findings, the proposed construction appears feasible from a geotechnical standpoint. The principle geotechnical considerations include:

- Spread footing foundations and on-grade floor slabs bearing on properly prepared subgrades appear suitable for the proposed building;

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- Footings should bear on intact bedrock or structural concrete extending to intact bedrock;

- On-grade floor slabs should bear on at least 12-inches of properly compacted Structural Fill overlying properly prepared subgrades. A layer of rigid insulation is recommended below garage floor slabs in unheated spaces; and,

- Asphalt, remnant structures, foundations and debris must be completely removed from beneath the proposed building and backfilled with properly compacted Structural Fill.

4.2 Subgrade Preparation

As presented herein, historical records indicate the site has undergone several episodes of previous land use and development; and, as such, excavation will likely encounter foundation remnants, uncontrolled fills and demolition debris. Uncontrolled fills, relic structures, foundations and debris must be completely removed from beneath the proposed building.

4.3 Excavation and Dewatering

Excavation work will generally encounter uncontrolled fills, relic foundations, relic structures, debris, native sandy silt/silty sand and bedrock. Earthwork and grading activities should ideally occur during drier, non-freezing weather of Spring, Summer and Fall.

Considering the subsurface findings and urban setting, we anticipate hoe-ramming will be necessary for bedrock removal. Pre-construction surveys should be completed on surrounding structures, water supply wells and infrastructure prior to commencing blasting activities. Vibrations from construction should be controlled below threshold limits of 0.5 in/sec for structures, water supply wells and infrastructure within 500 feet of the project site. More restrictive vibration limits may be warranted in specific cases with sensitive equipment, historic structures or artifacts on-site or within close proximity.

Sumping and pumping dewatering techniques should be adequate to control groundwater in excavations. The City of Portland and Portland Water District should be consulted regarding discharge of water from construction dewatering.

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Excavations must be properly shored or sloped in accordance with OSHA Regulations to prevent sloughing and caving of the sidewalls during construction. Care must be taken to preclude undermining adjacent structures, utilities and roadways.

We recommend shoring for excavation support be accomplished using a soldier pile and lagging wall along Free Street with H-piles drilled and socketed into bedrock. The soldier pile and lagging shoring wall should extend along the end walls of the foundation excavation as necessary to protect adjacent structures, utilities and surface improvements. The shoring system should be prepared by a Professional Engineer licensed in the State of Maine. S.W.COLE should be engaged to review the shoring submittal prior to mobilization.

The design and planning of excavations, excavation support systems, and dewatering is the responsibility of the contractor.

4.4 Foundations

We recommend the proposed buildings be supported on spread footings founded on intact bedrock or structural concrete extending to intact bedrock. For foundations bearing on properly prepared subgrades, we recommend the following geotechnical parameters for design consideration:

Geotechnical Parameters for Spread Footings and Foundation Walls	
Design Frost Depth (100 year AFI)	4.5 feet
Net Allowable Bedrock Bearing Pressure	8.0 ksf
Base Friction Factor	0.35
Total Unit Weight of Backfill	125 pcf
At-Rest Lateral Earth Pressure Coefficient	0.5
Internal Friction Angle of Backfill	30°
Seismic Soil Site Class	C (IBC 2015)

4.5 Foundation Drainage

We recommend an underdrain system be installed along the edge of perimeter footings. The underdrain pipe should consist of 4-inch diameter, perforated SDR-35 foundation drain pipe bedded in Crushed Stone and wrapped in non-woven geotextile fabric. The underdrain pipe must have a positive gravity outlet protected from freezing, clogging and backflow. Additional, we recommend a drainage board and insulation be installed against basement walls; the drainage board should be connected to the perimeter foundation

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drainage system. Surface grades should be sloped away from the building for positive surface water drainage. General underdrain details are illustrated on the "Foundation Detail Sketch" attached in Appendix B.

4.6 Slab-On-Grade

On-grade floor slabs in heated areas may be designed using a subgrade reaction modulus of 100 pci (pounds per cubic inch) provided the slab is underlain by at least 12-inches of compacted Structural Fill placed over properly prepared subgrades. In unheated spaces, we recommend a 2-inch layer of rigid foundation insulation be installed beneath the 12-inch layer of Structural Fill recommended below on-grade slabs. The structural engineer or concrete consultant must design steel reinforcing and joint spacing appropriate to slab thickness and function.

We recommend a sub-slab vapor retarder particularly in areas of the building where the concrete slab will be covered with an impermeable surface treatment or floor covering that may be sensitive to moisture vapors. The vapor retarder must have a permeance that is less than the floor cover or surface treatment that is applied to the slab. The vapor retarder must have sufficient durability to withstand direct contact with the sub-slab base material and construction activity. The vapor retarder material should be placed according to the manufacturer's recommended method, including the taping and lapping of all joints and wall connections. The architect and/or flooring consultant should select the vapor retarder products compatible with flooring and adhesive materials.

The floor slab should be appropriately cured using moisture retention methods after casting. Typical floor slab curing methods should be used for at least 7 days. The architect or flooring consultant should assign curing methods consistent with current applicable American Concrete Institute (ACI) procedures with consideration of curing method compatibility to proposed surface treatments, flooring and adhesive materials.

4.7 Entrance Slabs and Sidewalks

Entrance slabs and sidewalks adjacent to the building must be designed to reduce the effects of differential frost action between adjacent pavement, doorways, and entrances. We recommend that non-frost susceptible Structural Fill be provided to a depth of at least 4.5 feet below the top of entrance slabs. This thickness of Structural Fill should extend the full width of the entrance slab and outward at least 4.5 feet, thereafter transitioning up to the bottom of the adjacent sidewalk or pavement gravels at a 3H:1V

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or flatter slope. General details of this frost transition zone are shown on the "Foundation Detail Sketch" attached in Appendix B.

4.8 Fill, Backfill and Compaction

We recommend the following fill and backfill materials: recycled products must also be tested in accordance with applicable environmental regulations and approved by a qualified environmental consultant.

Granular Borrow: Fill to raise grades in paved areas, as well as to repair soft areas, should be sand or silty sand meeting the requirements of 2014 MaineDOT Standard Specification 703.19 Granular Borrow.

Structural Fill: Fill to raise grades in building areas, backfill for foundations, slab base material and material below exterior entrances slabs should be clean, non-frost susceptible sand and gravel meeting the gradation requirements for Structural Fill as given below:

Structural Fill	
Sieve Size	**Percent Finer by Weight**
4 inch	100
3 inch	90 to 100
¼ inch	25 to 90
No. 40	0 to 30
No. 200	0 to 6

Crushed Stone: Crushed Stone for underdrain aggregate should be washed ¾-inch crushed stone meeting the requirements of 2014 MaineDOT Standard Specification 703.22 Underdrain Backfill Material Type C.

Reuse of Site Soils: The existing granular fills are unsuitable for reuse in building areas, but may be suitable for reuse as Granular Borrow in paved areas, provided they are at a compactable moisture content at the time of reuse and free of rubble, wood and organics. The native silty sand/sandy silt are unsuitable for reuse in building and paved areas.

Placement and Compaction: Fill should be placed in horizontal lifts and compacted such that the desired density is achieved throughout the lift thickness with 3 to 5 passes

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of the compaction equipment. Loose lift thicknesses for grading, fill and backfill activities should not exceed 12 inches. We recommend that fill and backfill in building and paved areas be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557. Crushed Stone should be compacted with 3 to 5 passes of a vibratory plate compactor having a static weight of at least 500 pounds.

4.9 Weather Considerations

Construction activity should be limited during wet and freezing weather and the site soils may require drying or thawing before construction activities may continue. The contractor should anticipate the need for water to temper fills in order to facilitate compaction during dry weather. If construction takes place during cold weather, subgrades, foundations and floor slabs must be protected during freezing conditions. Concrete and fill must not be placed on frozen soil; and once placed, the concrete and soil beneath the structure must be protected from freezing.

4.10 Design Review and Construction Testing

S.W.COLE should be retained to review the construction documents prior to bidding to determine that our earthwork and foundation recommendations have been properly interpreted and implemented.

The shoring system should be prepared by a Professional Engineer licensed in the State of Maine. S.W.COLE should be engaged to review the shoring submittal prior to mobilization.

A construction materials testing and special inspection program should be implemented during construction to observe compliance with the design concepts, plans, and specifications. S.W.COLE is available to observe earthwork activities, the preparation of foundation bearing surfaces and pavement subgrades, as well as to provide testing and IBC Special Inspection services for soils, concrete, structural steel, spray-applied fireproofing, structural masonry and asphalt construction materials.

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5.0 CLOSURE

It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the construction phase of the project.

Sincerely,

S. W. Cole Engineering, Inc.

Justin A. DuBois, MS, E.I.
Geotechnical Engineer

Timothy J. Boyce, P.E.
Senior Geotechnical Engineer

JAD:tjb

DRAFT

APPENDIX A

Limitations

This report has been prepared for the exclusive use of J.B. Brown & Sons for specific application to the proposed Mixed-Use Commercial-Residential Building on Free Street in Portland, Maine. S. W. Cole Engineering, Inc. (S.W.COLE) has endeavored to conduct our services in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

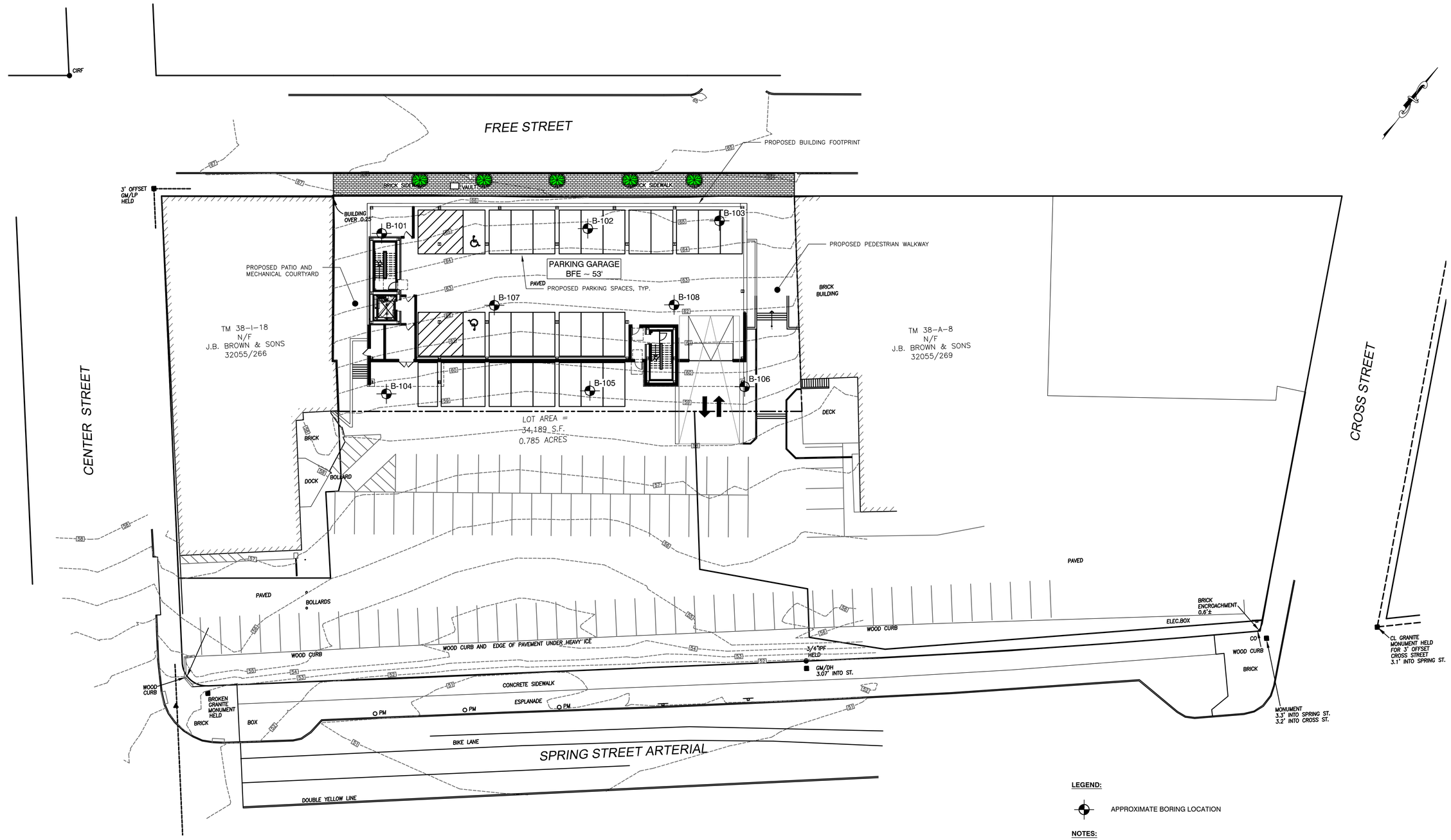
Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S.W.COLE's scope of services has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE.

APPENDIX B

Figures



LEGEND:

APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=20' SCALE PLAN OF THE SITE ENTITLED "SITE PLAN: BASEMENT," PREPARED BY ACORN ENGINEERING, INC., DATED 03/25/2019.
2. THE BORINGS WERE LOCATED IN THE FIELD BY SURVEY BY OWEN HASKELL, INC. AND PROVIDED ON THE ABOVE REFERENCED PLAN.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. 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.

0 20 40 Feet

S.W.COLE ENGINEERING, INC.

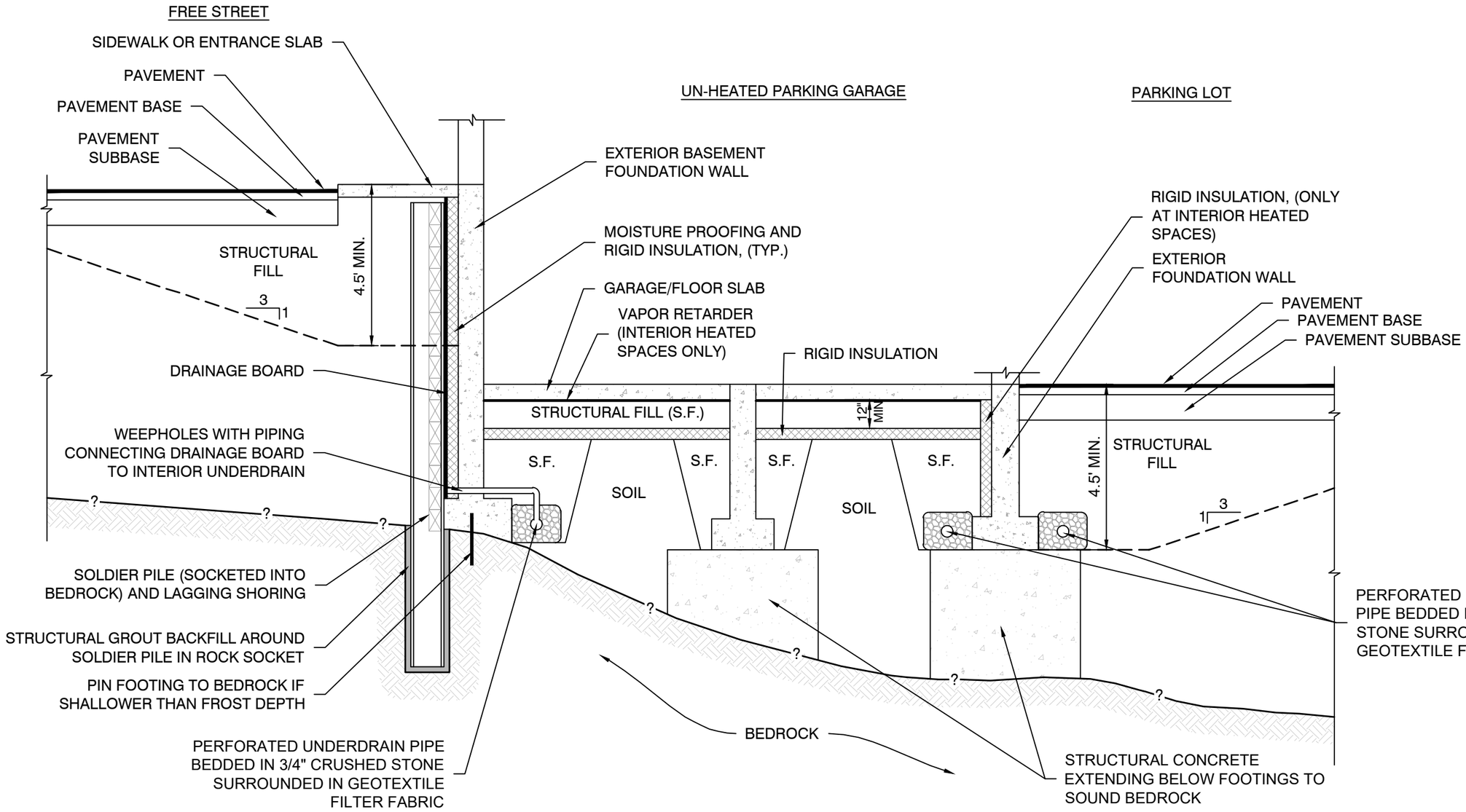
J.B. BROWN & SONS

EXPLORATION LOCATION PLAN

PROPOSED MIXED USE COMMERCIAL-RESIDENTIAL BUILDING
40 FREE STREET
PORTLAND, MAINE

Job No.:	19-0139	Scale:	1" = 20'
Date :	04/05/2019	Sheet:	1

K:\2019\19-0139\CAD\Drawings\19-0139 ELP.dwg 4/5/2019 9:01:38 AM, 1:1, CEM, S.W. Cole Engineering, Inc.



NOTE:

1. UNDERDRAIN INSTALLATION AND MATERIAL GRADATION RECOMMENDATIONS ARE CONTAINED WITHIN THIS REPORT.

2. DETAIL IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY, NOT FOR CONSTRUCTION.

S.W.COLE ENGINEERING, INC.

J.B. BROWN & SONS

FOUNDATION DETAIL SKETCH

PROPOSED MIXED USE COMMERCIAL-RESIDENTIAL BUILDING
40 FREE STREET
PORTLAND, MAINE

Job No.:	19-0139	Scale:	Not to Scale
Date :	04/05/2019	Sheet:	2

R:\2019\19-0139\CAD\Drawings\19-0139 FDS.dwg, 4/5/2019 3:41:57 PM, 1:1, CEM, S. W. Cole Engineering, Inc.

APPENDIX C

Historical Aerial Photos and Fire Insurance Maps

Proposed Mixed Use Development

40 Free Street

Portland, ME 04101

Inquiry Number: 5593307.8

March 19, 2019

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

03/19/19

Site Name:

Proposed Mixed Use Developn
40 Free Street
Portland, ME 04101
EDR Inquiry # 5593307.8

Client Name:

SW Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039
Contact: Tom Trainor

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2007	1"=500'	Flight Year: 2007	USDA/NAIP
2003	1"=500'	Flight Date: May 04, 2003	USGS
1997	1"=500'	Acquisition Date: June 07, 1997	USGS/DOQQ
1992	1"=500'	Flight Date: June 12, 1992	USGS
1987	1"=500'	Flight Date: May 14, 1987	USDA
1975	1"=500'	Flight Date: April 30, 1975	USGS
1970	1"=500'	Flight Date: May 21, 1970	USGS
1960	1"=500'	Flight Date: June 01, 1960	USGS
1956	1"=500'	Flight Date: January 05, 1956	USGS
1940	1"=500'	Flight Date: November 11, 1940	USGS

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

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INQUIRY #: 5593307.8

YEAR: 2015

= 500'

N

EDR

INQUIRY #: 5593307.8

YEAR: 2011

= 500'

N

EDR

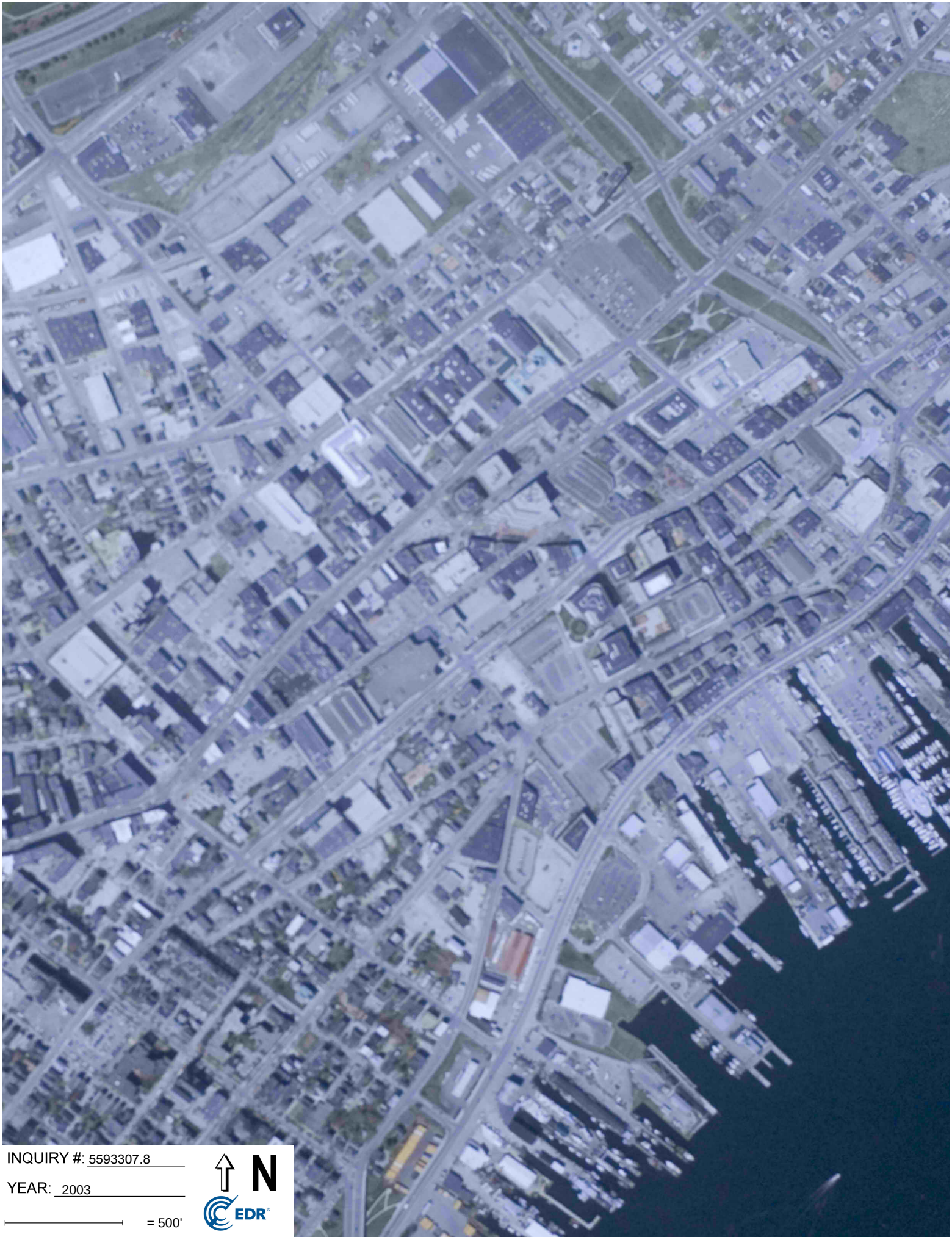
INQUIRY #: 5593307.8

YEAR: 2007

= 500'

N

EDR



INQUIRY #: 5593307.8

YEAR: 2003

= 500'

N

EDR

INQUIRY #: 5593307.8

YEAR: 1997

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N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

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YEAR: 1992
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EDR

INQUIRY #: 5593307.8

YEAR: 1987

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EDR

INQUIRY #: 5593307.8

YEAR: 1975

= 500'

N

EDR

INQUIRY #: 5593307.8
YEAR: 1970
= 500'
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EDR

INQUIRY #: 5593307.8

YEAR: 1960

= 500'

N

EDR

INQUIRY #: 5593307.8

YEAR: 1956

= 500'

N

EDR

INQUIRY #: 5593307.8

YEAR: 1940

= 500'

N

EDR

Proposed Mixed Use Development

40 Free Street

Portland, ME 04101

Inquiry Number: 5593307.3

March 18, 2019

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

03/18/19

Site Name:

Proposed Mixed Use Developn
40 Free Street
Portland, ME 04101
EDR Inquiry # 5593307.3

Client Name:

SW Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039
Contact: Tom Trainor

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by SW Cole Engineering, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # A067-46DA-ACDA

PO # NA

Project 19-0139

Maps Provided:

1988
1986
1980
1954
1949
1909
1896
1886

Sanborn® Library search results

Certification #: A067-46DA-ACDA

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Sanborn Sheet Key

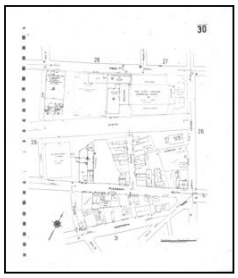
This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1988 Source Sheets

Volume 1, Sheet 24
1988

Volume 1, Sheet 26
1988

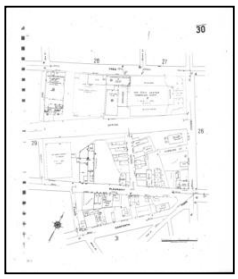
Volume 1, Sheet 27
1988



Volume 1, Sheet 30
1988

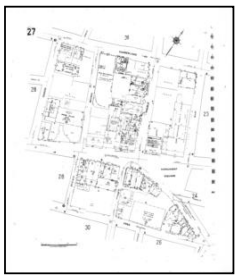
1986 Source Sheets

Volume 1, Sheet 24
1986



Volume 1, Sheet 30
1986

Volume 1, Sheet 26
1986



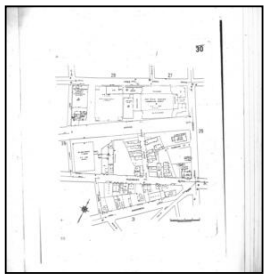
Volume 1, Sheet 27
1986

1980 Source Sheets

Volume 1, Sheet 24
1980

Volume 1, Sheet 26
1980

Volume 1, Sheet 27
1980



Volume 1, Sheet 30
1980

1954 Source Sheets

Volume 1, Sheet 24
1954

Volume 1, Sheet 26
1954

Volume 1, Sheet 27
1954

Volume 1, Sheet 30
1954

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1949 Source Sheets

Volume 1, Sheet 24
1949

Volume 1, Sheet 26
1949

Volume 1, Sheet 27
1949

Volume 1, Sheet 30
1949

1909 Source Sheets

Volume 1, Sheet 24
1909

Volume 1, Sheet 26
1909

Volume 1, Sheet 27
1909

Volume 1, Sheet 30
1909

1896 Source Sheets

Volume 1, Sheet 20
1896

Volume 1, Sheet 22
1896

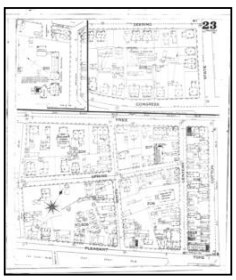
Volume 1, Sheet 24
1896

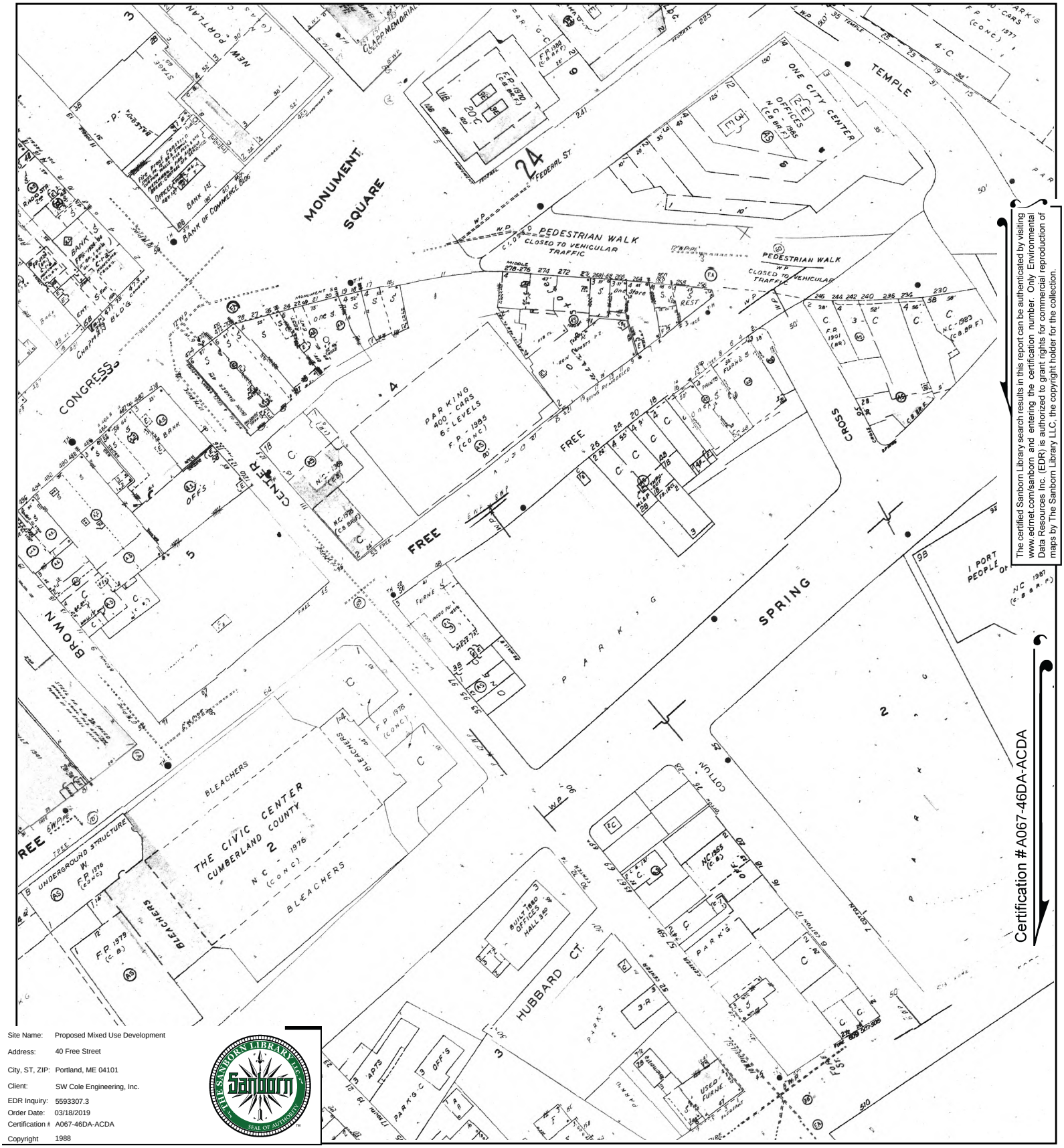
Volume 1, Sheet 26
1896

1886 Source Sheets

Volume 1, Sheet 9
1886

Volume 1, Sheet 10
1886


Volume 1, Sheet 23
1886



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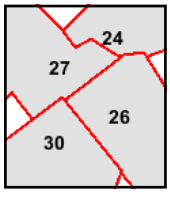
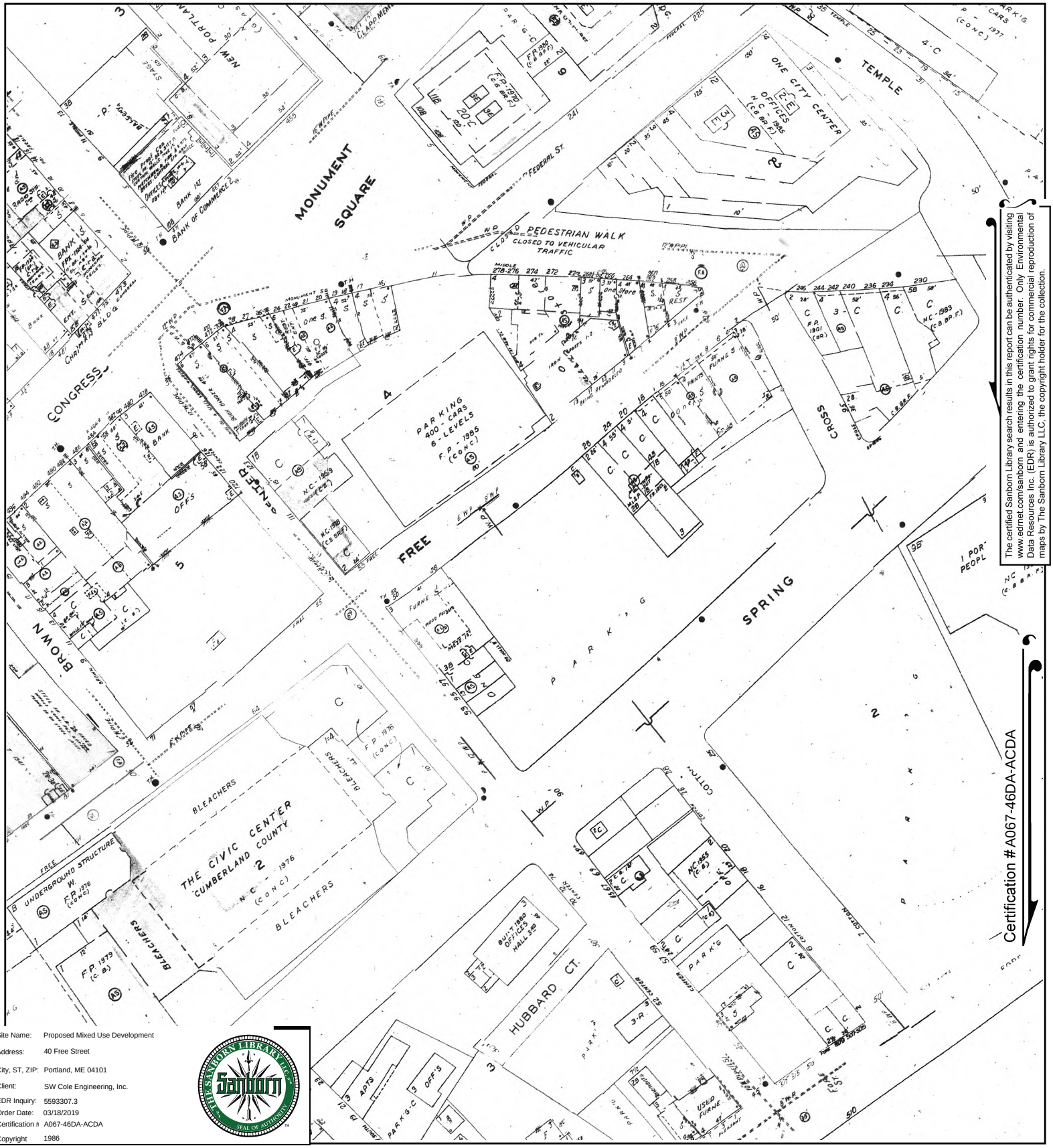


Volume 1, Sheet 30
Volume 1, Sheet 27
Volume 1, Sheet 26
Volume 1, Sheet 24

0 Feet 150 300 600

N



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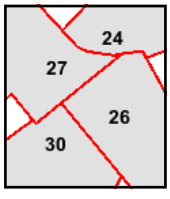

Volume 1, Sheet 27
Volume 1, Sheet 26
Volume 1, Sheet 30
Volume 1, Sheet 24

0 Feet 150 300 600

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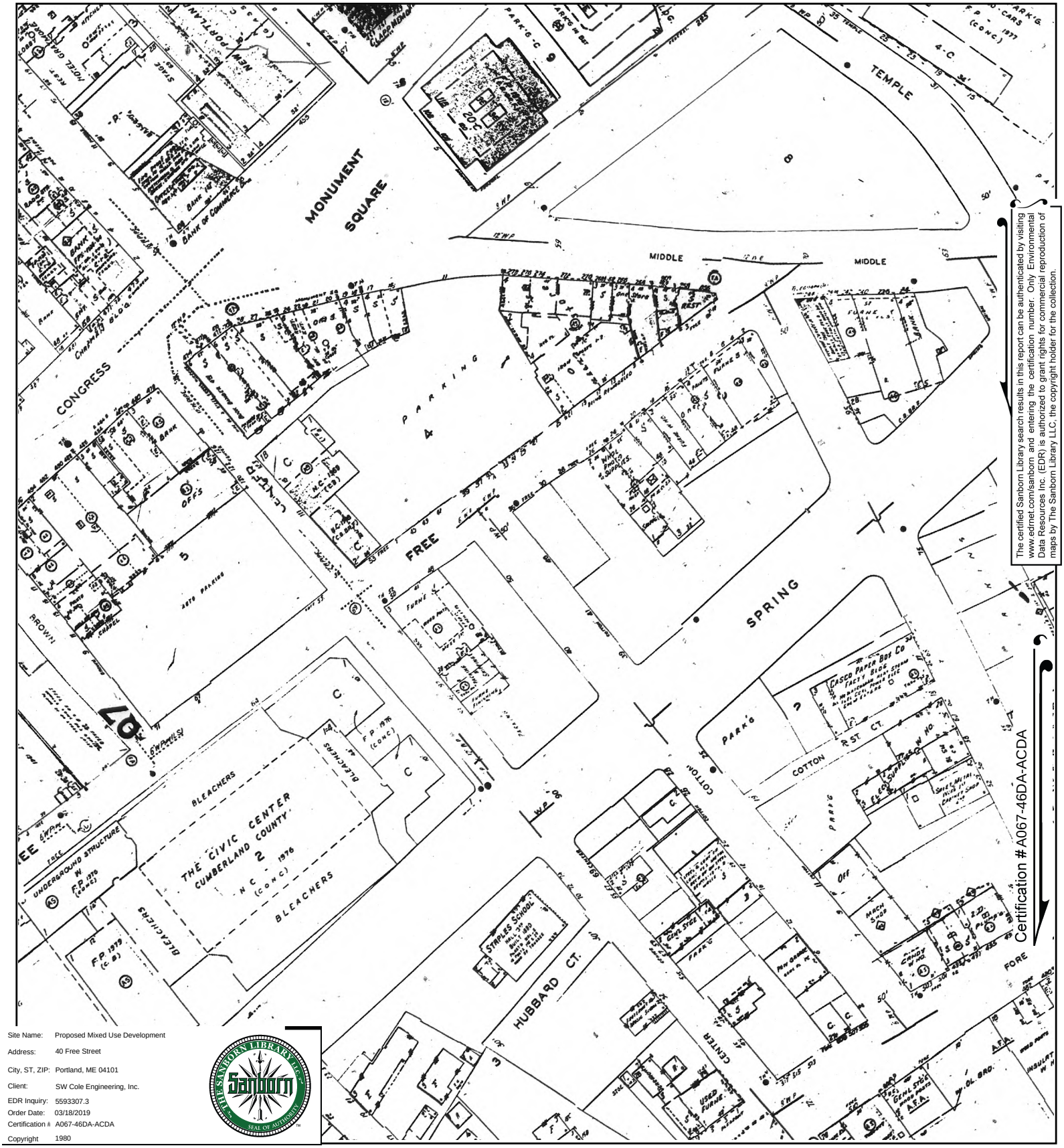

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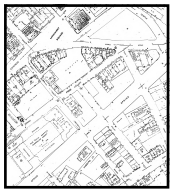

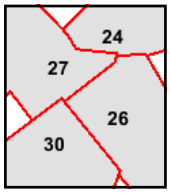

Volume 1, Sheet 30
Volume 1, Sheet 27
Volume 1, Sheet 26
Volume 1, Sheet 24

0 Feet 150 300 600

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Certification #:	A067-46DA-ACDA
Copyright	1954

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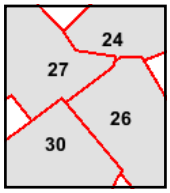
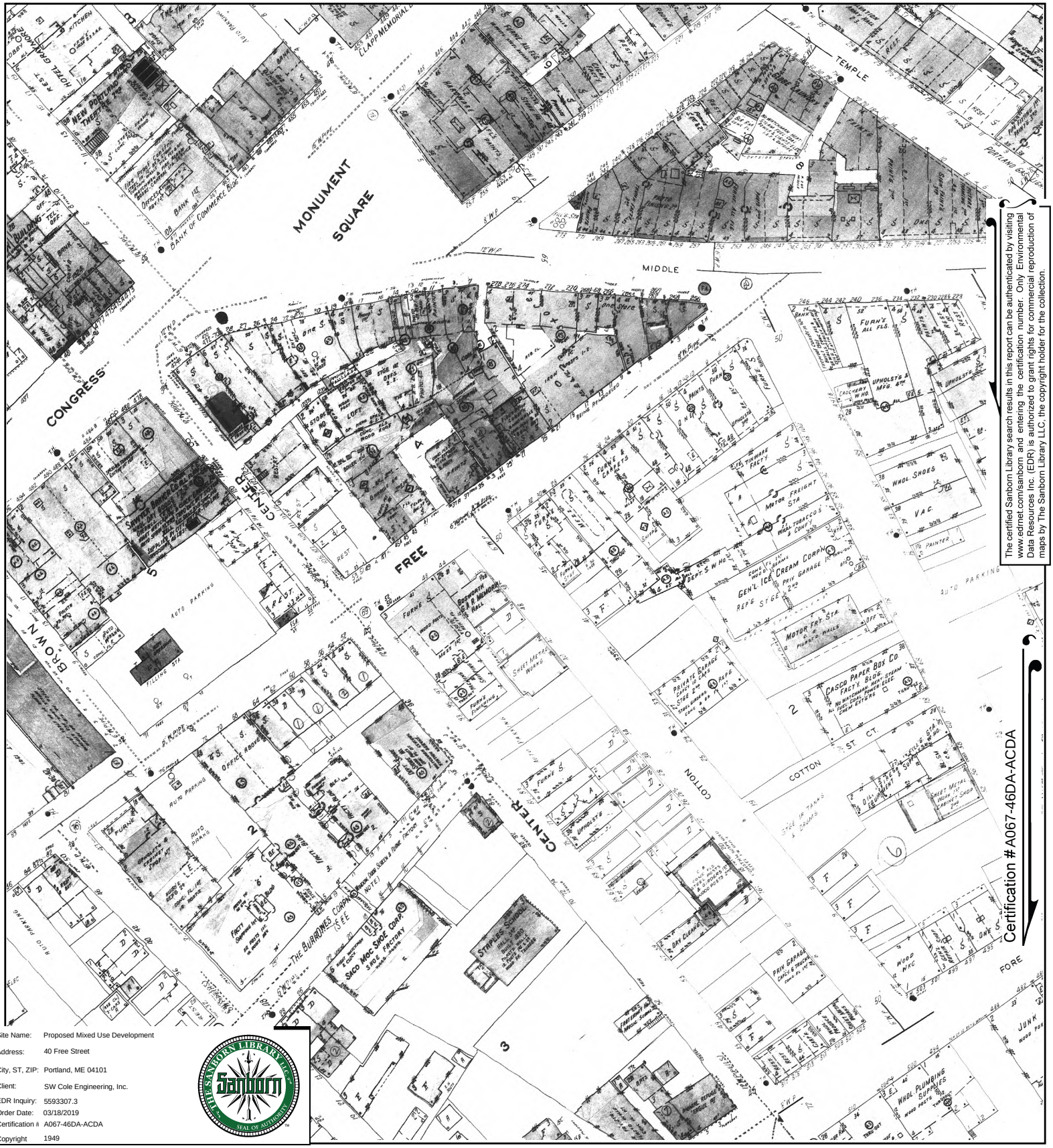


Volume 1, Sheet 30
Volume 1, Sheet 27
Volume 1, Sheet 26
Volume 1, Sheet 24

0 Feet 150 300 600

N



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Copyright	1949

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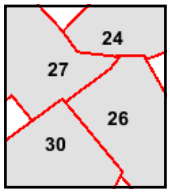

Volume 1, Sheet 30
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Volume 1, Sheet 24

0 Feet 150 300 600

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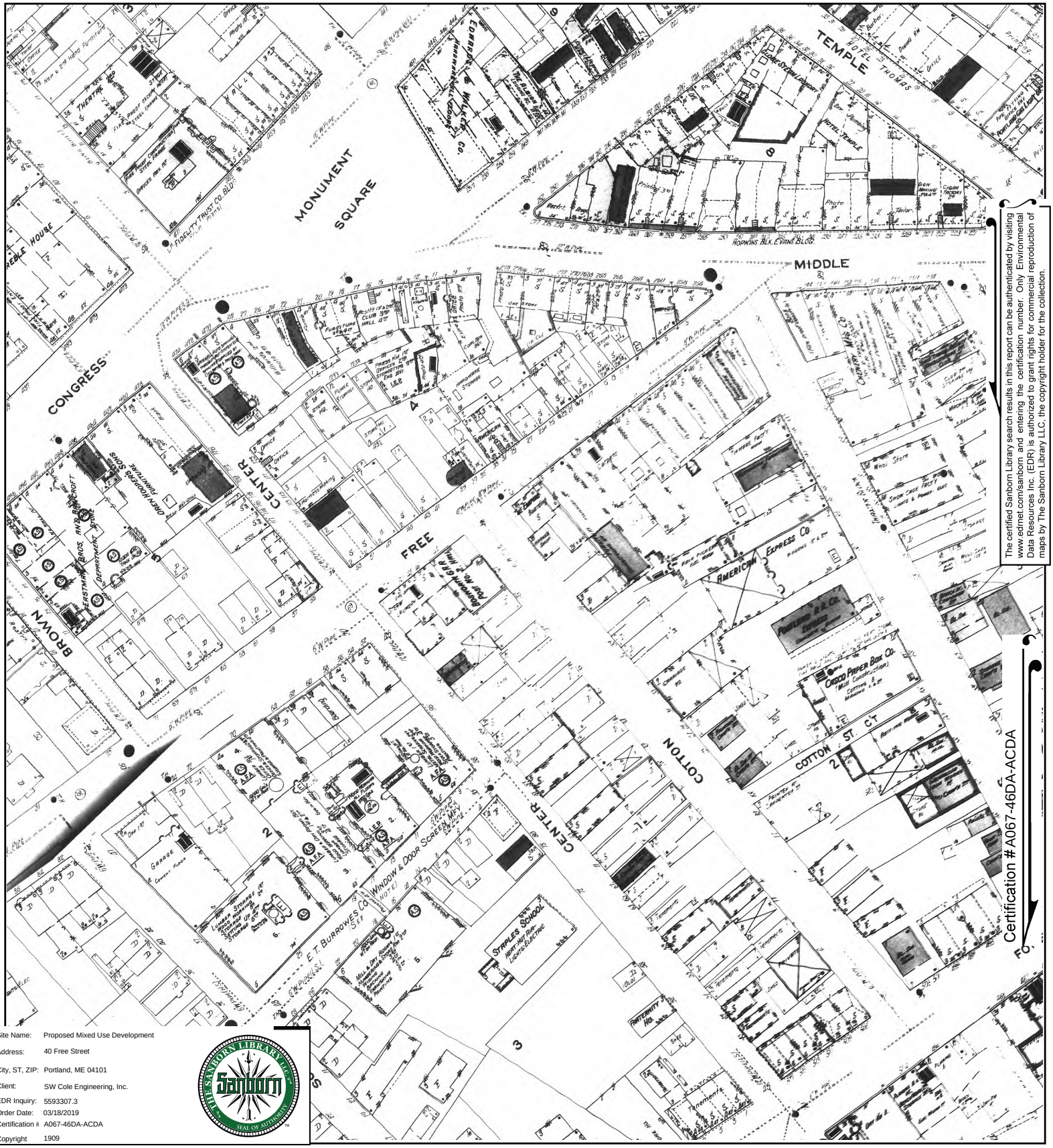

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Address:	40 Free Street
City, ST, ZIP:	Portland, ME 04101
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EDR Inquiry:	5593307.3
Order Date:	03/18/2019
Certification #:	A067-46DA-ACDA
Copyright	1909

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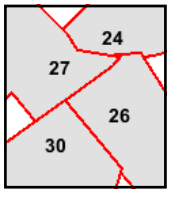

Volume 1, Sheet 30
Volume 1, Sheet 27
Volume 1, Sheet 26
Volume 1, Sheet 24

0 Feet 150 300 600

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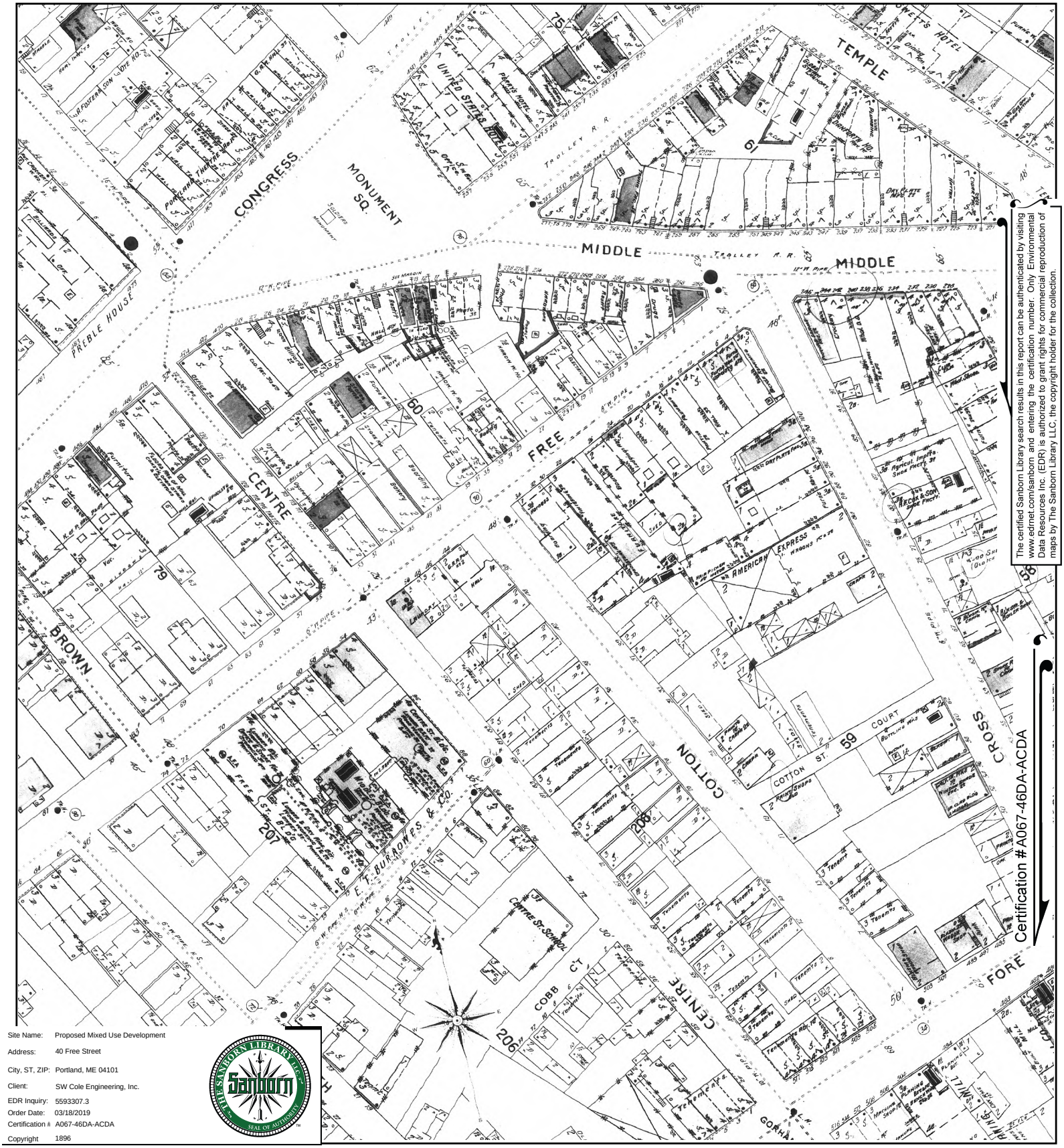

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City, ST, ZIP:	Portland, ME 04101
Client:	SW Cole Engineering, Inc.
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Order Date:	03/18/2019
Certification #:	A067-46DA-ACDA
Copyright	1896

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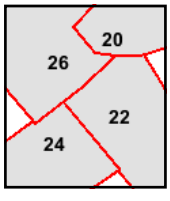

Volume 1, Sheet 26
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Volume 1, Sheet 22
Volume 1, Sheet 20

0 Feet 150 300 600

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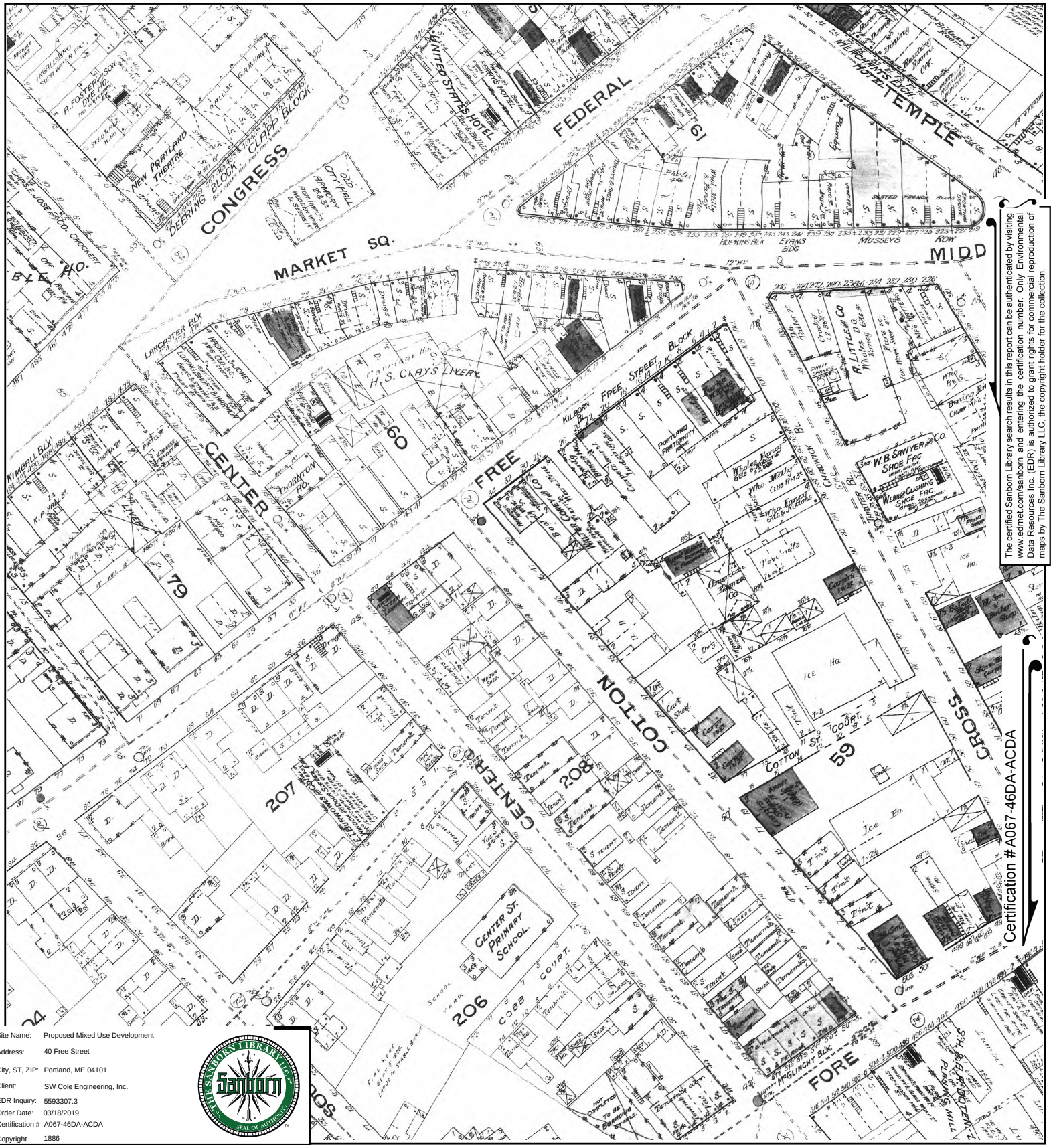

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Site Name:	Proposed Mixed Use Development
Address:	40 Free Street
City, ST, ZIP:	Portland, ME 04101
Client:	SW Cole Engineering, Inc.
EDR Inquiry:	5593307.3
Order Date:	03/18/2019
Certification #:	A067-46DA-ACDA
Copyright	1886

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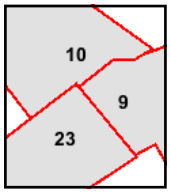

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Volume 1, Sheet 9

0 Feet 150 300 600

N

APPENDIX D

Exploration Logs and Key

BORING LOG

S.W.COLE ENGINEERING, INC.

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-101
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/19/2019
DATE FINISH: 3/19/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 65' +/- | **TOTAL DEPTH (FT):** 14.8 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_2O Depth	Remarks
			1D		0.5-2.5	24/12	3-10-10-10			0.4 Asphalt Medium dense, brown, medium to coarse SAND with gravel trace of silt, brick fragments (Fill)		
			2D		2.5-4.5	24/8	8-9-11-9					
60	5		3D		5-7	24/12	20-16-14-9					
			4D		7-9	24/12	9-7-10-9			7.0 Medium dense, gray-brown to blue-gray, sandy SILT with gravel		
55	10		5D		10-12	24/24	3-3-5-6					
										13.0 Weathered BEDROCK		

Refusal at 14.8 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

BORING LOG

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-102
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/19/2019
DATE FINISH: 3/19/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 65' +/- | **TOTAL DEPTH (FT):** 10.9 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0.5-2.5	24/16	6-10-6-12			0.3 Asphalt Medium dense, brown, medium to coarse SAND some gravel trace of silt (Fill)		
			2D		2.5-4.5	24/15	11-9-7-5			3.5 Medium dense, gray-brown slightly mottled, sandy SILT some fine gravel		
60	5		3D		5-7	24/20	3-8-17-20			6.5 Weathered BEDROCK		
55	10		4D		10-10.9	11/6	42-50:0.4/5"			Refusal at 10.9 feet		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

BORING LOG

S.W.COLE ENGINEERING, INC.

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-103
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/19/2019
DATE FINISH: 3/19/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 65' +/- | **TOTAL DEPTH (FT):** 12.0 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0.4-2.4	24/12	4-7-8-10			0.3 Asphalt Medium dense, brown, medium to coarse SAND with gravel trace of silt, brick fragments (Fill)		
			2D		2.4-4.4	24/12	10-17-28-24					
60	5		3D		5-7	24/20	5-8-12-6			5.0 Medium dense, gray-brown slightly mottled, sandy SILT with fine gravel		
55	10		4D		10-12	24/20	25-20-25-90			10.0 Decomposed, highly weathered BEDROCK		

Refusal at 12.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

S.W.COLE ENGINEERING, INC.

BORING LOG

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-104
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/19/2019
DATE FINISH: 3/19/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 59' +/- | **TOTAL DEPTH (FT):** 9.0 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0.5-2.5	24/12	4-7-8-6			0.3 Asphalt Medium dense, brown, medium to coarse SAND with gravel trace to some silt, brick fragments (Fill)		
			2D		2.5-4.5	24/6	6-5-11-4					
55												
	5		3D		5-7	24/12	6-4-3-5			5.0 Medium dense, gray-brown slightly mottled, sandy SILT with fine gravel		
									///	8.0 Weathered BEDROCK		
50										Refusal at 9.0 feet		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

BORING LOG

CLIENT:	J.B. Brown & Sons
PROJECT:	Proposed Mixed Use Residential-Commercial Building
LOCATION:	40 Free Street, Portland, ME

BORING NO.:	**B-105**
SHEET:	1 of 1
PROJECT NO.	19-0139
DATE START:	3/20/2019
DATE FINISH:	3/20/2019

Drilling Information

LOCATION:	See Exploration Location Plan	**ELEVATION (FT):**	59' +/-	**TOTAL DEPTH (FT):**	12.0
LOGGED BY:	Justin DuBois	**DRILLING CO.:**	New England Boring	**DRILLER:**	Mike Matarozzo
DRILLING METHOD:	Hollow Stem Auger	**RIG TYPE:**	Truck Mounted Mobile B-47	**AUGER ID/OD:**	2 1/4 in / 5 5/8 in
SAMPLER:	Standard Split-Spoon	**HAMMER TYPE:**	Automatic	**HAMMER WEIGHT (lbs):**	140
CASING ID/OD:	N/A /N/A	**CORE BARREL:**		**HAMMER EFFICIENCY FACTOR:**	
HAMMER DROP (inch):	30				

WATER LEVEL DEPTHS (ft):

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:

Water Level
- ▽ At time of Drilling
- ▼ At Completion of Drilling
- ▼ After Drilling

D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear

Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot

WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector

S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0.4-2.4	24/8	6-11-7-6			0.3 Asphalt Medium dense, brown, medium to coarse SAND with gravel, trace of silt, brick and slag fragments (Fill)		
			2D		2.4-4.4	24/3	6-5-8-11					
55												
	5		3D		5-7	24/22	6-10-12-11			5.0 Medium dense, yellow-brown slightly mottled, silty SAND with gravel		
50												
	10		4D		10-12	24/17	25-15-8-9			10.0 Decomposed, highly weathered BEDROCK		

Refusal at 12.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

BORING LOG

S.W.COLE ENGINEERING, INC.

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-106
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/19/2019
DATE FINISH: 3/19/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 59' +/- | **TOTAL DEPTH (FT):** 14.0 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_2O Depth	Remarks
			1D		0.5-2.5	24/12	3-12-18-12			0.3 Asphalt Medium dense, brown, medium to coarse SAND and gravel trace of silt to silty SAND and gravel, (Fill)		
			2D		2.5-4.5	24/12	14-32-24-25					
55												
	5		3D		5-7	24/6	14-13-15-18			5.0 Cobbles/boulders/rubble (possible relic foundation)		
			4D		7-9	24/8	12-16-16-13					
50										9.0 Medium dense, gray-brown slightly mottled, sandy SILT with gravel		
	10		5D		10-12	24/20	9-7-17-24			11.0 Decomposed, highly weathered BEDROCK		
45												

Refusal at 14.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

BORING LOG

S.W.COLE ENGINEERING, INC.

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-107
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/20/2019
DATE FINISH: 3/20/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 62' +/- | **TOTAL DEPTH (FT):** 23.0 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Cased Boring
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** N/A / N/A | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Safety | **HAMMER WEIGHT (lbs):** 140 / 300 | **CASING ID/OD:** 4 in / 4 1/2 in | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30 / 16
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_2O Depth	Remarks
										0.3 Asphalt		
			1D		0.5-2.5	24/12	6-6-6-7			Medium dense, brown coarse SAND (Fill)		
60										1.5 Medium dense, dark brown, sandy SILT with gravel		
			2D		2.5-4.5	24/10	7-5-6-8					
	5		3D		4.5-6	18/8	6-7-5-7/0"					
55												
	10		4D		10-11.8	22/17	9-13-20-50:0.3/4"			10.0 Dense, light brown, silty SAND and gravel		
50										11.8 Weathered BEDROCK		
			1R		14-15	12/7	0			14.0 Blue-gray, fine grained, weakly to moderately metamorphosed slate/phyllite, slight foliation with quartz veins. Very intensely to moderately fractured. Fractures ranged from horizontal to 40 degrees to near vertical in highly weathered zones. RQD range from very poor to fair, increasing with depth.		
	15		2R		15-18	36/29	22					
45												
			3R		18-23	60/52	70					
	20											
40												

Bottom of Exploration at 23.0 feet
BEDROCK

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

BORING LOG

CLIENT: J.B. Brown & Sons
PROJECT: Proposed Mixed Use Residential-Commercial Building
LOCATION: 40 Free Street, Portland, ME

BORING NO.: B-108
SHEET: 1 of 1
PROJECT NO. 19-0139
DATE START: 3/20/2019
DATE FINISH: 3/20/2019

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 62' +/- | **TOTAL DEPTH (FT):** 9.0 | **LOGGED BY:** Justin DuBois
DRILLING CO.: New England Boring | **DRILLER:** Mike Matarozzo | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Truck Mounted Mobile B-47 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:**
HAMMER EFFICIENCY FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_2O Depth	Remarks
			1D		0.4-2.4	24/12	10-10-8-5			0.3 Asphalt Loose to medium dense, brown, medium to coarse SAND with gravel, trace of silt, brick fragments (Fill)		
60			2D		2.4-4.4	24/8	3-2-1-5					
	5		3D		5-7	24/20	11-8-15-13			5.0 Medium dense, yellow-brown becoming gray brown slightly mottled, silty SAND with gravel		
55									///	8.0 Weathered BEDROCK		

Refusal at 9.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING / WELL 19-0139.GPJ SWCE TEMPLATE.GDT 4/8/19

KEY TO NOTES & SYMBOLS
Test Boring and Test Pit Exploration Logs

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.

APPENDIX E

Laboratory Test Results

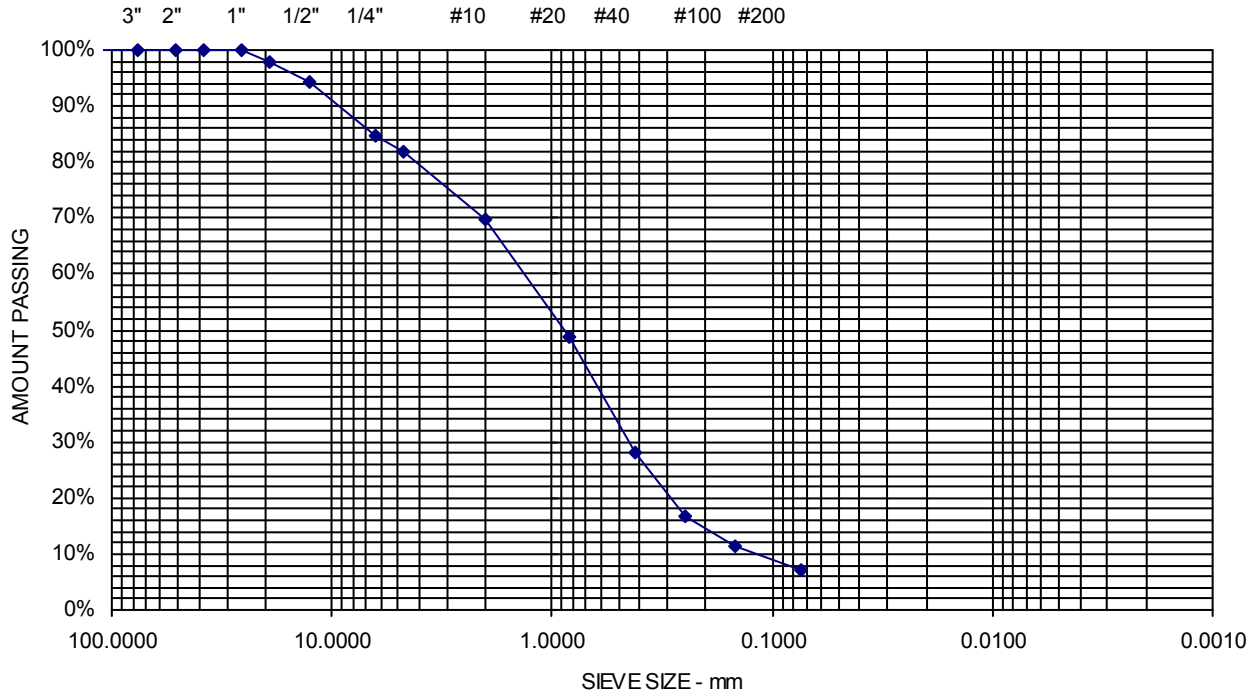
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	PORTLAND ME - PROPOSED APARTMENT BUILDING- 40 FREE STREET - GEOTECHNICAL SERVICES	Project Number	19-0139
Client	J.B. BROWN & SONS	Lab ID	24946G
		Date Received	3/27/2019
		Date Completed	3/28/2019
Material Source	**B-102 1D .5-2.5**	Tested By	PAUL SHAFFER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	**6"**	**100**	
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**100**	
38.1 mm	**1-1/2"**	**100**	
25.0 mm	**1"**	**100**	
19.0 mm	**3/4"**	**98**	
12.5 mm	**1/2"**	**94**	
6.3 mm	**1/4"**	**85**	
4.75 mm	**No. 4**	**82**	18.1% Gravel
2.00 mm	**No. 10**	**70**	
850 um	**No. 20**	**49**	
425 um	**No. 40**	**28**	74.6% Sand
250 um	**No. 60**	**17**	
150 um	**No. 100**	**11**	
75 um	**No. 200**	**7.3**	7.3% Fines



Comments:

Sheet

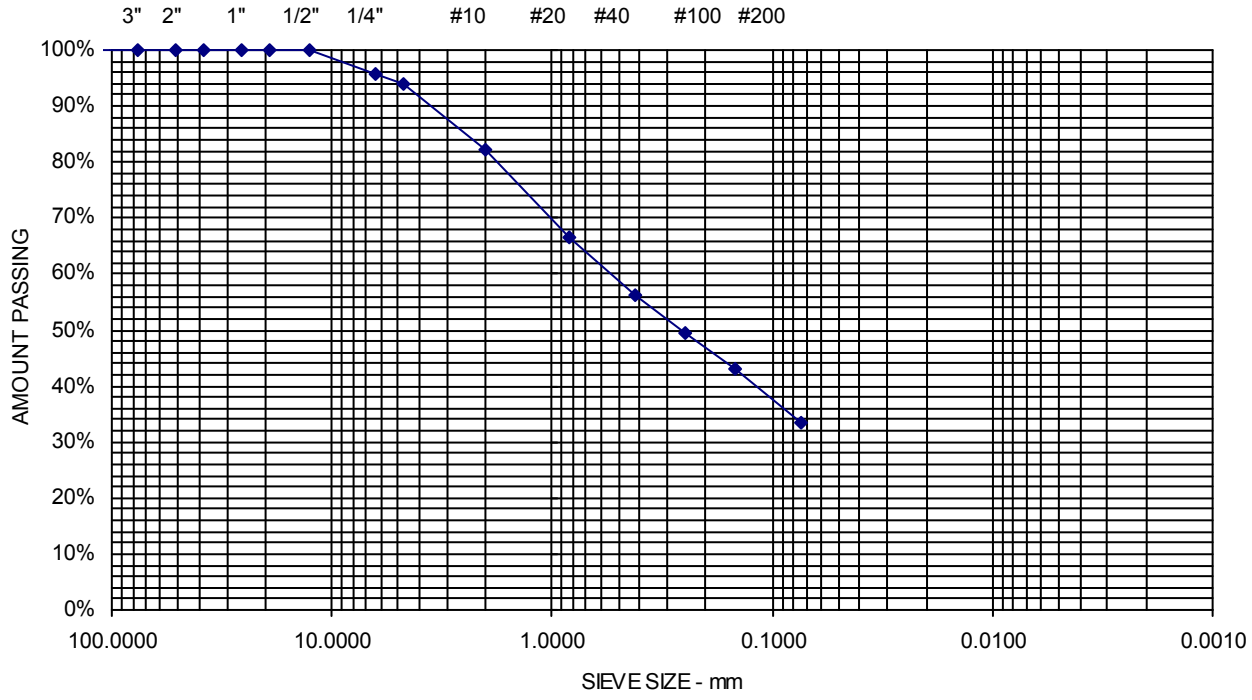
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	PORTLAND ME - PROPOSED APARTMENT BUILDING- 40 FREE STREET - GEOTECHNICAL SERVICES	Project Number	19-0139
Client	J.B. BROWN & SONS	Lab ID	24947G
		Date Received	3/27/2019
		Date Completed	3/28/2019
Material Source	**B-106 5DA 10-12**	Tested By	PAUL SHAFFER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	**6"**	**100**	
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**100**	
38.1 mm	**1-1/2"**	**100**	
25.0 mm	**1"**	**100**	
19.0 mm	**3/4"**	**100**	
12.5 mm	**1/2"**	**100**	
6.3 mm	**1/4"**	**96**	
4.75 mm	**No. 4**	**94**	6% Gravel
2.00 mm	**No. 10**	**82**	
850 um	**No. 20**	**67**	
425 um	**No. 40**	**56**	60.6% Sand
250 um	**No. 60**	**49**	
150 um	**No. 100**	**43**	
75 um	**No. 200**	**33.3**	33.3% Fines



Comments:

Sheet

ACORN ENGINEERING, INC.

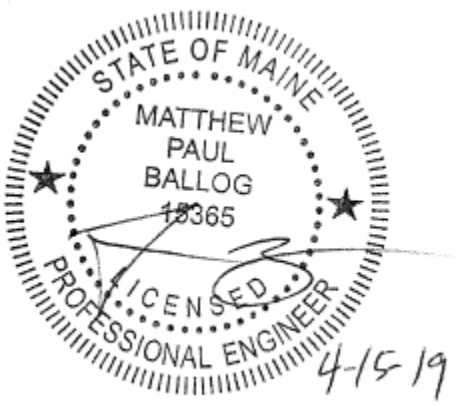
K. EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

40 Free Street LLC
10 Free Street
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
65 Hanover Street
Portland, Maine 04102



April 2019

INTRODUCTION

Acorn Engineering, Inc. has been retained by 40 Free Street LLC to provide civil engineering services for the proposed redevelopment of existing surface parking at 40 Free Street. The project proposes to construct a new, mixed-use six-story building with a basement level parking garage.

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 is located at 40 Free Street. A boundary plan has been prepared by Owen Haskell Inc. of Falmouth, Maine dated March 20, 2019.

The site resides within the B-3 Business, Pedestrian Activities District, Downtown Entertainment Overlay & Congress Street Historic District zones. Approximately 100% of the site is impervious in the form of pavement, brick or concrete.

1.1 Existing Soils

Onsite soil information has and will be gathered from the following resources:

- United States Department of Agriculture (USDA) Web Soil Survey (WSS)
- Explorations and Geotechnical Engineering Services Report, per City of Portland Technical Manual, Section 7, prepared by S.W. Cole Engineering, Inc to be submitted at a further date.

The area surrounding the project includes soil types listed in Table 1 below. The susceptibility of soils to erosion is indicated on a relative "Kf" scale of values over a range of 0.02 to 0.69. Higher "Kf" values indicate more erodible soils. The Kf value listed was derived from the Universal Soil Loss Equation. The Soil Type and associated depth was derived from the USDA WSS Hydrologic Soil Group report, as attached at the end of this report.

Table 1		
Soils Type	**Depth (feet)**	**Kf Value**
Hinckley loamy sand, 3 to 8% slopes	> 6.5	0.17

The "Kf" value for the soil, listed above, shows a low susceptibility to erosion; however, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance.

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 existing structures, the drainage system within Free Street, Center Street and Spring Street 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 five 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 sediment tracking 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 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 Cassidy Point Drive shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize tracking material offsite and onto 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 either water, calcium chloride, stone, or an approved MDEP product. Dust control measures 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 foundation drains 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 disturbance areas to locations 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. 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 no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving 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 steeper than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following actions 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 be 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 entrance 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 entrances, 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 that 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 installation of utilities.
6. Continue earthwork and grading to subgrade as necessary for construction.
7. Complete installation of drainage infrastructure, as well as other utility work.
8. Complete remaining earthwork operations.
9. Install sub-base and base gravels in paved areas.
10. Install paving, curbing and brickwork.
11. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
12. 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.
13. Touch up areas without a vigorous catch of grass with loam and seed.
14. Complete site signage and striping.
15. 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 a schedule of the completion of the work to the owner. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those 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 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 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. Summer seeding is allowed if completed prior to September 1st. If permanent seeding cannot be accomplished during the recommended periods, 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.

ACORN ENGINEERING, INC.

Chief Keith Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

April 15, 2019

Subject: 40 Free Street Site Review – Fire Department Checklist

On behalf of 40 Free Street, LLC the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

   40 Free, LLC
   10 Free Street
   Portland, Maine 04101

2. Name address, telephone number of architect

   Ryan Senatore Architecture
   565 Congress St., Suite 304
   Portland, Maine 04101
   (207) 747-5159

3. Proposed uses of any structures [NFPA and IBC classification]

   Please refer to the attached code review

4. Square footage of all structures [total and per story]

Basement Floor	9,522	sf
1st Floor	9,373	sf
2nd-4th Floor	10,161	sf
5th Floor	9,945	sf
6th Floor	8,450	sf
Total	**67,773**	**sf**

5. Elevation of all structures

   Based upon the average grade plane defined by the IBC, the proposed building height is just under 72' 8-1/2". This height is below the allowable

150' feet within the B-3 zone. Please refer to the building 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 designer which will be performed prior the request for a building permit.

7. Hydrant locations

   An existing hydrant is located in the sidewalk directly in front of the proposed building at 40 Free Street. A second existing hydrant is at the corner of Free Street and Center Street. The hydrant is located approximately 5 ft. from the nearest building edge. Please refer to the Existing Conditions Plan for the exact location of these hydrants. 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 redevelopment will be serviced by a new 6" sprinkler line and domestic water main Free Hammond Street. A 4" or 6" fire service line will extend from the domestic 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]

   Access to the structure is provided on Free Street and in the back of the building facing the existing parking lot.

10. A code summary shall be included referencing NFPA 1 and all fire department technical standards.

    Please refer to the attached code summary from Fire Risk Management.

Please let me know if you have any additional questions or comments.

Sincerely,

Matthew Ballog P.E.
Project Manager
Acorn Engineering, Inc.

Code Review

Mar 8, 2019

Mixed Use Building - 40 Free Street, Portland, Maine

	IBC 2015		NFPA 101 2009	
6 floors above grade	502.1			
Sprinklers		NFPA 13		NFPA 13
Fire Alarm		Monitored Fire Alarm Required		Monitored Fire Alarm Required
Smoke and CO Detectors		Smoke and CO detectors required		Smoke and CO detectors required
Occupant Load	T 1004.1.1		7.3.1.2	
		Basement = 9,522 sf S2 parking Garage (200 gsf/oc) = 48		Basement = 9,522 sf S2 park Gar (200 gsf/oc) = 48
		Floor 1= 1,809 sf Residential (200 gsf/oc) = 9		Floor 1= 1,809 sf Residential (200 gsf/oc) = 9
		Floor 1 = 7,564 sf Retail (30 gsf/oc) = 253		Floor 1 = 7,564 sf Retail (30 gsf/oc) = 253
		Floor 2 = 10,161 sf Residential (200 gsf/oc) = 51		Floor 2 = 10,161 sf Residential (200 gsf/oc) = 51
		Floor 3 = 10,161 sf Residential (200 gsf/oc) = 51		Floor 3 = 10,161 sf Residential (200 gsf/oc) = 51
		Floor 4 = 10,161 sf Residential (200 gsf/oc) = 51		Floor 4 = 10,161 sf Residential (200 gsf/oc) = 51
		Floor 5 = 9,945 sf Residential (200 gsf/oc) = 50		Floor 5 = 9,945 sf Residential (200 gsf/oc) = 50
		Floor 6 = 8,450 sf Residential (200 gsf/oc) = 43		Floor 6 = 8,450 sf Residential (200 gsf/oc) = 43
		Total Building Occupant Load = 556		**Total Building Occupant Load = 556**
Use Group(s)				
	310.1	Apartments (R2)	30.1	Apartment Building
		S2 - Parking		Assembly Under 300 Occupants
		M - Retail		Storage -Ordinary Hazard - Parking Garage
		A2 - Bar		
Podium Building	510.2	Type 1A below 3hr separation Type 2B above		
		Max Building height from grade plane for 2B type (75')		

Constr. Type B and 1	T 503	1A - non-combustible protected		I (332) non-combustible protected
Constr. Type 2,3,4,5,6	T 503	2B - non-combustible unprotected		II (000) non-combustible unprotected
Building Height	T 504.3	Sprinkler NFPA13 = 75’ max. For R, M, A, S uses		
403.1		Building is NOT a High-Rise as the highest occupied floor is NOT		
		More than 75’ above the lowest level of Fire Department Access		
Number of Stories	T 504.4	R2 = 5 Stories with sprinkler above podium		
		A2 = 3 Stories with sprinkler		
		M = 2 Stories with sprinkler		
		S2 = 4 Stories with sprinkler		
Building Area	T 506.2	Sprinkler 13 = 28,500 sf max per floor (A2 is most restrictive)		
Building Elements 1A	T 601	3 hr Structural Frame	30.1.6	Apartments -No Minimum Construction requirements
	T 602	3 hr Bearing Walls Exterior (sep. dist >= 10’)	42.1.6	Storage - No Min requirements
	T 602	3 hr Bearing Walls Exterior (sep. dist <10’)	37.1.6	Storage - No Min requirements
	T 601	3 hr Bearing Walls Interior		
	T 601	0 hr Non-Bearing Walls Interior		
	T 602	1 hr Non-Bearing Walls Exterior (sep. dist >= 10’)		
	T 602	1 hr Non-Bearing Walls Exterior (sep. dist <10’)		
	705.5	Exterior Wall with >10’ sep. needs rating only from inside		
	T 601	2 hr Floor Construction		
	T 601	1-1/2 hr Roof Construction		
Building Elements 2B	T 601	0 hr Structural Frame		
	T 602	0 hr Bearing Walls Exterior (sep. dist >= 10’)		
	T 602	1 hr Bearing Walls Exterior (sep. dist <10’)		
	T 601	0 hr Bearing Walls Interior		
	T 601	0 hr Non-Bearing Walls Interior		
	T 602	0 hr Non-Bearing Walls Exterior (sep. dist >= 10’)		
	T 602	1 hr Non-Bearing Walls Exterior (sep. dist <10’)		
	705.5	Exterior Wall with >10’ sep. needs rating only from inside		

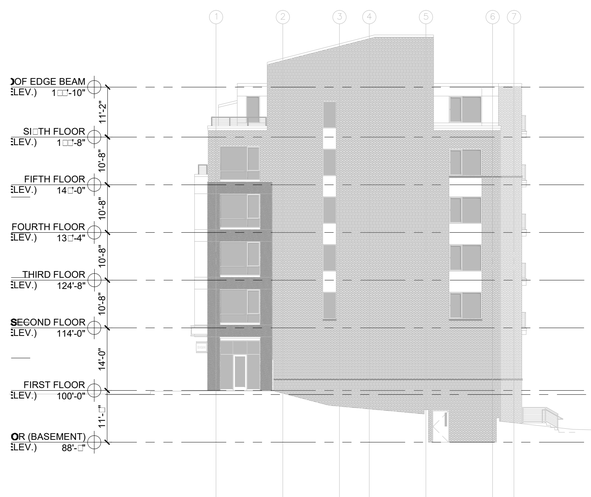
	T 601	1 hr Floor Construction (1hr between units)		
	T 601	0 hr Roof Construction		
Separations				
		A2 and R2 sprinkled = 1hr	T6.1.14.4.1	Assembly and Apartments with Sprinkler = 1 hr
		S2 and R2 sprinkled = 1 hr		Mercantile and Apartments with Sprinkler = 1hr
		A2 and S2 sprinkled = 0 hr		Assembly and Mercantile with Sprinkler = 1 hr
		A2 and M sprinkled = 1 hr		Mercantile and Storage Ordinary with Sprinkler = 1hr
		M and S2 sprinkled = 1 hr		
	708	2 hr Mechanical Shaft > 4 stories		
	1022.1	2 hr Stair Shaft > 4 stories		
	709.1	1 hr Between Dwelling Units	30.3.7.2	1/2 hr vertical and horizontal sep. between dwellings
	1018.1	1/2 hr Corridor	30.2.4.4.7	1 hr corridor
	508.2.5	1 hr Boiler Room	T 31.3.2.1.1	0 hr Boiler Room w/sprinklers
	508.2.5	1 hr Trash Room	T 31.3.2.1.1	0 hr Trash Room w/sprinklers
	508.2.5	1 hr Storage Room	T 31.3.2.1.1	1 hr Storage Room w/sprinklers
	508.2.5	1 hr Laundry Room	T 31.3.2.1.1	0 hr Laundry Room w/sprinklers
	715.4	90 minute Stairwell Doors (2hr shaft)		
	715.4	20 minute Apartment Entry Doors (1/2 hr corridor wall)	30.3.6.2.1	20 minute Apartment Entry Doors
Distances and Exits				
	1017.2	250’ Travel Distance to exits with Sprinklers	30.2.6.2.3	200’ Travel distance from apt. door to exit
	1006.2.1	125’ Common Path of Travel for R use (75’ for M and A)	30.2.5.3.2	50’ Common Path of Travel
	1020.4	50‘ Dead End (20’ in A use)	30.2.5.4	50‘ Dead End
			30.2.6.1.2	125’ Travel Distance within Dwelling to Corridor
	403.6.2	Elevator as Means of Egress - required as building is over 4 stories		
		Generator required as Elevator is a MOE		
		Elevator Lobbies Required		
		Exterior Walls to meet NFPA 285 Fire Test		

Unprotected Openings	T 705.8	15% when exterior wall sep. dist. is 3'>5'		
	T 705.8	25% when exterior wall sep. dist. is 5'>10'		
	T 705.8	45% when exterior wall sep. dist. is 10'>15'		
	T 705.8	75% when exterior wall sep. dist. is 15'>20'		
	T 705.8	Unlimited when exterior wall sep. dist. is 25'>30'		
	T 705.8	Unlimited when exterior wall sep. dist. is >30'		
Parapets	705.11 (ex 6)	Parapets are NOT required when the wall is allowed 25% or more		
		Unprotected openings		
Egress Windows	1030.1	NOT Required at the building has two means of egress		
Egress Stairs	1009.1	Occ. Load >50 = 44" min width		
	1003.3	Handrails can protrude into stair 4.5" max	7.2.2.2.1.2	Handrails can protrude into stair 4.5" max
	1005.2	Door Swings may not reduce egress width by > 1/2		
	1009.2	80" min headroom	7.2.2.2.1.1(b)	6'-8" min. headroom
	1009.3	7" max. riser	7.2.2.2.1.1(b)	8" max. riser
	1009.3	11" min Tread depth	7.2.2.2.1.1(b)	9" min. tread
	1009.6	12' max. total rise between floors or landings	7.2.2.2.1.1(b)	12' max. height between landings
Ramps	1010.2	1:12 (8%) Max slope	7.2.5.2(a)	1:8 max. slope
	1010.6	60" long landings at top and bottom		
	1010.6	2% max slope of landings	7.2.5.2(a)	1:48 max. cross slope
	1010.8	>6" rise must have handrails on both sides of ramp		
Egress Corridors	1018.2	44" min. when Occ. > 50		
	1018.2	24" min. at service corridors to mechanical equipment		
Sound	1207.2	STC > 50 at walls and floors/ceilings		
	1207.3	IIC > 50 at walls and floors/ceilings		
Energy IECC 2009	T 402.1.1	0.35 Fenestration U-Factor		
Zone 6		R-49 Ceiling		

	Residential			R-20 or 13+5c Framed wall			
				R-30 Floor			
				R-19 or 15c Basement wall			
				R-10 to 4ft Slab			
	Accessibility		IBC 2015 Chapter 11 - 2% of units to be ANSI TYPE-A, rest are TYPE-B				
			Fair Housing Act Applies				
			Maine Human Rights Act Applies				
			ADAAG applies to Public Spaces				
	Plumbing						

4 CODE REVIEW NORTH ELEVATION
1/1□" = 1'-0"

2 CODE REVIEW EAST ELEVATION
1/1□" = 1'-0"



3 CODE REVIEW WEST ELEVATION
1/1□" = 1'-0"

1 CODE REVIEW SOUTH ELEVATION
1/1□" = 1'-0"

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MI□ED USE BUILDING

40 FREE STREET
PORTLAND, MAINE

RSA
RYAN SENATORE
ARCHITECTURE
□00 CONGRESS STREET □2
PORTLAND, MAINE 04101
20□-□4-□19
□□N□□□□ON□□□-□□

CONSULTANTS:
STRUCTURAL:
Structural Integrity
4□F□□□A□N□□
P□□□nd, ME 04101
20□-□4-4□4

REVISIONS:
PROGRESS PRINT ONLY
Not for Construction
03 / 11 / 19

DATE:

PROJECT N□:	1884
DRAWN BY:	RRT, RJS
CHECKED BY:	RJS
SCALE:	AS NOTED

SHEET TITLE:
CODE REVIEW ELEVATIONS

G1-3

M. Calculation of Wastewater Flowrate for 40 Free Street Development

The proposed project will include the development of 6 stories with 51 residential units, 5 retail units and on-site parking. Based upon the Section 4 of the Maine Subsurface Wastewater Disposal Rules, the project anticipates the following daily flows:

Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Proposed flow				
Store	Per Toilet	5	325	1,625
Store	Per Employee	10	12	120
Residential Units	1 Bedroom	37	120	4,440
Residential Units	2 – Bedroom	14	180	2,520
Net Change				8,705

*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
55 Portland Street,
Portland, Maine 04101-2991

Date: 5-14-19

Bradley Roland, P.E.
Water Resources Division
Department of Public Works
55 Portland Street
Portland, ME 04103

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 40/46 Free Street, Portland, 04101

Chart Block Lot Number: 38-A-14

Proposed Use: Mixed-Use (retail and residential)
Previous Use: Surface Parking
Existing Sanitary Flows: 0 GPD
Existing Process Flows: 0 GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
15" combined sewer main in Free Street, near road centerline.

Site Category		
	Commercial *(see part 4 below)*	X
	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: Andrew Tufts Phone: 207-874-8724
Owner/Developer Name: 40 Free LLC
Owner/Developer Address: 10 Free St, Portland ME 04101
Phone: 207-774-5908 Fax: E-mail: Veroneau@jbbrown.com
Engineering Consultant Name: Acorn Engineering, Inc.; Attn: Will Savage, PE
Engineering Consultant Address: 65 Hanover St, Portland ME 04101
Phone: 207-775-2655 Fax: 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: 8705 GPD
Peaking Factor/ Peak Times:
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 Main: Subsurface Waste Disposal Rules, most recent edition

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: NA

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: 0 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: _____

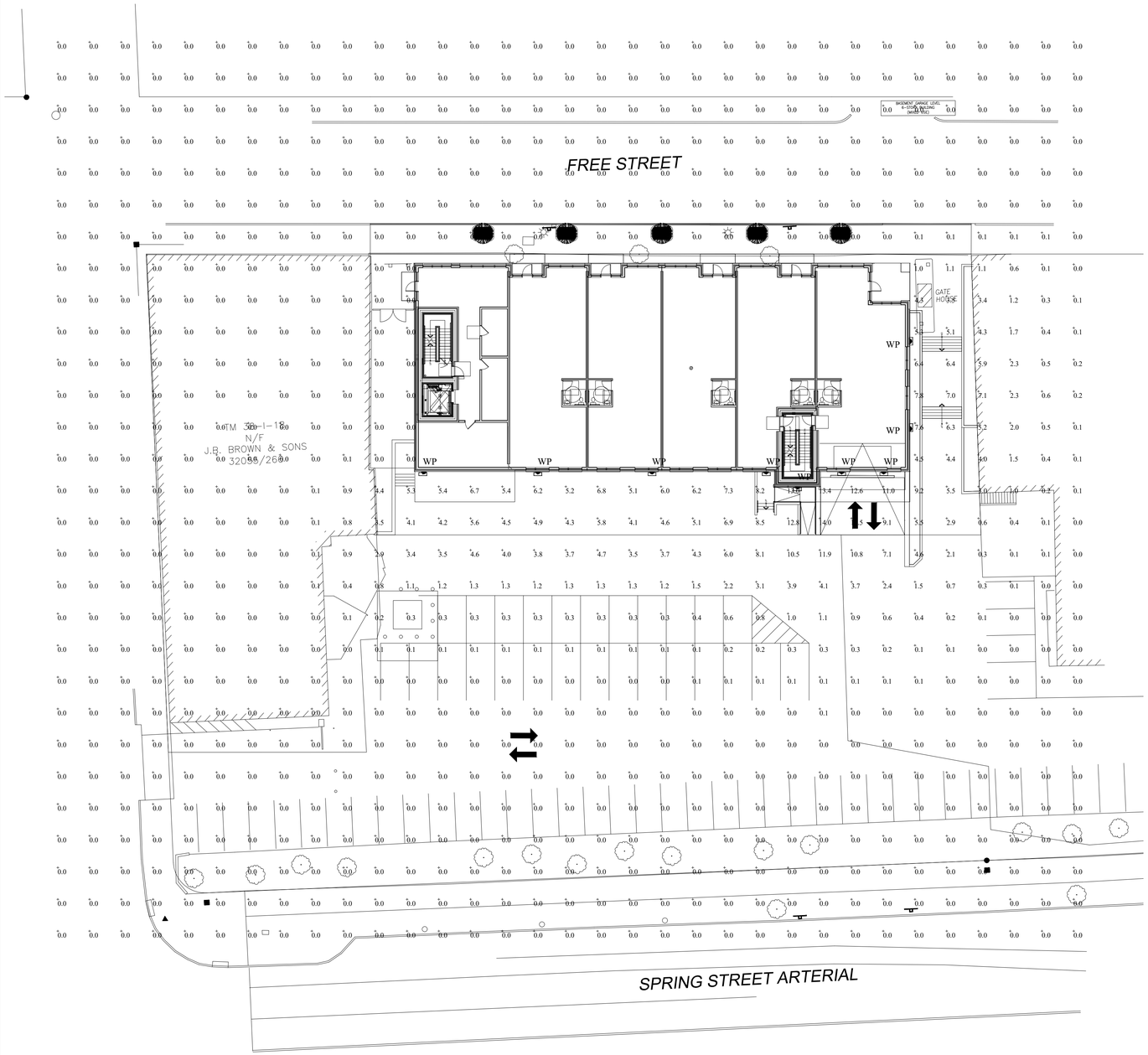
Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the 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.

ACORN ENGINEERING, INC.

N. Lighting

Please find attached the photometric plan and cut sheets.



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	9	WP	12' - 0" AFG	0.900	6948	67	QSP2-32L-70-3K7-4

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.64	14.0	0.0	N.A.	N.A.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 - FT.

1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO HUBBELL LIGHTING. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

40 FREE STREET
PORTLAND, ME
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):

HUBBELL®
Hubbell Lighting, Inc.
701 MILLENNIUM BLVD.
GREENVILLE, SC 29607

DN BY:	DATE:	CHK BY:
DHK	04/09/19	N/A
REV. BY:	DATE:	SCALE:
		AS NOTED
QUOTE:	DRAWING / DESIGN NO.:	
N/A	1923928	

GEOPAK SERIES SIZE 2 LED

Architectural Wallpack

TRP2/RDI2/QSP2

NEW

Cat.#

Job: 40 Free Street

Type

HUBBELL Outdoor Lighting

Approvals

SPECIFICATIONS

Applications:
Medium sized architectural wallpacks in three stylish shapes accentuate building architecture and provide excellent illumination and uniformity

Construction:
- Die-cast aluminum housing and door
- Seven powder coat standard finishes, plus custom color options

LED:
- 24 or 32 high power LEDs deliver up to 10,800 lumens
- Up to 146 Lumens per watt
- Different lenses offer a variety of distribution patterns - Type I, II, III and IV (Forward throw)
- 3000K - 70 CRI, 4000K - 70 CRI, and 5000K - 70 CRI, CCT nominal

Electrical:
- Optional Dual Drivers & Dual Power Feeds for 50, 70 and 90 watt versions
- 120-277, 347 and 480 voltage, 50/60Hz
- Power factor ≥ 90%
- THD (Total Harmonic Distortion) <20%
- Ambient operating temperature -40°C to 40°C
- 20kA surge protection (series); Automatically takes fixture off-line when device is consumed

Installation/Mounting:
- Quick-mount adapter with gasket seal provides easy installation to wall or to recessed junction box (4" square junction box). Fixture attaches by two Allen-head hidden fasteners for tamper resistance.
- Black box accessory available for surface conduit application
- Optional inverted/up mounting (must specify when ordering)

Options/Controls:
- Drivers are 0-10V dimming standard
- Universal button photocontrol for dusk to dawn energy savings
- Photocell and occupancy sensor options available for complete on/off and dimming control
- Occupancy sensor options available for complete on/off and dimming control
- In addition, GeoPak Size 2 can be specified with SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit www. hubbell-lighting.com/sitesync for more details

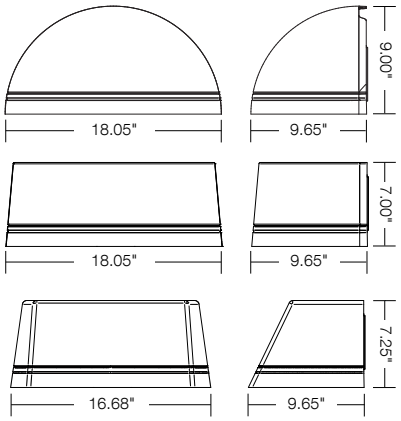
Listings:
- IP65 rated housing
- DesignLights Consortium® (DLC) qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- Zero uplight (U0), dark sky, neighbor friendly
- Drivers IP66 and RoHS compliant

Battery Backup:
- Intergral Battery Backup provides emergency lighting for the required 90 minute path of egress.
- Includes a long-life Lithium Iron Phosphate battery with optional battery heater for cold temperature application.
- Utilizes 4 LEDs in emergency mode with 657 lumens. Each of the 4 LEDs in emergency are designed to function independently in the unlikely event of a single LED malfunction
- Spectron® self-testing/self-diagnostic electronics are included standard
- Independent dedicated driver and LED array for battery/emergency mode operation.

Warranty:
For more information visit:
http://www.hubbelloutdoor.com/resources warranty/

PRODUCT IMAGE(S)

DIMENSIONS



QSP2
Weight:
15 lbs (6.8 kg)

RDI2
Weight:
16 lbs (7.3 kg)

TRP2
Weight:
16 lbs (7.3 kg)

SHIPPING INFORMATION

Catalog Number	G.W(kg)/ CTN	Carton Dimensions		
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)
QSP2	17 (7.7)	20.5 (52)	10.5 (26)	11 (28)
RDI2	18 (8.2)	20.5 (52)	9.5 (24)	12 (30)
TRP2	16 (7.3)	18.5 (47)	9.5 (24)	11.5 (29)

CERTIFICATIONS/LISTINGS

c UL us

DLC QPL LISTED

ida

*3000K and warmer CCTs only

ORDERING INFORMATION

ORDERING EXAMPLE: TRP2-24L30-3K7-2-UNV-DB

[ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

FAMILY	LEDS - WATTAGE	CCT	DISTRIBUTION	VOLTAGE
TRP2 Trapezoid	24L-30 24 LEDs, 30 watts	3K7 3000K, 70CRI	1 Type I	UNV 120-277V
RDI2 Radius	24L-50 24 LEDs, 50 watts	4K7 4000K, 70CRI	2 Type II	120 120V
QSP2 Qtr-sphere	24L-70 24 LEDs, 70 watts	5K7 5000K, 70CRI	3 Type III	208 208V
	24L-90 24 LEDs, 90 watts		4 Type IV	240 240V
	32L-70 32 LEDs, 70 watts			277 277V
	32L-90 32 LEDs, 90 watts			UHV[1] 347/480V
				347[1] 347V
				480[1] 480V

FINISH	CONTROL OPTIONS	OPTIONS
BL Black Textured	PC Button Photocontrol	SF[3] Single Fuse & Fuse Holder
DB Dark Bronze Textured	SCP[4,5] Programmable occupancy sensor, factory default is 10% light output	DF[3] Double Fuse & Fuse Holder
GT Graphite Textured	SCO[4] Sensor Control, On/Off	E[3] Battery Pack (0ºC)
GYS Light Gray Smooth	SWP[3,7] SiteSync Pre-Commission	EH[3] Battery Pack (-30ºC) with heater
PS Platinum Silver Smooth	SWPM[3,4,7,8] SiteSync Pre-commission w/Occupancy Sensor	2DR[6] Dual Drivers
WH White Textured	**SPEC SCP/SCO & SWPM MOUNT HEIGHT**	2PF[6] Dual Power Feeds
CC Custom Color	-8F Up to 8ft mount height	CS Comfort Shield
	-20F Up to 20ft mount height	

SECONDARY MOUNTING

BLANK Downlight Only

NV[2] Inverted/Up Mounting

[1] 70 & 90 watt versions only
[2] Not available with SCP, SCO or SWPM sensor options
[3] Must specify voltage (120, 277 or 347V only for SWP & SWP, 120 or 277V only for E & EH)
[4] PCU option not applicable, included in sensor
[5] Must order minimum of one remote control to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings
[6] Not available with 30w version
[7] Not available with E/EH options. Must specify group and zone information at time or order. See www.HubbellLighting.com/products/sitesync for future details
[8] Specify time delay; dimming level and mounting height

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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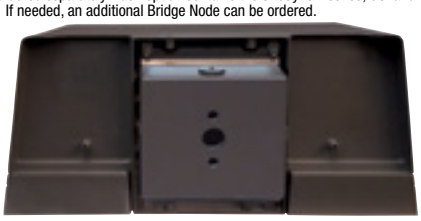
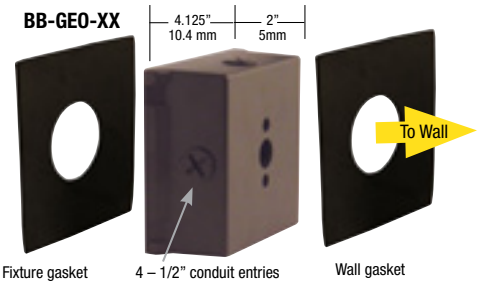
ACCESSORIES (ORDER SEPARATELY)

Catalog Number	Description
SCP-REMOTE*	Remote control for SCP option. Order at least one per project to program and control dimming settings
BB-GEO-XX	Black box with 4 - 1/2" threaded conduit holes, specify finish by replacing "XX" with finish selection, eg. Dark Bronze "DB"
SWUSB**	SiteSync loaded on USB flash drive (Windows based only)
SWTAB**	SiteSync Windows Tablet
SWBRG+	SiteSync Wireless Bridge Node

* Must order minimum of one remote control to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings.
** When ordering with SiteSync, one of the following interface options must be chosen an ordered separately. Each option contains the SiteSync License, GUI and Bridge Node.
\+ If needed, an additional Bridge Node can be ordered.



BB-GEO-XX – Mounted to luminaire



INPUT POWER CONSUMPTION

# OF LEDS	DRIVE CURRENT (mA)	INPUT VOLTAGE (V)	CURRENT (Amps)	SYSTEM POWER (w)
24	350mA	120	0.23	28
		277	0.10	28
	625mA	120	0.41	49
		277	0.18	49
	900mA	120	0.59	71
		277	0.25	71
		347	0.20	71
		480	0.15	71
	1100mA	120	0.72	87
		277	0.31	87
		347	0.25	87
		480	0.18	87
32	650mA	120	0.56	67
		277	0.24	67
		347	0.19	67
		480	0.14	67
	850mA	120	0.69	83
		277	0.30	83
		347	0.24	83
		480	0.17	83

PERFORMANCE DATA

				5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 70 CRI)				
# OF LEDS	DRIVE CURRENT	SYSTEM WATTS	DIST. TYPE	LUMENS	LPW[1]	B	U	G	LUMENS	LPW[1]	B	U	G	LUMENS	LPW[1]	B	U	G
24	350mA	28	1	4,075	146	1	0	0	4,065	146	1	0	0	3,660	131	0	0	0
			2	3,747	134	1	0	1	3,738	134	1	0	1	3,366	121	1	0	1
			3	3,756	135	1	0	1	3,747	134	1	0	1	3,374	121	1	0	1
			4	3,656	131	0	0	1	3,647	131	0	0	1	3,284	118	0	0	1
	625mA	49	1	6,329	130	1	0	0	6,313	130	1	0	0	5,685	117	1	0	0
			2	5,820	120	1	0	1	5,806	119	1	0	1	5,228	108	1	0	1
			3	5,833	120	1	0	2	5,819	120	1	0	2	5,240	108	1	0	2
			4	5,678	117	1	0	2	5,664	117	1	0	2	5,100	105	1	0	2
	900mA	71	1	8,613	122	1	0	1	8,592	122	1	0	1	7,737	110	1	0	1
			2	7,921	112	1	0	2	7,902	112	1	0	2	7,115	101	1	0	2
			3	7,939	112	1	0	2	7,920	112	1	0	2	7,131	101	1	0	2
			4	7,728	109	1	0	2	7,709	109	1	0	2	6,942	98	1	0	2
	1100mA	87	1	10,791	124	1	0	1	10,765	124	1	0	1	9,694	112	1	0	1
			2	9,924	114	2	0	2	9,900	114	1	0	2	8,915	103	1	0	2
			3	9,946	115	1	0	2	9,922	114	1	0	2	8,935	103	1	0	2
			4	9,682	112	1	0	2	9,659	111	1	0	2	8,696	100	1	0	2
32	650mA	67	1	8,621	129	1	0	1	8,600	128	1	0	1	7,744	116	1	0	1
			2	7,928	118	1	0	2	7,909	118	1	0	2	7,122	106	1	0	2
			3	7,946	119	1	0	2	7,927	118	1	0	2	7,137	107	1	0	2
			4	7,735	115	1	0	2	7,716	115	1	0	2	6,948	104	1	0	2
	850mA	83	1	10,806	130	1	0	1	10,780	130	1	0	1	9,705	117	1	0	1
			2	9,938	120	2	0	2	9,914	119	1	0	2	8,927	108	1	0	2
			3	9,960	120	1	0	2	9,936	120	1	0	2	8,947	108	1	0	2
			4	9,695	117	1	0	2	9,672	117	1	0	2	8,709	105	1	0	2

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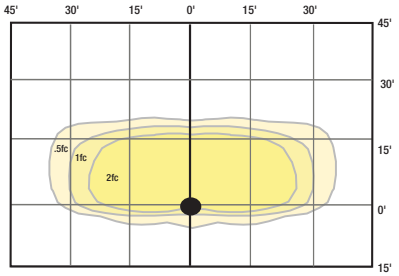
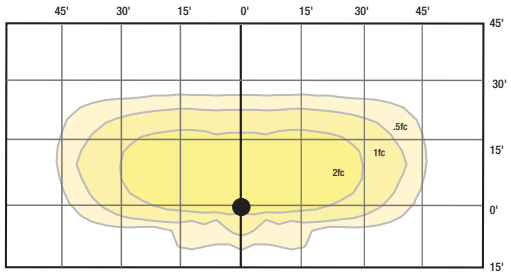
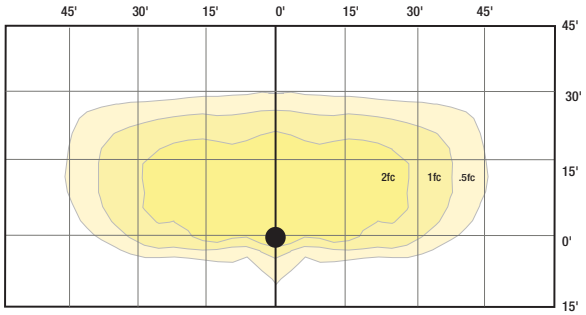
PHOTOMETRIC REPORTS



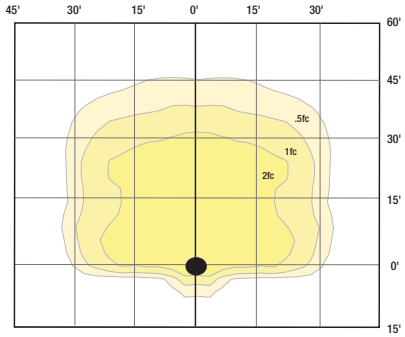
TRP2-24L-50-4K7-1
15" MOUNTING HEIGHT



TRP2-24L-50-4K7-2
15" MOUNTING HEIGHT

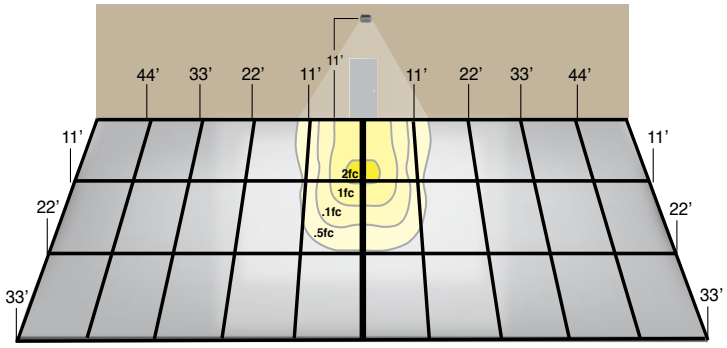


TRP2-24L-50-4K7-3
15" MOUNTING HEIGHT



TRP2-24L-50-4K7-4
15" MOUNTING HEIGHT

PHOTOMETRICS - BATTERY BACK UP



11' Mounting Height

Provides Life Safety Code average illuminance of 1.0 fc. Assumes open space with no obstructions and mounting height of 11'.

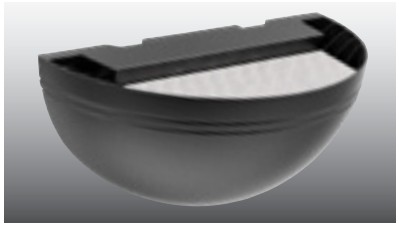
Diagrams for illustration purposes only, please consult factory for application layout.

Battery backup units consume 6 watts when charging a dead battery and 2 watts during maintenance charging.
EH (units with a heater) consume up to an additional 8 watts when charging if the battery temp is lower than 10°C

E & EH EMERGENCY BATTERY BACKUP

24 or 32 high power LEDs generate up to 11,000 lumens in normal mode and use 4 LEDs for up to 700 lumens in emergency mode.

INVERTED MOUNTING



Inverted mounting capabilities for uplighting applications. Specially designed frosted acrylic diffuser softens output, improves uniformity and prevents water from collecting.

COMFORT SHIELD

Comfort shield option utilizes a frosted acrylic lens that softens output and improves uniformity. Available from the factory or as an accessory for field installation.

CONTROL OPTIONS

Programmable occupancy sensor offers greater control and energy savings with adjustable delay and dimming levels (Factory default is 10%)

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RYAN SENATORE **ARCHITECTURE**

April 1, 2019

Deb Andrews
Historic Preservation Program Manager
389 Congress Street
4th Floor
Portland, ME 04101

Re: 40 Free Street Mixed Use

Deb,

Please see the attached submission for the Historic Board Review for the proposed mixed use project to be located at 40 Free Street in Portland. The existing site is a surface parking lot between existing masonry buildings on Free Street, with a large surface lot behind the proposed structure. The building is 6 stories above Free Street with a daylight basement covered parking level accessed from the existing parking lots to the Southeast of the building. 40 Free Street has five retail suites on the Free Street level each with their on entry, as well as a common entry and associated elements for the 51 apartments above. Levels two through six are residential apartments, varying from 11 to 7 units per floor.

The buildings massing responds to the existing neighborhood context by recessing and projecting elements to scale the facade. The buildings's 6th floor is stepped back to break the street wall height down to a more compatible scale with the surrounding structures, as well as providing exterior decks for those units. The facade is broken horizontally as well, this is achieved through the use of recessed entries to the retail suites and projecting bays above them. This establishes an ordered rhythm along Free Street with visual interest and a varied shadow lines. The facade materials utilized again scale the facade and relate it to the existing site context. The dominant facade material is brick found extensively in the neighborhood context. The building has a base of granite panels that relate to historic first floor retail building materials in the surrounding context. The granite is pulled upward at the building corners to anchor the building and relate to the adjacent four story granite facade at 22 Free Street. The projecting

207-650-6414

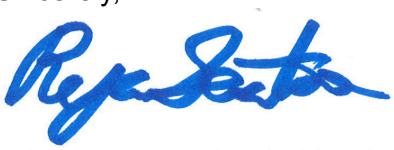
senatorearchitecture.com

ryan@senatorearchitecture.com

bays along Free Street are clad with a flat metal panel dark in color to contrast the masonry's color and texture, as well as provide a visually lighter material to scale the facade and announce the retail entries below.

We are very excited to present this significant urban infill project to the City and strengthen the Free Street, streetscape. We look forward to presenting the project at the upcoming Historic Review Board meeting.

Sincerely,



Ryan Senatore, AIA LEED-AP

Principal

207-650-6414

senatorearchitecture.com

ryan@senatorearchitecture.com

P. Utilities

The proposed project will include installation of multiple utility services to the new building.

Water:

A new 6" sprinkler connection and 4" domestic connection will tie into the main on Free Street and will extend to the building. The existing 6" main that bisects the site will be retired in accordance with Portland Water District Standards.

Sewer:

A new 6" pvc lateral will be installed to accept the wastewater from each unit, the elevator sump, and the garage sewer after draining from the oil-water separator. The garage and elevator sump will be pumped internally to meet with the wastewater lines from the living levels before being fed via gravity to the sewer main within Free Street.

Stormwater:

The existing storm drain line that bisects the property will be partially retired in accordance with the Department of Public Works. It is proposed to intercept the entirety of the roof runoff and discharge it to the Free St sewer. Runoff from the surface parking lot will be collected via catch basin and discharged to the Spring Street Sewer. Please see the Stormwater Management Report for more information.

UGE/T/C:

New underground services are proposed from Center Street and from Free Street.

Gas:

There is currently no natural gas servicing the property. It is proposed to install a gas service off of the new gas main within Free Street as seen on the Utility Plan, Sheet C-20. This gas main is proposed by Unitil to be constructed in Summer 2019. If unavailable, connection will be made via Center Street.

Ability to serve letters have been sent out to the respective utility companies on March 15th, 2019 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.

A C O R N
ENGINEERING, INC.

Central Maine Power Company
Attn: Mr. Paul DuPerre
162 Canco Road
Portland, Maine 04103

March 15, 2019

Subject: 40 Free Street Development
Re: Ability to Serve

Mr. DuPerre:

On behalf of 40 Free LLC, we are pleased to submit the following request for Central Maine Power's ability to serve the proposed development. 40 Free Street is a six-story mixed-use development with street level commercial space, lower level parking, and 47 apartment units on the upper floors.

The proposed redevelopment project is located at 40 Free Street (Chart, Block, Lot 38-A-14-15-16 I-1-2-3-4-5) within the B-3 and DEOZ zoning districts in Portland, Maine, bordered by Center Street and Spring Street. There is an existing parking lot located within the project location which is to be partially impacted to create the structure for the proposed project.

The developer plans to serve the proposed building with a 3-phase electric service. On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping confirming single and three-phase power locations within Free Street, Center Street, Cross Street and Spring Street.
2. Any easements for underground services currently crossing the proposed development.
3. Alternative connection locations from the development to the existing system.
4. CMP's proposed infrastructure improvements within the project vicinity.
5. CMP's ability to serve the project.
6. Any input on the proposed location of the transformer and offsets, including offsets from adjacent buildings and windows, as well as transformer and pad sizes. If required, other options such as in-ground mounting within the sidewalk location may be explored.
7. Whether CMP allows for secondary distribution line to be run within the basement of the facility, up support columns, and/or within ceiling conduit.
8. Access requirements to the CMP meters.
9. Metering options to reduce the necessary wall space.

I have attached a boundary survey and a preliminary site plan to facilitate your review. The project is anticipated to be three-phase. Electrical loading computations and final metering will be performed by the electrical engineer, at a later date. Please let me know if you have any further questions.

Sincerely,

Matthew Ballog, P.E.
Project Manager
Acorn Engineering, Inc.

Cc: Jarrod Googins – Acorn Engineering Inc.

Matthew Ballog

From: Cough, Jamie <Jamie.Cough@cmpco.com>
Sent: Tuesday, March 19, 2019 2:27 PM
To: Matthew Ballog
Cc: Duperre, Paul
Subject: CMP Three Phase Ability to Serve Request and Three Phase Service Process for Proposed 40 Free Street Development Project
Attachments: Easement_Information_Worksheet.doc; Standard Easement Sample.pdf; 2July 2018 EDET.XLSX

3/19/2019

Matthew Ballog, PE
Project Manager
Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104

Sent via email to: mballog@acorn-engineering.com

RE: **Proposed 40 Free Street Development Project**
Request for Ability to Serve Letter

Project Description:

The proposed development includes a six-story mixed-use development with street level commercial space, lower level parking, and 47 apartment units on the upper floors.

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 Handbook of Standard Requirements. If you have any questions on the process, or need help in completion of the documents, **please contact me at 207-629-1489.**

Here is our typical process for getting your three phase or CT rated single phase service installed. If you have any questions, please let me know. The underlined links will redirect you to the appropriate site for additional information.

Service Milestones for Three Phase Services and CT Rated Single Phase Services. Please refer to CMP Installation Checklists for other installations.

- 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 the attached EDET (excel file) using load information. . Please complete this and email back to me.
- Submit the easement information worksheet. Please complete this form and either email or fax back to me.
- 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. The invoice is typically generated 5-6 weeks after the design appointment. This expires after 90 days from the invoice date.
- CMP submits invoice to the customer for payment (typically via email). Payment received from customer.
- Easements (based on easement information worksheet) sent out, signed and originals returned to CMP.
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer or materials 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 (the 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

You will be responsible for installing the customer connections, conduits, and metering in accordance with the CMP Handbook of Standard Requirements. The transformer will be sized based on your submitted load sheets.

Your deposit amount will be typically based on an estimated two month bill, calculated from your completed load sheet unless otherwise determined by CMP.

Metering:

All metering (including locations) must be preapproved by CMP.

Chapter 324 Interconnections:

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 Chapter 324 Interconnection Standards 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 Customer Net Energy Billing can be accessed thru the Chapter 324 website or by clicking here: Net Energy Billing

Reallocation/Line Extensions:

Recently, changes were made to the three-phase construction policy, which require CMP to reallocate construction costs paid by customers. If applicable, those projects identified as “developments” do not qualify for reallocation of funds. Please see this document at our website for details about the reallocation conditions. Any reallocation charges will be specifically denoted on your invoice. The website address for this is: PolyphaseLineExtension .

This line extension will be part of Central Maine Power’s distribution system. In the event the property served under this Agreement is sold or otherwise conveyed, all rights and obligations of the Agreement shall stay with the property. Please note that if you rent or lease this property to another and you want to receive the reimbursement payments, you must make special arrangements with the Central Maine Power Company. Otherwise, any reimbursement payments will be sent to the “Customer” taking service at the service location.

Electricity Supplier Information:

Central Maine Power Company (CMP) will provide your facility with electric delivery service. If you don't already have a provider, you will need to make arrangements with a competitive electricity provider in order to receive electricity supply for your facility. In the event you fail to choose a competitive electricity provider, you will receive Standard Offer service arranged by the Maine Public Utilities Commission. If you wish to be served by a competitive electricity provider immediately upon establishment of delivery service, you must arrange for this service directly through your chosen competitive electricity provider, who must enroll your account no later than 5 PM on the business day prior initiation of delivery service by CMP. An up-to-date list of competitive suppliers can be found at the:

1) Maine Public Utilities Commission (MPUC) web site- **Maine PUC**
2) By calling the MPUC at (207) 287-3831

Attachments:

Excel Load Sheet (EDET)
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

==========

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ACORN ENGINEERING, INC.

Unitil Service Corp.
Attn: Bridget Harmon
376 Riverside Industrial Parkway
Portland, Maine 04103

March 15, 2019

Subject: 40 Free Street Development
Re: Ability to Serve

Ms. Harmon:

On behalf of 40 Free LLC, we are pleased to submit the following request for Unitil's ability to serve at the proposed development. The project is the development of a 6-story building with basement parking, ground level commercial retail space and stories two through six residential units. The site is located at 40 Free Street (Chart, Block, Lots 38-A-14-15-16 I-1-2-3-4-5), within the B3 and DEOZ zoning districts in Portland, Maine, bordered by Center Street, Cross Street and Spring Street.

It is our understanding that there are planned Unitil improvements on Free St that may need to be coordinated with our construction schedule.

On behalf of the client, we are requesting the following information:

1. A confirmation of an existing gas main within Free Street as well as the size of any gas lines and services and any additional utility mapping on Free Street, Center Street, Cross Street and Spring Street.
2. Unitil's proposed infrastructure improvements within the project vicinity.
3. Unitil's ability to serve the project.

I have attached an existing conditions plan as well as the proposed preliminary site plan to facilitate your review. Please do not hesitate to contact myself or the office for any questions or clarifications.

Sincerely,

Matthew Ballog, P.E.
Project Manager
Acorn Engineering, Inc.

Cc: Jarrod Googins – Acorn Engineering Inc.

#
#

March 18, 2019

Matthew Ballog, P.E.
Project Manager
Acorn Engineering, Inc.

Subject: 40 Free Street Development
Re: Ability to Serve

Dear Mr. Ballog:

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.

You will see from the attached GIS map, the size, location and material of the nearby natural gas infrastructure. 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 do not hesitate to call or email.

Sincerely,

Bridget Harmon
Business Development Representative
Unitil Corporation
(o) 207-541-2536 (f) 207-541-2586

ACORN ENGINEERING, INC.

Charter Communications
Attn: Mr. Mark Pelletier
118 Johnson Road
Portland, Maine 04102

March 20, 2019

Subject: 40 Free Street Development
Re: Ability to Serve

Mr. Pelletier:

On behalf of 40 Free LLC, we are pleased to submit the following request for Charter's ability to serve the proposed development. The proposed project is located along 40 Free Street (Chart, Book, Lots 38-A-14-15-16 I-1-2-3-4-5), within the B3 and DEOZ zoning districts in Portland, Maine. The lot will be developed into a 6-story, 47-unit residential building with basement parking and commercial retail space on the first floor. There is an existing parking lot located within the project location which is to be partially impacted to create the structure for the proposed project.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Free 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 Surveying as well as the proposed preliminary site plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Matthew Ballog, P.E.
Project Engineer
Acorn Engineering, Inc.

Cc: Jarrod Googins – Acorn Engineering Inc.

Matthew Ballog

From: Read, Scott H <Scott.Read@charter.com>
Sent: Thursday, March 21, 2019 9:47 AM
To: Matthew Ballog; Jarrod Googins
Cc: Pelletier, Mark
Subject: RE: Ability to Serve Request - 40 Free St

Hi Mark Ballog-

Thank you for providing this preliminary information about your upcoming project on Free St in Portland. This project is indeed within Charter/Spectrum's service area, and if the owner/developer is interested in having our service, we'll be happy to put them in touch with our Community Solutions folks that take care of those arrangements.

Please let us know who we can have the SCS group contact to find out what type of services might be of interest if for the property.

Thanks,
Scott

From: Pelletier, Mark
Sent: Wednesday, March 20, 2019 3:48 PM
To: Read, Scott H <Scott.Read@charter.com>
Subject: FW: Ability to Serve Request - 40 Free St

Mark Pelletier
Construction Coordinator III, Northern New England
118 Johnson Rd Portland ME 04102
207-253-2324
Mark.pelletier@charter.com

From: Matthew Ballog [mailto:mballog@acorn-engineering.com]
Sent: Wednesday, March 20, 2019 2:32 PM
To: Pelletier, Mark <Mark.Pelletier@charter.com>
Cc: Jarrod Googins <jgoogins@acorn-engineering.com>
Subject: Ability to Serve Request - 40 Free St

Good afternoon Mark,

Acorn Engineering, Inc. is working on a new development project at 40 Free Street and is sending an Ability to Serve letter for the proposed development. The site is currently a surface parking lot. We are proposing a 6 story mixed use building, with 5 retail units and 47 apartment units.

Attached is a formal Ability to Serve request letter, as well as the boundary survey and a preliminary site plan for your reference. Please let me know if you need any additional information or if there is a different contact I should send this to.

Thank you

Matthew Ballog, PE
Project Manager

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104
www.acorn-engineering.com

B. 207.775.2655
C. 412.996.2042

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ACORN ENGINEERING, INC.

Consolidated Communications
Attn: Mr. Patrick Morrison
5 Davis Farm Road
Portland, Maine 04103

March 20, 2019

Subject: 40 Free Street Development
Re: Ability to Serve

Mr. Morrison:

On behalf of 40 Free LLC, we are pleased to submit the following request for Consolidated's ability to serve the proposed development. The proposed project is located along 40 Free Street (Chart, Book, Lots 38-A-14-15-16 I-1-2-3-4-5), within the B3 and DEOZ zoning districts in Portland, Maine. The lot will be developed into a 6-story, 47-unit residential building with basement parking and commercial retail space on the first floor. There is an existing parking lot located within the project location which is to be partially impacted to create the structure for the proposed project.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Free 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. Consolidated's proposed infrastructure improvements within the project vicinity.
5. Consolidated's ability to serve the project.

I have attached an existing conditions plan created by Owen Haskell Surveying as well as the proposed preliminary site plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Matthew Ballog, P.E.
Project Engineer
Acorn Engineering, Inc.

Cc: Jarrod Googins – Acorn Engineering Inc.

5 Davis Farm Rd
Portland, ME 04103
207- 535-4271 office
207-745-9363 cell
207- 797-1098 fax

March 27, 2019

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 new 6-story building at 40 Free St in Portland, ME. Consolidated Communications currently has underground copper and fiber facilities on Free St. Please feel free to contact me with any questions.

Sincerely,

Patrick Morrison

Consolidated Communications Outside Plant Engineer

207-535-4271 or 207-745-9363

ACORN ENGINEERING, INC.

Portland Water District
Attn: MEANS Department
225 Douglas Street
Portland, Maine 04104

March 15, 2019

Subject: 40 Free Street Development
Re: Ability to Serve

To whom it may concern:

On behalf of 40 Free LLC, we are pleased to submit the following request for Portland Water Department's ability to serve the proposed development. 40 Free Street is a 47-unit vertical urban infill development located near Cross Insurance Arena in Portland. The proposed building is anticipated to be 6 stories tall; the ground floor will be comprised of 5 commercial retail spaces; and the second through sixth stories will contain a total of 47 residential units. A basement-level parking lot will also be included in the design.

The proposed development project is located at 40 Free Street (Chart, Block, Lot 38-A-14-15-16 I-1-2-3-4-5) bordered by Center Street, Cross Street and Spring Street in Portland, Maine. There is an existing parking lot located within the project location which is to be partially impacted to create the structure of the proposed project.

Based upon the Section 4 of the Maine Subsurface Water Disposal Rules, the project anticipates the following design flows:

Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Proposed flow				
Store	Per Toilet	4	325	1,300
Store	Per Employee	8	12	96
Eating Place, 3 meals/day	Per Employee	12	12	144
Eating Place, 3 meals/day	Per Seat	50	30	1,500
Residential Units	1 Bedroom	17	120	2,040
Residential Units	2 – Bedroom	30	180	5,400
Net Change				10,480

*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition

ACORN ENGINEERING, INC.

The proposed project is anticipated to add a net water usage from the development of approximately 10,480 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. The anticipated flow assumes a conservative water usage estimate; restaurant values were used in one of the commercial spaces as these flows would be higher than a retail store. For this reason, the actual water usage for this location may be lower. It is undetermined at this time if the 5th commercial unit will be a restaurant or a retail store.

Separate services are proposed for the commercial property and the residential units. For the residential units, the developer has proposed a new 8-inch fire line service for the development that would tie into the existing water main in Free Street with a potential redundant connection within Center Street, as well as a four-inch domestic service in Free Street. The developer is also proposing an individual one-inch service for the commercial property. These designs are preliminary in nature and subject to change.

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping within Free Street, Center Street, and Spring Street. Especially the sewer and drainage improvements along the recently constructed Spring street widening.
2. Alternative connection locations from the development to the existing system.
3. PWD's proposed infrastructure improvements within the project vicinity.
4. PWD's ability to serve the project.

Please let me know if you have any further questions or comments.

Sincerely,

Matthew Ballog, PE

Project Manager
Acorn Engineering, Inc.

Matthew Ballog

From: Brian Johnson <brianjohnson@pwd.org> on behalf of AMaP MEANS <means@pwd.org>
Sent: Tuesday, April 16, 2019 9:11 AM
To: Matthew Ballog
Subject: RE: Infrastructure map request and ability to serve (SR: 442265)

Hi Matthew,

Thank you for the information and your request for an Ability to Serve Letter for 40 Free Street - Portland. Portland Water District – MEANS Group will review the information and get back to you with any question and/ or comments about the project.

Our records show that the 6" water main is currently active, we will verify it's status to determine if it is still needed.

Once all PWD requirements have been met an Ability to Serve Determination letter will be issued.

Have a great day,
Brian

MEANS Group
Main Extensions and New Services
Portland Water District
225 Douglass Street
Portland, ME 04104-3553
P:(207)774-5961 Ext. 3199
F:(207)761-8307
MEANS@pwd.org

Brian Johnson
Asset Management Technician
Portland Water District
Phone: 207-774-5961 x3947
E-mail: brianjohnson@pwd.org
http://www.pwd.org

From: Matthew Ballog <mballog@acorn-engineering.com>
Sent: Monday, April 15, 2019 4:27 PM
To: Brian Johnson <brianjohnson@pwd.org>
Subject: RE: Infrastructure map request and ability to serve (SR: 442265)

CAUTION:This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Brian

Attached is an updated utility plan for your review for the 40 Free Street project previously discussed. Would PWD be able to serve the development as shown? We are showing service coming from the 8" main on Free St, as well as

potentially retiring the 6" main that bisects the property, if it still exists. Please let me know if you have any comments or questions. Thank you.

Matthew Ballog, PE
Project Manager

B. 207.775.2655
C. 412.996.2042

From: Brian Johnson <brianjohnson@pwd.org> **On Behalf Of** AMaP MEANS
Sent: Tuesday, March 19, 2019 2:17 PM
To: Matthew Ballog <mballog@acorn-engineering.com>
Subject: RE: Infrastructure map request and ability to serve (SR: 442265)

Hi Matthew,

Attached is a Portland Water District infrastructure map for the area around 40 Free Street – Portland.

In the City of Portland the sewer and stormwater systems are owned by the City. Any information requests and questions about sewer and stormwater infrastructure needs to be made to the City of Portland.

Have a great day,

Brian Johnson

MEANS Group
Main Extensions and New Services
Portland Water District
225 Douglass Street
Portland, ME 04104-3553
P:(207)774-5961 Ext. 3199
F:(207)761-8307
MEANS@pwd.org

Brian Johnson
Asset Management Technician
Portland Water District
Phone: 207-774-5961 x3947
E-mail: brianjohnson@pwd.org
http://www.pwd.org

From: Matthew Ballog <mballog@acorn-engineering.com>
Sent: Tuesday, March 19, 2019 10:22 AM
To: AMaP MEANS <means@pwd.org>
Cc: Adam Sellick <asellick@pwd.org>; Jarrod Googins <jgoogins@acorn-engineering.com>
Subject: Infrastructure map request and ability to serve

CAUTION:This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning

I am working on a development project at 40 Free St in Portland and would like to request any infrastructure maps for the available water and sewer services in the area. I've also attached an ability to serve letter for this location. We are still awaiting some topographic survey results for additional utility information but a preliminary site plan has been attached for reference. My specific area of interest is the sewer and storm water infrastructure on Spring street and whether not they have been separated as part of the recent Spring Street widening.

Please let me know if you have any questions. Thank you.

Matthew Ballog, PE
Project Manager

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104
www.acorn-engineering.com

B. 207.775.2655
C. 412.996.2042

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Matthew Ballog

From: Matthew Ballog
Sent: Wednesday, March 20, 2019 12:52 PM
To: 'Charles Wordell (cww@portlandmaine.gov)'
Cc: Jarrod Googins
Subject: Available infrastructure maps - 40 Free St
Attachments: 1118_Utility_Exhibit_3-14-19.pdf; 2017-058P ALTA.pdf

Good afternoon Charles

I am working on a development project at 40 Free St in Portland and would like to request any available plans or maps of existing sewer and stormwater infrastructure in the area. The project is a 6 story mixed use building that will be located on what is currently an existing surface parking lot. We know there is a sewer line that bisects the lot, but are unsure if it was separated as part of the recent Spring St construction. Information on any planned infrastructure improvement projects you are aware of would also be appreciated.

I've attached an existing conditions plan as well as a conceptual site plan for your reference. Please let me know if there is someone else at the city I should contact for this information. Thank you.

Matthew Ballog, PE
Project Manager

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104
www.acorn-engineering.com

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Matthew Ballog

From: Charles Wordell <cww@portlandmaine.gov>
Sent: Wednesday, March 20, 2019 3:01 PM
To: Matthew Ballog
Cc: George Carhart
Subject: Re: Available infrastructure maps - 40 Free St
Attachments: 00494_008__001.PDF; 00212_001__002.PDF; 00212_001__001.PDF; 00494_007_006.PDF; 00494_007_001.PDF; 00494_008__005.PDF; 00676_002__001.PDF; 00494_008__006.PDF; 00769_003_U1.PDF; 00676_002__007.PDF; 00882_037_001.pdf; 00882_037_002.pdf; 00882_037_004.pdf; 00882_037_005.pdf; 00882_037_003.pdf; 1882_Sht#38.JPG; IandI_4_05.pdf; COTTON ST.pdf; Volume 2 Page 391.pdf

Good Afternoon Matthew,

I spent some time in our engineering archive searching for information that I felt would benefit your project.

Enclosed, please find the following scanned records:

1. sanitary & storm drawings = (17) files
2. street status for Cotton St = (2) files

I am not seeing anything in our vault related to the latest construction work performed on Spring St.

It may be that the current set of drawings have not yet been cataloged in our system.

I have copied our engineering archivist, George Carhart, on this message to alert him to your project..

Perhaps the Water Resources engineers on our floor can shed some light on this question.

If you could respond via email when you have successfully retrieved all (19) files that would be great.

Thank you,
Charles

On Wed, Mar 20, 2019 at 12:51 PM Matthew Ballog <mballog@acorn-engineering.com> wrote:

> Good afternoon Charles
>
> I am working on a development project at 40 Free St in Portland and would like to request any available plans or maps of existing sewer and stormwater infrastructure in the area. The project is a 6 story mixed use building that will be located on what is currently an existing surface parking lot. We know there is a sewer line that bisects the lot, but are unsure if it was separated as part of the recent Spring St construction. Information on any planned infrastructure improvement projects you are aware of would also be appreciated.
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> I've attached an existing conditions plan as well as a conceptual site plan for your reference. Please let me know if there is someone else at the city I should contact for this information. Thank you.

Matthew Ballog, PE

Project Manager

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--

Charles W. Wordell Jr. Surveyor
City of Portland, Maine
Department of Public Works, Engineering
207-874-8803

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.

ACORN ENGINEERING, INC.

Portland Water District
Attn: MEANS Department
225 Douglas Street
Portland, Maine 04104

May 14, 2019

Subject: 40 Free Street Development
Re: Ability to Serve

To whom it may concern:

On behalf of 40 Free LLC, we are pleased to submit the following request for Portland Water Department's ability to serve the proposed development. 40 Free Street is a 51-unit vertical urban infill development located near Cross Insurance Arena in Portland. The proposed building is anticipated to be 6 stories tall; the ground floor will be comprised of 5 commercial retail spaces; and the second through sixth stories will contain a total of 51 residential units. A basement-level parking lot will also be included in the design.

The proposed development project is located at 40 Free Street (Chart, Block, Lot 38-A-14-15-16 I-1-2-3-4-5) bordered by Center Street, Cross Street and Spring Street in Portland, Maine. There is an existing parking lot located within the project location which is to be partially impacted to create the structure of the proposed project.

Based upon the Section 4 of the Maine Subsurface Water Disposal Rules, the project anticipates the following design flows:

Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Proposed flow				
Store	Per Toilet	5	325	1,625
Store	Per Employee	10	12	120
Residential Units	1 Bedroom	37	120	4,440
Residential Units	2 – Bedroom	14	180	2,520
Net Change				8,705

*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition

The proposed project is anticipated to add a net water usage from the development of approximately 8,705 gallons per day (GPD).

A C O R N
ENGINEERING, INC.

A single 4" domestic service with a 1-1/2" meter is proposed. For the residential units, the developer has proposed a new 6-inch fire line service for the development that would tie into the existing water main in Free Street. These designs are preliminary in nature and subject to change.

On behalf of the client we are requesting the following information:

1. Alternative connection locations from the development to the existing system.
2. PWD's ability to serve the project.

Please let me know if you have any further questions or comments.

Sincerely,

Matthew Ballog, PE

Project Manager
Acorn Engineering, Inc.

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

May 17, 2019

Matthew Ballog, PE
Project Manager

Re: 40 Free Street, PO
Ability to Serve with PWD Water

Dear Mr. Ballog:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on March 15, 2019. Based on the information provided per plans dated April 15, 2019, 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 4-inch domestic service with a 1.5-inch meter may be installed from the water main in Free Street. The services should enter through the properties frontage on Free Street at least 10-feet from any side property lines.
- The Portland Water District does not have record of any other existing infrastructure in public roads and recommends a survey and test pitting be performed by the development team prior to construction. Any conflicts that arise during construction are at the risk of the developer and may result in job shutdown until new plans are submitted by the developer and reviewed and approved by PWD.
- An approved backflow prevention device must be installed on the service line directly after the meter prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.
- An existing 6-inch CI water main on the site will need to be abandoned in place by the contractor, which includes removing the existing 8-inch by 6-inch tee at Free Street and repairing the existing 8-inch water main; a shutdown will be required. Contractor to coordinate shutdown with PWD.

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 cast iron water main in Free Street and a public fire hydrant located adjacent to the site. Recent flow data is not available in this area. The most recent static pressure reading was 80 psi.

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 City of 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

Q. Construction Management Plan

Project Address: 46 Free Street & 40 Free Street

Project Description:

The proposed project includes the development of a 6-story building with 51 residential units, 5 retail units, and on-site subsurface & surface parking.

Project Team Summary:

Owner:	40 Free, LLC
General Contractor:	Allied Cook Construction
Civil Engineer:	Acorn Engineering, Inc.
Architect:	Ryan Senatore Architecture
Structural Engineer:	Structural Integrity Consulting Engineers, Inc.

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 Construction Management Plan, Sheet C-03 of the Civil/Site Plan Set, 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.

CI. 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 Free Street, Center Street and Spring Street frontages. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project. The contact information for the project personnel is:

Vincent Veroneau
J.B. Brown & Sons
(207) 774-5908

GC and Subcontractor information will be posted along the Free Street, Center Street and Spring Street frontages 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 of the 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.

Temporary construction access and laydown areas at 46 Free Street and abutting J.B. Brown & Sons parcel as specified in Section E: Summary of Written Easements and associated easement exhibit, attached in this submission. Deliveries will be scheduled between 7 am and 5 pm.

The estimated timeframe of the proposed project is outlined below:

Project Start Date:	Fall 2019
Project End Date:	Fall 2020

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

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 and 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 connections within Free 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 Free 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 a portion of Free 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 on Free Street shall not be permissible. 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, Sheet 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 lack of existing site landscaping to remain, 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 Free Street, Center Street and Spring 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:

    - Gravel & Stone – 1,000 CF. Earthwork subcontractor(s) pit to project site.
    - Hot Mix Asphalt – 32 tons. Paving subcontractor(s) pit to project site.

L. Special Measures as Necessary

No special measures are necessary for the proposed reconstruction.

R. Solid Waste Disposal

The property management company or Owner 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) and within the architectural plans.

The solid waste containers will be fully enclosed and screened from the public view.

Traffic Solutions
William J. Bray, P.E.
17 Mountview Drive
Gorham, ME 04038
(207) 400-6890
trafficsolutions@maine.rr.com

April 17, 2019

Parking Assessment
Proposed
"40 Free Street"
[Mixed-Use Development]

INTRODUCTION

40 Free LLC is proposing construction of a six-story mixed-use building on a 0.39-acre parcel of land located on Free Street near the intersection of Free Street and Center Street. The present development plan proposes five, near equal size, retail units on the first floor of the building (street-level) and 51 residential units on floors two through six. The residential unit mix includes 37 one-bedroom units and 14 two-bedroom units.

Site access is proposed through existing site driveways onto both Cross and Center Streets. An existing driveway entrance on Free Street will be closed with development of the proposed site.

The proposed site design provides a total of 37 on-site parking spaces, with 23 of those spaces covered (underground) located under the proposed building and an additional 14 surface parking spaces. Seventeen (17) of the 37 spaces are full-size parking spaces at 9' wide by 18' long; 2 additional spaces are full dimensioned handicap spaces and the remaining 18 spaces are defined as "compact" spaces with varying dimensions.

This document provides a determination of the "*average*" peak parking demand for the proposed "40 Free Street" building appropriately based upon national parking trends. The analytical determination of "*average*" peak parking demand for a multi-tenant development must also account for the time-of-day distribution of the actual parking demand. For example, the peak parking demand requirements of one proposed use could likely occur at 7:00 PM, whereas, the peak parking demand of a second building use may occur at 1:00 PM. The net result is that the parking demand of multiple land-uses may be able to use the same parking space at different times of the day; thereby, reducing the actual peak parking demand of the site.

The parking demand requirements of the project will be fully met with construction of covered underground and surface parking spaces on the proposed site.

PARKING DEMAND

National parking demand data presented in the Institute of Transportation Engineers (ITE) **"Parking Generation"** publication is typically the instrument used in estimating the actual parking demand of a development site. The 5th edition, which was published in January 2019, represents the most current copy of the noted ITE document. The ITE manual provides "*average*" peak parking demand rates for more than 100 land use categories including: residential, lodging, recreational, institutional, medical, retail, office, services, etc.

The "*average*" peak parking demand requirements of the proposed "40 Free Street" multi-tenant commercial development was estimated based upon the following projected tenant space(s):

- *51 residential units; 37 one-bedroom units and 14 two-bedroom units*
- *7,597 square feet of retail space*

Table 1 provides a projection of the "*average*" peak parking demand requirement for the proposed 40 Free Street development site, for a typical weekday condition.

Table 1
"Peak" Parking Demand Determination Summary
For
"40 Free Street"
(Weekday Condition)

Proposed Use	Unit Size	Land-Use Code	Parking Space Rate	Parking Space Requirements
Residential Unit	37 one-bedroom units	LUC 221	0.48 spaces per bedroom	18 spaces
Residential Unit	14 two-bedroom units	LUC 221	0.48 spaces per bedroom	13 spaces
Retail Space	7,597 square feet	LUC 820	2.76 spaces per 1,000 sf	21 spaces
			TOTAL =	**52 spaces**

The "*average*" peak parking demand of the proposed 40 Free Street mixed-use building is estimated at 52 spaces for a typical weekday condition.

"Shared" Parking: The fourth edition of the ITE **"Parking Generation"** publication presents the concept of "shared" parking within a mixed-use or multi-use project with the following statement: *"the hourly variation in parking demand for the individual land uses can result in conditions where the parking demand for one land use is high while the demand for a different land use is low. In this situation, parking demand for both land uses may be able to use the same parking space at different times of the day. The end result can be a reduction in overall peak parking demand."* Procedures presented in the noted publication require determining the estimated hourly parking demand requirements of each land-use within the overall development and, with that data, projecting the actual number of hourly parking spaces for the proposed project. The fifth edition of the **"Parking Generation"** publication provides the following hourly parking demand requirements (percent value) for both proposed land-use categories. Table 2, as follows, presents the noted hourly percent parking space requirements for the proposed Residential and Retail uses:

Table 2
Peak Hourly Parking Demand (percent values) Summary
For
"40 Free Street"
(Weekday Condition)

Time of Day	Residential Unit	Retail[1]
7:00 AM	71%	0%
8:00 AM	61%	0%
9:00 AM	55%	50%[2]
10:00 AM	54%	75%[2]
11:00 AM	53%	75%[2]
12:00 PM	50%	77%
1:00 PM	49%	100%
2:00 PM	49%	98%
3:00 PM	50%	90%
4:00 PM	58%	76%
5:00 PM	64%	82%

NOTE:
(1) Percent values presented for proposed retail land-use based upon Land-Use #820 – Shopping Center.
(2) Percent values were estimated based upon engineering judgement.

Table 3
Hourly Peak Parking Demand Summary
For
"40 Free Street"
(Weekday Condition)

	Proposed Uses		
	Residential Unit	Retail Space	Total Spaces
Peak Parking Demand	31	21	52

	Adjusted Hourly Parking Demand		
Time of Day	Residential Unit	Retail Space	Total Spaces
7:00 AM	22	0	22
8:00 AM	19	0	19
9:00 AM	17	11	28
10:00 AM	17	16	33
11:00 AM	16	16	32
12:00 PM	16	16	32
1:00 PM	15	21	36
2:00 PM	15	21	36
3:00 PM	16	19	35
4:00 PM	18	16	34
5:00 PM	**20**	**17**	**37**

Accordingly, the average peak hourly parking demand of the site for a typical weekday is expected to occur after 5:00 PM with a parking demand of **37** spaces.

PARKING SUPPLY

The Applicant proposes to satisfy the peak parking demand requirements of the proposed 40 Free Street site with the following parking solutions:

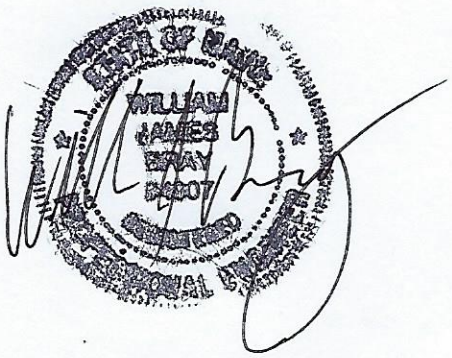
- 23 covered-spaces under the proposed multi-use building
- 14 surface parking spaces within the proposed site property

SUMMARY

1. The proposed 40 Free Street mixed-use development project, with approximately 7,600 square feet of retail spaces located on the first floor and 51 residential units on floors 2 through 6, generates a peak parking demand of 52 parking spaces. The parking demand requirements were estimated based upon the fifth edition of the Institute of Transportation Engineers (ITE) "**Parking Generation**" published in January of 2019.

2. The hourly variation in parking demand of each proposed land-use within a multi-use and/or mixed-use development oftentimes provides a unique opportunity to "share" parking spaces during different times of the day versus "over-building" to meet the individual parking demand of each land-use. A detailed assessment of the hourly parking demand requirements of the proposed 40 Free Street development was completed to establish the combined hourly parking requirements of the site. The results of the analysis show the actual peak parking demand of the proposed site is **37** spaces, which only occurs during a single hourly time period (5:00 to 6:00 PM).

3. The Applicant meets the full **37** space parking demand of the project with construction of 23 covered spaces under the proposed six-story building and 14 additional on-site surface parking spaces.



Att. T

ACORN ENGINEERING, INC.

Andrew Tufts – Planner
Planning Division, City of Portland
389 Congress Street
Portland, ME 04101

May 30, 2019

Subject: Comment Response Letter
40 Free St. Redevelopment – Portland, Maine

On behalf of 40 Free LLC, we are pleased to respond to the comments that we've received by multiple reviewers. The comment is provided in italics followed by Acorn's response.

Planning/Zoning

Comment – *The proposal indicates all bike parking to be included inside the building in a room also to be used for storage. Additional explanation is needed.*

Response – The Bike room / storage room will be used for Bike Storage to the extent it is required to provide 22 bike rack spaces, the remaining space will be built with a chainlink divider system for general building storage space.

Comment – *In addition to the internal bike parking, bike parking should be provided street side for both residential and retail use.*

Response – Two Dero bike racks will be provided along Free St.

Comment – *Conditional Use - Inclusionary Zoning – Comments Pending*

Response – No response at this time.

Landscape: City Arborist, Jeff Tarling

Comment – *Proposed Street Trees conflict with ADA requirements*

Response – Per discussions with planner Andrew Tufts, DPW, Planning and the City Arborist, street trees will be removed, and streetlights and a bicycle rack will be proposed in their place.

Comment – *Proposed Street Trees are in a tight, heavily salted pedestrian area and have low probability of survival.*

Alternative: Include exterior bicycle racks on pedestrian right of way on Free Street & elevated planters or beds against the proposed building, as done in front of the parking garage across the street. Please consult with the planner who will coordinate with the Urban Designer and City Arborist.

Response – Per discussions with planner Andrew Tufts, DPW, Planning and the City Arborist, street trees will be removed, and streetlights and a bicycle rack will be proposed in their place.

Traffic and Parking: DPW Mike Tremblay P.E. Senior Engineer

Comment – *The 37 proposed parking spaces to be associated with the site; not be enough, considering there are 51 residential units proposed. Additional analysis is required and ongoing. [Please note that the planning board will determine the required number of spaces based upon the submitted analysis]*

Response – *Reviewed and Approved by Bill Bray, P.E. – Traffic Solutions* - A parking assessment performed by Traffic Solutions was provided. Demand assumptions for the mixed-use nature of the development are provided, as well as hourly peak parking demand summaries to account for the "shared" parking recommended by the Institute of Transportation Engineers "Parking Generation" publication in mixed-use projects.

Comment – *Of the 37 proposed spaces, nearly half (18, or 48.6%) are substandard in size. The technical manual allows for 20% of spaces to be compact. Some of these spaces are located close to walls and/or columns, which makes maneuvering into and out of these spaces very difficult. DPW has concerns that the spaces that are provided may not be suitable for the typical vehicle.*

Response – 19 of 23 (83%) spaces located within the garage are full size spaces, allowing for easier maneuvering around walls or columns. The exterior compact spaces are adjacent to a drive aisle that are 24' or greater in width for most of its length allowing for easier access, and the width of stalls matches those currently existing. The residential units will have assigned parking spaces resulting in a high parking lot/space familiarity. Additionally, this use provides a low turnover.

Comment – *The drive aisle is only 20 feet in one location, where vehicles will be entering and exiting a parking area on a curve. This can be rectified by removing one compact 8.5x15 space at the corner of the parking area.*

Response – In accordance with Section 1.7.2.3 the minimum driveway width is 20 ft. When the driveway transitions to a parking drive aisle with 90 degree compact spaces, the standard 24 ft width is met.

Comment – *The applicant proposes to close the curb cut on Free Street, leaving two access points to the parking lot. This will affect how users enter and exit the parking lot. A traffic analysis, including, but not limited to, existing and net new trip generation and local trip distribution, should be required.*

Response – *Reviewed and Approved by Bill Bray, P.E. – Traffic Solutions* - Directional arrows clarifying direction of travel and gate access have been added to the plans at the Center Street and Cross Street curb cuts. Access to and from the lot will be unaffected as Free Street is a one-way street. Users attempting to enter the lot at the closed Free St access could continue on Free Street, to the forced turn to Cross Street and circle back to the existing Center Street ingress. Center Street will remain 2-way and provides access from either direction. Furthermore, the closure of the Free Street curb cut is in alignment with the city's goals and purpose of the Pedestrian Activities District Overlay Zone on Free Street by promoting pedestrian uses at the street level. A traffic analysis should not be required.

Utilities

Comment – *The water and sewer connections to Free Street should be spaced close enough together to be repaired in a single trench.*

Response – The sewer connection has been revised to be closer to the water connection. There is now 5' of horizontal separation which is the minimum separation required by PWD when the sewer is at least two feet below the water.

Comment – *Please identify the electrical conduit along Free Street. Ensure it is not running along the proposed tree line.*

Response – Electrical conduit has been added to the plans. It is located on the opposite side of Free Street adjacent to the parking garage.

Comment – *Can the electric grate be moved outside of the primary pedestrian path? Note potential for variable settlement.*

Response – The electrical grate is proposed to be removed. Based on as-built drawings, it appears to be abandoned in place.

Comment – *The proposed sewer lateral is shown within 4-5 feet of a proposed tree pit. Sewer lateral should be located outside the tree canopy zone; coordinate with city arborist and water resources.*

Response – Trees have been removed from the plans.

Comment – *The Applicant needs to install a hood system and grease trap for any retail unit(s) that is to be a restaurant use (with some exceptions, if it's not a full restaurant).*

Response – No restaurant uses are proposed.

Right of Way

Comment – The sidewalk grades may need additional detail to ensure that a 2% maximum cross-slope is being met at all locations.

Response – Slopes have been added to the plans.

Comment – *If at all possible, a 5-foot pedestrian sidewalk (2% max cross-slope) should be provided between the tree pit and the property line. If this is not possible, an easement for the necessary width will be required. The sidewalk should be a uniform material for the full 5-foot width, including any part of the sidewalk within the easement. This may affect the material at building entrances, which appear to be concrete pads.*

Response – Trees have been removed and a min. 5' wide 2% max cross-slope sidewalk is provided. Flush granite will be provided at the building entrance in alignment with the character of the neighborhood.

Comment – *Does the applicant plan on removing and resetting the granite curb to ensure the sidewalk is built correctly? Also, the applicant should ensure that the finished grade elevations of the building entrances are correct to allow for ADA access.*

Response – Granite curb will be removed and reset per sheet C-10. ADA requirements will be met at all door locations and for the sidewalk cross-slopes.

Comment – *Please be aware of and conform to the correct street light standards.*

Response – Street lights will be updated to the downtown streetlights and have been added to the Utility Plan. The detail will be added to the plan set prior to construction.

Comment – *Is there a way to provide an ADA ramp along the east side of the site where the stairs are shown? Would be advantageous to have a mid-block, accessible route between Free and Spring streets.*

Response – The change in grade is too large to have an ADA compliant ramp with required landings between Free Street and the parking lot. An ADA compliant ramp would be almost double overall length of the adjacent building wall and would result in multiple switchbacks. ADA access will be provided from Free St to the users of the retail stores. Furthermore, ADA access will be provided to the residential units to and from the Free St, the subsurface parking garage and to the rear surface parking lot.

Comment – *The proposed signs shall be City of Portland standard and shall be installed by the contractor. PVC sleeves should be installed during sidewalk work, flush with the finished sidewalk grade and capped until signs are installed, so that signs can be installed without a breakout.*

Response – A note has been added to the Site Plan for the installation of the PVC sleeves and for the Contractor to coordinate with DPW on the location of the sleeves.

Civil Engineering Peer Review – Lauren Swett

Comment – *Projects applying for Level III Site Plans are required to comply with the City of Portland's Section 5 Stormwater Standards as well as Chapter 500 Regulations. The project must consider the Basic, General, Flooding, and Redevelopment Standards.*

a. The Applicant has provided erosion and sedimentation control details and a written plan in accordance with the Basic Standards. Erosion control features have been called out on the Construction Management Plan, sheet C-03.

b. The Applicant is not increasing impervious surface, and is not required to provide any treatment or flooding control as required for the General and Flooding Standards.

c. The Applicant is not increasing non-roof redeveloped impervious surface, and is not required to provide any treatment as required for the Redevelopment Standard.

Response – No action required.

Comment – *The Applicant has received ability to serve letters for all utilities except for sewer and water. Final ability to serve will be provided by the City of Portland for the sewer service and Portland Water District for the water service.*

Response – Ability to serve from Portland Water District has been received and provided. Sewer service ability to serve will be provided on receipt.

Comment – *Additional clarification should be provided on the area to the west of the proposed building.*

a. The project is proposing to fill against the existing building on the corner of Center Street and Free Street, and it also appears that a retaining wall will be built against the existing building in some areas. The Applicant should confirm that this change to the adjacent building on another property will be acceptable, and that a construction easement or some other type of agreement isn't required.

b. A gravel utility courtyard is proposed between the proposed and existing buildings. This has almost a 12% slope, and it appears that water in this area will flow down to a retaining wall. Additional consideration may be needed for drainage in this area – ensure that stormwater flow won't undermine the surrounding building and retaining walls, and that the gravel surface is adequate permanent surface treatment to prevent erosion on the slope. This is a small area that likely won't see much stormwater flow, but we suggest the applicant review.

Response –

a. Please refer to the attached letter from Structural Integrity. An easement will be granted by JB Brown to 40 Free LLC for the work.
b. A field inlet has been added adjacent to the retaining wall and the gravel surface has been changed to crushed stone.

Comment – *Proposed contours are not shown on the stairs to the east of the proposed building. Slope arrows indicate a change in grade before the brick area transitions to pavement (1.2% to 4.4%). Additional spot grades and topography lines should be provided to show how this area is graded.*

Response – Contours occur within the stairs themselves and are not shown for clarity. Additional spot grades will be added to the plans.

Comment – *On the Site Plan and Grading Plan, views of two different levels are provided. The lower view only shows some of the at-grade level improvements outside of the building footprint. There would be a benefit to show all of the at-grade work outside of the building on both plans to avoid confusion. For example, proposed contours are shown only on the first-floor plan, but existing contours are shown on both plans. Also, the lower plan shows foundation drains and cleanouts, but the first-floor plan does not – cleanouts should be shown on the first-floor plan to see proximity to other site features like the granite slabs at doorways.*

Response – The plans have been updated to provide more clarity.

Fire – Robert Thompson

Comment – *The official address shall be approved by the City E911 addressing officer prior to the building permit process.*

Response – The developer will work with the City to achieve this.

Comment – *The approved street address shall be marked on the structure in numerals.*

Response – The developer and architect will work with the City to achieve this.

Water Resources – Bradley Roland, P.E.

Comment - *Existing Conditions:*

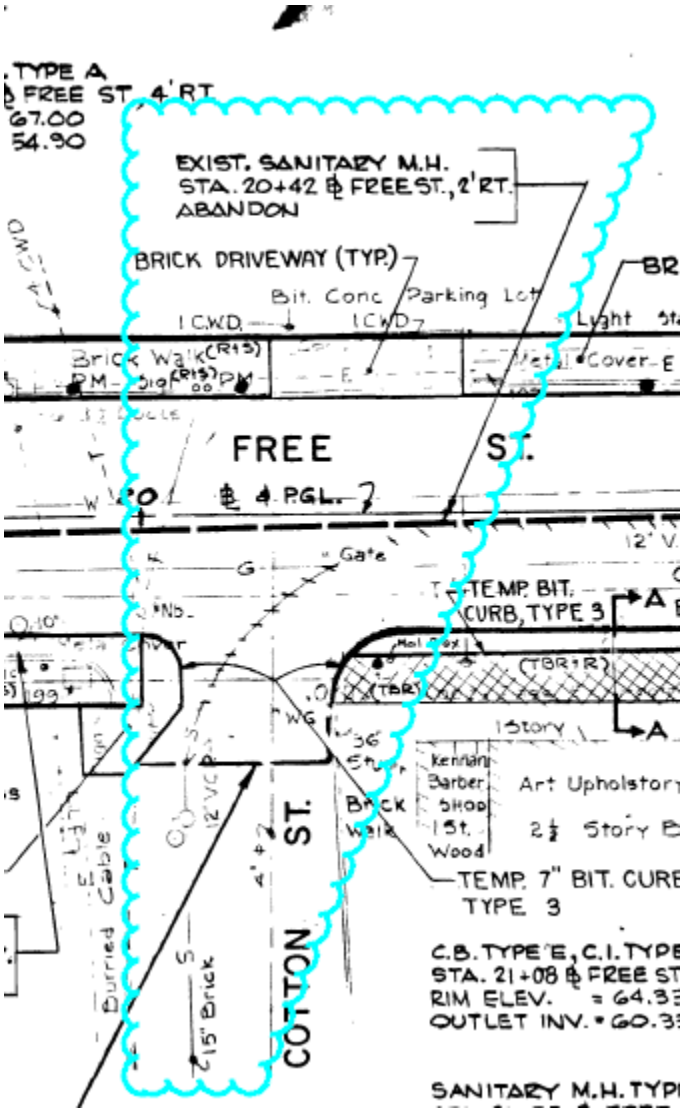
a. Electrical conduit in Free Street sidewalk not shown on the existing condition plans – may impact tree placement and other utility grades.

b. No information given to the sewer manhole near Free Street and if the services entering manhole are active.

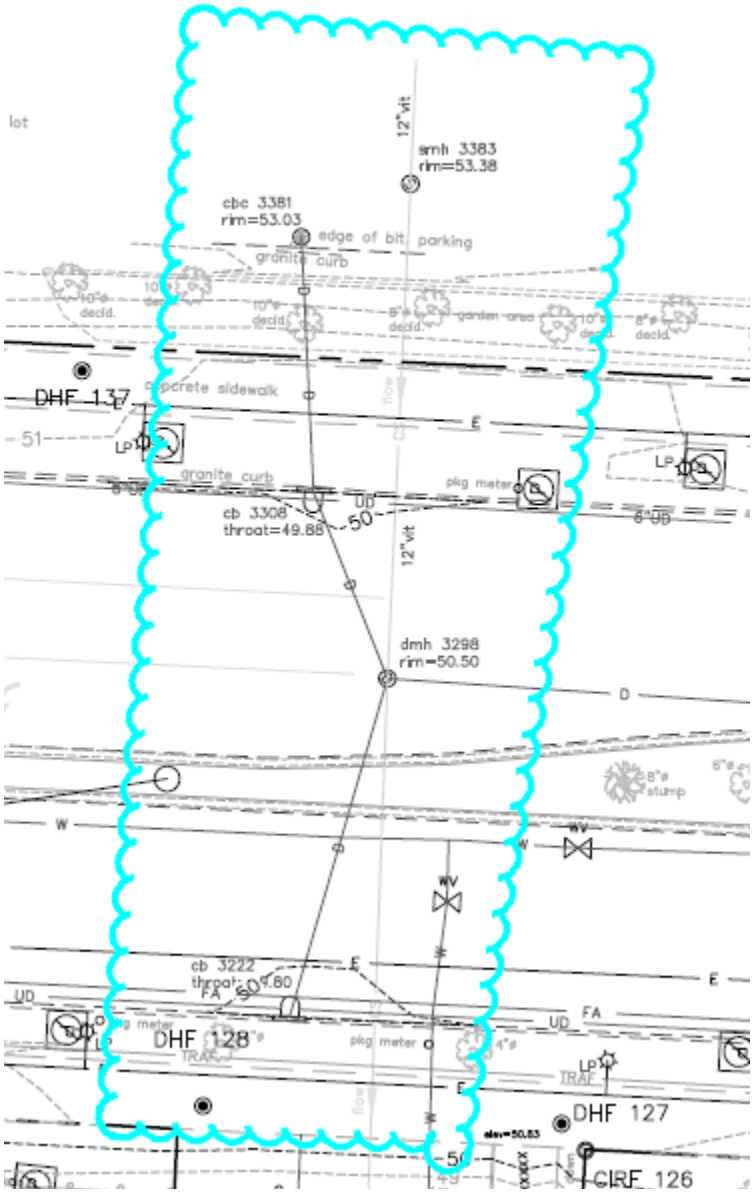
c. Additional information needed regarding the connection of to the Spring Street sewer and connection to site sewer/ drainage manholes.

Response – a. The conduit has been added to the plans on opposite side of Free St.

b. Services are abandoned per the plan titled Mainway Renewal Project, by FST General Plan – Part 1 Free Street, dated July 1972, Sheet 5 of 26. Drawing clip is below.



c. The Plan is to install a catch basin within the parking lot and utilize the existing 12" drain as an outlet. The drain is tributary to DMH 3298 within Spring St per the Spring/Middle Arterial Streetscape Plan Existing Conditions Plan, dated Nov. 21, 2013, Sheet 4 of 5.



Comment – *Sheet C-20:*

a. Roof drains should be connected to the storm drain discharging from the site into Spring Street.

b. Information needed for connection of oil water separator into sewer in Free Street.

c. Trench drain connection ?? discussion.

Response – a. Roof drains have been revised to connect to Spring Street.

b. The internal garage drains will be tributary to an oil water separator prior to any

flow being pumped up and into the sewer gravity drain tributary to Free St.
c. The trench drain is necessary to intercept stormwater flows for the concrete ramp prior to the garage door. The concrete ramp and trench drain is proposed to be heated in the winter. The relatively small stormwater flows would be tributary to Spring St.

Comment – *P. Utilities Description:*
a. Sewer: is listed as discharging into Hammond Street
b. Stormwater:
i. Confirm existing site sewer/ storm lines uphill of proposed MH-1 are not connected to anything.
ii. Roof runoff will be directed to the storm drain (MH-1) and Spring Street.

Response – a. The document has been corrected to read "Free Street".
b.
i. Please refer to the plan drawing clip above noting the abandoned sewer. The Construction Management Plan also included a note to demolish and plug the existing abandoned sewer in accordance with The City of Portland Technical Standards.
ii. Roof runoff has been revised such that it will be routed to a catch basin out out to Spring Street.

Comment – *Wastewater Capacity: Will be issued separately*

Response – No action required

Please let me know if there are any further comments or questions.

Sincerely,

William H. Savage, P.E.
Principal - Project Manager
Acorn Engineering, Inc.

Attached: Structural Integrity Letter, dated 5/28/19

Structural Integrity
Consulting Engineers, Inc.

May 28, 2019

Ryan Senatore
Ryan Senatore Architecture
500 Congress Street
Portland, Maine

Reference:
Excavation for New Foundation
40 Free Street Portland, Maine
Structural Integrity Job Number: 19-0051

Dear Ryan,

As requested, I am writing in regards to the proposed excavation for new foundations at the above-mentioned location, and its effect on the adjacent existing building. The low area behind the new retaining wall is expected to be above the existing footing elevation, which will be verified in the field. Frost protection will be reduced in this area, so rigid foam insulation will be added against the exposed foundations as required to counteract the effects of frost. Undermining or other negative impacts toward this existing foundation are not anticipated, so long as adequate drainage is provided within the area.

Please let me know if you have any questions or comments.

Sincerely,

Ben D. Heidebrink, P.E.
Project Manager

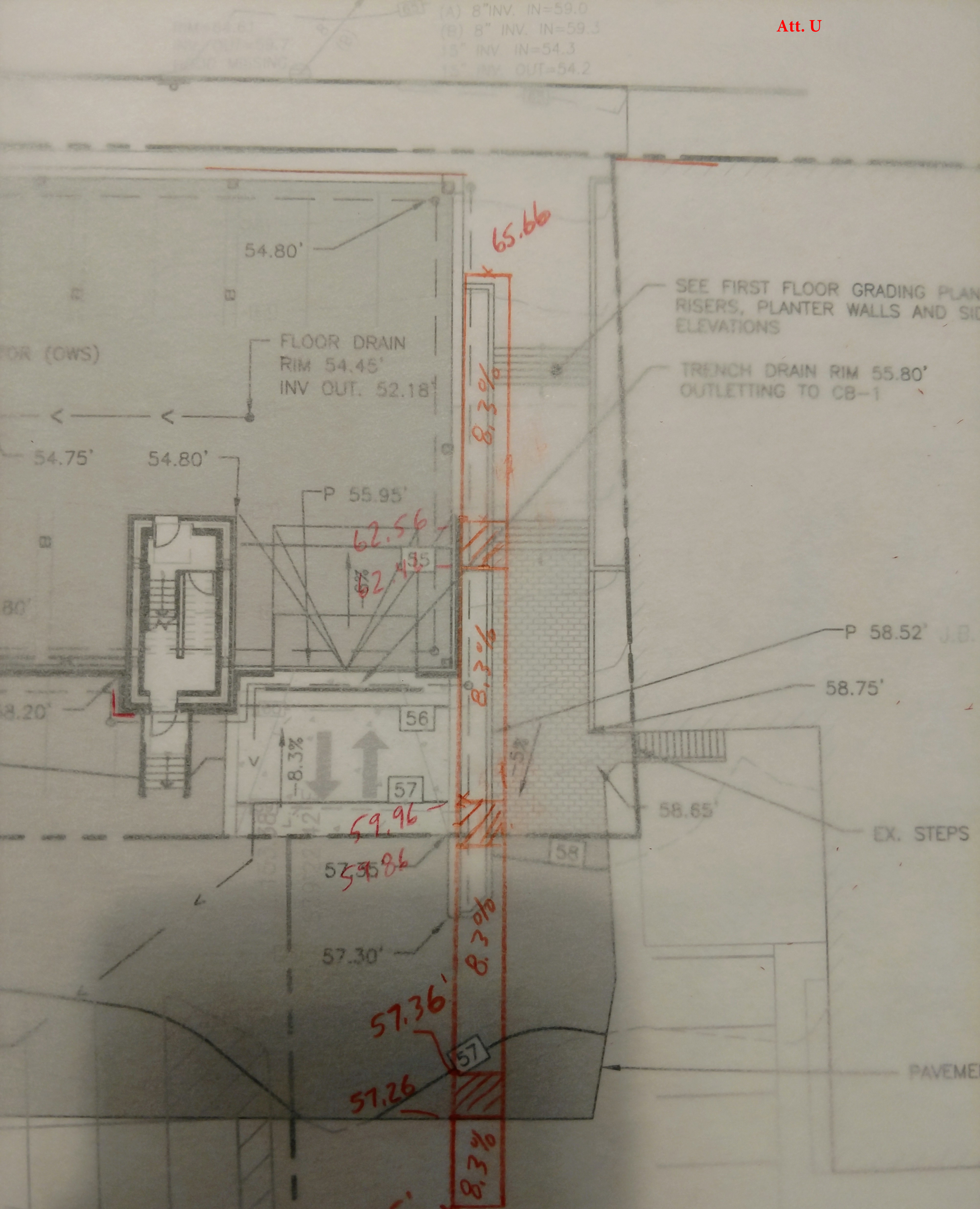
Aaron C. Jones, P.E., SECB, LEED AP
President

STATE OF MAINE
BENJAMIN D. HEIDEBRINK
No. 15235
LICENSED
PROFESSIONAL ENGINEER

STATE OF MAINE
AARON C. JONES
No. 10968
LICENSED
PROFESSIONAL ENGINEER

5/28/2019

Att. U


54.80'
65.66
FLOOR DRAIN
RIM 54.45'
INV OUT. 52.18'
54.75'
54.80'
P 55.95'
62.56
62.45
8.3%
8.3%
8.3%
56
57
58
59.96
57.30
57.36'
57.26
56.5'
SEE FIRST FLOOR GRADING PLAN
RISERS, PLANTER WALLS AND SI
ELEVATIONS
TRENCH DRAIN RIM 55.80'
OUTLETTING TO CB-1
P 58.52'
58.75'
58.65'
EX. STEPS

40 FREE STREET DEVELOPMENT

40 FREE LLC
PORTLAND, MAINE

LEGEND:

EXISTING		PROPOSED
REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION	PARKING STRIPING	
	BRICK SIDEWALK	
	GREEN SPACE	
	PROPERTY LINE	
	EDGE OF EX. PAVEMENT	
	CURB	
	RESURFACED PAVEMENT	
	RECONSTRUCTED ROAD	
	EXISTING/PROPOSED BUILDING	
	UTILITY PAVEMENT CUTS	
	SILTATION FENCE/EROSION CONTROL BERM	
	UNDERGROUND CONDUIT	
	SIGN	
	LAMP OR LIGHT POLE	
	WATER VALVE	
	FIRE HYDRANT	
	SEWER MANHOLE	S
	CATCH BASIN/OIL WATER SEPARATOR	
	DRAIN MANHOLE	D
	INTERIOR DRAIN INLET	
T	UNDERGROUND ELECTRIC LINE	UGE
W	UNDERGROUND WATER LINE	6"W 6"W
G	GAS LINE	GAS GAS
	STORM DRAIN LINE	>
	SEWER LINE	S S
	FOUNDATION DRAIN	
	ROOF DRAIN	RD
64	MINOR CONTOURS (1FT EX., 0.5FT PROP.)	55
60	MAJOR CONTOURS (5FT)	56

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C-01	COVER SHEET & LEGEND
C-02	GENERAL NOTES
EX-01	EXISTING CONDITIONS PLAN – OWEN HASKELL
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C-03	CONSTRUCTION MANAGEMENT PLAN
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L-1	LANDSCAPE PLAN
C-20	UTILITY PLAN
C-30	GRADING & DRAINAGE PLAN
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C-41	SITE DETAILS – 2
C-42	UTILITY DETAILS
C-43	DRAINAGE DETAILS
C-44	EROSION CONTROL DETAILS & NOTES

CALL BEFORE YOU DIG
1-888-DIG-SAFE
1-888-344-7233

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
225 DOUGLAS 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: JAIME COUGH
(207) 629-1489

TELEPHONE:

CONSOLIDATED COMMUNICATIONS (FORMERLY FAIRPOINT)
45 FOREST AVENUE
PORTLAND MAINE 04101
CONTACT: PAT MORRISON
(207) 535-4271

CABLE:

CHARTER COMMUNICATIONS/SPECTRUM
118 JOHNSON ROAD
PORTLAND, MAINE, 04102
CONTACT: LOU WALKER
(207) 253-2218

NATURAL GAS:

UNITIL SERVICE CORP
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: BRIDGET HARMON
(207) 541-2536

PROJECT TEAM

DEVELOPER:

J.B. BROWN & SONS
PORTLAND, MAINE
CONTACT: VIN VERONEAU
(207) 774-5908

ARCHITECT:

RYAN SENATORE ARCHITECTURE
PORTLAND, MAINE
CONTACT: RYAN SENATORE, MAINE LICENSED ARCHITECT
(207) 650-6414

SURVEYOR:

OWEN HASKELL INC.
FALMOUTH, MAINE
CONTACT: JOHN SCHWANDA, P.L.S.
(207) 774-0424

GEOTECHNICAL ENGINEER:

S.W. COLE ENGINEERING, INC.
GRAY, MAINE
CONTACT: EVAN WALKER, P.E.
(207) 657-2866

STRUCTURAL ENGINEER:

STRUCTURAL INTEGRITY CONSULTING ENGINEERS, INC.
PORTLAND, MAINE
CONTACT: AARON JONES, P.E.
(207) 774-4614

CONSTRUCTION MANAGEMENT CO.:

ALLIED COOK CONSTRUCTION
SCARBOROUGH, MAINE
CONTACT: MATTHEW COOK
(207) 772-2888

TRAFFIC ENGINEER:

TRAFFIC SOLUTIONS
PORTLAND, MAINE
CONTACT: BILL BRAY, P.E.
(207) 774-3603

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
CL	CENTERLINE
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
FG	FINISH GRADE
FT.	FEET
GAL.	GALVANIZED
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
M.E.P	MECHANICAL. ELECTRICAL. PLUMBING
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
PWD	PORTLAND WATER DISTRICT
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
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC
VC	VITRIFIED CLAY

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME: 40 FREE STREET
CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.
65 HANOVER ST, PORTLAND, MAINE 04101
(207) 775-2355

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
4-15-19
LICENSED 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 "TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC. DATED MARCH 20, 2019.
8. SUBSURFACE DATA HAS BEEN OBTAINED BY S.W. COLE ENGINEERING, INC. AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ALSO REVIEW THE REPORT PRIOR TO SUBMITTING A BID.
9. 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.
10. CONSTRUCTION MANAGEMENT PLAN BY ACORN ENGINEERING SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.
12. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT–OF–WAY.
13. THE CONTRACTOR SHALL CONDUCT A PRE–CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM FOR ADJACENT STRUCTURES AT 22 FREE STREET AND 48 FREE STREET. A COPY OF THE SURVEY SHOULD BE PROVIDED TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.
14. THE CONTRACTOR SHALL SURVEY ROCK SURFACE PRIOR TO EXCAVATION AND DEVELOP VOLUME CALCULATIONS TO SHARE WITH ACORN ENGINEERING, IF ANY.

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 EXCEPTIONAL 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 ERECTING 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. CONCRETE SHALL ALSO BE CURED FOR 28 DAYS PRIOR TO BACKFILLING.
11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE.
12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
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 ENGINEER.
2. NORMAL REVIEWS WILL BE CONDUCTED 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 OUTLINED 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 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 I.B.C. 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 STRUCTURE CORNERS.
6. CONTRACTOR SHALL ENSURE THAT DRIVEWAYS AND MAILBOXES (IF APPLICABLE) 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.
3. ALL WORK WITHIN THE PUBLIC RIGHT–OF–WAY REQUIRES A STREET OPENING PERMIT FROM THE CITY OF PORTLAND. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL 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. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT.
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 EXISTING FINISH FLOOR ELEVATIONS.
5. NO ADDITIONAL PAYMENT FOR UNSUITABLE MATERIALS SHALL BE MADE.
6. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.
7. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
8. 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, PRIOR TO THE ORDERING OF STRUCTURES.
3. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR–16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.
4. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.
5. CONTRACTOR TO PROVIDE 5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.
6. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN ON SHEET C–42.
7. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT ''WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE'', MOST RECENT REVISION.
8. 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.
9. 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.
10. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
12. 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.
13. COORDINATE EXIT POINT FOR SECONDARY SERVICE WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN ENGINEERING WITHIN THE UTILITY PLAN.
14. 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.
15. 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
- 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.
- THE CLIENT HAS NOT REQUESTED NOR HAS ACORN ENGINEERING COMPLETED A PHASE I – ENVIRONMENTAL SITE ASSESSMENT FOR THE PROPERTY.

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19

DRAWING NAME: GENERAL NOTES
PROJECT NAME: 40 FREE STREET
CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE BY ANY PERSON OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
65 HANOVER ST. PORTLAND MAINE 04101
(207) 772-2892

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
45365
LICENSED PROFESSIONAL ENGINEER
4/15/19

DRAWING NO.
C-02

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
- UTILITY POLE
- MANHOLE
- GAS VALVE
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- LIGHT POLE
- DECIDUOUS TREE
- CURB
- W — WATER LINE
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- SS — SANITARY SEWER
- N/F — NOW OR FORMERLY
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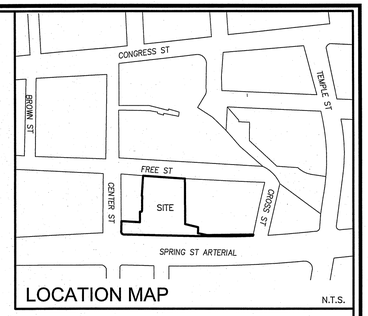
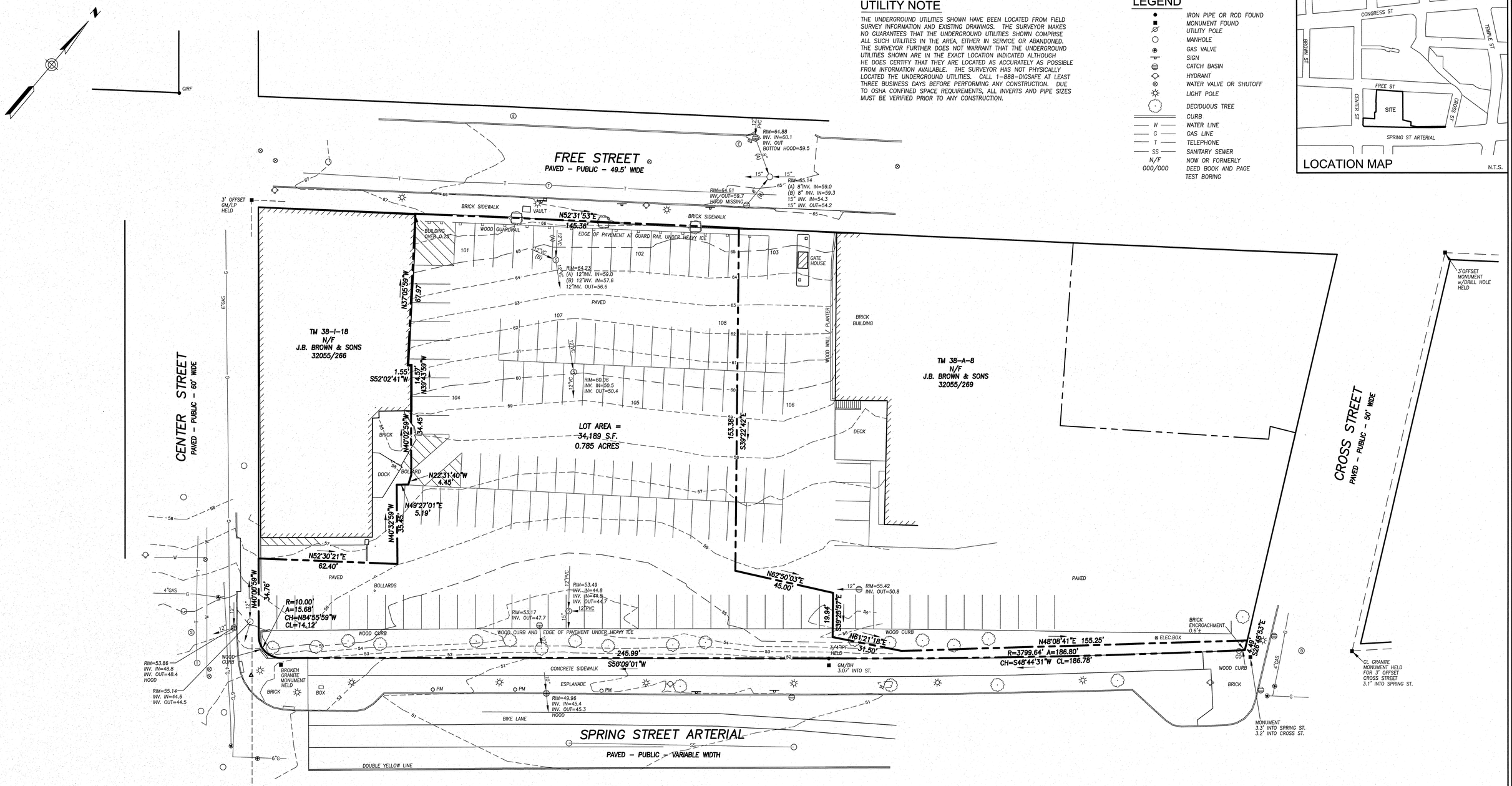
- TEST BORING



LOCATION MAP N.T.S.



PLAN REFERENCES

1. *"BOUNDARY & TOPOGRAPHIC SURVEY THE ASYLUM 121 CENTER STREET PORTLAND, MAINE MADE FOR VALERIE J. LEVY 3-18-16 SURVEY BY: OWEN HASKELL, INC."*
2. *"ALTA/ACSM LAND TITLE SURVEY ON FREE STREET & CENTER STREET PORTLAND, MAINE MADE FOR FORE RIVER CO. NOV. 6, 2002 OWEN HASKELL, INC."*
3. *"PORTLAND RENEWAL AUTHORITY MAINE WAY ME. R-78 DISPOSITION AREAS 5 & 14 JUNE 6, 1974 OWEN HASKELL, INC."*
4. *"LAND TITLE SURVEY ON CROSS ST., FREE ST. & SPRING ST. ARTERIAL PORTLAND, MAINE MADE FOR FREE STREET ASSOCIATES, LLC APRIL 29, 1999 OWEN HASKELL, INC."*
5. *"PLAN OF TOPOGRAPHY IN PORTLAND, MAINE MADE FOR J.B. BROWN & SONS SEPT. 29. 1978 H.I. & E.C. JORDAN – SURVEYORS" RECORDED IN PLAN BOOK 140, PAGE 2.*
6. *"PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR PROPOSED 10 FREE STREET CONDOMINIUM ASSOCIATION AUG. 5, 1988 H.I. AND E.C. JORDAN – SURVEYORS" RECORDED IN PLAN BOOK 176, PAGE 13.*

GENERAL NOTES

1. *OWNER OF RECORD: CITY OF PORTLAND*
2. *LOCUS IS SHOWN AS PROPERTY MAP 38 BLOCK A LOTS 14, 15, AND 16; MAP 38 BLOCK I LOTS 1, 2, 3, AND 4; AND COTTON STREET BETWEEN SPRING STREET ARTERIAL AND FREE STREET. FOR LOTS 38-A-14, 15 AND A PART OF 16 AND FOR LOTS 38-I-1, 2, 3, AND 4 SEE DEED TO THE CITY OF PORTLAND FROM THE PORTLAND RENEWAL AUTHORITY IN BOOK 4922, PAGE 168. (SEE ALSO DEEDS TO PORTLAND RENEWAL AUTHORITY IN 3313/158, 3313/160, 3426/312, AND 3451/71) FOR THE REMAINDER OF LOT 38-A-16 SEE DEEDS TO THE CITY OF PORTLAND IN 3208/374 AND 3209/566.*
3. *BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 1983. CITY CONTROL POINTS T124-19-1162 AND T124-19-1160 USED FOR HORIZONTAL CONTROL.*
4. ELEVATIONS ARE BASED ON NGVD 1929. CITY BENCHMARK: M MONUMENT AT THE WESTERLY CORNER OF FOREST AND CUMBERLAND AVENUES ELEVATION=80.57'.
5. *SEE BOOK 1351 PAGE 307 FOR A NON-PERMANENT AGREEMENT ABOUT A GAP BETWEEN TWO BUILDINGS AND A DRAIN OR SEWER LINE. SAID ITEMS MAY NO LONGER EXIST.*
6. *TOPOGRAPHY DONE WITH THICK ICE AND SNOW AND SHOULD BE VERIFIED IN SPRING.*

GRAPHIC SCALE
0 10' 20' 40' 80'

CERTIFICATE

TO: THE CITY OF PORTLAND, MAINE

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.

3-20-2019
DATE

JOHN C. SCHWANDA, PLS NO. 1252

STATE OF MAINE · JOHN C. SCHWANDA · 1252 · PROFESSIONAL LAND SURVEYOR

TOPOGRAPHIC SURVEY
ON
FREE STREET, PORTLAND, MAINE
MADE FOR
J.B. BROWN & SONS
10 FREE STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424

Drawn By RRL	Date	Job No.
Trace By JLW	MARCH 20, 2019	2017-058 P
Check By JCS	Scale	Drwg. No.
Book No. FILE	1" = 20'	1

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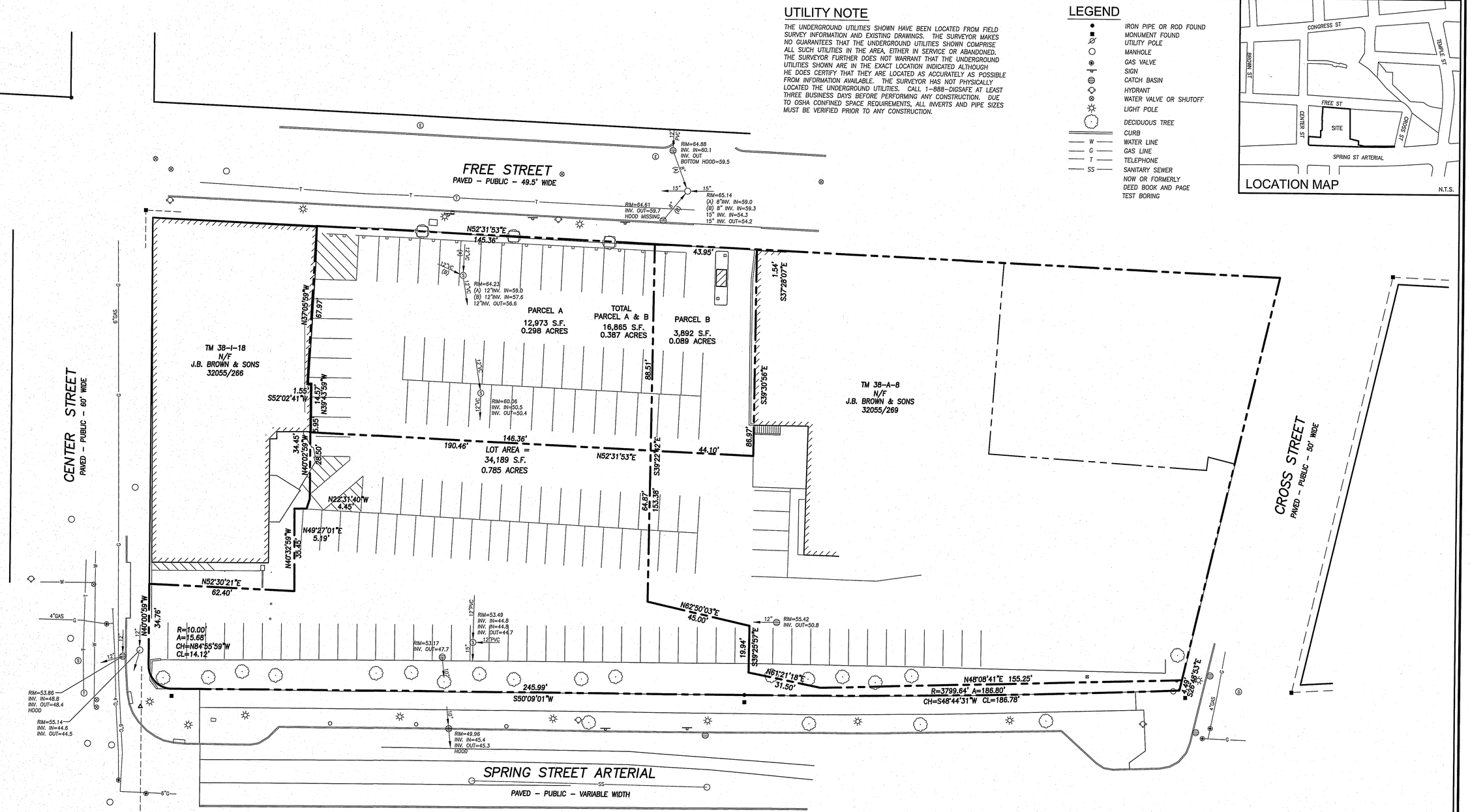
LOCATION MAP N.T.S.



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3. *"PORTLAND RENEWAL AUTHORITY MAINE WAY ME. R-78 DISPOSITION AREAS 5 & 14 JUNE 6, 1974 OWEN HASKELL, INC."*
4. *"LAND TITLE SURVEY ON CROSS ST., FREE ST. & SPRING ST. ARTERIAL PORTLAND, MAINE MADE FOR FREE STREET ASSOCIATES, LLC APRIL 29, 1999 OWEN HASKELL, INC."*
5. *"PLAN OF TOPOGRAPHY IN PORTLAND, MAINE MADE FOR J.B. BROWN & SONS SEPT. 29, 1978 H.I. & E.C. JORDAN – SURVEYORS" RECORDED IN PLAN BOOK 140, PAGE 2.*
6. *"PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR PROPOSED 10 FREE STREET CONDOMINIUM ASSOCIATION AUG. 5, 1988 H.I. AND E.C. JORDAN – SURVEYORS" RECORDED IN PLAN BOOK 176, PAGE 13.*

GENERAL NOTES

1. *OWNER OF RECORD: CITY OF PORTLAND*
2. *LOCUS IS SHOWN AS PROPERTY MAP 38 BLOCK A LOTS 14, 15, AND 16; MAP 38 BLOCK I LOTS 1, 2, 3, AND 4; AND COTTON STREET BETWEEN SPRING STREET ARTERIAL AND FREE STREET. FOR LOTS 38-A-14, 15 AND A PART OF 16 AND FOR LOTS 38-I-1, 2, 3, AND 4 SEE DEED TO THE CITY OF PORTLAND FROM THE PORTLAND RENEWAL AUTHORITY IN BOOK 4922, PAGE 168. (SEE ALSO DEEDS TO PORTLAND RENEWAL AUTHORITY IN 3313/158, 3313/160, 3426/312, AND 3451/71) FOR THE REMAINDER OF LOT 38-A-16 SEE DEEDS TO THE CITY OF PORTLAND IN 3208/374 AND 3209/566.*
3. *BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 1983. CITY CONTROL POINTS T124-19-1162 AND T124-19-1160 USED FOR HORIZONTAL CONTROL.*
4. *ELEVATIONS ARE BASED ON NGVD 1929. CITY BENCHMARK: M MONUMENT AT THE WESTERLY CORNER OF FOREST AND CUMBERLAND AVENUES ELEVATION=80.57'.*
5. *SEE BOOK 1351 PAGE 307 FOR A NON-PERMANENT AGREEMENT ABOUT A GAP BETWEEN TWO BUILDINGS AND A DRAIN OR SEWER LINE. SAID ITEMS MAY NO LONGER EXIST.*
6. *TOPOGRAPHY DONE WITH THICK ICE AND SNOW AND SHOULD BE VERIFIED IN SPRING.*

GRAPHIC SCALE
0 10' 20' 40' 80'

CERTIFICATE

TO: THE CITY OF PORTLAND, MAINE

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.

4-16-2019
DATE

JOHN C. SCHWANDA, PLS NO. 1252

STATE OF MAINE
JOHN C. SCHWANDA
1252
PROFESSIONAL LAND SURVEYOR

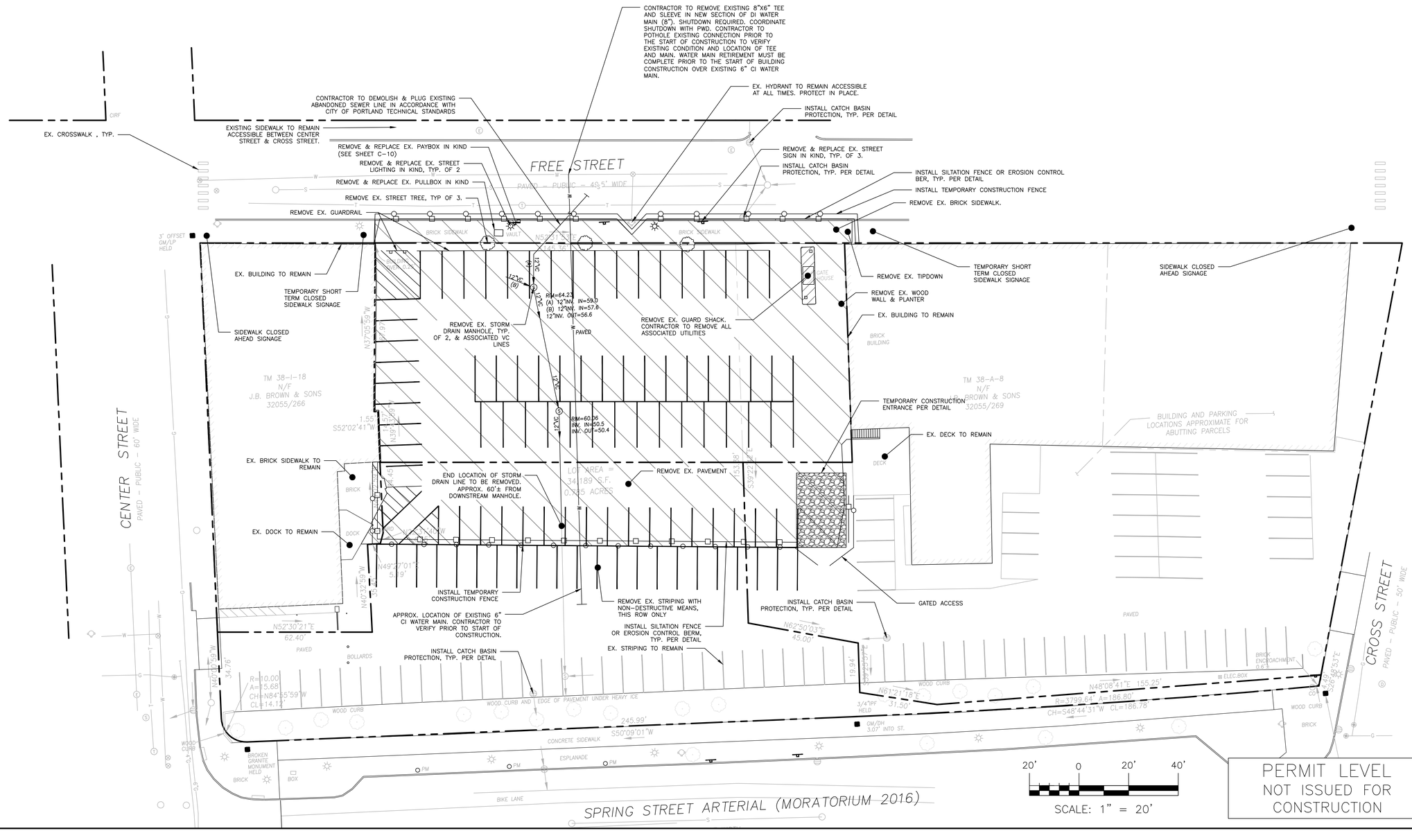
TOPOGRAPHIC SURVEY
ON
FREE STREET, PORTLAND, MAINE
MADE FOR
J.B. BROWN & SONS
10 FREE STREET, PORTLAND, MAINE

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207)774-0424

Drawn By RRL	Date MARCH 20, 2019	Job No. 2017-058 P
Trace By JLW	Scale 1" = 20'	Drwg. No. 1
Check By JCS		
Book No. FILE		

GENERAL NOTES:

1. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
2. 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.
3. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. 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.
5. ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
6. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
7. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
8. 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.
9. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
11. ALL POTENTIAL BIDDERS SHALL REFER TO THE BORING LOGS OBTAINED BY S.W. COLE ENGINEERING SERVICES FOR 40 FREE, LLC DATED APRIL 9TH, 2019 FOR ADDITIONAL INFORMATION. A COPY CAN BE MADE AVAILABLE ON REQUEST.
12. FOR EXCAVATIONS INTO THE ROW ASSOCIATED WITH A STREET OPENING PERMIT, CONTRACTOR SHALL ASSUME VARYING DEPTH OF PAVEMENT INCLUDING THE POSSIBILITY OF ENCOUNTERING COBBLESTONE SET IN MORTAR. NO ADDITIONAL PAYMENT FOR PAVEMENT AND COBBLESTONE REMOVAL.
13. ROCK EXCAVATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
14. THE CONTRACTOR SHALL UTILIZE A PRIVATE UTILITY LOCATING SERVICE TO IDENTIFY UTILITIES IN THE PARKING LOT.
15. CONTRACTOR SHALL ASSUME VARYING DEPTHS OF PAVEMENT INCLUDING THE POSSIBILITY OF COBBLESTONES OR FOUNDATIONS RELATED TO THE FORMER COTTON STREET ROW THROUGH THE SITE. NO ADDITIONAL PAYMENT FOR COBBLESTONE OR FOUNDATION REMOVAL.



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 04/15/19

DRAWING NAME: CONSTRUCTION MANAGEMENT PLAN

PROJECT NAME: 40 FREE STREET

CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.
ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED, WITHOUT WRITTEN PERMISSION OR, OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
65 HANOVER STREET, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
4-15-19
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-03

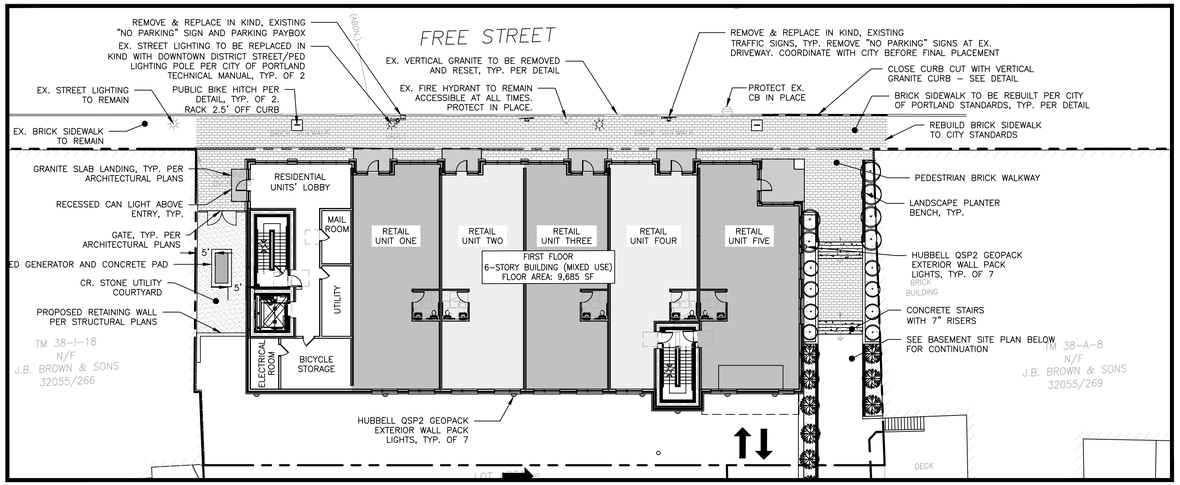
GENERAL NOTES:

1. ALL BRICK SIDEWALK VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARDS.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. 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.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. SIGNAGE WITHIN THE SIDEWALK SHALL BE INSTALLED WITH PVC SLEEVES, CAPPED AND FLUSH WITH FINISHED GRADE UNTIL SIGNS POSTS ARE INSTALLED.
8. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
9. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND TACK COATED PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

SPACE AND BULK STANDARDS			
B3 DOWNTOWN BUSINESS, DOWNTOWN ENTERTAINMENT OVERLAY ZONE, CONGRESS STREET HISTORIC DISTRICT	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE	NONE	34,189 SF	16,863 SF
MINIMUM STREET FRONTAGE	15'	189.29'	189.29'
MAXIMUM STREET WALL BUILD-TO LINE	5'	NA	3'
MINIMUM YARD DIMENSIONS	NONE	NA	NA
MINIMUM LOT WIDTH	NONE	NA	NA
MAXIMUM LOT COVERAGE	100%	100%	97%
MINIMUM BUILDING HEIGHT	35'	NA	70'
MAXIMUM BUILDING STREET HEIGHT (FREE STREET)	90'	NA	70'
PAD OVERLAY 20' DEEP RETAIL STREET FACADE	75% MIN	NA	82%
MAX BLANK FACADE (FREE STREET ONLY)	15' MAX	NA	5'
MAX BLANK FACADE (ALL EXCEPT FREE STREET)	30' MAX	NA	15'
MAXIMUM BUILDING HEIGHT	150'	NA	72.71'
BICYCLE PARKING*	22	NA	22 INTERIOR
VEHICLE PARKING**	37**	NA	37***
*BICYCLE PARKING BASED UPON 51 RESIDENTIAL UNITS AND 10 RETAIL VEHICLE PARKING SPACES			
**REQUIRED PARKING PER PARKING ASSESSMENT STUDY PERFORMED BY TRAFFIC SOLUTIONS			
***37 PARKING SPACES ON PROPOSED 40 FREE STREET PARCEL. 33 SPACES TO BE RESTRIPED ON ABUTTING PARCEL OWNED BY J.B. BROWN & SONS			
FREE STREET – PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY ZONE, OTHERS – PAD ENCOURAGEMENT AREA			

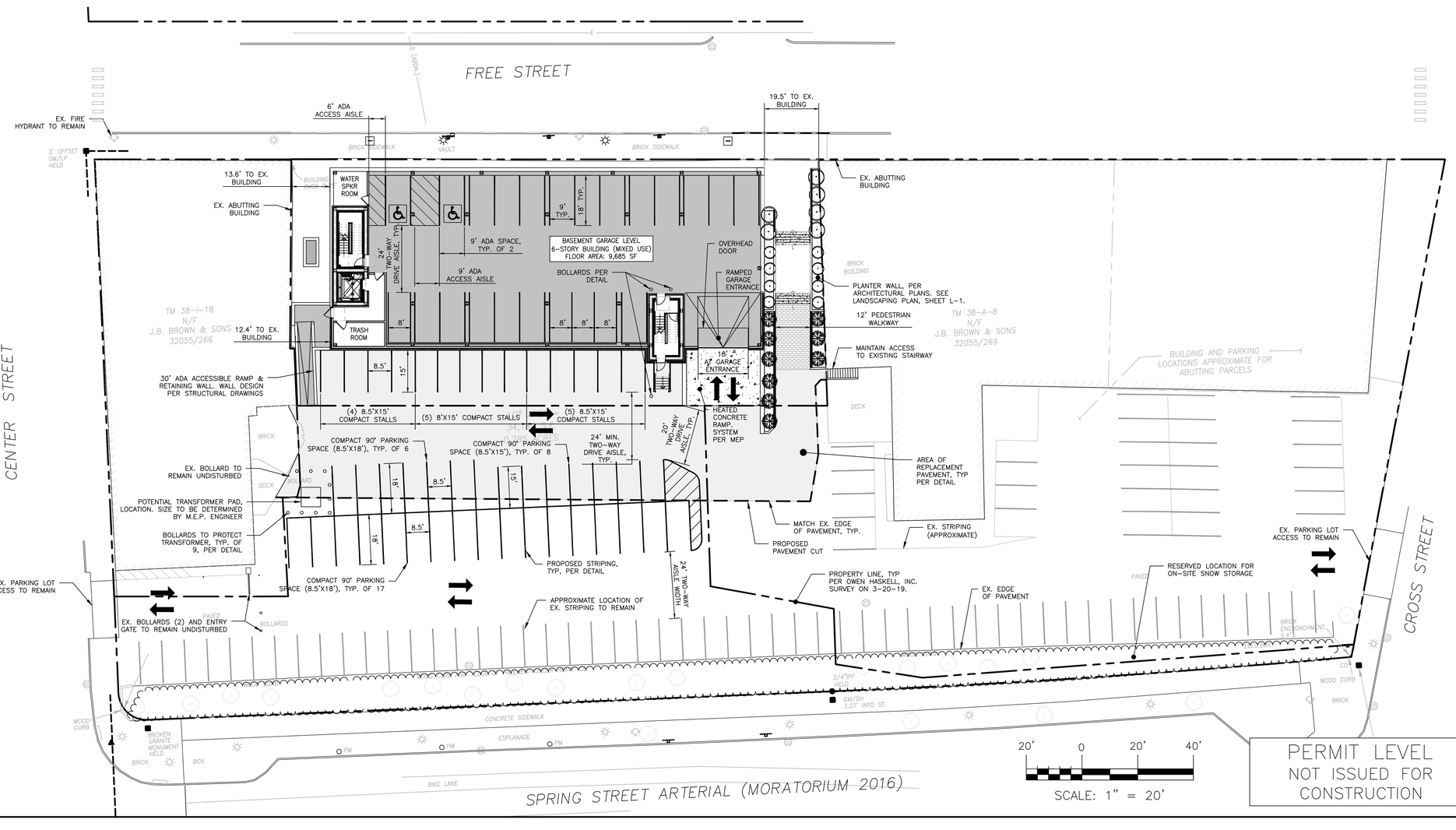
40 FREE PARKING SUMMARY	
PARKING DIMENSION	PROPOSED NUMBER OF SPACES
8'X18'	4
9'X18'	17
8'X18' (ADA)	2
8.5'X15'	9
8'X15'	5
TOTAL	**37 SPACES**

J.B. BROWN & SONS PARKING SUMMARY	
PARKING DIMENSION	PROPOSED NUMBER OF SPACES
8.5'X15'	8
8.5'X18'	23
EXISTING TO REMAIN	77
TOTAL	**108 SPACES**



FIRST FLOOR PLAN
1"=20'

LEGEND	
ASSOCIATED AREA	HATCH STYLE
	BRICK
	GREEN SPACE
	CONCRETE
	ASPHALT
	GRAVEL



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19
COMMENT RESPONSE	WHS 5/29/19

DRAWING NAME: SITE PLAN
PROJECT NAME: 40 FREE STREET
CLIENT: 40 FREE LLC
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.
THIS PLAN SHALL NOT BE MODIFIED, WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
65 HANOVER STREET, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

DRAWING NO.
C-10

LANDSCAPE NOTES:

1. CONTRACTOR TO MAINTAIN A ONE YEAR WARRANTY ON ALL PLANTINGS FOLLOWING INSTALLATION.
2. NO PLANTING TO BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
3. ANY SUBSTITUTIONS TO THE PLANTING SCHEDULE ARE TO BE REVIEWED FOR APPROVAL BY THE CITY ARBORIST.
4. ALL PROPOSED GREEN SPACES AND ASSOCIATED PLANT SPECIES ARE TO COMPLY WITH THE CITY OF PORTLAND TECHNICAL STANDARDS. ANY SUBSTITUTIONS WILL BE REVIEWED FOR APPROVAL BY THE CITY ARBORIST.
5. NO PLANTING SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
6. CONTRACTOR TO VERIFY ALL UTILITIES ON PROPERTY AND TO PROTECT ALL UTILITIES DURING EXCAVATION FOR PLANTS.
7. ALL CONTAINER MATERIAL TO BE GROWN IN CONTAINER MINIMUM OF 6 MONTHS.
8. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN.
9. CONTRACTOR SHALL REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO OWNER.
10. THE PROPERTY OWNER IS RESPONSIBLE FOR THE CONTINUED CARE AND MAINTENANCE OF THE LANDSCAPED AREA. PLANTINGS THAT SHOW SIGNS OF CONSTRUCTION DAMAGE WITHIN A ONE YEAR PERIOD FOLLOWING CONSTRUCTION SHALL BE REJECTED AND REPLACED PRIOR TO ANY DEFECT GUARANTEE AT NO COST TO THE OWNER.
11. 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.

PLANT SCHEDULE

ID	BOTANICAL NAME	COMMON NAME	QTY	SIZE
	TREES			
PA	PRUNUS 'ACCOLADE'	ACCOLADE CHERRY	5	6–8'
	PERENNIAL GROUND COVER/GRASSES			
DP	DENNSTAEDTIA PUNCTILOBA	HAYSCENTED FERN	8	1 GAL
JH	JUNIPERUS HORIZONTALIS	'GOLDEN CARPET' JUNIPER	9	1 GAL
AT	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	6	1 GAL

20' 0 20' 40'

SCALE: 1" = 20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19

DRAWING NAME: LANDSCAPE PLAN

PROJECT NAME: 40 FREE STREET

CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.
65 HANOVER STREET, PORTLAND, MAINE 04101
(207) 775-2655

THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN AUTHORIZATION FROM ACORN ENGINEERING, INC. AND IF MODIFIED FOR ANY REASON OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE: 1118_CIVIL
JN: 1118
SCALE: AS NOTED
DESIGNED BY: MPB
DRAWN BY: MPB
CHECKED BY: WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
4/15/19
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
L-1

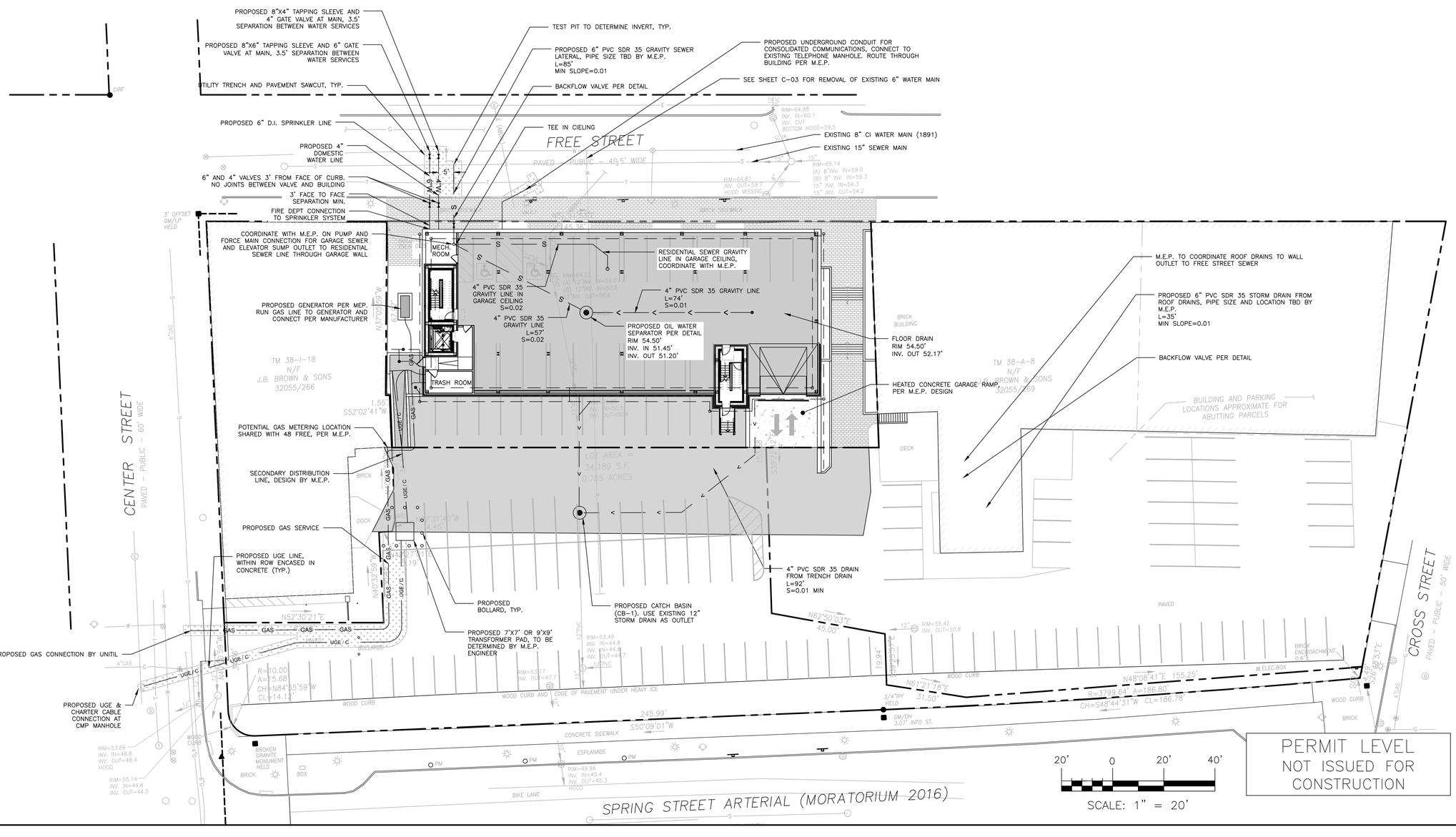
GENERAL NOTES:

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 INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR 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 CONNECTIONS WITHIN THE BUILDING.
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 INVERT FIELD CONDITIONS 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. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL.
8. 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 TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND FAIRPOINT PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.
10. A. SURFACE & GROUNDWATER TO DISCHARGE TO SPRING STREET.
    B. ROOF RUNOFF TO DISCHARGE TO FREE STREET.
    C. ENCLOSED FLOOR DRAINS AND SEWER TO DISCHARGE TO FREE STREET.

MINIMUM HORIZONTAL UTILITY SEPARATION

UTILITY	UGE/T/C	WATER	SEWER	GAS	STORMWATER
UGE/T/C	–	6'	5'	4'	6'
WATER	6'	–	5'*	6'	3'
SEWER	5'	5'*	–	5'	10'
GAS	4'	6'	5'	–	3'
STORMWATER	6'	3'	10'	3'	–

*PERMISSIBLE ONLY IF SEWER IS LAID MIN. 18" BELOW WATER SERVICE; OTHERWISE, 10' OF HORIZONTAL SEPARATION MUST BE MAINTAINED.



PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 04/15/19
COMMENTS/RESPONSE	WHS 09/26/19

UTILITY PLAN

40 FREE STREET

40 FREE LLC.
10 FREE STREET, PORTLAND 04101

DRAWING NAME:
PROJECT NAME:
CLIENT:

ACORN ENGINEERING, INC.

ALL PLANS SHALL NOT BE MODIFIED, WHETHER ELECTRONICALLY OR OTHERWISE, UNLESS AUTHORIZED IN WRITING BY ACORN ENGINEERING, INC. ANY MODIFICATIONS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
65 HANOVER STREET, PORTLAND, MAINE 04101
(207) 775-2655

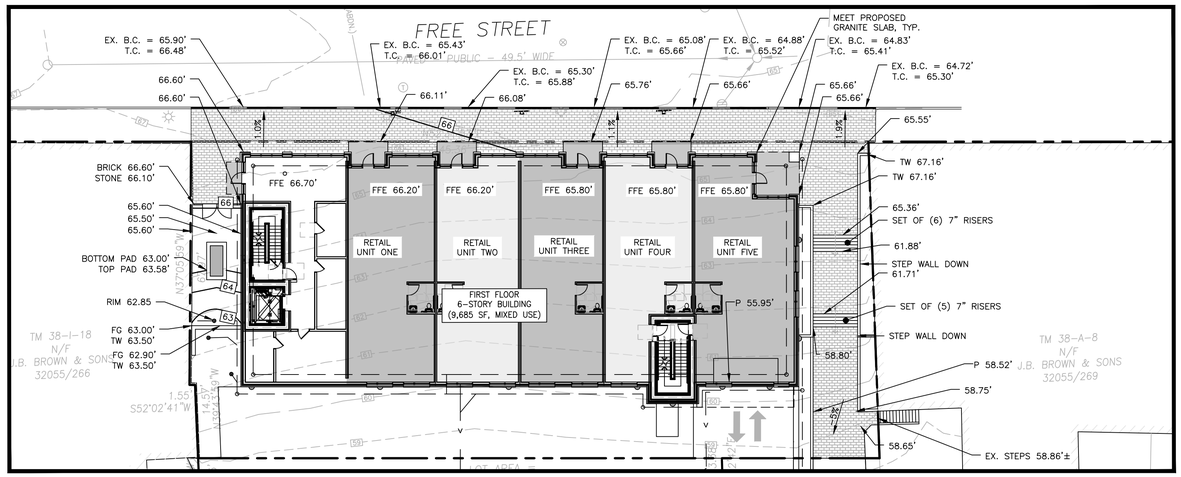
FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

DRAWING NO.
C-20

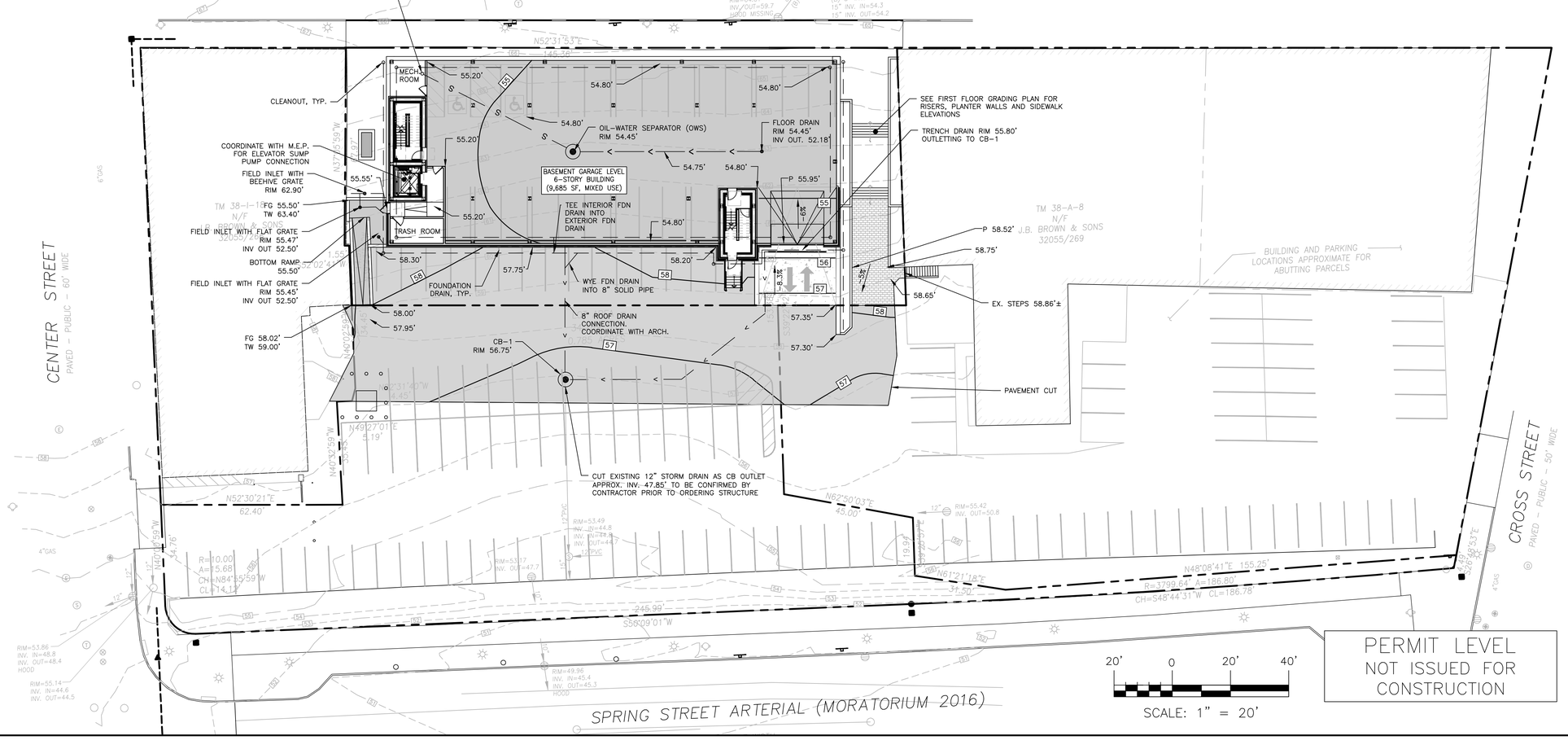
GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.

STRUCTURE SUMMARY			
	RIM	INV. IN	INV. OUT
OWS	54.50'	51.45'	51.20'
CB-1	56.75'	48.80' (8" RD) 52.37' (6" FROM TRENCH DRAIN)	47.85'± (EX. 12")



FIRST FLOOR PLAN
1"=20'



20' 0 20' 40'

SCALE: 1" = 20'

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 04/15/19
COMMENT RESPONSE	WHS 5/29/19

DRAWING NAME: **GRADING PLAN**

PROJECT NAME: **40 FREE STREET**

CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.
ENGINEERING, INC.
CIVIL AND TRANSPORTATION
65 HANOVER STREET, PORTLAND, MAINE 04101
(207) 775-2655

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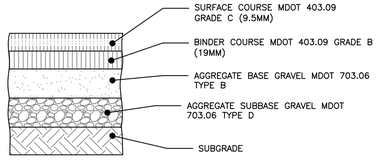
FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

DRAWING NO.
C-30

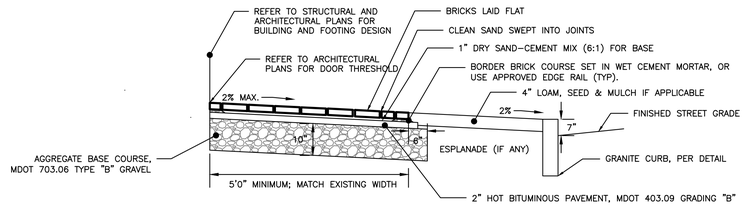


NOTES:

1. 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 (9.5mm)
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
NOT TO SCALE



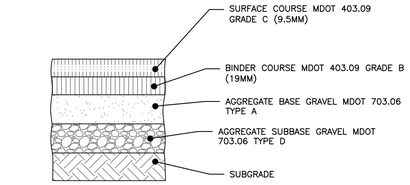
NOTES:

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.

2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.

BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL
NOT TO SCALE

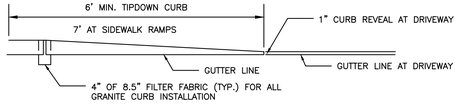


NOTES:

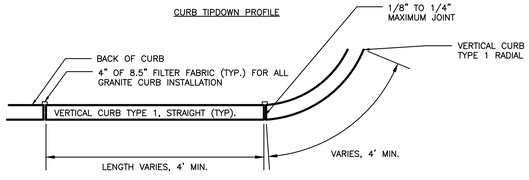
1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. ARTERIAL BITUMINOUS PAVEMENT PROFILE APPLIES ONLY WITHIN CONGRESS STREET R.O.W.

	THICKNESS OF LAYERS
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
3"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
6"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

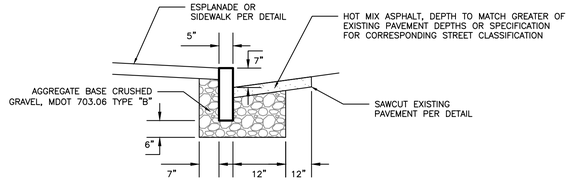
CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT PROFILE
NOT TO SCALE



CURB TIPDOWN PROFILE

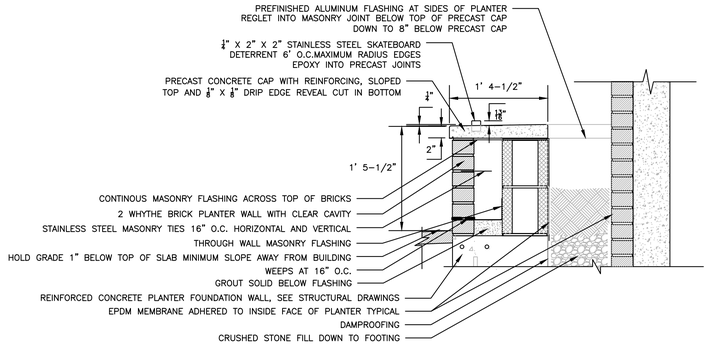


VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

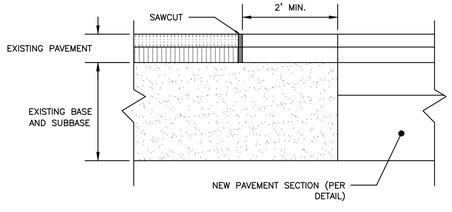
VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION
NOT TO SCALE



PLANTER BENCH DETAIL

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

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19

DRAWING NAME: SITE DETAILS - 1
PROJECT NAME: 40 FREE STREET
CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

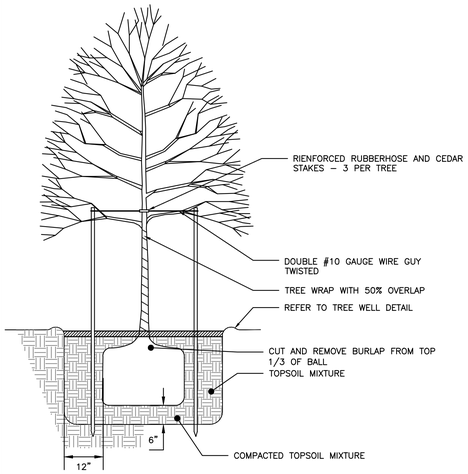
ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
65 HANOVER ST, PORTLAND MAINE 04101
(207) 775-2355

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE BY OTHERS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
4-15-19
LICENSED PROFESSIONAL ENGINEER

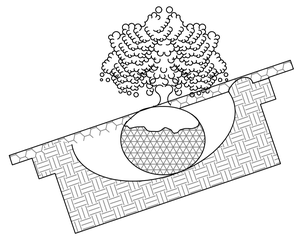
DRAWING NO.
C-40



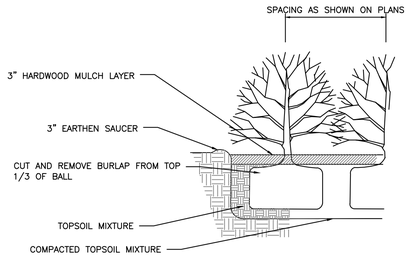
TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

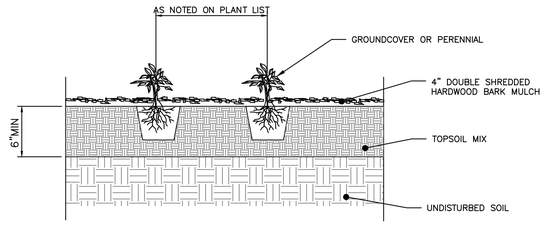
1. DIG HOLE AT LEAST 2 TIMES THE DIAMETER OF THE ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH THE TOP AT DOWNHILL EDGE OF THE HOLE.
2. TOPSOIL BACKFILL SHALL BE NATURAL FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING THE CHARACTERISTICS OF TOPSOIL IN THE VICINITY WHICH 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.



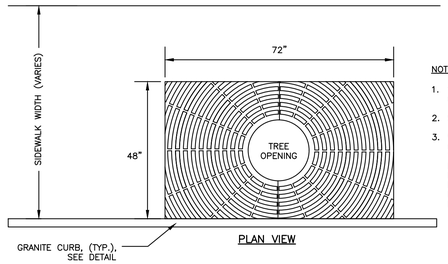
TYPICAL PLANTING
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE



PERENNIAL PLANTING DETAIL
NOT TO SCALE



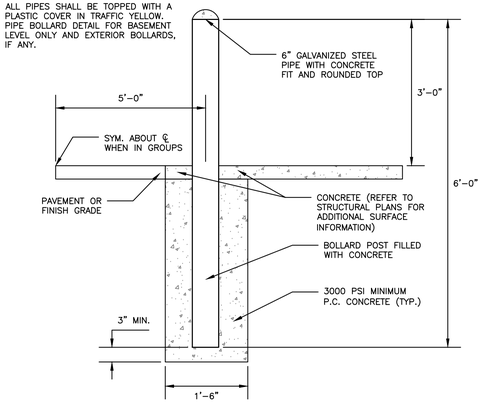
NOTES:

1. 16" EXPANDABLE TREE OPENING; .375" 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 MANUFACTURERS INSTALLATION PROCEDURES FOR PAVERS. CONTRACTOR TO SUBMIT INSTALLATION PROCEDURES FOR REVIEW FROM ENGINEER PRIOR TO CONSTRUCTION.

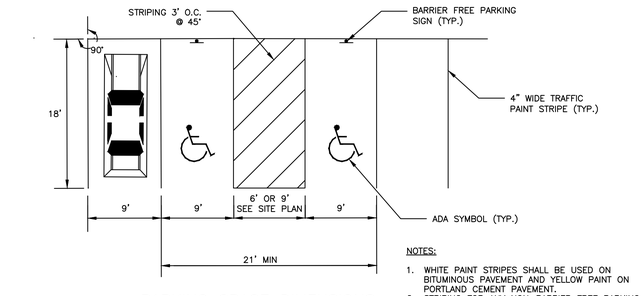
EXPANDABLE TREE GRATE NEENAH MODEL R–8811
NOT TO SCALE

NOTES:

1. ALL PIPES SHALL BE TOPPED WITH A PLASTIC COVER IN TRAFFIC YELLOW.
2. PIPE BOLLARD DETAIL FOR BASEMENT LEVEL ONLY AND EXTERIOR BOLLARDS, IF ANY.



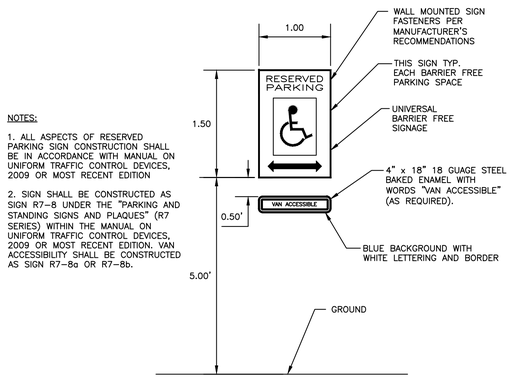
PIPE BOLLARD
NOT TO SCALE



NOTES:

1. WHITE PAINT STRIPES SHALL BE USED ON BITUMINOUS PAVEMENT AND YELLOW PAINT ON PORTLAND CEMENT PAVEMENT.
2. STRIPING FOR ANY NON–BARRIER FREE PARKING SPACE WITH A WIDTH LESS THAN 18' SHALL BE PAINTED BLUE.

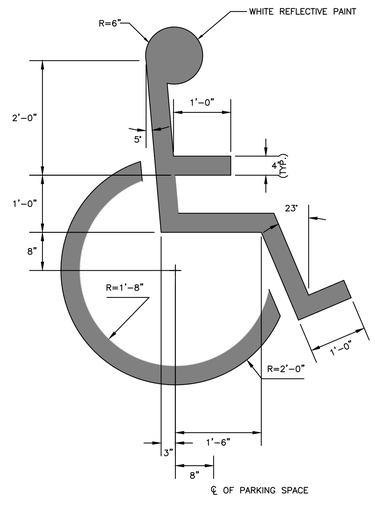
PARKING SPACE DIMENSIONS
NOT TO SCALE



NOTES:

1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7–8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7–8a OR R7–8b.

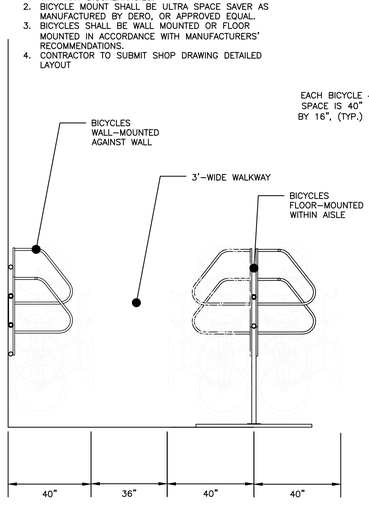
BARRIER FREE PARKING SIGN
NOT TO SCALE



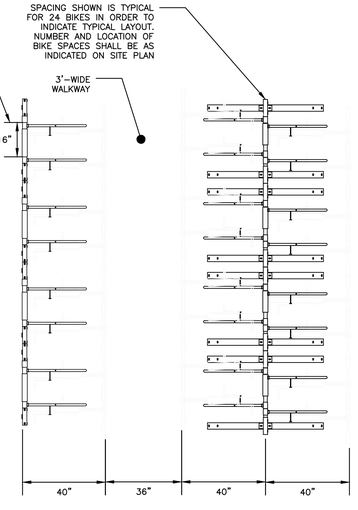
INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE

NOTES:

1. FINAL LOCATION OF INTERIOR BICYCLE RACKS SHALL CONFORM TO ALL ARCHITECTURAL DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER AND ARCHITECT WITH ANY DISCREPANCIES.
2. BICYCLE MOUNT SHALL BE ULTRA SPACE SAVER AS MANUFACTURED BY DERO, OR APPROVED EQUAL.
3. BICYCLES SHALL BE WALL MOUNTED OR FLOOR MOUNTED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
4. CONTRACTOR TO SUBMIT SHOP DRAWING DETAILED LAYOUT



CROSS SECTION VIEW



PLAN VIEW

INTERIOR BICYCLE SPACE LAYOUT
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/15

DRAWING NAME: SITE DETAILS – 2

PROJECT NAME: 40 FREE STREET

CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.

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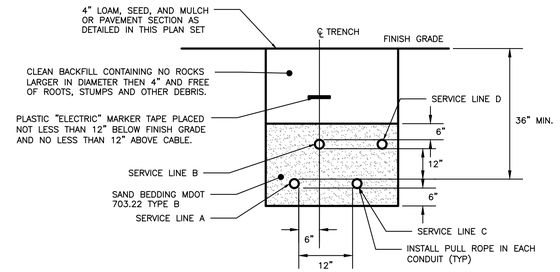
65 HANOVER ST, PORTLAND, MAINE 04101
(207) 775-2455

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
LICENSED PROFESSIONAL ENGINEER
4-15

DRAWING NO.
C-41



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:

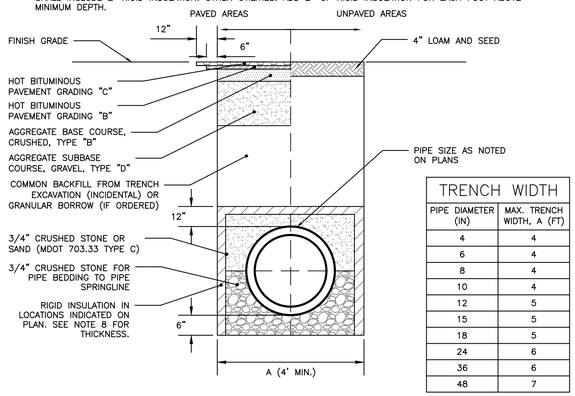
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.

UTILITY TRENCH: PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

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 ROW.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.



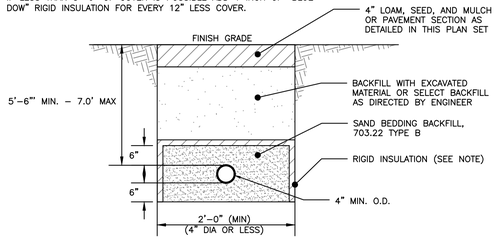
TRENCH WIDTH	
PIPE DIAMETER (IN)	MAX. TRENCH WIDTH, A (FT)
4	4
6	4
8	4
10	4
12	5
15	5
18	5
24	6
36	6
48	7

CITY OF PORTLAND TYPICAL PIPE TRENCH DETAIL

NOT TO SCALE

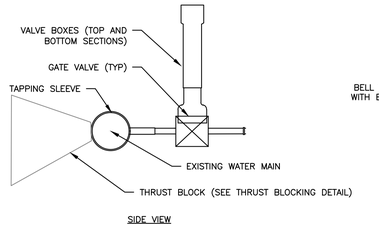
NOTES:

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.



WATER SERVICE TRENCH SECTION DETAIL

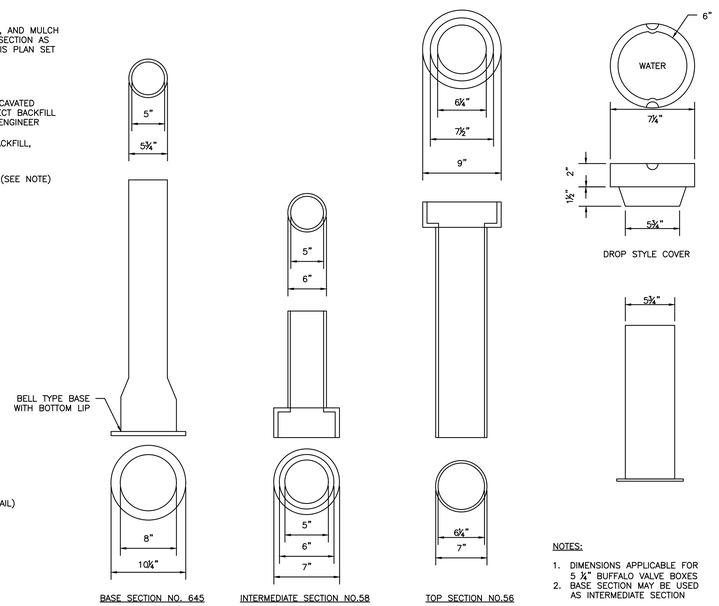
NOT TO SCALE



SIDE VIEW

TAPPING SLEEVE AND VALVE

NOT TO SCALE

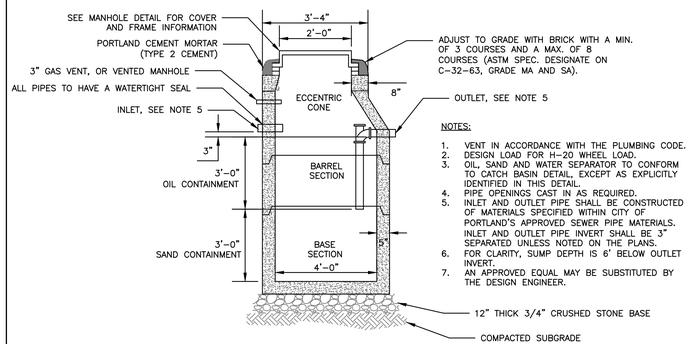


NOTES:

1. DIMENSIONS APPLICABLE FOR 5 ¼" BUFFALO VALVE BOXES
2. BASE SECTION MAY BE USED AS INTERMEDIATE SECTION

VALVE BOX & COVER

NOT TO SCALE

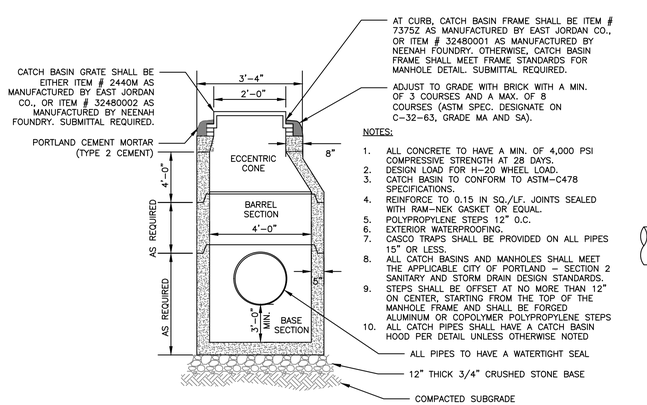


NOTES:

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

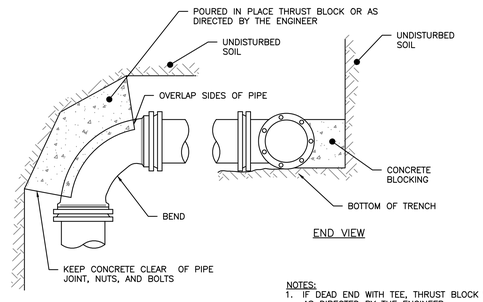


NOTES:

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.
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
10. ALL CATCH PIPES SHALL HAVE A CATCH BASIN HOOD PER DETAIL UNLESS OTHERWISE NOTED

4'–0" DIAMETER PRECAST CATCH BASIN

NOT TO SCALE

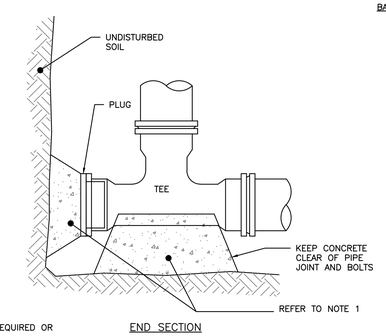


NOTES:

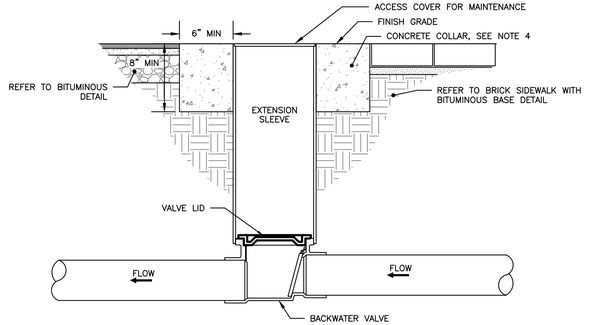
1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED OR AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

THRUST BLOCKING: REGULAR BEND

NOT TO SCALE



END SECTION

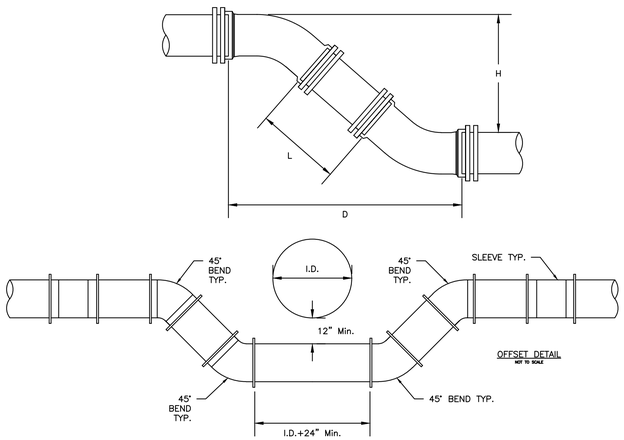


NOTES:

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. DIMENSIONS APPLICABLE FOR SIGMA COMPACT BENDS. FOR TYLER COMPACT BENDS, ADD 1/2" TO "D" DIMENSION AND SUBTRACT 1/2" FROM "L" DIMENSION.
2. FOR OTHER FITTINGS REFER TO MANUFACTURER'S RECOMMENDATIONS.

TYPICAL MAIN OFFSET

NOT TO SCALE

	6" PIPE		8" PIPE		12" PIPE	
H	D	L	D	L	D	L
12"	1' 6–1/2"	0' 10–1/2"	1' 7–1/2"	0' 9–1/2"	1' 11–1/2"	0' 5–1/2"
13"	1' 7–1/2"	0' 11–7/8"	1' 8–1/2"	0' 10–7/8"	2' 0–1/2"	0' 6–7/8"
14"	1' 8–1/2"	1' 1–5/16"	1' 9–1/2"	1' 0–5/16"	2' 1–1/2"	0' 8–5/16"
15"	1' 9–1/2"	1' 2–11/16"	1' 10–1/2"	1' 1–11/16"	2' 2–1/2"	0' 9–11/16"
16"	1' 10–1/2"	1' 4–1/8"	1' 11–1/2"	1' 3–1/8"	2' 3–1/2"	0' 11–1/8"
17"	1' 11–1/2"	1' 5–9/16"	2' 0–1/2"	1' 4–9/16"	2' 4–1/2"	1' 0–9/16"
18"	2' 0–1/2"	1' 6–15/16"	2' 1–1/2"	1' 5–15/16"	2' 5–1/2"	1' 1–15/16"
19"	2' 1–1/2"	1' 8–3/8"	2' 2–1/2"	1' 7–3/8"	2' 6–1/2"	1' 3–3/8"
20"	2' 2–1/2"	1' 9–13/16"	2' 3–1/2"	1' 8–13/16"	2' 7–1/2"	1' 4–13/16"
21"	2' 3–1/2"	1' 11–3/16"	2' 4–1/2"	1' 10–3/16"	2' 8–1/2"	1' 6–3/16"
22"	2' 4–1/2"	2' 0–5/8"	2' 5–1/2"	1' 11–5/8"	2' 9–1/2"	1' 7–5/8"
23"	2' 5–1/2"	2' 2"	2' 6–1/2"	2' 1"	2' 10–1/2"	1' 9"
24"	2' 6–1/2"	2' 3–7/16"	2' 7–1/2"	2' 2–7/16"	2' 11–1/2"	1' 10–7/16"
25"	2' 7–1/2"	2' 4–7/8"	2' 8–1/2"	2' 3–7/8"	3' 0–1/2"	1' 11–7/8"
26"	2' 8–1/2"	2' 6–1/4"	2' 9–1/2"	2' 5–1/4"	3' 1–1/2"	2' 1–1/4"
27"	2' 9–1/2"	2' 7–11/16"	2' 10–1/2"	2' 6–11/16"	3' 2–1/2"	2' 2–11/16"
28"	2' 10–1/2"	2' 9–1/8"	2' 11–1/2"	2' 8–1/8"	3' 3–1/2"	2' 4–1/8"
29"	2' 11–1/2"	2' 10–1/2"	3' 0–1/2"	2' 9–1/2"	3' 4–1/2"	2' 5–1/2"
30"	3' 0–1/2"	2' 11–15/16"	3' 1–1/2"	2' 10–15/16"	3' 5–1/2"	2' 6–15/16"
31"	3' 1–1/2"	3' 1–5/16"	3' 2–1/2"	3' 0–5/16"	3' 6–1/2"	2' 8–5/16"
32"	3' 2–1/2"	3' 2–3/4"	3' 3–1/2"	3' 1–3/4"	3' 7–1/2"	2' 9–3/4"
33"	3' 3–1/2"	3' 4–3/16"	3' 4–1/2"	3' 3–3/16"	3' 8–1/2"	2' 11–3/16"
34"	3' 4–1/2"	3' 5–9/16"	3' 5–1/2"	3' 4–9/16"	3' 9–1/2"	3' 0–9/16"
35"	3' 5–1/2"	3' 7"	3' 6–1/2"	3' 6"	3' 10–1/2"	3' 2"
36"	3' 6–1/2"	3' 8–7/16"	3' 7–1/2"	3' 7–7/16"	3' 11–1/2"	3' 3–7/16"
37"	3' 7–1/2"	3' 9–13/16"	3' 8–1/2"	3' 8–13/16"	4' 0–1/2"	3' 4–13/16"
38"	3' 8–1/2"	3' 11–1/4"	3' 9–1/2"	3' 10–1/4"	4' 1–1/2"	3' 6–1/4"
39"	3' 9–1/2"	4' 0–11/16"	3' 10–1/2"	3' 11–11/16"	4' 2–1/2"	3' 7–11/16"
40"	3' 10–1/2"	4' 2–1/16"	3' 11–1/2"	4' 1–1/16"	4' 3–1/2"	3' 9–1/16"
41"	3' 11–1/2"	4' 3–1/2"	4' 0–1/2"	4' 2–1/2"	4' 4–1/2"	3' 10–1/2"
42"	4' 0–1/2"	4' 4–7/8"	4' 1–1/2"	4' 3–7/8"	4' 5–1/2"	3' 11–7/8"
43"	4' 1–1/2"	4' 6–5/16"	4' 2–1/2"	4' 5–5/16"	4' 6–1/2"	4' 1–5/16"
44"	4' 2–1/2"	4' 7–3/4"	4' 3–1/2"	4' 6–3/4"	4' 7–1/2"	4' 2–3/4"
45"	4' 3–1/2"	4' 9–1/8"	4' 4–1/2"	4' 8–1/8"	4' 8–1/2"	4' 4–1/8"
46"	4' 4–1/2"	4' 10–9/16"	4' 5–1/2"	4' 9–9/16"	4' 9–1/2"	4' 5–9/16"
47"	4' 5–1/2"	4' 11–15/16"	4' 6–1/2"	4' 10–15/16"	4' 10–1/2"	4' 6–15/16"
48"	4' 6–1/2"	5' 1–3/8"	4' 7–1/2"	5' 0–3/8"	4' 11–1/2"	4' 8–3/8"
49"	4' 7–1/2"	5' 2–13/16"	4' 8–1/2"	5' 1–13/16"	5' 0–1/2"	4' 9–13/16"
50"	4' 8–1/2"	5' 4–3/16"	4' 9–1/2"	5' 3–3/16"	5' 1–1/2"	4' 11–3/16"
51"	4' 9–1/2"	5' 5–5/8"	4' 10–1/2"	5' 4–5/8"	5' 2–1/2"	5' 0–5/8"
52"	4' 10–1/2"	5' 7–1/16"	4' 11–1/2"	5' 6–1/16"	5' 3–1/2"	5' 2–1/16"
53"	4' 11–1/2"	5' 8–7/16"	5' 0–1/2"	5' 7–7/16"	5' 4–1/2"	5' 3–7/16"
54"	5' 0–1/2"	5' 9–7/8"	5' 1–1/2"	5' 8–7/8"	5' 5–1/2"	5' 4–7/8"
55"	5' 1–1/2"	5' 11–5/16"	5' 2–1/2"	5' 10–5/16"	5' 6–1/2"	5' 6–5/16"

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19

DRAWING NAME: UTILITY DETAILS
PROJECT NAME: 40 FREE STREET
CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

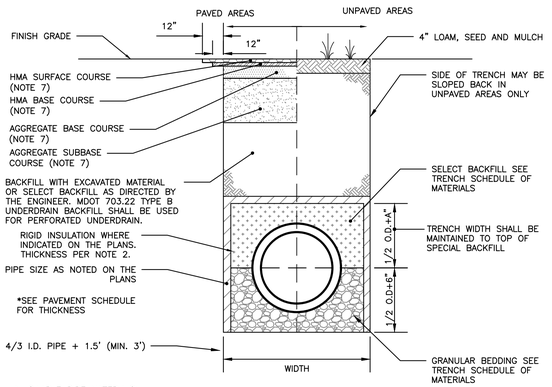
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY MODIFICATIONS MADE WITHOUT SUCH PERMISSION SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
65 HANOVER ST. | PORTLAND, MAINE 04101
(207) 775–2355

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
4-15-19
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-42

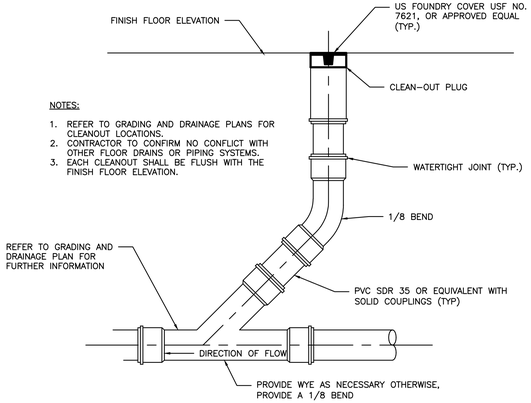


ALLOWABLE PIPE MATERIALS:
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

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

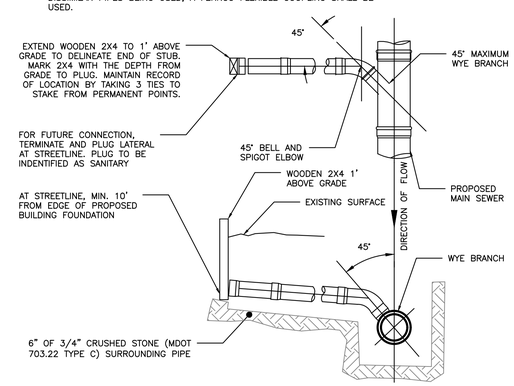
STORM DRAIN AND SEWER TYPICAL TRENCH SECTION
NOT TO SCALE



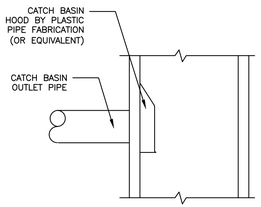
NOTES:
1. REFER TO GRADING AND DRAINAGE PLANS FOR CLEANOUT LOCATIONS.
2. CONTRACTOR TO CONFIRM NO CONFLICT WITH OTHER FLOOR DRAINS OR PIPING SYSTEMS.
3. EACH CLEANOUT SHALL BE FLUSH WITH THE FINISH FLOOR ELEVATION.

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.

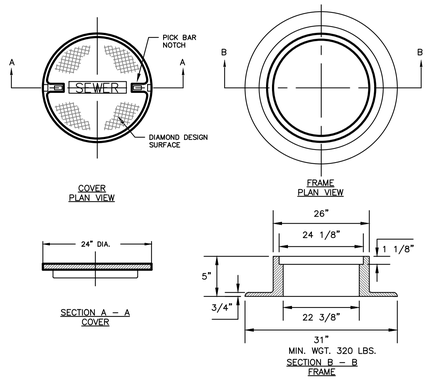


SEWER TEE/WYE CONNECTION DETAIL
NOT TO SCALE



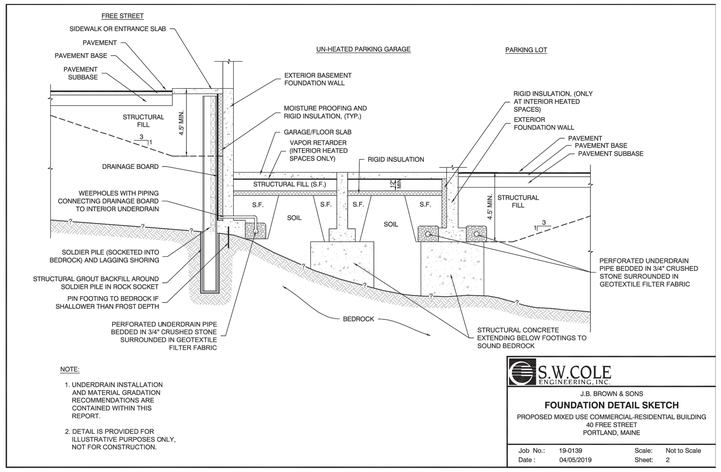
NOTES:
1. INSTALL CATCH BASIN HOODS IN ALL CATCH BASINS UNLESS OTHER WISE NOTED
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS

CATCH BASIN HOOD DETAIL
NOT TO SCALE



NOTES:
1. ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".
2. ALL SANITARY MANHOLE COVERS AND SHALL HAVE "SEWER" CAST INTO THE COVER.
3. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
4. APPROVED MANHOLE FRAMES:
   4.1. EAST JORDAN = 1690Z
   4.2. OR APPROVED EQUAL
5. APPROVED MANHOLE COVERS
   5.1. EAST JORDAN = 2160A
   5.2. OR APPROVED EQUAL
6. FRAME AND COVER CONSTRUCTION SHALL BE COMPATIBLE WITH STANDARD PRECAST SEWER MANHOLE DETAIL

CAST IRON MANHOLE COVER AND FRAME
NOT TO SCALE

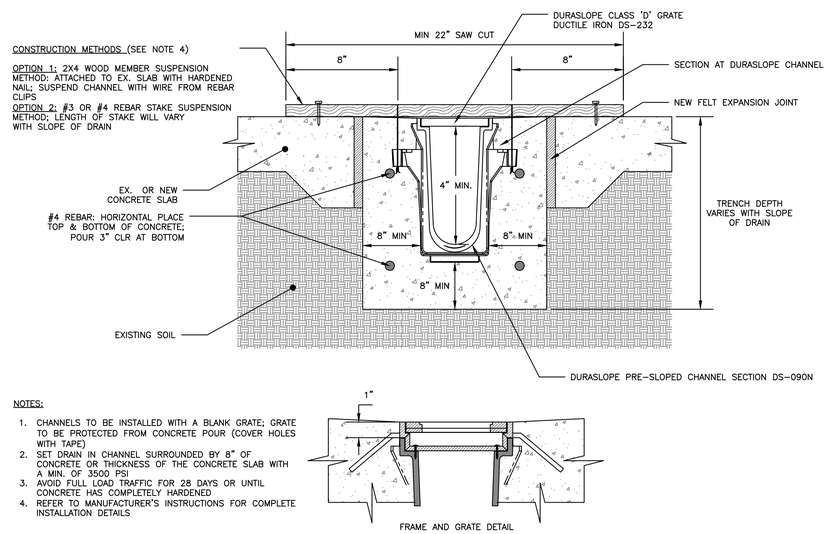


NOTE:
1. UNDERDRAIN INSTALLATION AND MATERIAL GRADATION RECOMMENDATIONS ARE CONTAINED WITHIN THIS REPORT.
2. DETAIL IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY, NOT FOR CONSTRUCTION.

S.W.COLE ENGINEERING, INC.
J.B. BROWN & SONS
FOUNDATION DETAIL SKETCH
PROPOSED MIXED USE COMMERCIAL-RESIDENTIAL BUILDING
40 FREE STREET
PORTLAND, MAINE

Job No.:	19-0139	Scale:	Not to Scale
Date:	04/05/2019	Sheet:	2

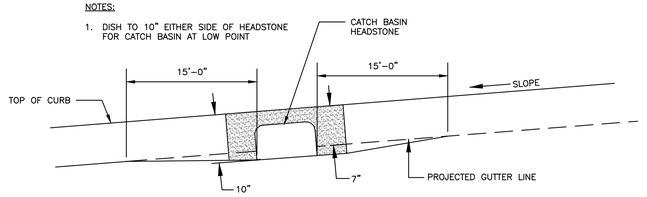
FOUNDATION DRAIN DETAIL
NOT TO SCALE



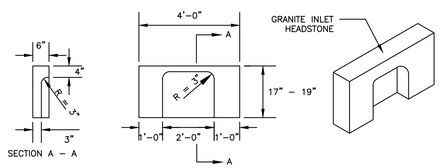
NOTES:
1. CHANNELS TO BE INSTALLED WITH A BLANK GRATE; GRATE TO BE PROTECTED FROM CONCRETE POUR (COVER HOLES WITH TAPE)
2. SET DRAIN IN CHANNEL SURROUNDED BY 8" OF CONCRETE OR THICKNESS OF THE CONCRETE SLAB WITH A MIN. OF 3500 PSI
3. AVOID FULL LOAD TRAFFIC FOR 28 DAYS OR UNTIL CONCRETE HAS COMPLETELY HARDENED
4. REFER TO MANUFACTURER'S INSTRUCTIONS FOR COMPLETE INSTALLATION DETAILS

DURASLOPE CLASS D TRENCH DRAIN INSTALLATION
NOT TO SCALE

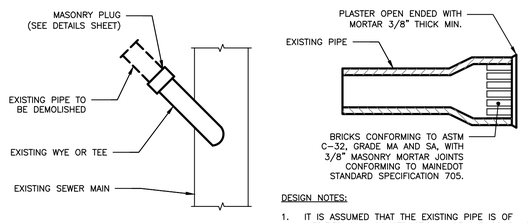
NOTES:
1. DISH TO 10" EITHER SIDE OF HEADSTONE FOR CATCH BASIN AT LOW POINT



PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLET
NOT TO SCALE



4' GRANITE HEADSTONE FOR CATCH BASIN INLET
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
FINAL APPLICATION	MPB 4/15/19

DRAWING NAME: **DRAINAGE DETAILS**
PROJECT NAME: **40 FREE STREET**
CLIENT: 40 FREE LLC.
10 FREE STREET, PORTLAND 04101

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
65 HANOVER ST, PORTLAND, MAINE 04101
(207) 775-2355

FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE — MATTHEW PAUL BALLOG — 15365 — LICENSED PROFESSIONAL ENGINEER — 4-15-19

DRAWING NO.
C-43

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 FREE STREET, CROSS STREET, CENTER STREET, AND SPRING 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.

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 SIDE TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN SPRING 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 SEEDING PLAN

7.1 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.

7.2 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.

7.3 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

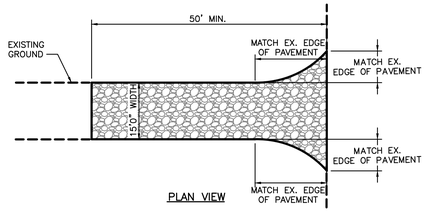
SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

7.4 MULCHING

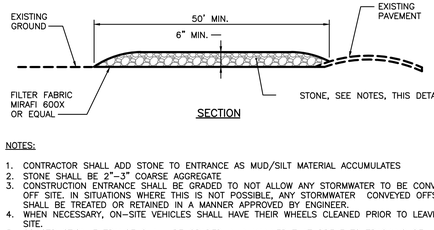
MULCH SHALL BE HARDWOOD AND APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT. REFER TO DETAIL FOR MORE INFORMATION.

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.



PLAN VIEW

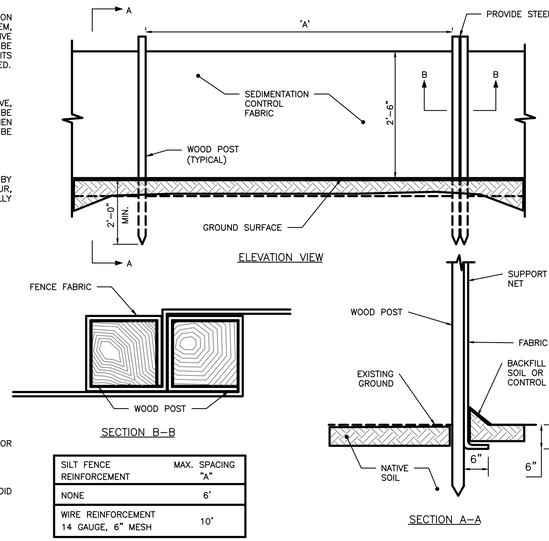


SECTION

NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"–3" COARSE AGGREGATE
3. 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.
4. WHEN NECESSARY, ON–SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.
5. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT–OF–WAY

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



SECTION B–B

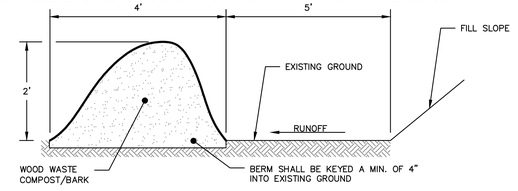
SECTION A–A

SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

SILTATION FENCE DETAIL
NOT TO SCALE

NOTES:

1. THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DOT CHAPTER 700, SECTION 717.04(D):
   1.1. pH BETWEEN 5.0 – 8.0
   1.2. PARTICLE SIZE (BY WEIGHT):
   1.2.1. 100% PASSING A 150 MM (6 IN) SCREEN
   1.2.2. 75 TO 85% PASSING A 19 MM (0.75 IN) SCREEN
   1.3. SOLUBLE SALTS CONTENT < 4.0 MMHOS/CM
   1.4. ORGANIC MATTER 20 TO 100% , DRY WEIGHT BASIS
2. THE BERM SHOULD BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR, WHEN NECESSARY THE BERM MAY BE PLACED PERPENDICULAR TO THE SLOPE ALONG THE PROPERTY LINE TO CONTAIN THE SEDIMENT PROVIDED A BERM IS LOCATED AT THE BASE OF THE SLOPE.
3. THE BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED OFFSITE OR BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.

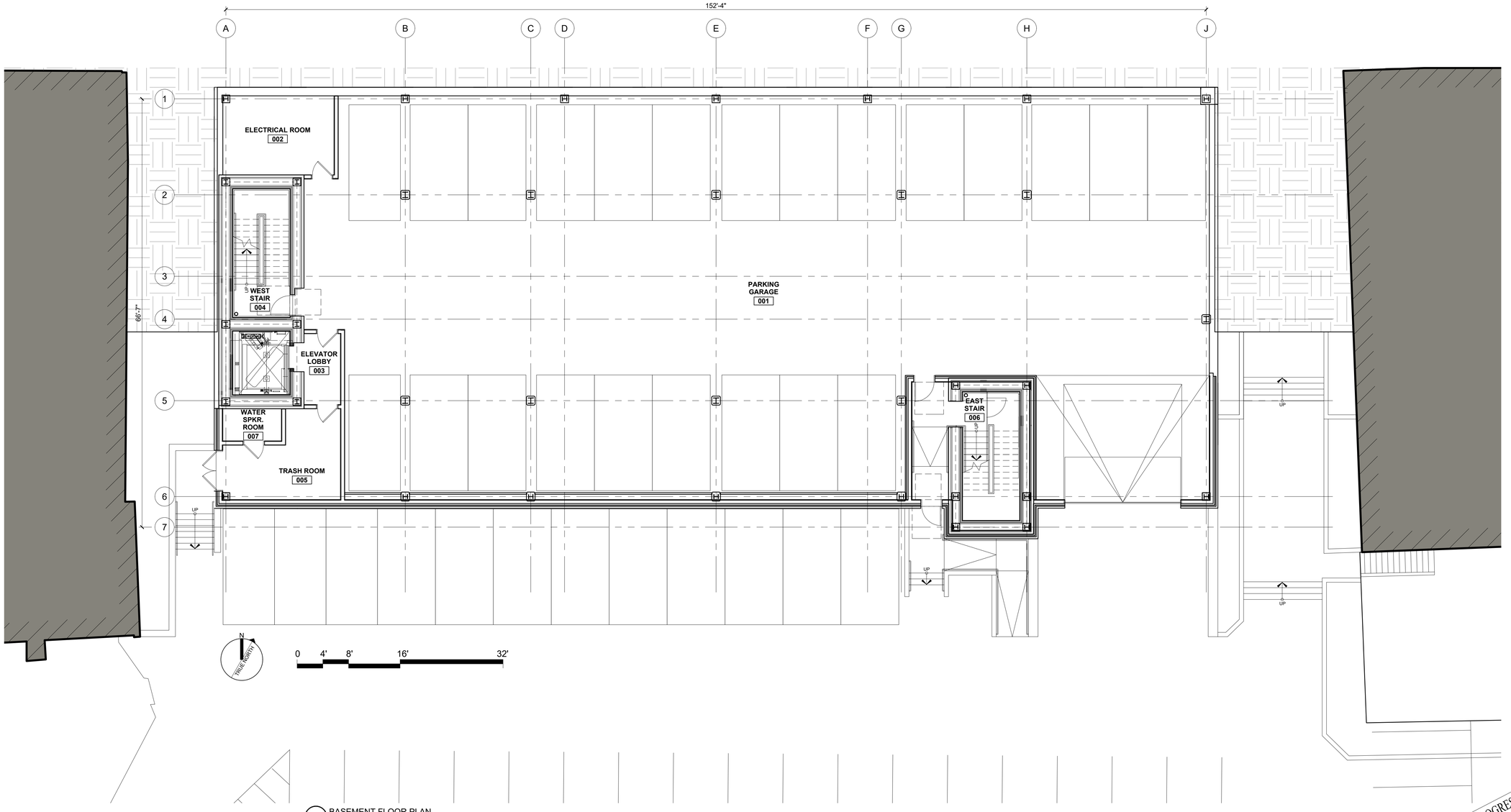


EROSION CONTROL MIX

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019



1 BASEMENT FLOOR PLAN
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

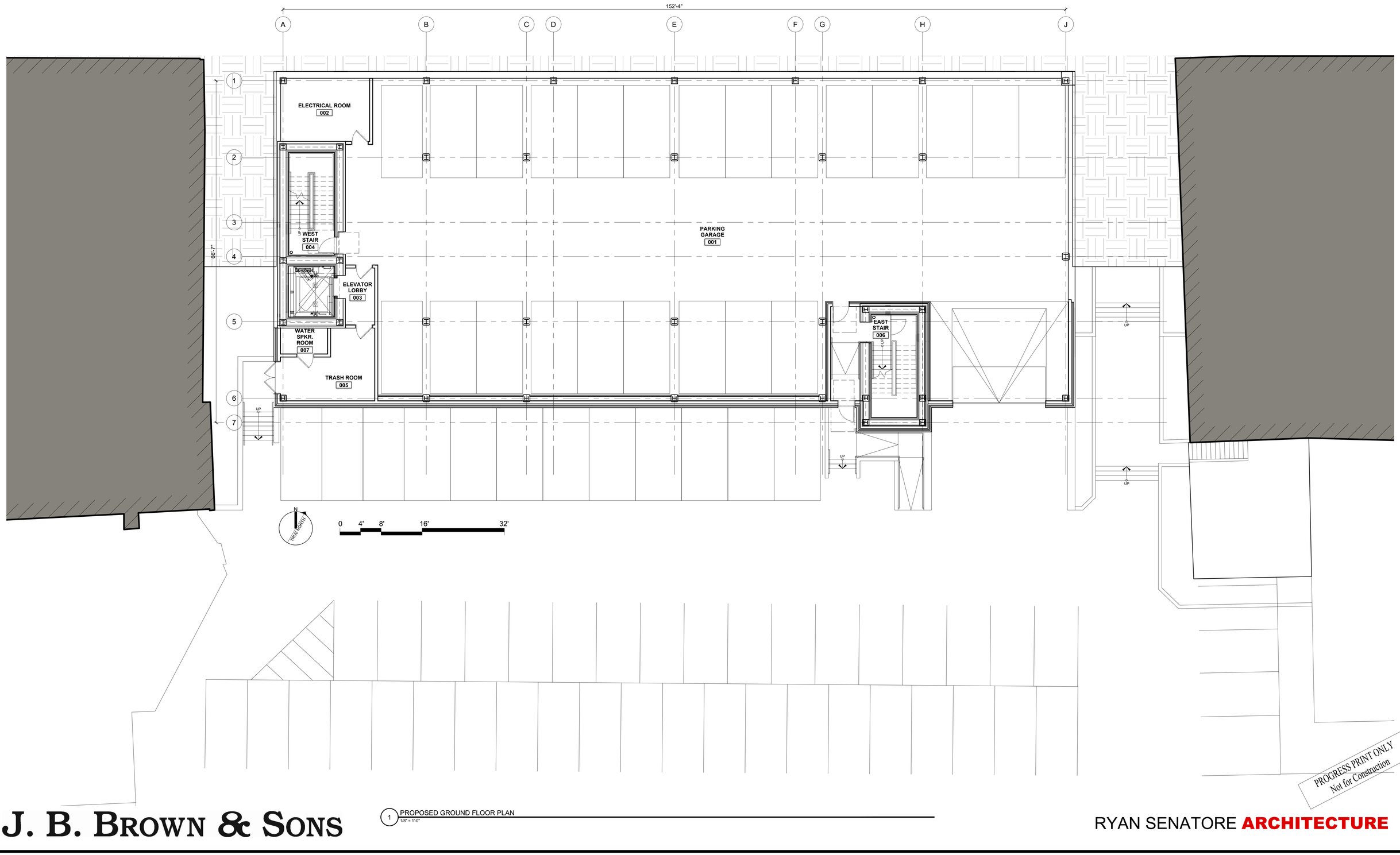
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

NOTE:
ALL SQUARE FOOTAGES CALCULATED USING OUTSIDE FACE OF STUD AT EXTERIOR WALLS AND CENTERLINE OF SHARED WALLS

APRIL 1, 2019



PROGRESS PRINT ONLY
Not for Construction

1 PROPOSED GROUND FLOOR PLAN
1/8" = 1'-0"

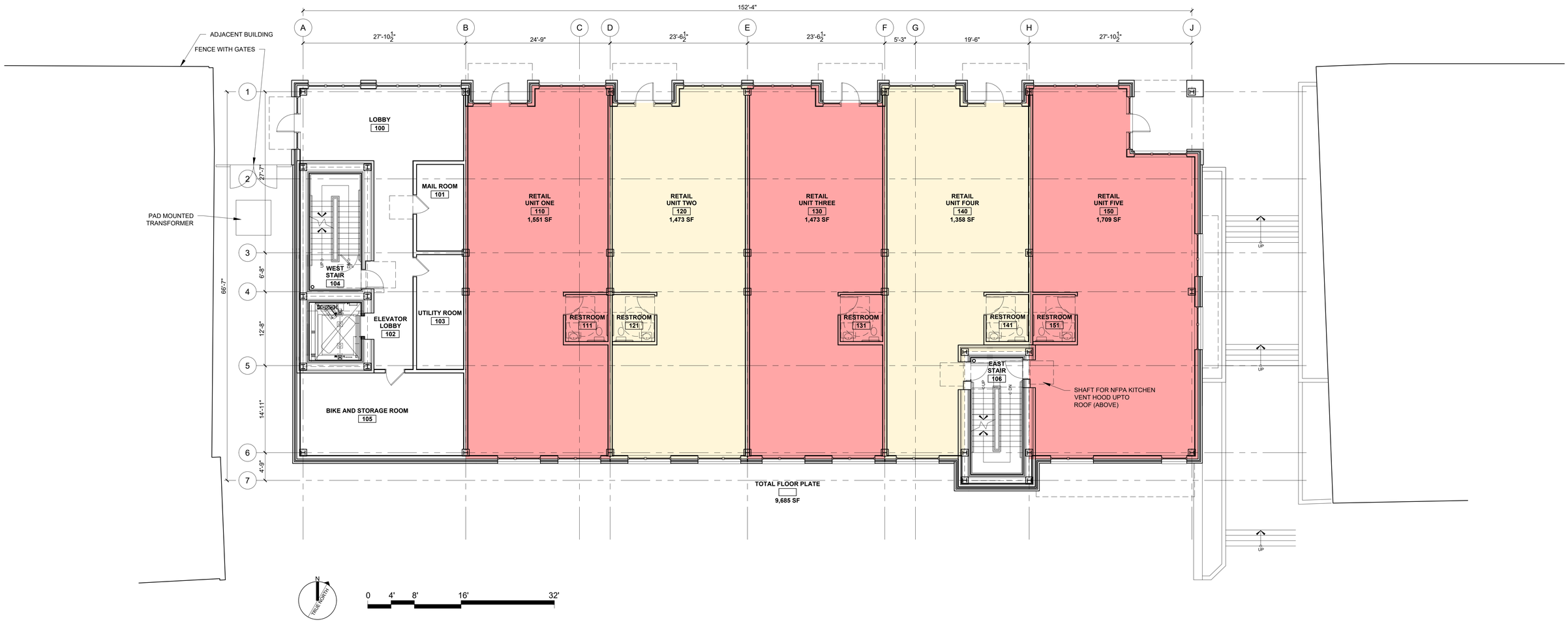
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

NOTE:
ALL SQUARE FOOTAGES CALCULATED USING OUTSIDE FACE OF STUD AT EXTERIOR WALLS AND CENTERLINE OF SHARED WALLS

APRIL 1, 2019



1 PROPOSED FIRST FLOOR PLAN
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

NOTE:
ALL SQUARE FOOTAGES CALCULATED USING OUTSIDE FACE OF STUD AT EXTERIOR WALLS AND CENTERLINE OF SHARED WALLS

APRIL 1, 2019

1 PROPOSED SECOND FLOOR PLAN - (THIRD AND FOURTH FLOOR PLANS SIMLIAR)
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

NOTE:
ALL SQUARE FOOTAGES CALCULATED USING OUTSIDE FACE OF STUD AT EXTERIOR WALLS AND CENTERLINE OF SHARED WALLS

APRIL 1, 2019

TRUE NORTH

0 4' 8' 16' 32'

1 PROPOSED FIFTH FLOOR PLAN
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

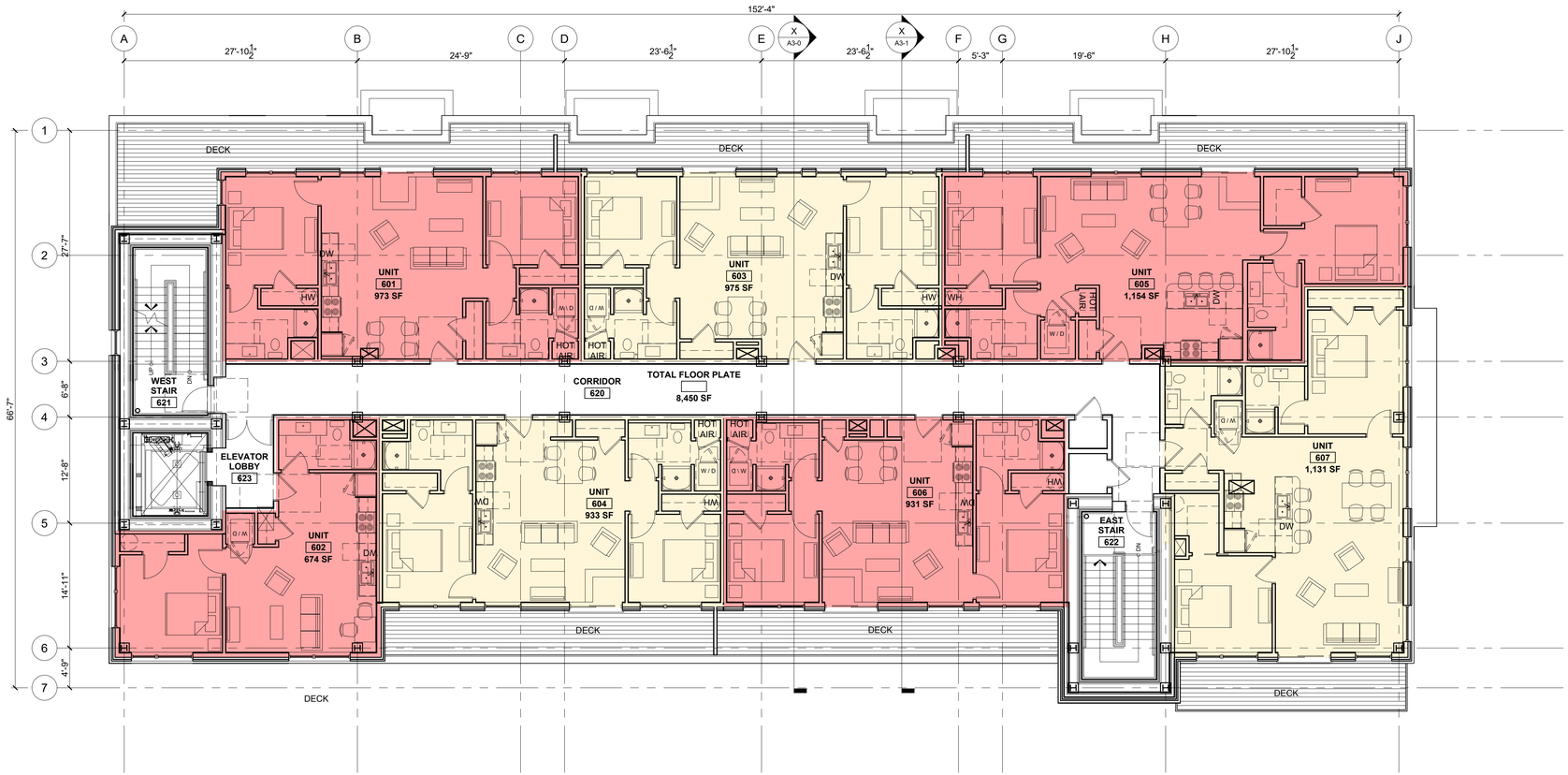
J. B. BROWN & SONS

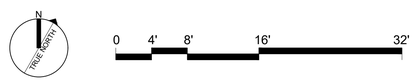
RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

NOTE:
ALL SQUARE FOOTAGES CALCULATED USING OUTSIDE FACE OF STUD AT EXTERIOR WALLS AND CENTERLINE OF SHARED WALLS

APRIL 1, 2019





1 PROPOSED SIXTH FLOOR PLAN
1/8" = 1'-0"

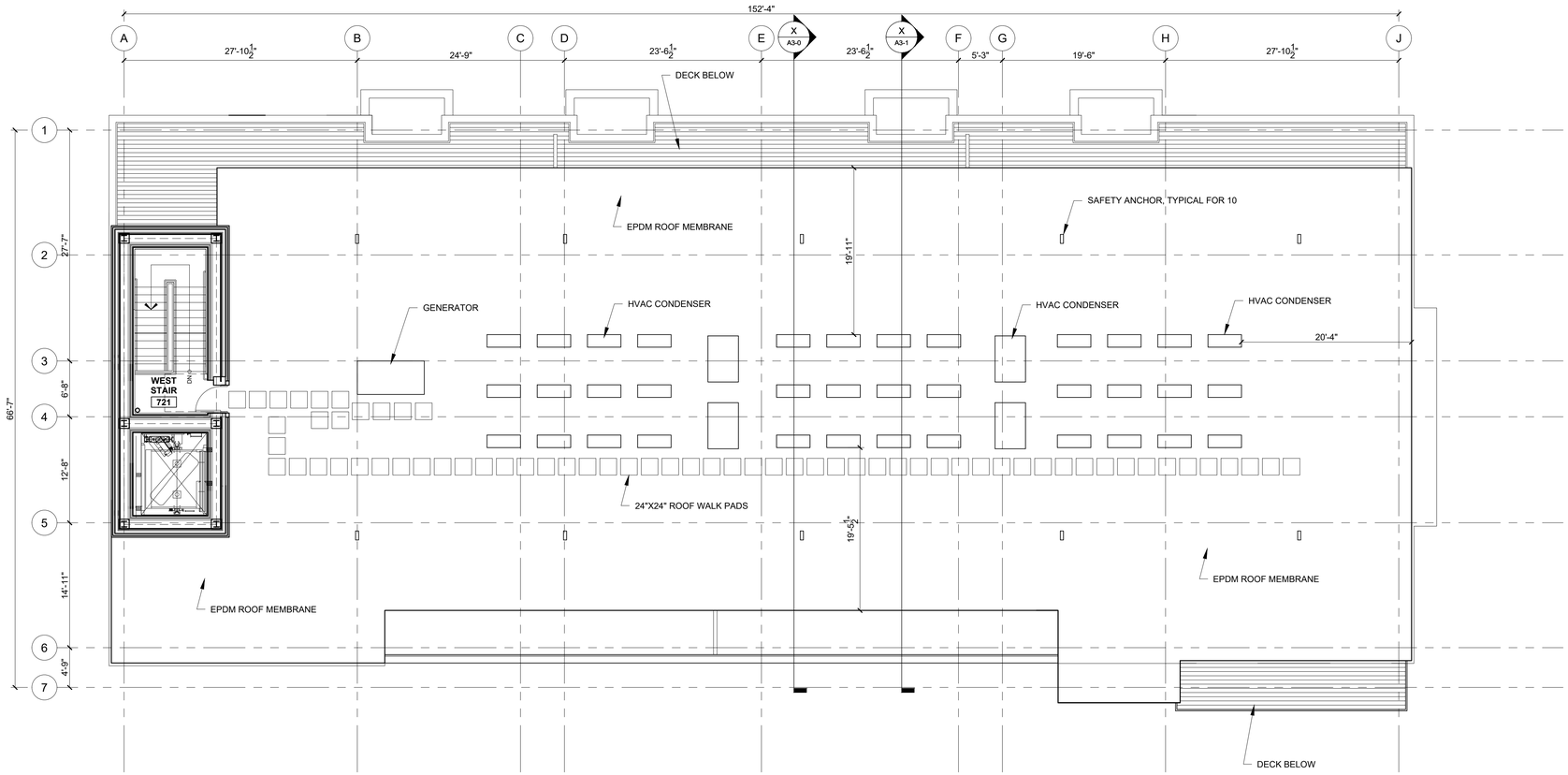
PROGRESS PRINT ONLY
Not for Construction

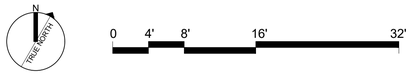
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

APRIL 1, 2019





1 ROOF PLAN
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

APRIL 1, 2019

EXTERIOR MATERIALS LEGEND		
COLOR #	DESCRIPTION	COLOR NOTES
1	BRICK	XXXX
2	METAL PANEL SIDING	DARK GRAY
3	METAL PANEL SIDING	MEDIUM GRAY
4	PAINT	MATCH SIDING COLOR 2
5	PRECAST CONCRETE	MATCH STOREFRONT COLOR 6
6	ALUMINUM STOREFRONT AND WINDOWS	DARK GRAY

1 PROPOSED NORTH EXTERIOR ELEVATION (Free Street Facade)
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

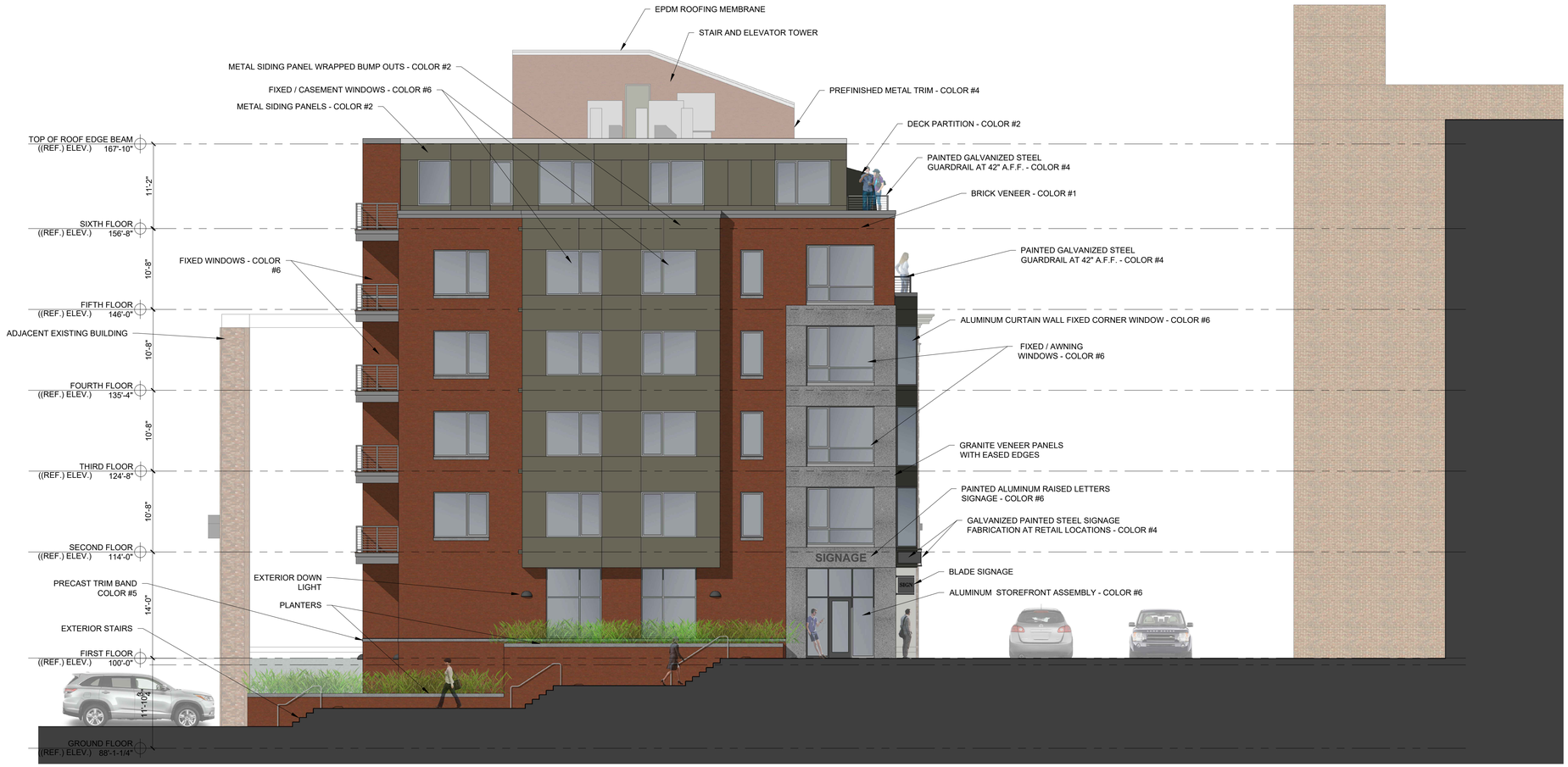
RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

EXTERIOR MATERIALS LEGEND		
COLOR #	DESCRIPTION	COLOR NOTES
1	BRICK	XXXX
2	METAL PANEL SIDING	DARK GRAY
3	METAL PANEL SIDING	MEDIUM GRAY
4	PAINT	MATCH SIDING COLOR 2
5	PRECAST CONCRETE	MATCH STOREFRONT COLOR 6
6	ALUMINUM STOREFRONT AND WINDOWS	DARK GRAY



1 PROPOSED EAST EXTERIOR ELEVATION
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

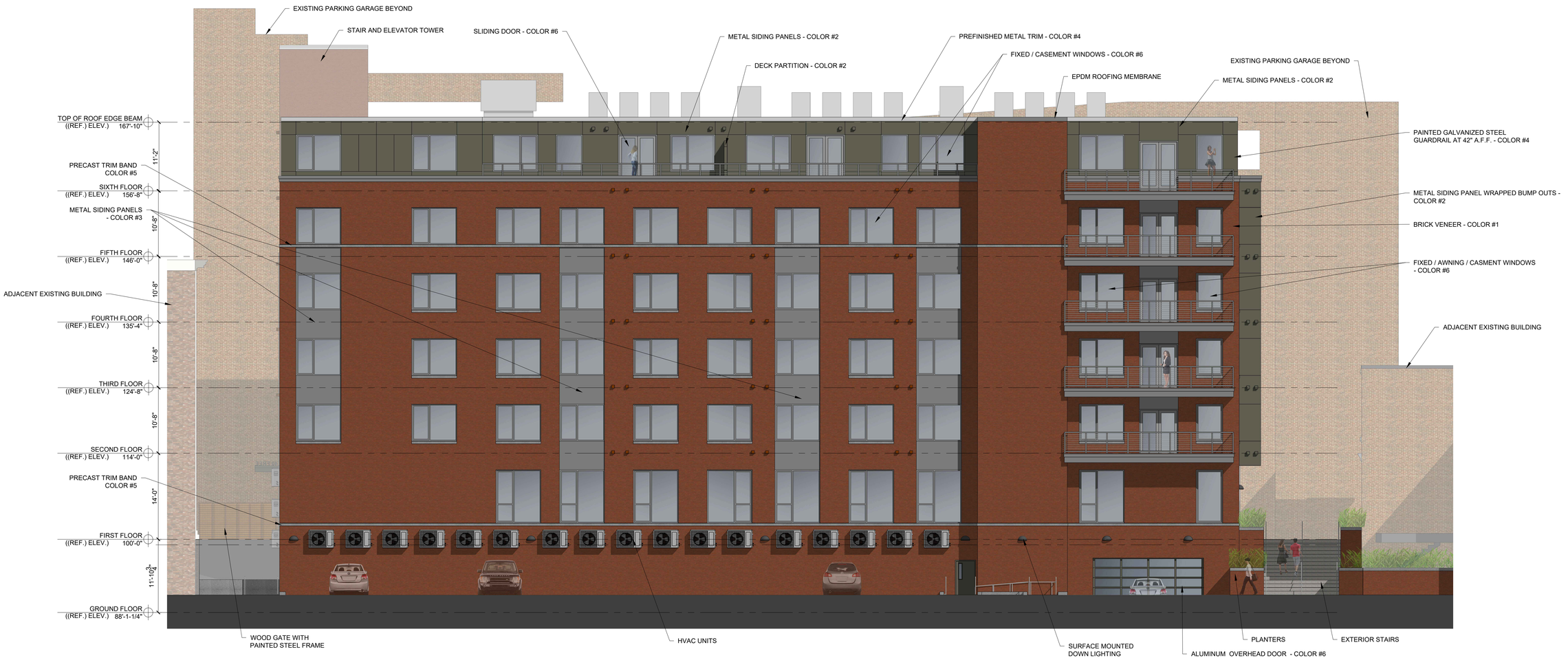
RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

EXTERIOR MATERIALS LEGEND		
COLOR #	DESCRIPTION	COLOR NOTES
1	BRICK	XXXX
2	METAL PANEL SIDING	DARK GRAY
3	METAL PANEL SIDING	MEDIUM GRAY
4	PAINT	MATCH SIDING COLOR 2
5	PRECAST CONCRETE	MATCH STOREFRONT COLOR 6
6	ALUMINUM STOREFRONT AND WINDOWS	DARK GRAY



1 PROPOSED SOUTH EXTERIOR ELEVATION

1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

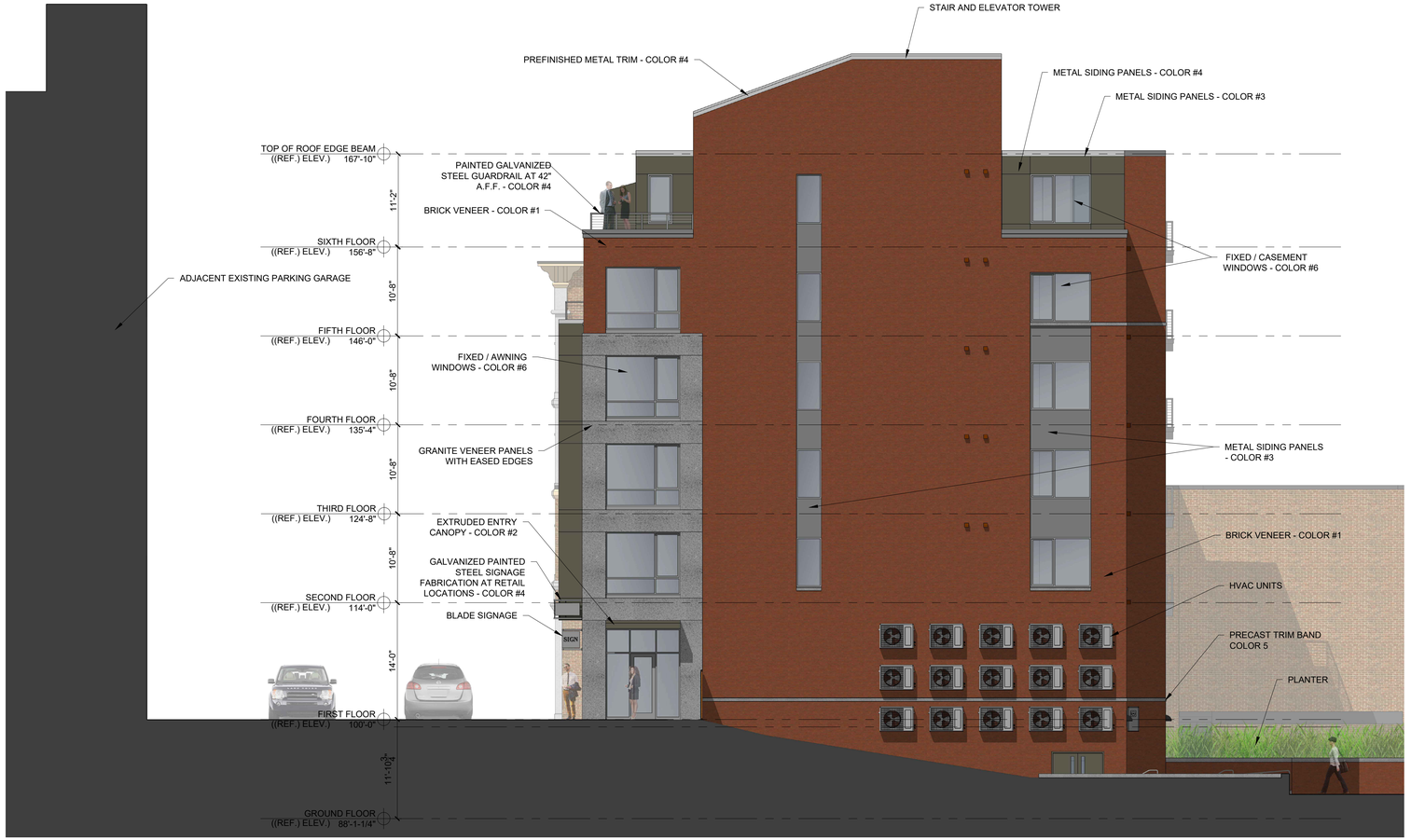
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

APRIL 1, 2019

EXTERIOR MATERIALS LEGEND		
COLOR #	DESCRIPTION	COLOR NOTES
1	BRICK	XXXX
2	METAL PANEL SIDING	DARK GRAY
3	METAL PANEL SIDING	MEDIUM GRAY
4	PAINT	MATCH SIDING COLOR 2
5	PRECAST CONCRETE	MATCH STOREFRONT COLOR 6
6	ALUMINUM STOREFRONT AND WINDOWS	DARK GRAY



1 PROPOSED WEST EXTERIOR ELEVATION
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

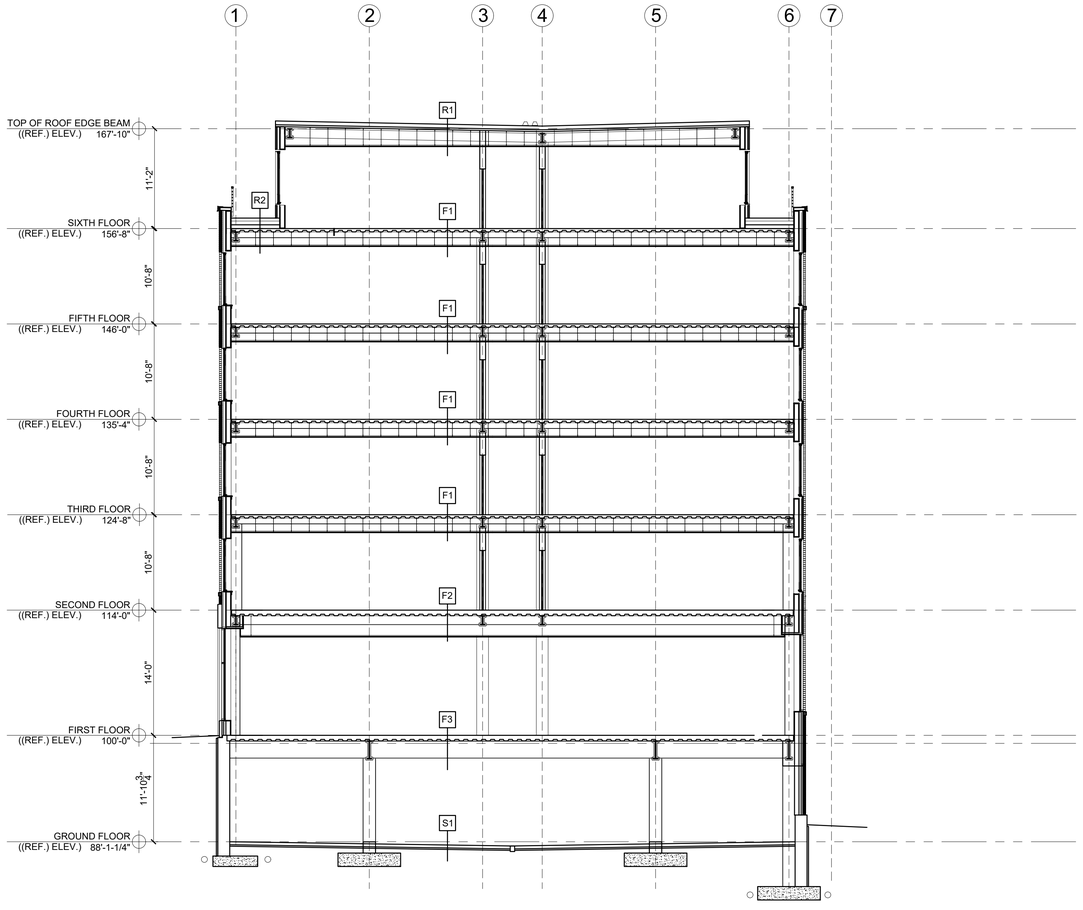
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

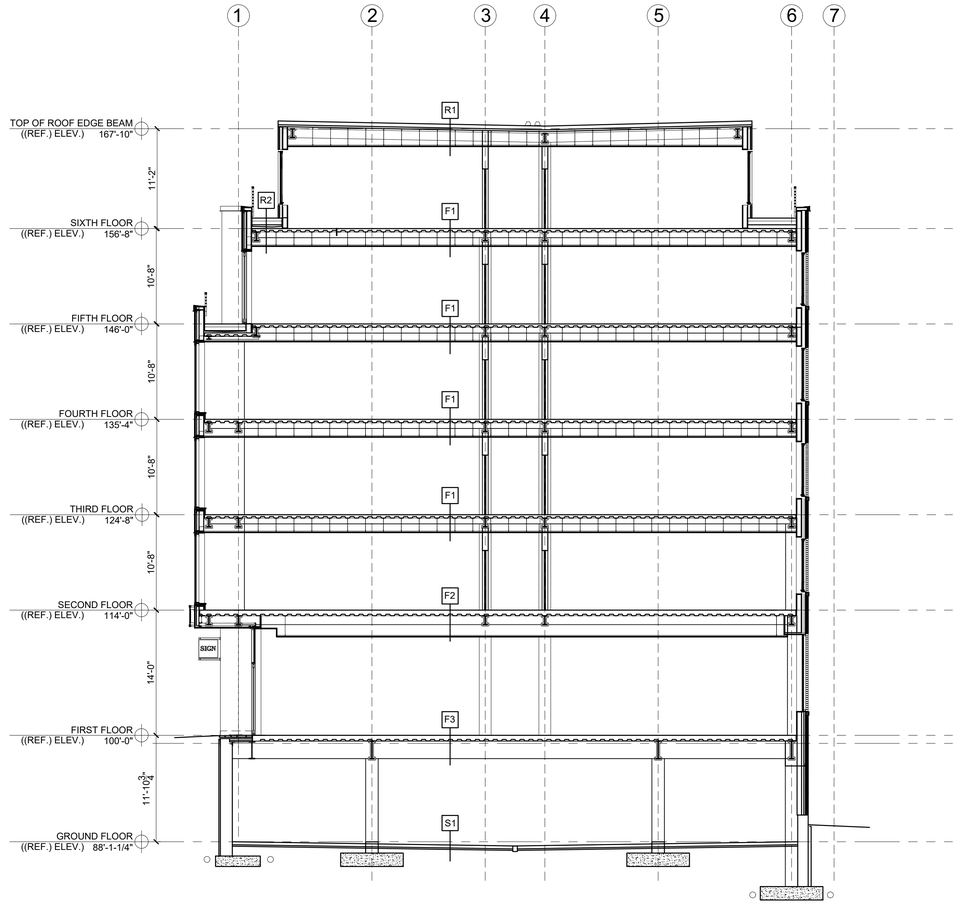
FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019



2 SECTION
1/8" = 1'-0"



1 SECTION THROUGH ENTRY BAYS
1/8" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

APRIL 1, 2019

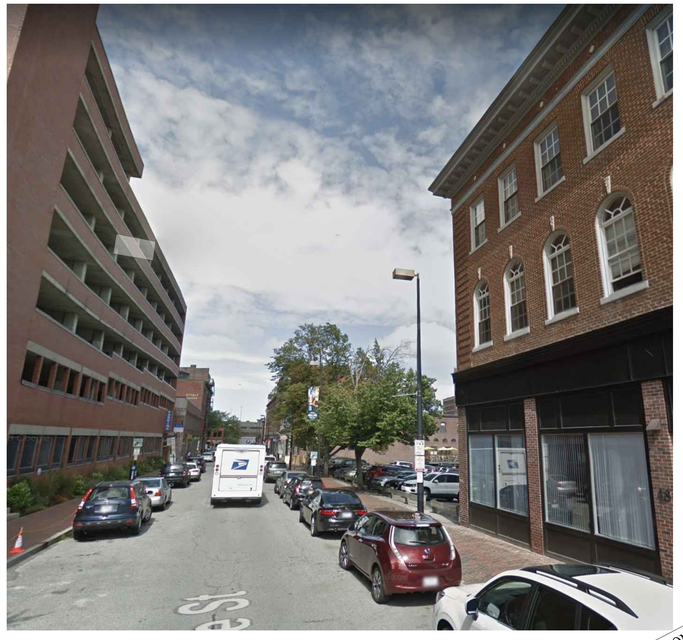
4 VIEW LOOKING WEST FROM SPRING STREET

2 VIEW LOOKING SOUTHWEST FROM FREE STREET

QSP2 GeoPak

5 PROPOSED WALL PACK EXTERIOR LIGHT

3 VIEW LOOKING WEST FROM SPRING STREET



1 VIEW LOOKING NORTHEAST ON FREE STREET

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

4 VIEW LOOKING WEST FROM SPRING STREET

2 VIEW LOOKING SOUTHWEST FROM FREE STREET

3 VIEW LOOKING SOUTHWEST FROM FREE STREET

1 VIEW LOOKING EAST ON FREE STREET

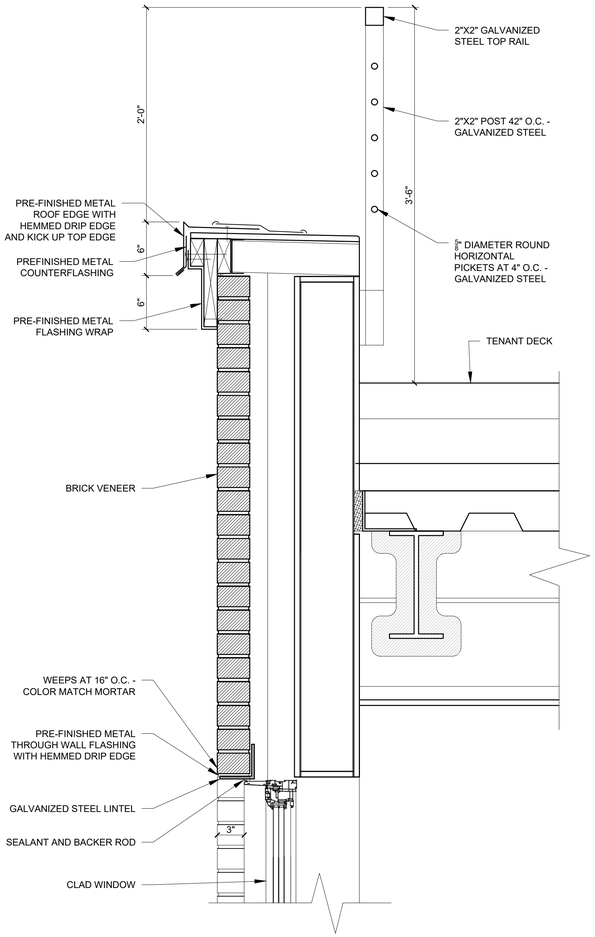
PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

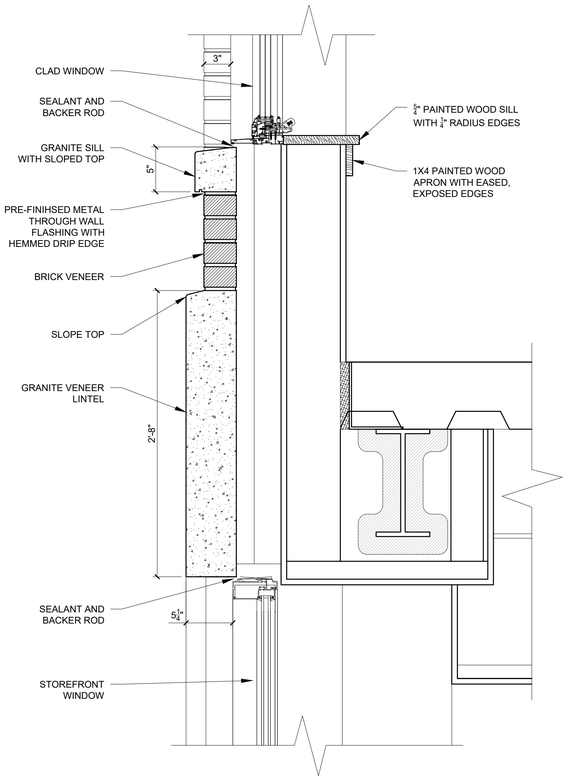
RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE
PORTLAND, MAINE

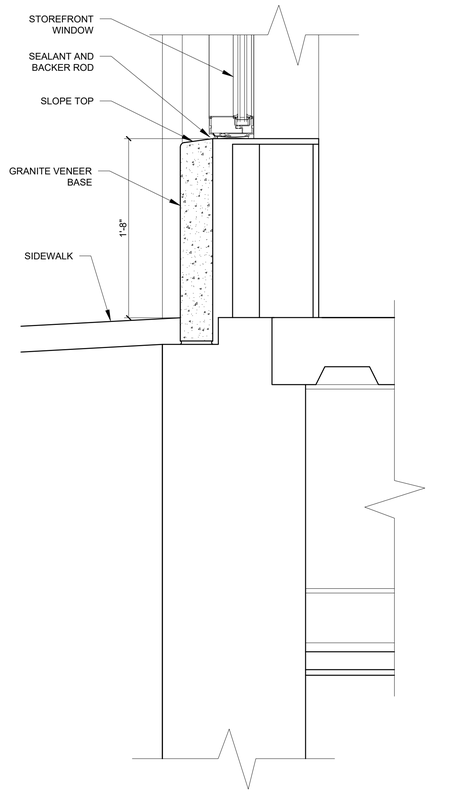
APRIL 1, 2019



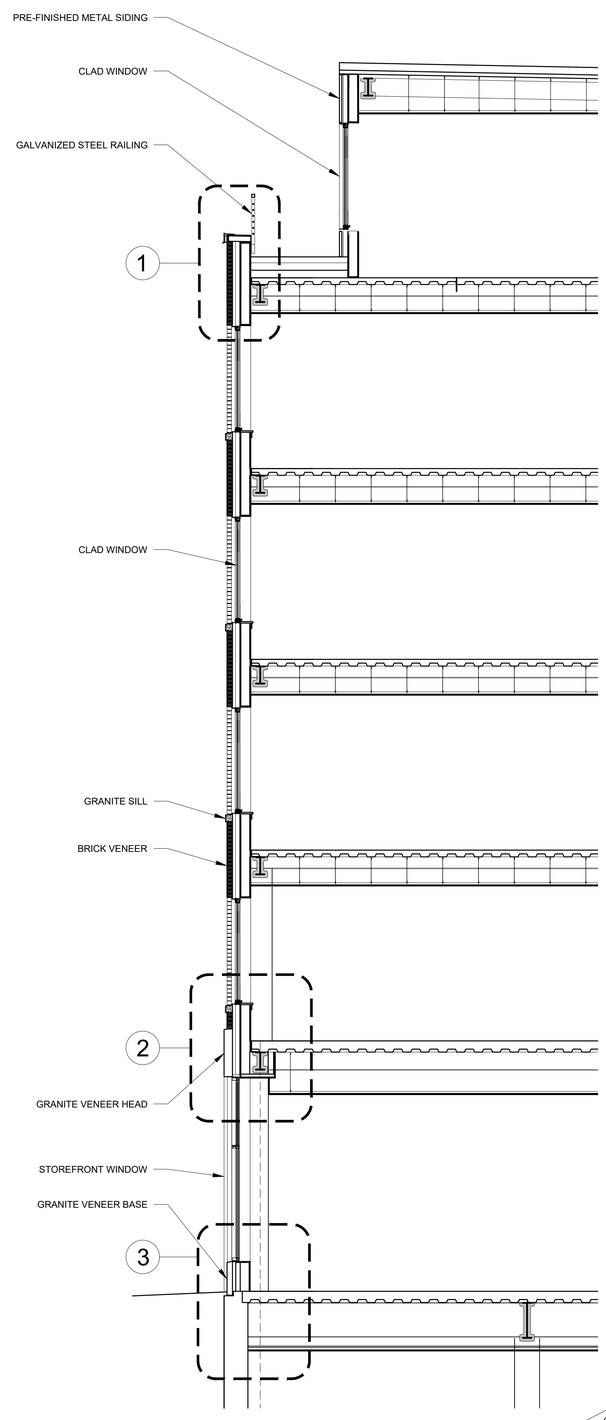
1 SECTION DETAIL AT PARAPET AND WINDOW HEAD IN BRICK VENEER
1 1/2" = 1'-0"



2 SECTION DETAIL AT WINDOW IN BRICK VENEER
1 1/2" = 1'-0"



3 SECTION DETAIL AT WINDOW SILL AT GRANITE BASE
1 1/2" = 1'-0"



4 SECTION
1/4" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

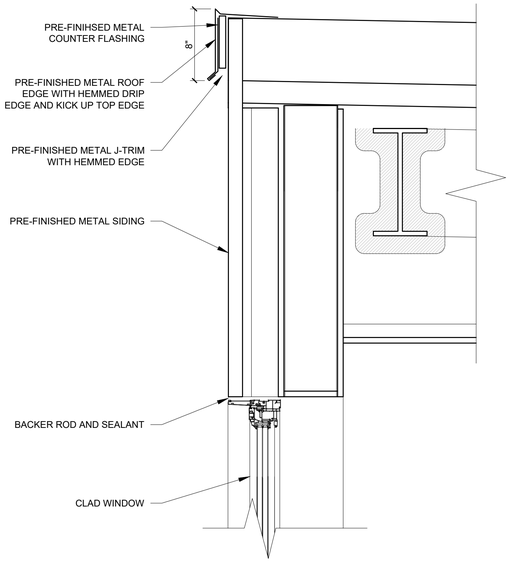
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

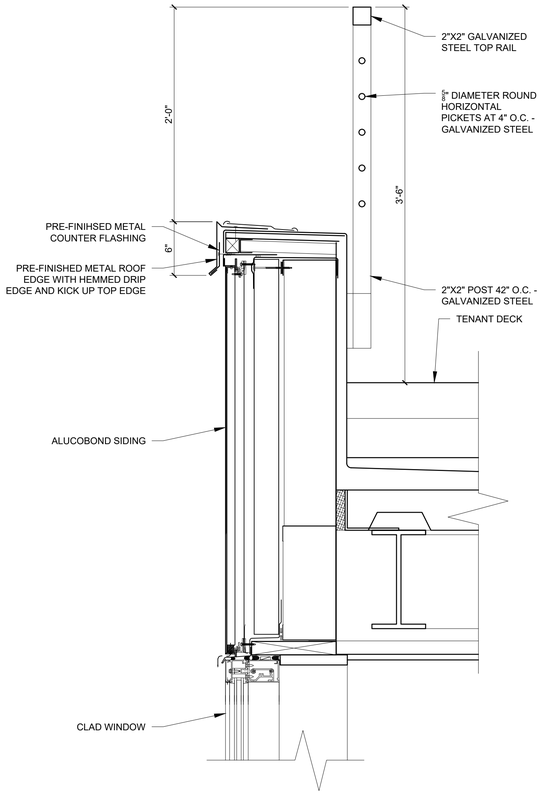
FREE STREET - MIXED USE

PORTLAND, MAINE

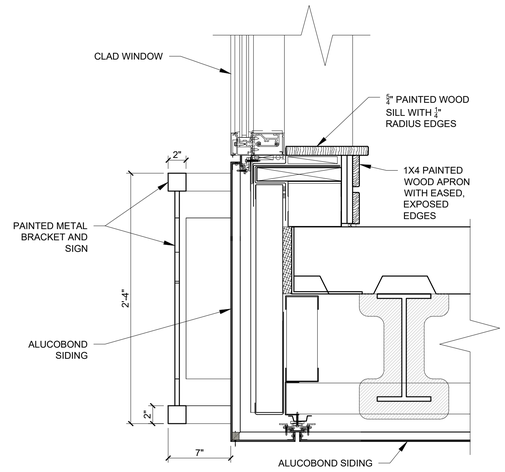
APRIL 1, 2019



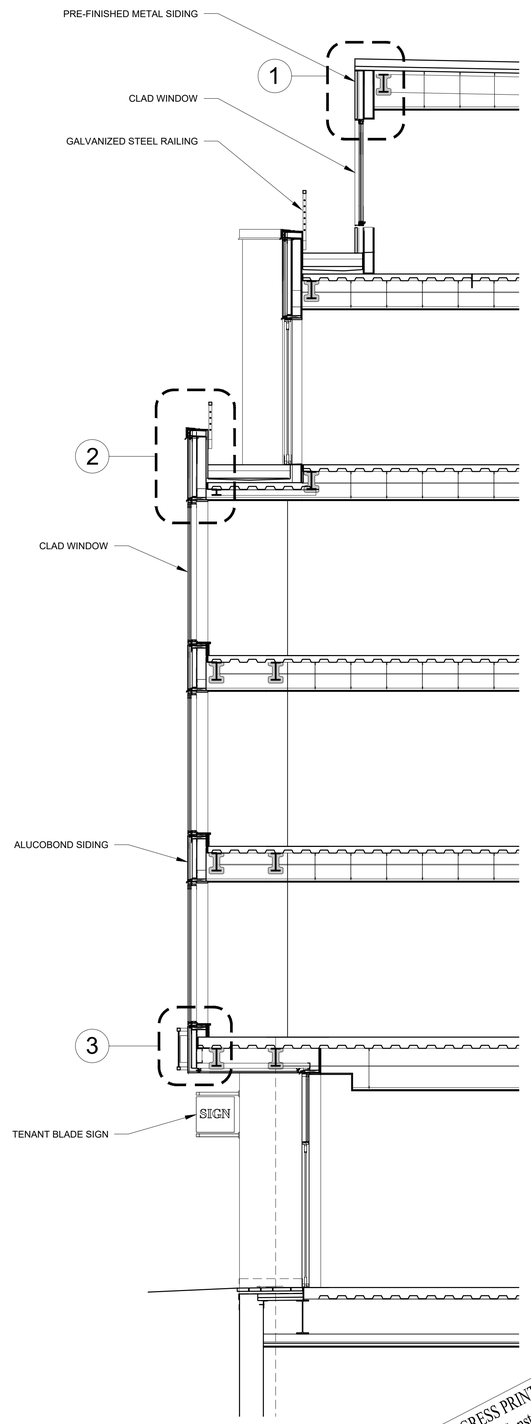
1 SECTION DETAIL AT HIGH ROOF AND WINDOW HEAD IN METAL SIDING
1 1/2" = 1'-0"



2 SECTION DETAIL AT HIGH ROOF AND WINDOW HEAD IN METAL SIDING
1 1/2" = 1'-0"



3 SECTION DETAIL AT BUMP OUT ON FRONT FACADE
1 1/2" = 1'-0"



4 SECTION
1/4" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

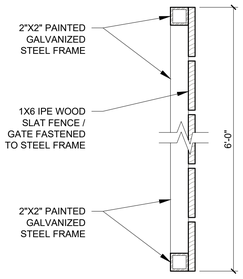
J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

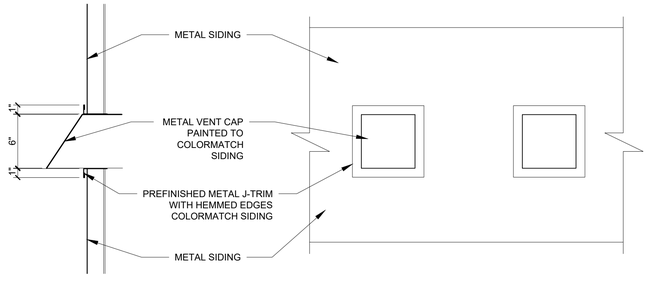
FREE STREET - MIXED USE

PORTLAND, MAINE

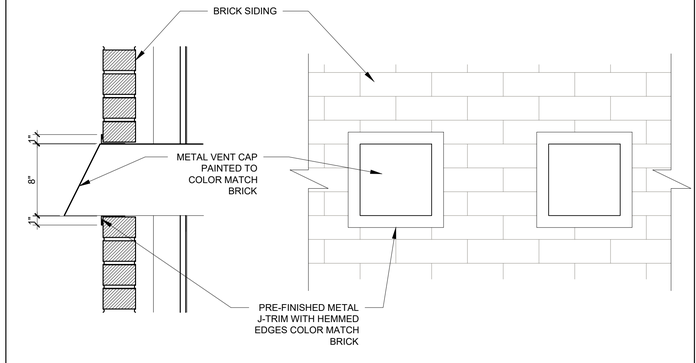
APRIL 1, 2019



3 SECTION DETAIL AT WOOD FENCE
1 1/2" = 1'-0"



2 DETAIL AT EXTERIOR WALL VENTS AT METAL SIDING
1 1/2" = 1'-0"



1 DETAIL AT EXTERIOR WALL VENTS AT BRICK SIDING
1 1/2" = 1'-0"

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

1 VIEW LOOKING EAST ON FREE STREET
N.T.S.

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

1 VIEW LOOKING WEST ON FREE STREET
N.T.S.

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

1 VIEW LOOKING WEST FROM SPRING STREET

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

1 PERSPECTIVE VIEW OF EXTERIOR STAIR
NTS

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

1 VIEW LOOKING SOUTHWEST ON FREE SREET

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

FREE STREET - MIXED USE

PORTLAND, MAINE

APRIL 1, 2019

1 VIEW LOOKING NORTHEAST ON FREE STREET

PROGRESS PRINT ONLY
Not for Construction

J. B. BROWN & SONS

RYAN SENATORE **ARCHITECTURE**

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE BASEMENT LEVEL AND GROUND LEVEL AT FREE STREET, REFER TO THE SITE PLAN, C–10, MOST RECENT VERSION.
2. FOR INFORMATION REGARDING PROPOSED UTILITY CHANGES, REFER TO THE UTILITY PLAN, SHEET C–20, MOST RECENT VERSION.
3. FOR INFORMATION REGARDING PROPOSED GRADING AND STORMWATER, REFER TO THE GRADING & DRAINAGE PLAN, SHEET C–30, MOST RECENT VERSION.
4. UNIT TABULATION PROVIDED BY RYAN SENATORE ARCHITECTURE; REFER TO ARCHITECTURAL PLANS FOR FLOOR PLANS AND BUILDING HEIGHTS.
5. TOTAL SITE AREA INCLUDES 0.387 ACRES (16,865 S.F.). R.O.W. WIDTH FOR FREE STREET IS 49.5 FEET PER EXISTING CONDITIONS PLAN. REFER TO EXISTING CONDITIONS PLAN COMPLETED BY OWEN HASKELL, INC. DATED MARCH 20TH, 2019.
6. SITE BOUNDARIES PER EXISTING CONDITIONS PLAN AND PROPERTY PINS TO BE SET BY OWEN HASKELL, INC.
7. AS OF 11/26/2018, SITE IS BOUNDED BY THE R–6 ZONE ON EAST, SOUTH, AND NORTH SIDES OF THE PROPERTY AND BY THE B–5 ZONE ON THE WEST SIDE PER CITY OF PORTLAND GIS WEBSITE.
8. LOCUS IS SHOWN AS PROPERTY MAP 38 BLOCK A LOTS 14, 15, AND 16; MAP 38 BLOCK I LOTS 1, 2, 3, AND 4; AND COTTON STREET BETWEEN SPRING STREET ARTERIAL AND FREE STREET. FOR LOTS 38–A–14, 15 AND A PART OF 16 AND FOR LOTS 38–I–1, 2, 3, AND 4 SEE DEED TO THE CITY OF PORTLAND FROM THE PORTLAND RENEWAL AUTHORITY IN BOOK 4922, PAGE 168. (SEE ALSO DEEDS TO PORTLAND RENEWAL AUTHORITY IN 3313/158, 3313/160, 3426/312, AND 3451/71) FOR THE REMAINDER OF LOT 38–A–16 SEE DEEDS TO THE CITY OF PORTLAND IN 3208/374 AND 3209/566.
9. LOCUS PARCEL DOES NOT FALL IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY–PANEL NUMBER 2300510013B, INDEX DATED 7/17/1986.
10. ALL BUILDING CORNER OFFSETS TO BOUNDARY LINES ARE FROM THE BUILDING FOUNDATION, UNLESS OTHERWISE NOTED.
11. THIS SHEET IS THE SUBDIVISION PLAT FOR THE CREATION OF UP TO FIFTY ONE (51) DWELLING UNITS AND FIVE (5) COMMERCIAL 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 OWNER SHALL BE RESPONSIBLE FOR COMPLYING WITH THE CONDITIONS OF THE SUBMITTED STORMWATER MANAGEMENT PLAN AND THE APPROVED PLANS, AND MEET CITY STANDARDS AND STATE GUIDELINES.

WAIVERS & CONDITIONS OF APPROVAL:

TBD

SURVEY NOTES:

1. AREA FROM 22 FREE STREET – J.B. BROWN & SONS PARCEL 3,892 SQUARE FEET OR 0.089 ACRES AREA FROM 46 FREE STREET – J.B. BROWN & SONS PARCEL 12,973 SQUARE FEET OR 0.298 ACRES
2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 1983. CITY CONTROL POINTS T124–19–1162 AND T124–19–1160 USED FOR HORIZONTAL CONTROL.
3. ELEVATIONS ARE BASED ON NGVD 1929. CITY BENCHMARK: M MONUMENT AT THE WESTERLY CORNER OF FOREST AND CUMBERLAND AVENUES ELEVATION=80.57'.
4. SEE BOOK 1351 PAGE 307 FOR A NON–PERMANENT AGREEMENT ABOUT A GAP BETWEEN TWO BUILDINGS AND A DRAIN OR SEWER LINE. SAID ITEMS MAY NO LONGER EXIST.
5. TOPOGRAPHY DONE WITH THICK ICE AND SNOW AND SHOULD BE VERIFIED IN SPRING.

EASEMENTS:

EXISTING EASEMENT

1.
   1.1. EASEMENT 'G' BENEFITTING 40 FREE LLC AND BURDEN 48 FREE STREET. RELEASES EXISTING PERMANENT EASEMENT (BOOK 3656, PAGE 198) FOR TEMPORARY OFF–STREET TRUCK LOADING/UNLOADING ACCESS OF 48 FREE STREET BUILDING.

PROPOSED EASEMENTS

1. PROPOSED AS OUTLINED IN BOOK _____ PAGE _____

   1.1. EASEMENT 'A' TO BENEFIT 40 FREE LLC AND BURDEN J.B. BROWN & SONS. PROVIDES FOR PERMANENT REAR ACCESS FOR REAR WALL MAINTENANCE, VEHICLE/PEDESTRIAN ACCESS FOR INGRESS/EGRESS AND PARKING. TOTAL AREA OF 2,703.10 SQUARE FEET.

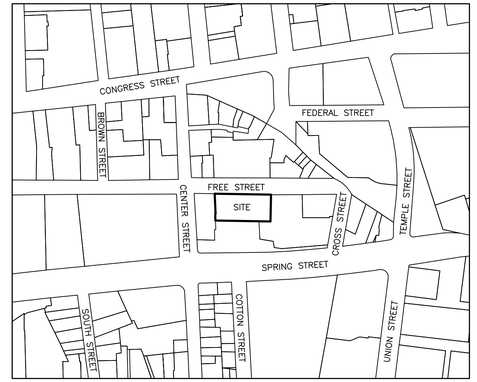
   1.2. EASEMENT 'B' TO BENEFIT 40 FREE LLC AND BURDEN 22 FREE STREET. PROVIDES FOR PERMANENT REAR ACCESS FOR REAR WALL MAINTENANCE, VEHICLE/PEDESTRIAN ACCESS FOR INGRESS/EGRESS AND PARKING. TOTAL AREA OF 415.65 SQUARE FEET.

   1.3. EASEMENT 'C' TO BENEFIT 40 FREE LLC AND BURDEN J.B. BROWN & SONS. PROVIDES FOR TEMPORARY CONSTRUCTION ACCESS AND LAYDOWN. PROVIDES FOR PERMANENT PARKING ACCESS AND FOR POTENTIAL PERMANENT UTILITIES, DRAINAGE AND LANDSCAPING. TOTAL AREA OF 21,216.92 SQUARE FEET.

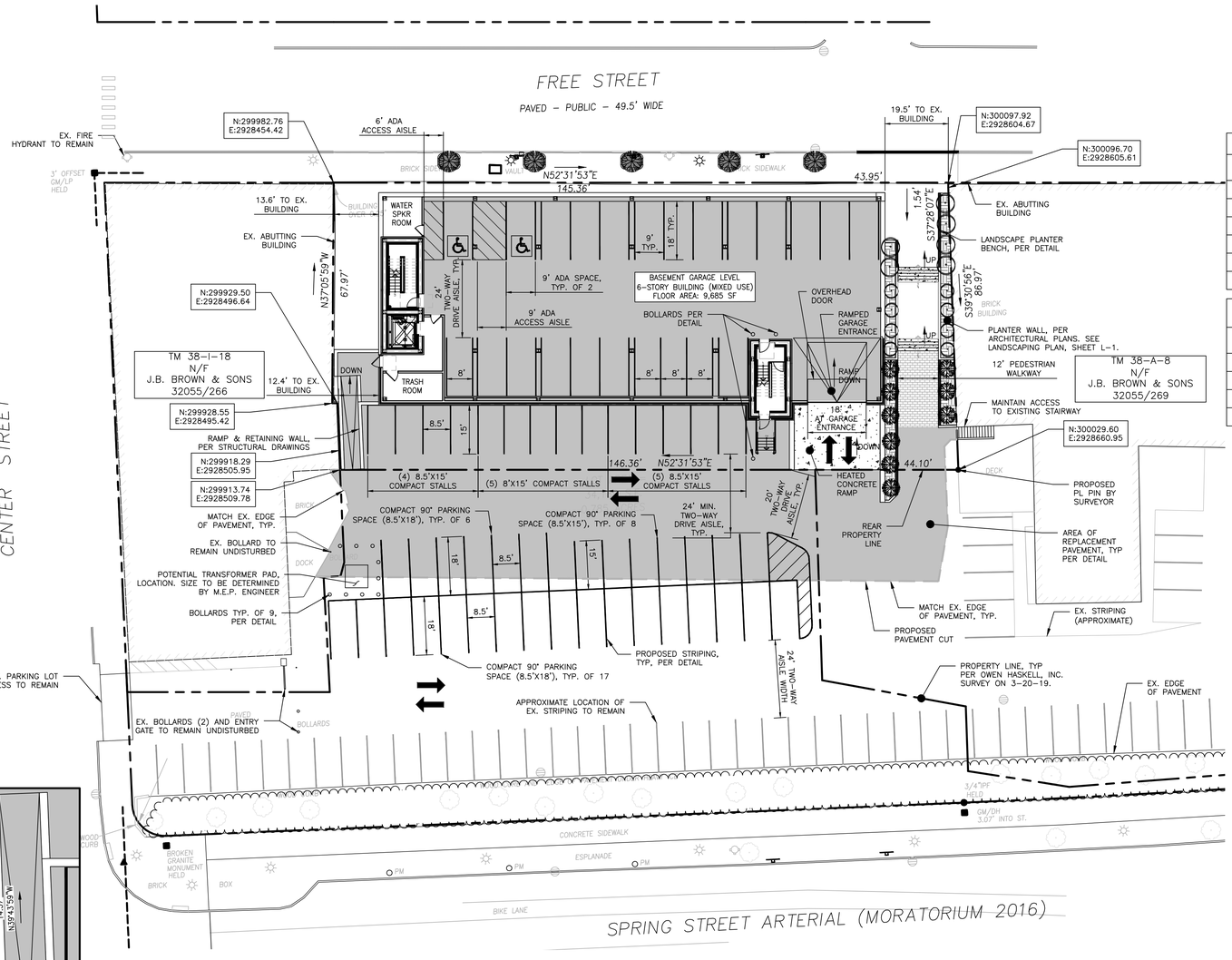
   1.4. EASEMENT 'D' TO BENEFIT 48 FREE AND BURDEN 40 FREE LLC. PROVIDES FOR PERMANENT SIDE WALL MAINTENANCE ACCESS. TOTAL AREA OF 1,176.81 SQUARE FEET.

   1.5. EASEMENT 'E' TO BENEFIT 48 FREE AND BURDEN 40 FREE LLC. PROVIDES FOR PERMANENT SIDE WALL MAINTENANCE ACCESS AND PEDESTRIAN ACCESS. TOTAL AREA OF 1,893.48 SQUARE FEET.

   1.6. EASEMENT 'F' TO BENEFIT 40 FREE LLC AND BURDEN 22 FREE STREET. PROVIDES FOR TEMPORARY CONSTRUCTION ACCESS AND LAYDOWN. PROVIDES FOR PERMANENT PARKING ACCESS AND FOR POTENTIAL PERMANENT UTILITIES, DRAINAGE AND LANDSCAPING. TOTAL AREA OF 19,476.41 SQUARE FEET.



VICINITY MAP
NOT TO SCALE



SPACE AND BULK STANDARDS			
B3 DOWNTOWN BUSINESS, DOWNTOWN ENTERTAINMENT OVERLAY ZONE, CONGRESS STREET HISTORIC DISTRICT	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE	NONE	34,189 SF	16,863 SF
MINIMUM STREET FRONTAGE	15'	189.29'	189.29'
MAXIMUM STREET WALL BUILD–TO LINE	5'	NA	3'
MINIMUM YARD DIMENSIONS	NONE	NA	NA
MINIMUM LOT WIDTH	NONE	NA	NA
MAXIMUM LOT COVERAGE	100%	100%	97%
MINIMUM BUILDING HEIGHT	35'	NA	70'
MAXIMUM BUILDING STREET HEIGHT (FREE STREET)	90'	NA	70'
PAD OVERLAY 20' DEEP RETAIL STREET FACADE	75% MIN	NA	82%
MAX BLANK FACADE (FREE STREET ONLY)	15' MAX	NA	5'
MAX BLANK FACADE (ALL EXCEPT FREE STREET)	30' MAX	NA	15'
MAXIMUM BUILDING HEIGHT	150'	NA	72.71'
BICYCLE PARKING*	22	NA	22 INTERIOR
VEHICLE PARKING**	37**	NA	37***
*BICYCLE PARKING BASED UPON 51 RESIDENTIAL UNITS AND 10 RETAIL VEHICLE PARKING SPACES			
**REQUIRED PARKING PER PARKING ASSESSMENT STUDY PERFORMED BY TRAFFIC SOLUTIONS			
***37 PARKING SPACES ON PROPOSED 40 FREE STREET PARCEL. 33 SPACES TO BE RESTRIPED ON ABUTTING PARCEL OWNED BY J.B. BROWN & SONS			
FREE STREET – PEDESTRIAN ACTIVITIES DISTRICT (PAD) OVERLAY ZONE, OTHERS – PAD ENCOURAGEMENT AREA			

40 FREE PARKING SUMMARY	
PARKING DIMENSION	PROPOSED NUMBER OF SPACES
8'X18'	4
9'X18'	17
8'X18' (ADA)	2
8.5'X15'	9
8'X15'	5
TOTAL	**37 SPACES**

J.B. BROWN & SONS PARKING SUMMARY	
PARKING DIMENSION	PROPOSED NUMBER OF SPACES
8.5'X15'	8
8.5'X18'	23
EXISTING TO REMAIN	77
TOTAL	**108 SPACES**

UNIT TABULATION	
UNIT NUMBER	SIZE (SF)*
RETAIL UNIT 110	1,551
RETAIL UNIT 120/130	1,473
RETAIL UNIT 140	1,358
RETAIL UNIT 150	1,709
201/301/401/501	652
202/302/402/502/602	674
203/303/403	743
204/304/404/504	1,007
205/305/405	708
206/306/406/506	676
207/307/407	708
208/308/408/508	689
210/310/410/510	1,142
211/311/411/511	795
503	689
505	654
507	654
509	689
601	973
603	975
604	933
605	1,154
606	931
607	1,131

*UNIT AREA MEASURED FROM OUTSIDE OF EXTERIOR WALLS TO THE CENTER OF SHARED WALLS

BRICK SIDEWALK
PAVEMENT
LANDSCAPED AREAS
CONCRETE
SNOW STORAGE
CURB
PROPOSED BUILDING
PROPERTY LINE
STRIPING
SAW CUT
PROPERTY PIN

DEVELOPER

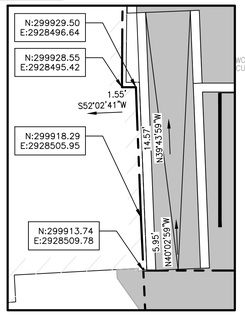
40 FREE LLC
PORTLAND, MAINE
CONTACT: VIN VERONEAU

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.



BEARING DETAIL INSET AT RAMP

JOHN C. SCHWANDA, MAINE P.L.S. #1252

OWEN HASKELL, INC. DATE:

PERMIT LEVEL
NOT ISSUED FOR CONSTRUCTION

20' 0 20' 40'
SCALE: 1" = 20'

APPROVED: PORTLAND PLANNING BOARD
CHAIRPERSON: DATE:

RECORDING INFORMATION
STATE OF MAINE, CUMBERLAND COUNTY REGISTRY OF DEEDS
RECEIVED:
RECORDED IN
ATTEST: REGISTRAR

ISSUED FOR	BY DATE
FINAL APPLICATION	MPB 4/15/19

SUBDIVISION PLAT
DRAWING NAME:
40 FREE STREET
PROJECT NAME:
40 FREE LLC.
10 FREE STREET, PORTLAND 04101
CLIENT:

ACORN ENGINEERING, INC.
65 HANOVER STREET, PORTLAND, MAINE 04101
(207) 775–2655

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FILE:	1118_CIVIL
JN:	1118
SCALE:	AS NOTED
DESIGNED BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WHS

STATE OF MAINE
MATTHEW PAUL BALLOG
15365
4/15/19
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
PLAT

EASEMENT 'A' TABLE		
LINE	BEARING	DISTANCE
A1	N52°31'53"E	134.82'
A2	S39°22'42"E	20.01'
A3	S52°31'53"W	135.49'
A4	N37°28'07"W	20.00'

2,703.10 SF. BENEFITS 40 FREE LLC. BURDENS J.B. BROWN & SONS. PROVIDES FOR PERMANENT REAR ACCESS FOR REAR WALL MAINTENANCE, VEHICLE/PEDESTRIAN ACCESS FOR INGRESS/EGRESS AND PARKING.

EASEMENT 'B' TABLE		
LINE	BEARING	DISTANCE
B1	N52°31'53"E	21.12'
B2	S37°28'07"E	20.00'
B3	S52°31'53"W	20.45'
B4	N39°22'42"W	20.01'

415.65 SF. BENEFITS 40 FREE LLC. BURDENS 22 FREE STREET. PROVIDES FOR PERMANENT REAR ACCESS FOR REAR WALL MAINTENANCE, VEHICLE/PEDESTRIAN ACCESS FOR INGRESS/EGRESS AND PARKING.

EASEMENT 'C' TABLE		
LINE	BEARING	DISTANCE
C1	N52°31'53"E	146.35'
C2	S39°22'42"E	64.88'
C3	S62°50'03"E	45.00'
C4	S39°25'57"E	19.94'
C5	N61°21'18"E	31.50'
C6	N48°08'41"E	155.25'
C7	N26°48'53"E	4.49'
C8	R=3799.64'	186.80'
C9	S50°09'01"W	245.99'
C10	R=10.00'	15.68'
C11	N40°00'59"W	34.76'
C12	N52°30'21"E	62.40'
C13	N40°32'59"W	35.45'
C14	N49°27'01"E	5.19'
C15	N22°31'40"W	4.45'
C16	N40°02'59"W	28.51'

21,216.92 SF. BENEFITS 40 FREE LLC. BURDENS J.B. BROWN & SONS. PROVIDES FOR TEMPORARY CONSTRUCTION ACCESS AND LAYDOWN. PROVIDES FOR PERMANENT PARKING ACCESS AND FOR POTENTIAL PERMANENT UTILITIES, DRAINAGE AND LANDSCAPING.

EASEMENT 'D' TABLE		
LINE	BEARING	DISTANCE
D1	N52°31'53"E	13.49'
D2	S37°28'07"E	88.45'
D3	S52°31'53"W	11.53'
D4	N40°02'59"W	5.94'
D5	N39°43'59"W	14.57'
D6	S52°02'41"W	1.55'
D7	N37°05'59"W	67.97'

1,176.81 SF. BENEFITS 48 FREE. BURDENS 40 FREE LLC. PROVIDES FOR PERMANENT SIDE WALL MAINTENANCE ACCESS.

EASEMENT 'E' TABLE		
LINE	BEARING	DISTANCE
E1	N52°31'53"E	19.86'
E2	S39°28'29"E	88.51'
E3	S52°31'53"W	22.96'
E4	N37°28'07"W	88.45'

1,893.48 SF. BENEFITS 48 FREE. BURDENS 40 FREE LLC. PROVIDES FOR PERMANENT SIDE WALL MAINTENANCE ACCESS & PEDESTRIAN ACCESS.

EASEMENT 'F' TABLE		
LINE	BEARING	DISTANCE
F1	N52°31'53"E	44.07'
F2	S39°41'17"E	13.37'
F3	N51°24'35"E	22.93'
F4	S38°35'25"E	28.41'
F5	N51°24'35"E	34.27'
F6	N37°28'07"W	47.97'
F7	N53°41'18"E	129.05'
F8	S37°28'07"E	48.23'
F9	N63°11'07"E	9.46'
F10	S26°48'53"E	41.22'
F11	S48°08'41"W	155.25'
F12	S61°21'18"W	31.50'
F13	N39°25'57"W	19.94'
F14	S62°50'03"W	45.00'
F15	N39°22'42"W	64.88'

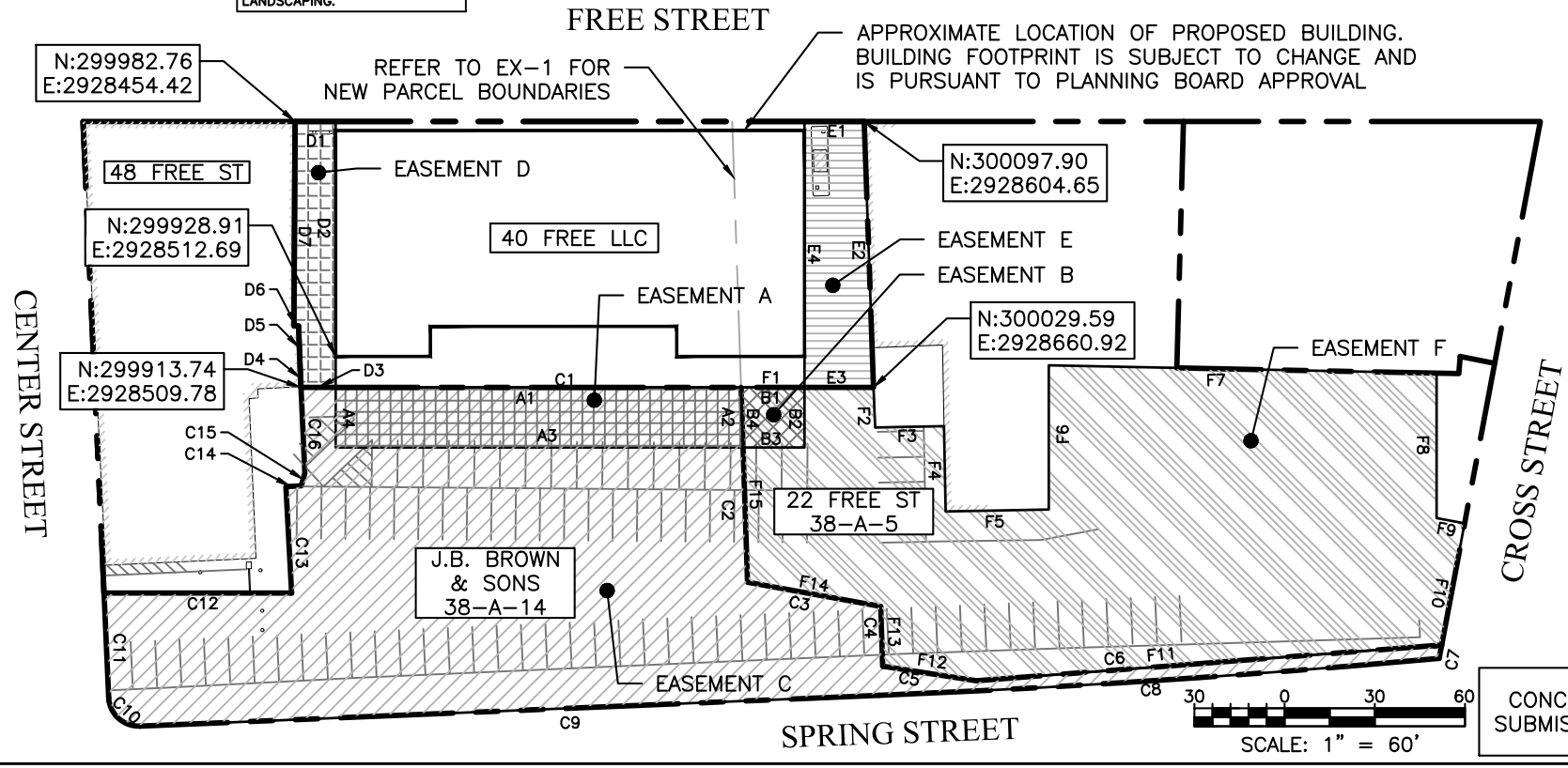
19,476.41 SF. BENEFITS 40 FREE LLC. 22 FREE STREET. PROVIDES FOR TEMPORARY CONSTRUCTION ACCESS AND LAYDOWN. PROVIDES FOR PERMANENT PARKING ACCESS AND FOR POTENTIAL PERMANENT UTILITIES, DRAINAGE AND LANDSCAPING.

EASEMENT 'G' TABLE		
LINE	BEARING	DISTANCE
NA	NA	NA

BENEFITS 40 FREE LLC. BURDENS 48 FREE STREET. RELEASES EXISTING PERMANENT EASEMENT (BOOK 3656 PAGE 198) FOR TEMPORARY OFF-STREET TRUCK LOADING/UNLOADING ACCESS OF 48 FREE STREET BUILDING.

NOTE:

1. REFER TO THE RECORDED EASEMENT LANGUAGE AND EXHIBIT 1 FOR MORE INFORMATION



CONCEPT SUBMISSION

ISSUED FOR	BY	DATE
ATTORNEY REVIEW	MPB	3/18/19

REV. DATE

DRAWING NAME: EASEMENT PLAN FOR 40 FREE LLC

PROJECT NAME: 40 FREE STREET

CLIENT: J.B. BROWN & SONS

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1118_CIVIL
DATE:	3/6/2019
JN:	1118
SCALE:	1":60'
DESIGN BY:	MPB
DRAWN BY:	MPB
CHECKED BY:	WSJ

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DRAWING NO.

EX-2