PLANNING BOARD

Tuesday, August 15, 2023 at 4:30 PM
Room 24 (Basement Level of City Hall)
and Zoom

MEMBERS
Brandon Mazer, Chair
Justin Barker, Vice Chair
Marpheen Chann
Sean Murphy
David Silk
Austin Smith
Maggie Stanley

The Planning Board will hold a hybrid meeting in Room 24, Basement Level City Hall. The public may attend the meeting in person or Zoom pursuant to the Remote Meeting Policy adopted by the Planning Board. Prior to the meeting, please check the Agenda Center (https://portlandme.portal.civiccler.com) to view memos and reports which will be posted by the end of the day on the Friday before the Planning Board meeting as well as start times for each item as placement on the agenda can change.

To submit written public comment on an agenda item, email planningboard@portlandmaine.gov. Submissions must be received by 12:00 pm the day before the Planning Board meeting to guarantee their inclusion in the agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

REMOTE PARTICIPATION
Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend either in person or Zoom, a recording will be available in the Agenda Center following the meeting.

Please click the link below to join the webinar:
https://portlandmaine-gov.zoom.us/j/82278086640
Or One tap mobile :
+13017158592,,82278086640# US (Washington DC)
+13052241968,,82278086640# US
Or Telephone:
Dial(for higher quality, dial a number based on your current location):
+1 301 715 8592 US (Washington DC)
+1 305 224 1968 US
+1 309 205 3325 US
+1 312 626 6799 US (Chicago)
+1 646 931 3860 US
+1 929 205 6099 US (New York)
+1 689 278 1000 US
+1 719 359 4580 US
+1 253 205 0468 US
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
+1 360 209 5623 US
+1 386 347 5053 US
+1 507 473 4847 US
+1 564 217 2000 US
+1 669 444 9171 US
+1 669 900 6833 US (San Jose)
Webinar ID: 822 7808 6640
International numbers available: https://portlandmaine-gov.zoom.us/u/kG34bbzB

PUBLIC COMMENT INFORMATION:
To submit written public comment on an agenda item, email planningboard@portlandmaine.gov. Submissions must be received by 12:00 pm the day before the Planning Board meeting to guarantee their inclusion in the

agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

Please note that the placement of items on this agenda are subject to change – please check the Agenda Center prior to the meeting for the item start time.

AGENDA:

WORKSHOP - 4:30 PM

i. Major Site Plan and Conditional Use; 246 Eastern Promenade; ECK Realty, LLC, Applicant. The Planning Board will hold a hybrid workshop to consider a major site plan and conditional use application for inclusionary zoning to facilitate the redevelopment of 246 Eastern Promenade and 15 Turner Street. The project would involve demolition of a 12-unit residential building and the construction of two new buildings; an 11-unit residential building and a separate three-unit residential building along with 27 off-street parking spaces. The subject property is 27,706 square feet in area, and is zoned R-6 Residential. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002490-2023.

ii. Level III Site Plan, Subdivision and Conditional Use; 58 Fore Street; Portland Foreside Development Company, Applicant. The Planning Board will hold a hybrid workshop to consider a proposal for Phase 2 of the Portland Foreside Master Development Plan (MDP), which involves development of Blocks 4, 5 and 6 of the project. The development would include 444 residential units, 98,851 square feet of retail, service and restaurant space, 644 -off-street parking spaces, and a 128-room hotel. This application also includes a major subdivision amendment, and will trigger inclusionary zoning conditional use review. The subject property is a 10.7-acre parcel zoned B-6, R-6, and EWPZ, with a portion of the site located within the Shoreland Zone and within the Portland Company Historic District and Munjoy Hill Historic District. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002202-2022.

PUBLIC HEARING - 6:00 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON JULY 25, 2023

Attendance will be added as soon as they are finalized.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON JULY 25, 2023

i. Decisions will be added as soon as they are finalized.

5. NEW BUSINESS

i. Subdivision; 432-447 Fore Street; Fore Street Partners, LLC, Applicant. The Planning Board will hold a hybrid public hearing to consider a subdivision at 432-447 Fore Street, which would involve the creation of four new commercial lots. The subject property totals 9,191 square feet, is zoned B-3 Downtown Business, is located within the Old Port Historic District, and is further located within the Pedestrian Activities District (PAD) and Downtown Entertainment Overlay Zone (DEOZ). A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002510-2023.

To:	Chair Mazer & Members of the Planning Board
From:	Sean King
Date:	August 11, 2023
Re:	246 Eastern Promenade
Project ID:	PL-002490-2023
CBL:	CBL 014 I012001
Meeting Date:	August 15, 2023

I. INTRODUCTION

Terradyn Consultants, LLC, on behalf of ECK Realty LLC, has submitted a Major Site Plan and Inclusionary Zoning Conditional Use application to facilitate the construction of two multi-family buildings containing 14 residential units, along with covered and surface parking at 246 Eastern Promenade in the Munjoy Hill neighborhood. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.1 and Inclusionary Zoning Conditional Use Standards, Section 18.2.3.

The Planning and Urban Development Department mailed 151 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the August 4 and 5, 2023 editions of the *Portland Press Herald*.

Applicant:	Michael E. Tadema-Wielandt, Terradyn Consultants. LLC
Applicant Representatives:	Greg Shinberg, Shinberg Consulting, LLC; Matt Provencal, Mark Mueller Architects; Samuel Glidden, Owen Haskell Inc.



Figure 1: Aerial of development site looking towards the Eastern Promenade

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 14.6
Inclusionary Zoning Conditional Use	Section 18.2.3
Design Review	City of Portland Design Manual (i) Multi-family

Waiver Requests	*Applicable Standards*
To modify the minimum drive aisle requirements of the *Technical Manual, Section 1.10.3*, which requires a minimum two-way drive aisle width of 24 feet. The applicant requests a waiver to allow a two-way drive aisle width of 20 feet within the proposed garage under the 11-unit building due to constraints by the building structure.	*Technical Manual, Section 1.10.3 – Parking lot and parking space design:* Vehicular access provided by a two-way drive aisle shall have a minimum width of 24 feet for standard, right-angle parking.

III. PROJECT DATA

Existing Zoning	R-6
Property Size	27,206 Square feet
Existing Use	Residential, surface parking lot
Proposed Use	Residential
Proposed Development Program	Two multi-family buildings totaling 14 residential units

	Existing	*Required*	*Proposed*	*Net Change*
Building Footprint	3,000 square feet	n/a	15,720 square feet	+12,720 square feet
Building Floor Area	6,000 square feet	n/a	34,730 square feet	+28,730 square feet
Impervious Surface Area	16,596 square feet	n/a	20,640 square feet	+4,044 square feet
Residential Units	12	n/a	14	+2 residential units
Parking Spaces	39	14	27	-10
Bicycle Parking Spaces	0	6	6	+6
EV Charging Stations	0	5	14	+14

IV. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located at 246 Eastern Promenade (CBL 014 I012) in the Munjoy Hill neighborhood of Portland and is located within 100 feet of the Munjoy Hill Historic District and Eastern Promenade a designated historic landscape. The subject property is approximately 27,200 square feet in total lot area and is currently improved with an existing three-story 12-unit apartment building and surface parking lot with 39 parking spaces, that are reserved to adjacent property owners. The existing building on site has been operating as a multi-family apartment building since roughly the 1950s. ECK Realty LLC acquired the property in 2021.

Land uses in the surrounding area are primarily residential, including single-family, and multi-family buildings ranging in height from between two and four stories. Immediately to the north is the Eastern Promenade, a 78-acre park that includes sweeping views of Casco Bay, direct access to the waterfront, as was as the Eastern Prom multi-use trail, playground, public boating ramps, East End Beach, and community garden. The site is well served by public transit. METRO provides service along the Eastern Promenade with a METRO Route 1 stop located at the corner of Turner Street and Eastern Promenade.



Figure 2: Aerial of surrounding neighborhood context

V. PROPOSED DEVELOPMENT

The proposed Major Site Plan application would facilitate the development of two multi-family residential buildings, including a two-story three-unit building with frontage on Turner Street and a four-story 11-unit building with frontage on the Eastern Promenade. In total, the two residential buildings combined would contain approximately 35,000 square feet of building floor area and 14 residential units.

A total of 27 parking spaces would be provided on site, including 13 surface parking spaces and 14 parking spaces located in a garage associated with the 11-unit multi-family building. According to the applicant, 11 surface parking spaces will be reserved for residents of another applicant-owned building at 119 Morning Street. All parking would be accessed from a 20-foot wide curb cut along Turner Street. The development would include 14 EV chargers, 12 within the garage, and two at the surface parking spaces.

The proposed project would include street trees along Turner Street and landscape buffers along the perimeter of the property. A low retaining wall with stairs along the Eastern Promenade sidewalk and a

walkway from the entry terrace at the 11-unit building to Turner Street would allow residents to access the public sidewalks as shown on the overall site plan (Plan 6).

To facilitate the development the applicant intends to demolish the existing 11-unit residential building. As the proposed project will result in more residential units being created than lost, the City's Housing Preservation and Replacement ordinance (Sec. 18.1.3) does not apply.

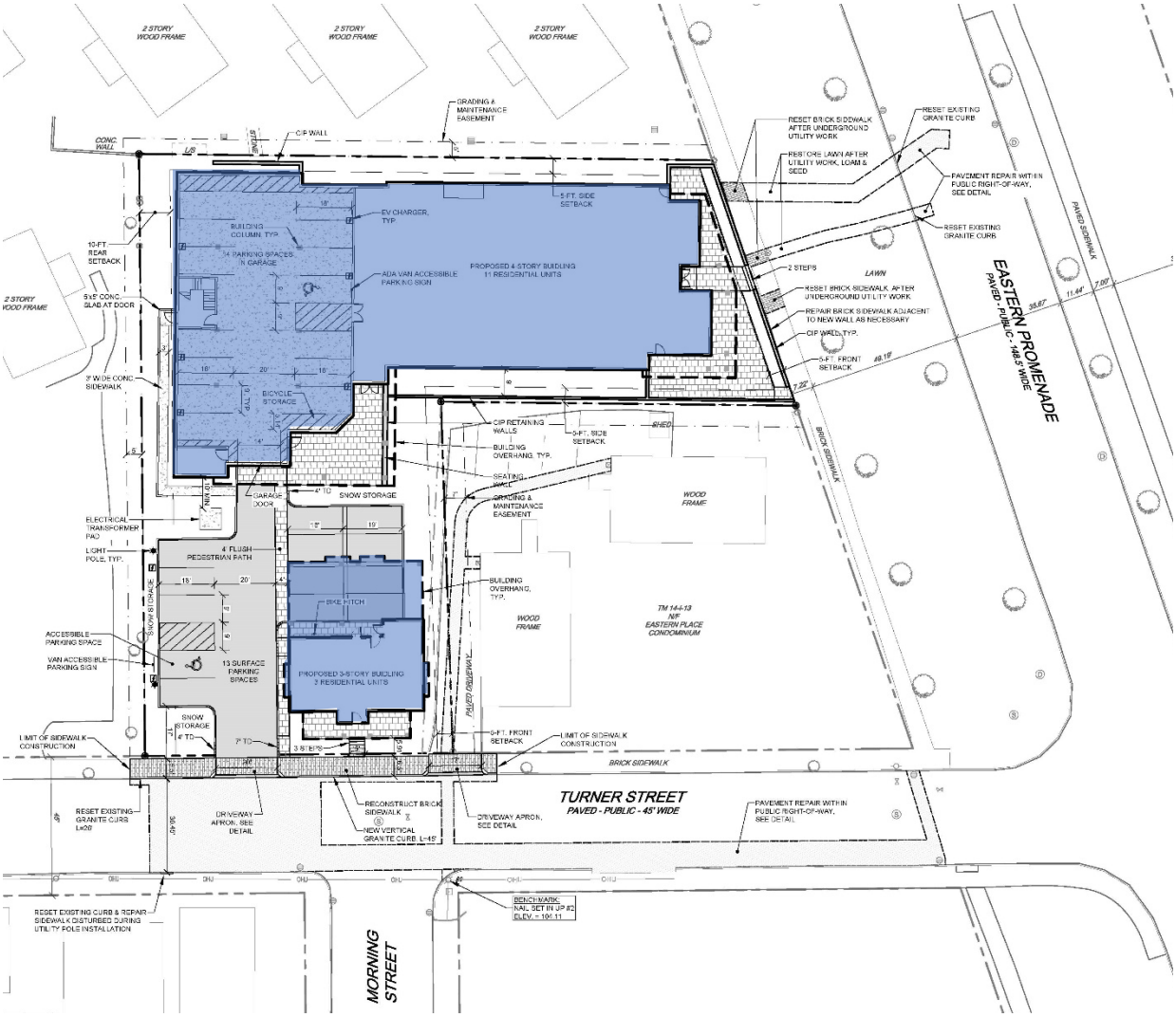


Figure 3: Proposed development site plan



Figure 4: Proposed Turner Street rendering



Figure 5: Proposed Eastern Promenade rendering

VI. RIGHT, TITLE, & INTEREST

The owner of the property is Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (Applicant Submittal D). The property is managed for Ellie & Chaya, Inc. by E.C.K. Realty LLC.

The applicant's existing conditions survey (Plan 2) indicates the property has one utility easement present on site which was granted by Public Works in 2016 to Northern Utilities, Inc. for an anode bed (Book 33292, Page 266). The anode bed easement is currently in the process of being amended by the City's attorney to accommodate the development proposal as part of the sale of the property.

VII. FINANCIAL & TECHNICAL CAPACITY

The applicant has submitted a letter of financial capacity from Gorham Savings Bank (Applicant Submittal I) and supplied supporting information related to the technical capacity of the Applicant team (Applicant Submittal J).

VIII. ZONING ANALYSIS

The site is encompassed by the R-6 (Residential) zone. Relevant sections of the R-6 purpose statements include:

- ***R-6**: To set aside areas on the peninsula for housing characterized primarily by multi-family dwellings at a high density providing a wide range of housing for differing types of households; to conserve the existing housing stock and residential character of neighborhoods by controlling the scale and external impacts of professional offices and other nonresidential uses; and to encourage new housing development consistent with the compact lot development pattern typically found on the peninsula.*

As submitted, the Major Site Plan is consistent with the R-6 zoning requirements. Multi-family uses are a permitted use in the R-6 zone (Table 6-A Permitted Uses in Residential Zones) and are permitted at a lot area per dwelling unit of 725 square feet. Additionally, the proposed project is consistent with the R-6 dimensional standards per §7.3 Dimensional Standards, (Table 7-A Residential Zone Dimensional Standards). A zoning analysis of the proposed project is provided in the table below:

R-6 Residential Zone	*Permitted*	*Proposed*
Lot Area (min.)	2,000 Square feet	27,206 Square feet
Lot area per dwelling unit (min.)	725 Square feet	1,943 Square feet
Lot coverage (max.)	60%	58.5%
Street Frontage (min.)	20 feet	199 feet
Lot Width (min.)	20 feet	186 feet
Front Setback (min.)	5 feet	8 feet
Rear Setback (min.)	10 feet	10 feet
Side setback (min.)	5 feet	6 feet
Stepbacks (above 35 feet when property line abuts a residential zone) (min.)	10 feet from side property line and 15 feet from rear property line	10 feet side, 15 feet rear
Structure Height (max.)	45 feet	41 feet
Lot coverage (max.)	60%	58.5%
Landscaped open space ratio (min.)	20%	24%
Width of garage opening on front façade (max.)	9 feet or 40% of the front façade.	Not applicable

IX. INCLUSIONARY ZONING (Section 18.2.3)

New residential projects totaling 10 or more residential units are subject to the City's Inclusionary Zoning (IZ) requirements per §18.2.3 to provide a minimum of 25 percent of new dwelling units be workforce housing units, affordable to households earning 80 percent of the area median income (AMI). Given the project proposes a total of 14 units, a minimum of 4 workforce housing units are required to meet the IZ requirement.

The applicant has indicated they intend to meet the Inclusionary Zoning requirements by paying a fee in lieu to the Jill C. Duson Housing Trust Fund for the required 4 workforce housing units.

X. SITE PLAN REVIEW STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 14.6. Staff comments are below.

1. Transportation Standards (Section 14.6.1)

A. Impact on surrounding street systems

The proposed development is located on an Elle-shaped lot with the property have frontage on both Turner Street and Eastern Promenade. The applicant proposes to have all vehicular access into the property from Turner Street. The City's Consulting Traffic Engineer finds that the new traffic volumes from the proposed project would not be expected to impact area mobility or safety.

The applicant has proposed public right-of-way improvements including reconstructing granite curbing, brick sidewalk, and driveway apron.

B. Access and circulation

The proposed development would access parking on the site by a new driveway at Turner Street. The City's Consulting Traffic Engineer has evaluated the turning templates and has provided comments to address vehicle maneuvering at the garage and tandem spaces. (Attachment 5)

The Applicant has indicated that pedestrians will access building entrances from Turner Street and the Eastern Promenade.

C. Public transit access

Not applicable. While there is a Greater Portland METRO local service Route 1 transit stop at the corner of Turner Street and Eastern Promenade the proposed development does not exceed 20 dwelling units and therefore is not required to provide a transit shelter.

D. Parking

In general, a residential development is required to provide one parking space per dwelling unit unless a project is eligible for parking exceptions as listed in Table 19-B of the Land Use Code. No exceptions are being sought for this application. The proposed development plan meets the minimum parking with the first three units exempt for a total requirement of 11 parking spaces, the applicant seeks to provide 27 parking spaces for a reduction of 12 from the existing surface lot.

The project is meeting the minimum bicycle parking requirement, which requires that two spaces be provided for every five units. As there are a total of 14 residential units being proposed, a minimum of six bicycle parking spaces is required, and six are proposed. One space is proposed outside of the three-unit building facing Turner Street, and the remaining spaces are located within the garage.

The applicant has indicated 12 parking spaces in the garage and four surface parking spaces would include new electrical vehicle (EV) chargers to meet the minimum EV charger requirements of 5 EV chargers (27 parking spaces times .2 = 5) per Section 1.14 of the City of Portland Technical Manual.

E. Transportation demand management (TDM)
Not applicable. A TDM plan is not required as the proposed development is a residential use.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features
The site is currently developed with a multi-family building and surface parking lot with no significant natural features including wetlands, vernal pools or other protected wildlife habitats.

B. Landscape preservation
The survey (Plan 2) indicated existing trees with a diameter at breast height (dbh) under 24 inches do not require preservation under City's technical manual section 4 Landscaping and Landscape Preservation standards. The Applicant has incorporated landscaping to screen the parking areas and buildings from adjacent properties.

C. Site landscaping and buffers
The applicant submitted a revised landscape plan (Plan 18) to include locations and quantities for tree, shrub, and groundcover that is generally supported by the City's Parks department reviewer. However, the City's Parks department has concerns about the proposed tree species and spacing along Turner Street to create an overly dense screen along the property frontage and the proposed utility trenching within close proximity to existing trees at the Eastern Promenade right-of-way. (Attachment 4)

The creation of 14 residential units requires either the planting of 14 street trees or an acceptable alternative under Technical Manual section 4.6.4. The applicant has proposed to provide eight trees within twenty feet of the property line, which is an acceptable alternative per the Technical Manual standards. The applicant will be required to indicate how the remaining six street trees will be met, either as an acceptable alternative or a contribution to the City of Portland Tree Fund in the amount of $400 per tree.

D. Water quality/storm water management/erosion control
The applicant has submitted a stormwater management report, a grading and drainage plan to indicate erosion and sedimentation control measures, which has been reviewed by the City's Consulting Stormwater Reviewer with the following comments:

- The Applicant has calculated a slight increase in stormwater runoff amounts. It should be confirmed that there is not concern with downstream stormwater system capacities. The project also includes installation of new stormwater infrastructure in the ROW, and this should be coordinated with the Department of Public Works.
- The project is proposing to direct stormwater along the western edge of the site onto the adjacent property. A grading easement has been identified along the western edge of the property. The Applicant should confirm with the neighboring property that there are no concerns with the proposed grading. The amount of flow is anticipated to be very small,

but will be within a defined swale that did not exist based on existing conditions grades. Further evaluation and coordination with the neighboring property is required.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)

A. Consistency with City Master Plans

Portland's Plan 2030 Comprehensive Plan goals and policies (state and local) relevant to the proposed development align with these vision statements and goals, by creating a new well-connected housing development accessible to public transit supporting the Plans goal of *increasing, preserving, and modifying the overall supply of housing city-wide*.

One Climate Future identifies strategies relevant to the proposed development including encouraging transit-oriented infill development to support travel by walking, biking, and public transportation as well as increasing the housing stock in areas proximate to jobs and public transit. Furthermore, One Climate Future prioritizes infill development through redevelopment over greenfield development to ensure the protection of the state's forest, wetlands, and healthy soils.

B. Public safety and fire prevention

The City's Fire Marshall has reviewed the application materials and finds that the proposed plan to allow firetruck access at both Turner Street and the Eastern Promenade is acceptable.

C. Availability and capacity of public utilities

The Applicant has indicated ability to serve letters for the City's wastewater division, Portland Water District and electrical utility provider will be provided.

City Staff has provided comments to the Applicant related to the existing utility easement 1694/437 for the existing utility pole and overhead utility wire that currently spans across the property and existing access easement 25665/101 to maintain or replace the existing overhead utility wire for the abutting property at 236 Eastern Promenade. The Applicant has indicated a meeting with Central Maine Power (CMP) on site and will provide written acceptance for Staff review.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The proposed four-story multi-family building with 11 dwelling units and two-story multi-family with three units meets the R-6 setback requirements to not adversely impact abutting structures or properties.

B. Shadows

No shadow study is required as the proposed development plan and building height is consistent with adjacent properties that face the Eastern Promenade right-of-way. The proposed 11-unit building will be four-stories and the three-unit building will be two-stories.

C. Snow and ice loading

The applicant shall indicate snow storage areas on site plans under 14.6.4.C.

D. View corridors

There are no designated view corridors within the project vicinity. This standard is not applicable.

E. Historic resources

The proposed development is within 100 feet of the Munjoy Hill historic district and the Eastern Promenade historic landscape and requires an advisory staff review by the Historic Preservation program that is captured within the design review memo (Attachment 2).

F. Exterior lighting

The applicant has submitted a photometric lighting plan and proposed lighting fixture cut sheets that exceed the 3000K Correlated Color Temperature (CCT) per Section 12.5 in the City of Portland's Technical Manual. The applicant shall revise light fixture specifications to meet Technical Manual, Section 12 site lighting standards.

G. Noise and vibration

The proposed HVAC and/or other equipment for noise and vibration would be located and screened by a sound-attenuating screen system at the roof level.

H. Signage and wayfinding

Not applicable, there is no signage beyond property addressing.

I. Zoning-related design standards

The proposed development plan is subject to the site design standards, Land Use Code section 14.6.4.I Design standards per the City of Portland Design Manual under section (i.) multi-family. The project is also within 100' of a historic district and is subject to an advisory design review by Historic Preservation staff. (Attachment 2, 3)

The Applicant has provided resubmitted architectural plans and elevations that indicate adjustments to the exterior material selection, façade composition to visually divide the 11-unit building into two parts facing the Eastern Promenade and articulate the three-unit building entry facing Turner Street. Staff recommends reducing the cornice line above ground level at Eastern Promenade and pulling the building entry canopy closer to the building's façade for the 11-unit building and for the Applicant to consider a shared building entry to access second-floor residential units directly from Turner Street for the three-unit building that is more in context with the surrounding neighborhood.

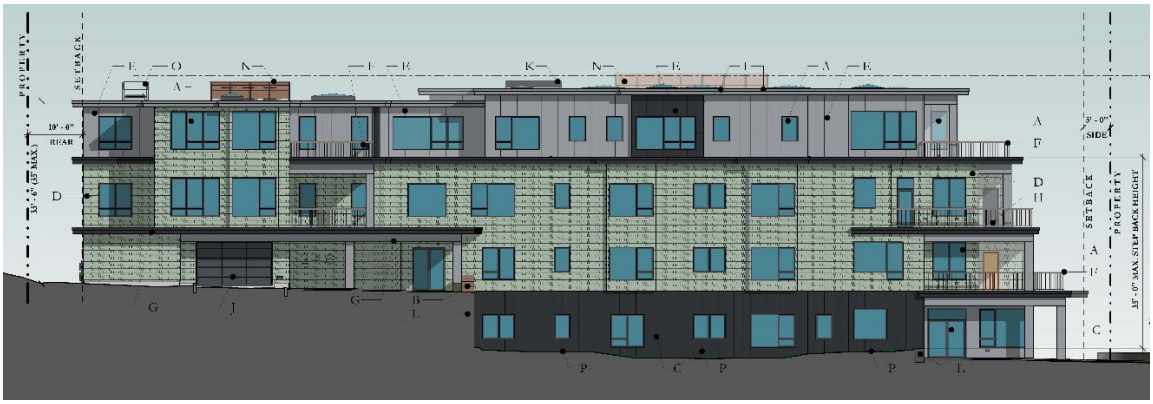


Figure 6: Left elevation of proposed 11-unit building



Figure 7: Front elevation at Eastern Promenade of proposed 11-unit building



Figure 8: Front elevation at Turner Street of proposed three-unit building

XI. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on Friday, June 7, 2023 (Applicant Submittal O, P). Invitations for the in-person meeting were sent to properties within 500 feet of the proposed development. Attendees of the meeting inquired about the loss of parking spaces on private property, proposed architectural character, building heights, and construction schedule.

Written public comments (PC 1, 2, 3) are included for the Planning Board.

XII. NEXT STEPS

Staff shall continue to review resubmitted plans and documents to ensure the proposed project is in compliance with all applicable standards, and specifically:

1. Address staff comments related to preservation of existing trees at Eastern Promenade right of way and site landscaping.
2. Address staff comments related to architectural design within the surrounding neighborhood context.
3. Address additional comments from the Planning Board.
4. Prepare final plan submission.
5. Schedule and hold planning board public hearing.

XIII. ATTACHMENTS

PUBLIC COMMENTS

PC 1 Mary Roy – 06/20/2023
PC 2 Abutters – 08/08/2023
PC 3 David Bannon – 08/10/2023

REPORT ATTACHMENTS

Att. 1 City review comment letter – 06/14/2023
Att. 2 Design review memo – 06/13/2023
Att. 3 Design review memo – 08/11/2023
Att. 4 Park's department comments – 8/7/2023
Att. 5 City's Consulting Traffic Engineer – 8/9/2023

APPLICANT SUBMITTAL

A. Project description
B. Architectural Narrative
C. Major Site Plan checklist
D. Right, Title & Interest
E. Summary of Existing Easements
F. Proposed easements
G. Zoning analysis table
H. Site Plan standards assessment
I. Financial capacity
J. Technical capacity
K. Waiver request
L. Stormwater report
M. Site Utilities
N. Construction management plan narrative
O. Neighborhood meeting attendance
P. Neighborhood meeting certificate
Q. Comment response letter
R. Certificate of Notice of public meeting

PLANS AND DRAWINGS

Plan 1. Cover
Plan 2. Survey
Plan 3. General Notes
Plan 4. Demolition Plan
Plan 5. Construction Management Plan
Plan 6. Site Plan
Plan 7. Grading and Drainage Plan
Plan 8. Detailed Grading Plan
Plan 9. Erosion Sedimentation Control Notes and Details
Plan 10. Utility Plan
Plan 11. Photometric Plans
Plan 12. Site Lighting Fixtures
Plan 13. Site Details
Plan 14. Utility and drainage details

Plan 15. Turning template
Plan 16. Turning template
Plan 17. Turning template
Plan 18. Landscape Plan
Plan 19. Architecture Cover
Plan 20. Architectural site plan
Plan 21. First floor plan
Plan 22. Second floor plan
Plan 23. Third floor plan
Plan 24. Fourth floor plan
Plan 25. Roof plan
Plan 26. Turner floor plans
Plan 27. Eastern Promenade elevations
Plan 28. Eastern Promenade elevations
Plan 29. Turner Street elevations
Plan 30. Eastern Promenade sections
Plan 31. Neighborhood elevations
Plan 32. Eastern Promenade rendering 1
Plan 33. Turner Street rendering 1
Plan 34. Turner Street rendering 2

Sean King, Urban Designer (sking@portlandmaine.gov)

Att. 1

Please provide a comment response document detailing the applicant's response to the City Staff comments provided below. Please be sure to upload the response document and new/updated documents and drawings to the project folder (PL-002490-2023) on ProjectDox (aka ePlan).

Description:
Redevelopment of an existing apartment into two multi-family condominium buildings, consisting of an 11-unit building facing Eastern Promenade and a 3-unit building facing Turner Street. The existing 11-unit building, shed and parking lot would be demolished.

INCLUSIONARY ZONING CONDITIONAL USE

- The applicant shall indicate how the development will provide requirements for workforce housing under Land Use Code 18.2.3.

SITE REVIEW

- The applicant shall submit ability to serve for all respective utility services under 14.6.3.C.1.
- Applicant shall provide boundary of excavation, replacement of grades, brick sidewalk and seeded loam for new sewer and storm drainage connection at Eastern Promenade. In addition, utility trenching and installation of utilities shall not significantly impact existing mature trees and root systems at the Eastern Promenade.
- The applicant shall address the existing utility easement 1694/437 for the existing utility pole and overhead utility wire that currently spans across the property. The applicant shall provide acceptance of proposed removal from Cumberland County Power and Light Company and its successors.
- The applicant shall address the existing access easement 25665/101 to maintain or replace the existing overhead utility wire for the abutting property at 236 Eastern Promenade.
- The applicant shall indicate snow storage areas on site plans under 14.6.4.C.
- The applicant shall submit preliminary condominium documents for buildings, shared spaces, parking and all site operations.
- The applicant shall indicate EV charger symbols for each parking space required and/or proposed in addition to on-site plans under Technical Manual 1.14.
- The applicant shall indicate any existing parking lease agreements that would impact the proposed development program.
- The applicant has provided a Construction Management Plan and narrative, staff finds the following:
    - Construction management plan shall utilize the existing conditions plan to include site management, erosion control, construction staging areas, parking during construction, dewatering and other special measures. See attached template
    - All temporary crosswalks require ADA compliance and cannot utilize the existing abutting property driveway, staff recommends the temporary crosswalk relocate to the corner of Turner Street and to observe street occupancy permit requirements.
    - Proposed grading and maintenance easement must be acceptable in writing from abutting properties. Construction activity shall not occur on abutting properties without prior authorization.

- Utility construction and sidewalk replacement at Eastern Promenade shall require an appropriate sidewalk closure to reroute pedestrians for any work within City's right of way, staff recommends temporary crosswalks redirect pedestrians to north sidewalk at Eastern Promenade.
- Traffic control plans shall be provided and use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

DESIGN REVIEW

The site plan application is subject to the City of Portland Design Manual – *(i) Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.* Preliminary comments for the Applicant to address are below, a design review memo will be issued at a later date

- The development project at 246 Eastern Promenade is subject to the site design standards, Land Use Code section 14.6.4.I Design standards. The project is also within 100' of a historic landmark and is subject to an advisory design review by Historic Preservation staff.
- The Applicant should consider darker (heavier) materials at the base of the 11-unit building and lighter tone materials to terminate the building's upper floor.
- Staff recommends a front façade composition that segments the building into two parts to further reduce the scale of the building's width. Staff suggests the elimination of the deck overhang and façade projection located in the middle of the front elevation along with stacked balconies that carry to the top floor. In addition, the Applicant shall be aware that stepbacks in the R-6 are only required for building heights above 35 feet to be 10 feet from the side property line and 15 feet from the rear property line. The current stepback distance at the right elevation is approximately 17'-4" and at the left elevation is approximately 21'-4".
- The proposed three-unit building with frontage on Turner Street fits within the surrounding context as a two-story height structure. Staff finds the building recession at the front elevation for bicycle storage does not contribute to a balanced front elevation, the Applicant should consider an alternative storage location to provide a more balanced front elevation composition.
- Staff recommends the applicant consider a shared entry and stairway for the three-unit building facing Turner Street to allow for direct access to the public street for each dwelling unit that is consistent with the surrounding neighborhood context.

ZONING

- The applicant needs to provide the average grade for both buildings. They need to provide the finished grade at the major corners of each building and then add the average grade line to the elevations for each building.

TRAFFIC CONSULTANT

- New traffic volumes from the proposed project would not be expected to impact area mobility or safety.

- The applicant shall provide information in support of a waiver for parking lot aisle width proposed for the 11-unit building. This shall include vehicle turning templates for all parking spaces.
- The applicant shall provide information on how the tandem parking spaces will be managed.
- The applicant should provide information that the elimination of existing parking spaces is not associated with an existing site plan approval.

DEPARTMENT OF PUBLIC WORKS – ENGINEERING & TRANSPORTATION

- Turner Street nor Eastern Promenade is under street moratorium.
- The City's Technical Manual has been recently updated and approved. After reviewing the proposed details for this project it is clear that you are using the outdated details. The applicant shall update all proposed details (Site, Sewer, Stormwater, Landscape, …. details) to meet the requirements of the recently approved technical manual update. CAD files can be obtained upon request.
- The applicant shall label all improvements in the ROW. Improvements and existing conditions in the ROW shall be dimensions on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths as well as when a width changes.
- The applicant shall update the plans to label and or provide spot grades and slopes for the proposed sidewalks and driveway improvements at grade breaks.
- The proposed brick sidewalk cross slope shall not exceed 2% at the property line. If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope.
- The plans need to show and label existing and proposed curb. Is the applicant planning to reset the existing granite curb?If the existing Granite Curb will be reset the applicant shall insure that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation / during construction.
- On the site plan note the location of the curb that will be removed and reset or new curb installed per the current City standards.
- It is the City's standard to have the sidewalk material continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope. The applicant shall depict the proposed sidewalk and driveway on the plans to meet the current City standards. The sidewalk and driveway shall be constructed in accordance with the City's Sidewalk and Driveway Apron Material Policy and the granite curb installed per the current City standards. The applicant shall update the plans and provide spot grades and slopes for the proposed sidewalk. The sidewalk material shall be continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope per the current City standards.
- All pavement cuts in the City ROW shall be repaired per the Minor Excavation Pavement Repair Details (prior to paving the finished surface) found in the Rules and Regulations for Excavation Activity.
- The applicant is required to get an excavation permit and coordinate with the Department of Public Works prior to any work within the street Right of Way.

- If during the proposed renovations the applicant's contractor requires occupying the City's right of way for placing a dumpster, staging, additional parking spaces and or parking / using vehicles for construction purposes (for example), then the applicant will be required to apply for a Street Occupancy Permit or a Sidewalk Occupancy Permit. Also, be aware that a traffic control plan is required with the submission of an occupancy permit impacting pedestrian routing and or the normal movement of vehicles.
- The applicant shall reconstruct the existing driveway aprons to be compliant per the City's Technical Manual Section 1, Figure I-9C and the City's Sidewalk and Driveway Apron Material Policy.

DEPARTMENT OF PUBLIC WORKS – WATER RESOURCES

- The applicant shall submit a wastewater capacity application to DPW water resources for review and approval.
- Flows from the grassed swale running along the northerly and westerly edge of the property should be conveyed into the site's proposed storm drain network to prevent concentrated flows from discharging across eastern promenade esplanade. The concern would be nuisance erosion occurring on City park land downstream of the proposed development site.
- The applicant shall add City standard details from the most current version of section # 2 of the Tech Manual for private sewer lateral connections into public sewers.
- It is requested that the applicant add a note to the plans pertaining to existing catch basin structures impacted by the proposed storm drain work in Turner street: "The Contractor and City of Portland DPW to assess the condition of existing catch basin structures in the field to determine if reuse is acceptable."
- DPW does not have a hydraulic model of the existing City storm drain system in this project area to fully understand the impacts of the increased stormwater runoff flows this project is proposing to add into the system. The applicant should provide stormwater management in order for the project to meet the flooding standard to ensure the flow increases don't cause or contribute to existing capacity issues in the system.
- DPW is requesting that SD-5 and SD-6 be upsized to 18" storm drains.
- DPW is requesting that the applicant upsize the existing 12" storm drain pipe connecting DMH-5 to the existing City CB on the northerly side of Turner to a 18" storm drain. City records indicate the outlet pipe from the City catch basin on the northerly side of Turner Street is an 18" PVC pipe.
- The existing City storm drain outlet pipe at DMH-7 is a 10" ID pipe according to City mapping records. SD-8 shall be downsized such that it isn't larger than the outlet pipe.

STORMWATER

- The project is required to provide for stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. The project is a redevelopment project and is reducing the amount of non-roof impervious surface.
    - The Applicant has calculated a slight increase in stormwater runoff amounts. It should be confirmed that there is not concern with downstream stormwater system capacities.

The project also includes installation of new stormwater infrastructure in the ROW, and this should be coordinated with the Department of Public Works.

- The project is proposing to direct stormwater along the western edge of the site onto the adjacent property. A grading easement has been identified along the western edge of the property. The Applicant should confirm with the neighboring property that there are no concerns with the proposed grading. The amount of flow is anticipated to be very small, but will be within a defined swale that did not exist based on existing conditions grades. Further evaluation and coordination with the neighboring property is required.

- The demolition and site plans should reflect the pavement impact in the Eastern Promenade due to the proposed stormwater infrastructure installation and the water service retiring.
- The grading plan shows grades within the parking area. The collection of runoff in this area should be clarified – drainage from within covered parking areas must be sent through an oil water separator and to the sanitary sewer separate from site stormwater and sewer.
- The grading plan shows grades that encroach into abutting properties, the Applicant is required to document any drainage easement with abutting property owners. The Applicant shall handle stormwater drainage on site to not require drainage problems onto the City right of way or adjacent lots under 14.6.2.D.1.b.

LANDSCAPING & ENVIRONMENTAL QUALITY

- *General comment* - ensure any additional planting / street tree requirements for the number of housing units meet waiver standards in section 4.6 of city technical manual. Provide information on any tree fund donations that will occur for unit requirements that are unable to be met with new plantings proposed.
- *C-3.1 CMP V1* - Please show tree protection,limits of work, laydown and delivery storage locations on CMP. Any removal of significant trees that are unable to be replaced and require waiver request / approval shall be done under guidance of 4.3.8 for replacement tree cost contributions.
- *C-3.1 CMP V1* - Include notes or other means of referencing tree and site protection standards that meet sections 4.2 and 4.3 of Chapter 4 in the city technical manual. These standards are for preservation of existing vegetation and significant site features.
- *C-5.1 Detailed Grading plan* - show TOW elevation at eastern walkway edge along east side of building and for retaining wall along Eastern Promenade sidewalk area. .
- *C - 5.1 Detailed Grading plan* - label all existing walkways,streets, and significant on site or adjacent structures
- *L 1-00 Planting Plan - Provide labels and quantities for specific tree species proposed.*
- *L 1-00 Planting Plan* - shed is referenced in plan notes as being relocated. Update note to reference specific plan within larger plan submittal set and/ or show actual relocation of shed.
- *L 1-00 Planting Plan* - NF is shown along turner street under new street tree plantings. Is this meant to be NE - walkers low catmint? Please clarify.
- *L100 Planting Plan* - ensure plantings along accessible walkways are species with compact or non ranging growth habit that do not encroach into these areas. Concern with Rhus aromatica

adjacent to such spaces . The species is a fine selection for massing or naturalizations, but should be planted with generous clearance from pedestrian pathways.

- *L100 Planting Plan* - Clarify shrub species at western surface parking spaces adjacent to transformer planting bed and on the west side of entrance driveway. Recommend cornus sericea species not be in areas that will obstruct site lines for vehicular drivers or in circumstances where pedestrians might be screened from vehicular traffic view. Any woody stemmed plants in areas that impact vehicular sight lines for drivers parking or entering/exiting sites should be species with mature growth dimensions that will not create visibility concerns.
- *L100 Planting Plan* - Indicate height of retaining walls proposed and ensure plantings along walls and abutting boundaries comply with 4.5.7 and 4.5.2 of the site buffer requirements in chapter 4 of the technical manual.

Subject:	246 Eastern Promenade
Zone:	R-6
Date of Review:	Monday June 13, 2023
Reviewer(s):	Sean King (Urban Designer), Evan Schueckler (Historic Preservation Program Manager), Maya Balassa (Planner)
Project ID:	PL-002490-2023

I. DESIGN REVIEW CRITERIA

The development project at 246 Eastern Promenade is subject to the site design standards, Land Use Code section 14.6.4.I Design standards. The project is also within 100' of a historic district and is subject to an advisory design review by Historic Preservation staff.

The site plan application is subject to the policies and design standards listed below:

A. City of Portland Design Manual –
   - (*i*) *Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.*

II. HISTORIC PRESERVATION ADVISORY REVIEW

Portions of the proposed development at Turner Street and Eastern Promenade are within 100 feet of the Munjoy Hill historic district and Eastern Promenade historic landscape, those portions not within a historic district shall be generally compatible with the major character-defining elements of the portions of the historic districts in the immediate vicinity of the proposed development. Character-defining elements of historic districts are identified in the historic resources inventory and respective historic district designation reports. For the purposes of this provision, "compatible" design shall be defined as design that respects the established building patterns and visual characteristics that exist in a given setting and, at the same time, is a distinct product of its own time. Historic Preservation staff have provided a written analysis of the proposed development's immediate context, identifying the major character-defining elements and any established building patterns that characterize the context.

Munjoy Hill:

Munjoy Hill has a long history of development and features highly varied architectural expressions across buildings. Many buildings also feature historical alterations, creating varied and dynamic layers of history. Regardless, there are several unifying features within the district. Construction is primarily of wood frame over masonry foundations, with only a handful of primarily brick structures. Buildings are typically independent, but constructed densely, with tight driveways and side yards. Front yards are typically shallow. Projecting bay windows or entry porches are often used to create variety along the sidewalk. Windows are predominantly vertically oriented with regular placement on front facades and more variation on sides. The immediate vicinity of the proposed development is eclectic, reflecting the overall diversity of the district's architecture, including examples of high-style grand houses, Queen Anne multi-family buildings typical of those found throughout the district.



A typical street showing examples of triple-deckers and Italianate duplexes in the Munjoy Hill Historic District (82, 84, 86, & 88 Beckett).

III. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, **red** text denotes standards not met to require resubmission.

(i) Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.

MULTIPLE-FAMILY STANDARDS. Multiple-family shall meet the following standards:

1. *The exterior design of the proposed structure, …. ,shall be designed to complement and enhance the nearest residential neighborhood.*

Staff comment: Staff finds the development is generally designed to complement and enhance the surrounding residential neighborhood, however, recommends the applicant further integrate within the context by incorporating the following architectural elements:

- Architectural style – The 11-unit building is a contemporary style with a flat roof form, large fenestration facing the Eastern Promenade and delineation of exterior materials by floors. The three-unit building is a contemporary style with a flat roof form, clear fenestrations pattern and a covered parking area with dwelling units above that is unique to the surrounding context. Staff recommends the Applicant provide a description of the proposed surface parking to indicate if existing parking leases are present that would require stacked parking under dwelling units. Staff finds the suspended second story of the three-unit to be unique to the surrounding context and recommends further enclosure similar to the proposed 11-unit building;
- Façade materials - The proposed buildings include a transition of durable exterior materials that relate to the surrounding residential context, Staff recommends the Applicant consider darker (heavier) materials at the base of the 11 unit building and lighter tone materials to terminate the building's upper floor;
- Roof pitch - The proposed buildings include a flat roof form that is compatible with multi-family buildings found throughout the neighborhood;

- Building form and height – The proposed 11-unit building with frontage on Eastern Promenade is wider in comparison to adjacent buildings, staff recommends a front façade composition that segments the building into two distinct parts to further reduce the scale of the building's width. Staff suggest eliminating deck overhang and façade projection located in the middle of the front elevation and consider stacked balconies that carry to the top floor. In addition, the Applicant shall be aware that stepbacks in the R-6 are only required for building heights above 35 feet to be 10 feet from the side property line and 15 feet from the rear property line. The current stepback distance at the right elevation is approximately 17'-4" and at the left elevation is approximately 21'-4", staff finds the symmetrical stepback proposed contributes to the overall front elevation composition;
- Window pattern and spacing – The window pattern and spacing are oriented horizontally with a clear fenestration pattern;
- Porches and entryways – Included at the front elevations and clearly articulated;
- Cornerboard and trim details – Simple and contemporary;
- Façade variation in projecting or recessed building elements - The proposed three-unit building with frontage on Turner Street fits within the surrounding context as a two-story height structure. Staff finds the building recession at the front elevation for bicycle storage does not contribute to a balanced front elevation, the Applicant shall consider an alternate location for bicycle storage and revise the front elevation.

2. *The proposed development shall respect the existing relationship of buildings to public streets.*

Staff comment: Staff finds the building placement along Eastern Promenade relates to adjacent properties with an angled street frontage while providing for a low retaining wall at the existing sidewalk. Building entrances for both the three-unit building facing Turner Street and the 11-unit facing Eastern Promenade are oriented towards the street and can be directly accessed from the sidewalk. Staff finds the transition open space areas between the sidewalk and covered entries to be appropriate. However, staff recommends the applicant consider a shared entry and stairway for the three-unit building facing Turner Street to allow for direct access to the public street for each dwelling unit that is consistent with the surrounding neighborhood context.

3. *Open space on the site for all … multiple-family development shall be integrated into the development site.*

Staff comment: The development has proposed open space functions through terraces at the building entries, planting buffers along the perimeter and private terraces for each unit that staff finds appropriate.

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: Staff finds the allocation of windows for each proposed dwelling is appropriate and well-balanced within the exterior facades. In addition, sufficient storage is proposed within each dwelling unit along with shared storage for larger items within the covered parking area.

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

Staff comment: The development proposes to screen all surface parking areas with multiple rows of screening shrubs or linear arrangement of deciduous trees with understory shrubs that staff finds acceptable.

6. *Two-family or multi-family dwellings shall not be converted to lodging houses unless all units in the building have been vacant for at least one (1) year prior to the date conversion is sought or unless the individual multiple-family units are less than one thousand (1,000) square feet in size. In no event shall any single-family dwelling in the R-5 or R-6 zone be converted in whole or in part to a lodging house.*

Staff comment: Not applicable as the proposed development does not include a lodging house conversion.

Construction Management Plan
General Template
[Applicant and Project Name]

Construction Management Plans shall depict the overall planning, coordination, and control of a construction site, including phases as applicable, from beginning to completion. The City's goal for a construction management plan is to support a safe construction site and protect the public safety, accessibility (including preserving accessible pedestrian, bicycle, and vehicular modes of transport throughout the city), and welfare during construction. In addition, the construction management plan shall minimize construction impacts in their duration and magnitude to the surrounding area and develop an effective communication process for resolving concerns and conflicts.

The Construction Management Plan will be submitted as part of the Site Plan Review and it shall address the construction logistics for a project. The Construction Management Plan shall include the following submissions:

1) a construction management site plan;
2) a construction schedule (time frame); and
3) a written narrative addressing the categories below.

A. Construction Management Principles

The following narrative provides an overview of the construction management principles that the [Applicant and Contractor] has identified to minimize impacts from the construction, such as noise, vibrations, ground movement, truck traffic, and other construction related factors to the surrounding building and communities.

B. Development Review of Construction Management Plan

[Applicant and Contractor] shall submit a construction management plan that provides a comprehensive logistics and safety program for the construction project, which will be reviewed and approved as part of the site plan review process. Minimizing impacts to areas surrounding the building/construction site will be primary considerations in the process.

The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan or require a condition of approval that states an applicant shall coordinate a project's construction schedule with the timing of nearby construction activity, in order to avoid cumulative impacts on a neighborhood. Such a condition may involve a delay in commencement of construction, if necessary.

The following details define the intended approach to the successful management of the project construction and the construction management plan will address the general conditions contained below.

C. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

Prior to scheduling a preconstruction meeting and the issuance of any city required permits, [Applicant and Contractor] shall meet all of the requirements contained in Section 14-530. Development review fees and post approval requirements and 14-532. General requirements and enforcement of Portland's Land Use Code.

Other permits, as applicable, include

1. **Street Opening and Street Occupancy Permits:** Construction activity in the public right-of-way are controlled by Chapter 25 and sewer and stormwater system connections are controlled by Chapters 24 and 32 of the Land Use Code. All required permits shall be obtained through the Department of Public Works and the requests shall conform with the approved construction management plan.
2. **Blasting:** 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.
3. **Building Code:** Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code.

D. Construction Administration and Communication

[Applicant and Contractor] will work diligently to implement a communication strategy as outlined below. The communication strategy is intended to ensure that all construction operations are performed in accordance with all agreements, ordinances and special permits applicable to this project. The Construction Manager will work closely with adjacent abutters, businesses, nearby construction sites, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. The final construction management plan shall provide for the following:

1. Contact Person and contact information for the [applicant and contractor] and who is available 24 hours
2. Construction Signage posted on the site with Contact Information for Contractor
3. Describe any additional communication strategies
4. All construction site signage is temporary and shall be removed at project completion.

E. Construction Schedule

1. The contractor shall submit a schedule or time line for the construction project, including any Phasing.
2. Hours of Construction. Construction may occur during the daytime hours as defined in Section 17-18. Construction Activities for Building permit (Attachment 1) and Section 25-129. Noise, dust and debris (Attachment 2).
3. Extended Hours or Night Work: Pursuant to Section 17-18, this section not apply to emergency utility work or "Situations where the public works authority or the office of building inspections determines that the construction activity is of a unique character which cannot reasonably be completed or performed during the permitted hours and which is not of a recurring nature, provided that prior to engaging in such activity the contractor or his representatives gives notice of the time and scope of such proposed activity, the notice to be given in a manner approved by the public works authority."
4. Material Deliveries: Schedule and designated location for delivery of materials and boxed goods.

F. Security & Public Safety

1. The Construction Management Plan will depict all proposed fencing or other barriers and access gates (with knox locking devices) with the intent of separating pedestrian and vehicle circulation from the construction site.

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. An overall construction of 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 rom 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. Any proposed temporary security lighting shall be shown on CMP 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 is controlled by Chapter 25 Article VII of the City Code of Ordinances. Required licenses and permits, restrictions on activity, and fees & area are outlined in that Chapter. Rules and Regulations for Excavation Activity are available through the Street Opening Clerk at the Department of Public Works. At no time can construction activity including delivery vehicles close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.
2. Sewer and Stormwater: Sewer and stormwater water system connections are controlled by Chapters 24 and 32 of the City Code of Ordinance. Required permits for new connections and/or abandonment of existing connections are available through the Street Opening Clerk at the Department of Public Works. Rules and Regulations for these utility systems are available through the City Engineer's office of the Department of Public Works and in Section II of the Technical Manual.

3. Traffic Control Plans: Construction activity that impacts the existing public street system must be controlled to protect the safety of the construction workers and all modes of the traveling public. Projects are required to submit a satisfactory 'maintenance of traffic" (MOT) plan prior to any site plan, subdivision, or street opening permit approval. MOT plans may be required for projects that have impacts on local streets.

   Maintenance of Traffic (MOT) plans shall provide for the safe passage of the public through or along the construction work zone. On a case-by-case basis, applicants may be allowed to close a street and/or detour a mode of traffic when absolutely necessary

for safety. MOT plans shall employ the appropriate techniques and devices as called for n the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). In addition:

- Construction speed signing may be used as needed to slow traffic
- Traffic Control signs shall not be placed where they are an obstruction to bicycles or pedestrians.
- In some situations, flaggers may be required.
- Police details may be required at lighted intersections and may be requested by the City's transportation engineer or his designee.

All existing modes of travel in work zone area shall be accommodated if impacted by the activity. The safe passage of pedestrians, bicyclists, transit providers, and motorists are of equal importance when planning out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. The MOT should also address on-street parking impacts, including deliveries and parking for adjoining businesses and property owners, analysis of roadway capacity or diversion capacity if street closure or change to roadway capacity is required, and coordination with other on-going or future construction or utility projects in the vicinity.

- Traffic control of 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 shall be maintained.

Use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

H. Site Management and Controls

The final Construction Management Plan will address maintaining the site in a safe condition and will include the following:

1. Regular trash and debris removal
2. Street cleaning and damage controls
3. Dust controls- The construction shall comply with Portland's requirements under Section 25-129 on Noise, dust and debris (Attachment 2).
4. Noise: The construction shall comply with Portland's requirements under Section 17-18 of the City Code (Attachment 1) and Section 25-129 on Noise, dust and debris Attachment 2).
5. Rodent Control will be provided, if applicable, by a professional exterminator and consistent with Chapter 22 of the City Code.

6. Snow Removal: Pursuant to Section 25-173 Contractors to ensure a safe means of travel within the work zone.
    1) Snow/ice removal or commence automatically from (1" of snow and up) or Ice
    2) Remove snow as needed within the work zone, including parking spaces & not to block any driveways or sight lines with the piles of snow.
    3) Clear all walks & ramps with the work zone
    4) Sand or Salt as needed
    5) Clear all basin or drainage to help snow melt
    6) This would include Monday-Friday Sat/Sunday/Holidays

I. Erosion Control and Preservation of Trees

1. The [contractor] shall install all erosion and sedimentation controls as depicted on the approved erosion and sedimentation control plan prior to the pre-construction meeting for inspection by the City. The contractor shall regularly inspect the control measures, no less than weekly and after significant storm events, and maintain any installed temporary or permanent stormwater management systems in working order. The contractor shall document all inspection activities and corrective actions and be prepared to provide these documents for inspection by the City, Maine Department of Environmental Protection or the U.S. Environmental Protection Agency upon request.
2. The [contractor] shall maintain all tree and landscaping preservation measures as depicted on the landscaping plan (Exhibit) within the area of construction.
3. The storage of materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Construction Management Plan shall depict location of the material staging areas, the location on onsite temporary construction trailers, the location on onsite truck delivery holding areas, the location onsite truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. An open storage areas shall be shown on the plan.
2. Delivery Truck Holding Areas On-Site: The delivery holding area shall be shown on the plan and shall not be blocked during construction. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of the trucks until they can be unloaded. Once at the site all vehicles well be brought within the fence line and will make every attempt to avoid queueing on public streets.
3. Delivery Truck Holding Areas Off-Site: In the event that adequate on-site area for holding of trucks is not available, an off-site marshalling area will be utilized for trucking. The designated off-site location will be identified in the construction management plan.

K. Parking During Construction

1. Construction Parking: Adequate parking for construction workers shall be provided on site or arrangements for off-street parking at an off-site location shall be provided. The parking arrangements shall be included in the construction management plan.

2. Parking: Where existing facilities are remaining in operation during construction, the construction management plan shall identify how the parking for employees and others shall be managed.
3. Truck Routes and Volumes: The Construction Management Plan shall address the designated truck routes and expected truck volumes.

L. Dewatering Plans

A basic dewatering plan for any construction work is required. The plan must cover construction sites where groundwater is not expected but the impact of rainwater may require dewatering. The plan must include operating procedures, equipment to be used, including filters, erosion and sediment control measures, or other methods of removing sediment from approved discharges.

For construction work that will require frequent dewatering of groundwater from site, a dewatering plan must be prepared and approved by the Department of Public Works. Groundwater and/or soil testing may be required to determine course of action if treatment is necessary. Approval for all discharges to City infrastructure is required.

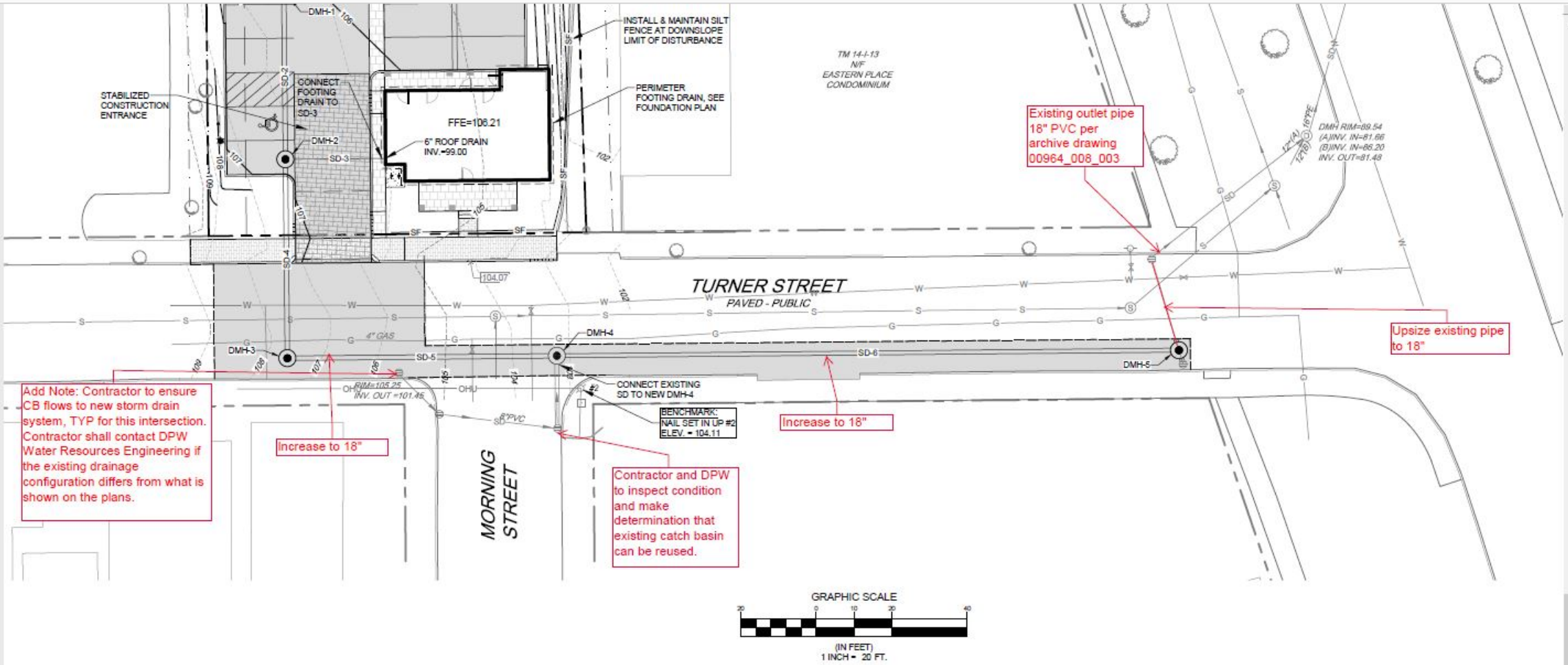
The proposed plan must address the following:

- Project duration, discharge location, storage equipment on-site, dewatering schematic, and emergency contact.
- General requirements include trained staff on-site for all approve discharges and required site log for documentation of all discharges.
- Storage and/or treatment process should include proper settling time and maintain proper use of filtering medium as required.
- Contingency/maintenance plan for all dewatering equipment devices and filtration mediums.

Any water that is removed from an excavation must be pumped from a perforated device buried in crush stone prior discharge and/or prior to storage and treatment. There will be no discharge allowed during precipitation events.

M. Special Measures as Necessary

For construction work that will take place over a long period (e.g. 12 months or more), involve major demolition/ deep excavation/ piling and/or special construction techniques, or are located near sensitive uses (e.g. medical care facilities, schools), the Construction Management Plan should provide details and demonstrate that all appropriate special measures have been taken to avoid, minimize, or possibly compensate for potential impacts. This may include taking baseline measurements before construction, such as arranging to photograph the foundations of nearby properties upon consent of the owners, in order to assess any future impacts of vibration, noise, etc.


DMH-1
INSTALL & MAINTAIN SILT FENCE AT DOWNSLOPE LIMIT OF DISTURBANCE
TM 14-I-13
N/F
EASTERN PLACE CONDOMINIUM
STABILIZED CONSTRUCTION ENTRANCE
CONNECT FOOTING DRAIN TO SD-3
SD-2
DMH-2
SD-3
FFE=106.21
6" ROOF DRAIN INV.=99.00
PERIMETER FOOTING DRAIN, SEE FOUNDATION PLAN
Existing outlet pipe 18" PVC per archive drawing 00964_008_003
DMH RIM=89.54
(A)INV. IN=81.66
(B)INV. IN=86.20
INV. OUT=81.48
SD-4
104.07
TURNER STREET
PAVED - PUBLIC
4" GAS
DMH-3
SD-5
DMH-4
SD-6
DMH-5
Upsize existing pipe to 18"
Add Note: Contractor to ensure CB flows to new storm drain system, TYP for this intersection. Contractor shall contact DPW Water Resources Engineering if the existing drainage configuration differs from what is shown on the plans.
RIM=105.25
INV. OUT =101.45
Increase to 18"
8" PVC
CONNECT EXISTING SD TO NEW DMH-4
BENCHMARK:
NAIL SET IN UP #2
ELEV. = 104.11
Increase to 18"
Contractor and DPW to inspect condition and make determination that existing catch basin can be reused.
MORNING STREET
GRAPHIC SCALE
(IN FEET)
1 INCH = 20 FT.

A. D. and recorded in Cumberland County Registry of Deeds, Book 1471, Page 32, do hereby acknowledge that it has received full payment and satisfaction of the same, and of the debt thereby secured, and in consideration thereof it does hereby cancel and discharge said mortgage, and release unto the said Ethel A. Staples and Sidney J. Staples, their heirs and assigns forever the premises therein described.

IN WITNESS WHEREOF, it the said Casco Bank & Trust Company has hereunto caused its name to be signed and its seal affixed by its Asst. Treasurer, Albert E. Libby, duly authorized this 17th day of October A. D. 1942.

Signed, Sealed and Delivered in Presence of

CASCO BANK & TRUST COMPANY CORPORATE SEAL

F. B. Nelson

By Albert E. Libby

Its Assistant Treasurer

State of Maine. County of Cumberland,ss. Portland, October 17, 1942.

Then personally appeared the above named Albert E. Libby, Assistant Treasurer and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporation.

Before me, Frederick B. Nelson Notary Public, Notarial Seal

= Received October 19, 1942, at 2h 11m P. M., and recorded according to the original

---

KNOW ALL MEN BY THESE PRESENTS, That Herman Albert, Inc., a corporation organized and existing under the laws of the State of Maine and having a place of business at Portland in the County of Cumberland and State of Maine, in consideration of One Dollar and other valuable considerations paid by Cumberland County Power and Light Company, a corporation duly organized and existing under the laws of Maine and located at Portland in the County of Cumberland and State of Maine, the receipt whereof it does hereby acknowledge, does hereby give, grant, bargain, sell and convey unto said Cumberland County Power and Light Company, its successors and assigns, the right to erect, construct and maintain one pole on land of the Grantor situated northwesterly of Turner Street and southwesterly of the Eastern Promenade in the City of Portland, County of Cumberland and State of Maine, said pole being located as follows: Beginning at a stake set in the northwesterly side line of Turner Street about five (5) feet southwesterly by Turner Street from an iron pipe in the line between land of this Grantor and land of Victory Development Corp.;thence northwesterly about one hundred thirteen (113) feet to a pole set about three (3) feet southwesterly from an iron pipe in an angle in the northeasterly side line of land of this Grantor; and the right to erect and maintain a line of wires from Turner Street to said pole and from said pole to land and buildings of Victory Development Corp. for the transmission of electricity and with all necessary foundations, fixtures, anchors, guys, braces, cables, wires and other appurtenances;also the right to transmit electricity through said wires for all purposes of the Grantee, its successors and assigns; also the right to maintain, repair, replace, respace or remove said pole and wires and all the appurtenances thereof; also the right from

Herman Albert, Inc. to Cumb. Co.Pow. & Lt.Co. Deed

time to time to trim such trees, limbs and bushes growing on either side of said wires as if allowed to remain would interfere with the safe and efficient operation of said line and also the right to enter on land of this Grantor at any and all times to carry out any or all of the foregoing purposes.

TO HAVE AND TO HOLD the above granted rights and easements to said Cumberland County Power and Light Company, its successors and assigns, to its and their use and behoof forever.

AND said Herman Albert, Inc. does covenant with the said Grantee, its successors and assigns, that it is lawfully seized in fee of the premises, that they are free of all incumbrances; that it has good right to sell and convey the same to the said Grantee to hold as aforesaid; and that it and its successors and assigns shall and will warrant and defend the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, said Herman Albert, Inc. has caused this instrument to be sealed with its corporate seal and signed in its corporate name by Herman Albert, its President, thereunto duly authorized this 12th day of October, A. D. 1942.

Signed, Sealed and Delivered in Presence of

HERMAN ALBERT, INC. CORPORATE SEAL

Earl C. Skillings By Herman Albert, Inc. President

State of Maine. County of Cumberland,ss. October 12, 1942.

Personally appeared the above named Herman Albert, President of said Corporation as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Corporation.

Before me, Earl C. Skillings Justice of the Peace

Received October 19, 1942, at 2h 30m P. M., and recorded according to the original

---

Sicard to Sicard Disch.

KNOW ALL MEN BY THESE PRESENTS, That I, Augustin Sicard, of Windham, County of Cumberland and State of Maine, mortgagee owner of a certain mortgage given by Joseph Sicard, of said Windham, in said County and State, to to me, the said Augustin Sicard, dated June 3rd., A. D. 1938, and recorded in Cumberland Registry of Deeds, Book 1550, Page 152, do hereby acknowledge that I have received full payment and satisfaction of the same and of the debt thereby secured, and in consideration thereof I do hereby cancel and discharge said mortgage, and release unto the said Joseph Sicard, his heirs and assigns forever the premises therein described.

IN WITNESS WHEREOF, I the said Augustin Sicard have hereunto set my hand and seal this 19th day of October, A. D. 1942.

Signed, Sealed and Delivered in Presence of

Josiah D. Winship Augustin his X mark Sicard Seal

State of Maine. Cumberland,ss. October 19, 1942.

Personally appeared the above named Augustin Sicard and acknowledged the foregoing instrument to be his free act and deed.

Att. 2

Subject:	246 Eastern Promenade
Zone:	R-6
Date of Review:	Monday June 13, 2023
Reviewer(s):	Sean King (Urban Designer), Evan Schueckler (Historic Preservation Program Manager), Maya Balassa (Planner)
Project ID:	PL-002490-2023

I. DESIGN REVIEW CRITERIA

The development project at 246 Eastern Promenade is subject to the site design standards, Land Use Code section 14.6.4.I Design standards. The project is also within 100' of a historic district and is subject to an advisory design review by Historic Preservation staff.

The site plan application is subject to the policies and design standards listed below:

A. City of Portland Design Manual –
   - (*i*) *Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.*

II. HISTORIC PRESERVATION ADVISORY REVIEW

Portions of the proposed development at Turner Street and Eastern Promenade are within 100 feet of the Munjoy Hill historic district and Eastern Promenade historic landscape, those portions not within a historic district shall be generally compatible with the major character-defining elements of the portions of the historic districts in the immediate vicinity of the proposed development. Character-defining elements of historic districts are identified in the historic resources inventory and respective historic district designation reports. For the purposes of this provision, "compatible" design shall be defined as design that respects the established building patterns and visual characteristics that exist in a given setting and, at the same time, is a distinct product of its own time. Historic Preservation staff have provided a written analysis of the proposed development's immediate context, identifying the major character-defining elements and any established building patterns that characterize the context.

Munjoy Hill:

Munjoy Hill has a long history of development and features highly varied architectural expressions across buildings. Many buildings also feature historical alterations, creating varied and dynamic layers of history. Regardless, there are several unifying features within the district. Construction is primarily of wood frame over masonry foundations, with only a handful of primarily brick structures. Buildings are typically independent, but constructed densely, with tight driveways and side yards. Front yards are typically shallow. Projecting bay windows or entry porches are often used to create variety along the sidewalk. Windows are predominantly vertically oriented with regular placement on front facades and more variation on sides. The immediate vicinity of the proposed development is eclectic, reflecting the overall diversity of the district's architecture, including examples of high-style grand houses, Queen Anne multi-family buildings typical of those found throughout the district.



A typical street showing examples of triple-deckers and Italianate duplexes in the Munjoy Hill Historic District (82, 84, 86, & 88 Beckett).

III. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, **red** text denotes standards not met to require resubmission.

(i) Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.

MULTIPLE-FAMILY STANDARDS. Multiple-family shall meet the following standards:

1. *The exterior design of the proposed structure, …. ,shall be designed to complement and enhance the nearest residential neighborhood.*

Staff comment: Staff finds the development is generally designed to complement and enhance the surrounding residential neighborhood, however, recommends the applicant further integrate within the context by incorporating the following architectural elements:

- Architectural style – The 11-unit building is a contemporary style with a flat roof form, large fenestration facing the Eastern Promenade and delineation of exterior materials by floors. The three-unit building is a contemporary style with a flat roof form, clear fenestrations pattern and a covered parking area with dwelling units above that is unique to the surrounding context. Staff recommends the Applicant provide a description of the proposed surface parking to indicate if existing parking leases are present that would require stacked parking under dwelling units. Staff finds the suspended second story of the three-unit to be unique to the surrounding context and recommends further enclosure similar to the proposed 11-unit building;
- Façade materials - The proposed buildings include a transition of durable exterior materials that relate to the surrounding residential context, Staff recommends the Applicant consider darker (heavier) materials at the base of the 11 unit building and lighter tone materials to terminate the building's upper floor;
- Roof pitch - The proposed buildings include a flat roof form that is compatible with multi-family buildings found throughout the neighborhood;

- Building form and height – The proposed 11-unit building with frontage on Eastern Promenade is wider in comparison to adjacent buildings, staff recommends a front façade composition that segments the building into two distinct parts to further reduce the scale of the building's width. Staff suggest eliminating deck overhang and façade projection located in the middle of the front elevation and consider stacked balconies that carry to the top floor. In addition, the Applicant shall be aware that stepbacks in the R-6 are only required for building heights above 35 feet to be 10 feet from the side property line and 15 feet from the rear property line. The current stepback distance at the right elevation is approximately 17'-4" and at the left elevation is approximately 21'-4", staff finds the symmetrical stepback proposed contributes to the overall front elevation composition;
- Window pattern and spacing – The window pattern and spacing are oriented horizontally with a clear fenestration pattern;
- Porches and entryways – Included at the front elevations and clearly articulated;
- Cornerboard and trim details – Simple and contemporary;
- Façade variation in projecting or recessed building elements - The proposed three-unit building with frontage on Turner Street fits within the surrounding context as a two-story height structure. Staff finds the building recession at the front elevation for bicycle storage does not contribute to a balanced front elevation, the Applicant shall consider an alternate location for bicycle storage and revise the front elevation.

2. *The proposed development shall respect the existing relationship of buildings to public streets.*

Staff comment: Staff finds the building placement along Eastern Promenade relates to adjacent properties with an angled street frontage while providing for a low retaining wall at the existing sidewalk. Building entrances for both the three-unit building facing Turner Street and the 11-unit facing Eastern Promenade are oriented towards the street and can be directly accessed from the sidewalk. Staff finds the transition open space areas between the sidewalk and covered entries to be appropriate. However, staff recommends the applicant consider a shared entry and stairway for the three-unit building facing Turner Street to allow for direct access to the public street for each dwelling unit that is consistent with the surrounding neighborhood context.

3. *Open space on the site for all … multiple-family development shall be integrated into the development site.*

Staff comment: The development has proposed open space functions through terraces at the building entries, planting buffers along the perimeter and private terraces for each unit that staff finds appropriate.

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: Staff finds the allocation of windows for each proposed dwelling is appropriate and well-balanced within the exterior facades. In addition, sufficient storage is proposed within each dwelling unit along with shared storage for larger items within the covered parking area.

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

Staff comment: The development proposes to screen all surface parking areas with multiple rows of screening shrubs or linear arrangement of deciduous trees with understory shrubs that staff finds acceptable.

6. *Two-family or multi-family dwellings shall not be converted to lodging houses unless all units in the building have been vacant for at least one (1) year prior to the date conversion is sought or unless the individual multiple-family units are less than one thousand (1,000) square feet in size. In no event shall any single-family dwelling in the R-5 or R-6 zone be converted in whole or in part to a lodging house.*

Staff comment: Not applicable as the proposed development does not include a lodging house conversion.

Att. 3

Subject:	246 Eastern Promenade
Zone:	R-6
Date of Review:	Friday, August 11, 2023
Reviewer(s):	Sean King (Urban Designer), Evan Schueckler (Historic Preservation Program Manager), Maya Balassa (Planner)
Project ID:	PL-002490-2023

I. DESIGN REVIEW CRITERIA

The development project at 246 Eastern Promenade is subject to the site design standards, Land Use Code section 14.6.4.I Design standards. The project is also within 100' of a historic district and is subject to an advisory design review by Historic Preservation staff.

The site plan application is subject to the policies and design standards listed below:

A. City of Portland Design Manual –
   - (*i*) *Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.*

II. HISTORIC PRESERVATION ADVISORY REVIEW

Portions of the proposed development at Turner Street and Eastern Promenade are within 100 feet of the Munjoy Hill historic district and Eastern Promenade historic landscape, those portions not within a historic district shall be generally compatible with the major character-defining elements of the portions of the historic districts in the immediate vicinity of the proposed development. Character-defining elements of historic districts are identified in the historic resources inventory and respective historic district designation reports. For the purposes of this provision, "compatible" design shall be defined as design that respects the established building patterns and visual characteristics that exist in a given setting and, at the same time, is a distinct product of its own time. Historic Preservation staff have provided a written analysis of the proposed development's immediate context, identifying the major character-defining elements and any established building patterns that characterize the context.

Munjoy Hill:

Munjoy Hill has a long history of development and features highly varied architectural expressions across buildings. Many buildings also feature historical alterations, creating varied and dynamic layers of history. Regardless, there are several unifying features within the district. Construction is primarily of wood frame over masonry foundations, with only a handful of primarily brick structures. Buildings are typically independent, but constructed densely, with tight driveways and side yards. Front yards are typically shallow. Projecting bay windows or entry porches are often used to create variety along the sidewalk. Windows are predominantly vertically oriented with regular placement on front facades and more variation on sides. The immediate vicinity of the proposed development is eclectic, reflecting the overall diversity of the district's architecture, including examples of high-style grand houses, Queen Anne multi-family buildings typical of those found throughout the district.



A typical street showing examples of triple-deckers and Italianate duplexes in the Munjoy Hill Historic District (82, 84, 86, & 88 Beckett).

III. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, **red** text denotes standards not met to require resubmission.

(i) Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.

MULTIPLE-FAMILY STANDARDS. Multiple-family shall meet the following standards:

1. *The exterior design of the proposed structure, …. ,shall be designed to complement and enhance the nearest residential neighborhood.*

Staff comment: Staff finds the development is generally designed to complement and enhance the surrounding residential neighborhood.

- Architectural style – The 11-unit building is a contemporary style with a flat roof form, large fenestration facing the Eastern Promenade and delineation of exterior materials by floors. The three-unit building is a contemporary style with a flat roof form, clear fenestrations pattern and a covered parking area with dwelling units above that is unique to the surrounding context. **The Applicant has revised floor plans and elevations to further articulate the front entry, exterior façade materials to delineate floor and bay projections at the sides that minimize the visual impact of the covered parking at the rear of the building.** Staff finds the suspended second story of the three-unit at the rear to be unique to the surrounding context, **and recommends the landscape plan include additional screening from parked vehicles at the adjacent 236 Eastern Promenade property.**
- Façade materials - The proposed buildings include a transition of durable exterior materials that relate to the surrounding residential context, **the Applicant has revised elevations with an arrangement of materials that reinforce the delineation of floors for 11-unit and three-unit buildings that Staff finds to be cohesive;**
- Roof pitch - The proposed buildings include a flat roof form that is compatible with multi-family buildings found throughout the neighborhood;

- Building form and height – The proposed 11-unit building with frontage on Eastern Promenade is wider in comparison to adjacent buildings. **The Applicant has revised the front elevation at Eastern Promenade to further segment the building into two distinct parts by breaking the cornice line above second floor.** Staff recommends a further reduce the cornice line above ground level at Eastern Promenade and pull the building entry canopy closer to the building's facade.
- Window pattern and spacing – The window pattern and spacing are oriented horizontally with a clear fenestration pattern;
- Porches and entryways – Included at the front elevations and clearly articulated;
- Cornerboard and trim details – Simple and contemporary;
- Façade variation in projecting or recessed building elements - The proposed three-unit building with frontage on Turner Street fits within the surrounding context as a two-story height structure, **the Applicant has revised floor plans and elevations to project the front entry and second-floor bays at the side and rear that Staff finds appropriate.**

2. *The proposed development shall respect the existing relationship of buildings to public streets.*

Staff comment: Staff finds the building placement along Eastern Promenade relates to adjacent properties with an angled street frontage while providing for a low retaining wall at the existing sidewalk. Building entrances for both the three-unit building facing Turner Street and the 11-unit facing Eastern Promenade are oriented towards the street and can be directly accessed from the sidewalk. Staff finds the transition open space areas between the sidewalk and three-unit building entry at Turner Street to be too densely planted with trees and recommends a reduction that is more compatible with the existing relationship of buildings to public streets. The resubmitted plans show a shared building entry at the rear of the three-unit building where building columns and a bike hitch reduce pedestrian access, Staff continues to recommend a shared entry and stairway at the three-unit building with frontage on Turner Street to access second-floor dwelling units directly from the public street.

3. *Open space on the site for all … multiple-family development shall be integrated into the development site.*

Staff comment: The development has proposed open space functions through terraces at the building entries, planting buffers along the perimeter and private terraces for each unit that staff finds appropriate.

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: Staff finds the allocation of windows for each proposed dwelling is appropriate and well-balanced within the exterior facades. In addition, sufficient storage is proposed within each dwelling unit along with shared storage for larger items within the covered parking area.

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

Staff comment: The development proposes to screen all surface parking areas with multiple rows of screening shrubs or linear arrangement of deciduous trees with understory shrubs that staff finds acceptable.

6. *Two-family or multi-family dwellings shall not be converted to lodging houses unless all units in the building have been vacant for at least one (1) year prior to the date conversion is sought or unless the individual multiple-family units are less than one thousand (1,000) square feet in size. In no event shall any single-family dwelling in the R-5 or R-6 zone be converted in whole or in part to a lodging house.*

Staff comment: Not applicable as the proposed development does not include a lodging house conversion.

Sean King <sking@portlandmaine.gov>

Eastern Prom review comments needed?

Att. 4

Robert Massengale <rmassengale@portlandmaine.gov> Mon, Aug 7, 2023 at 10:02 AM
To: Sean King <sking@portlandmaine.gov>
Cc: Matt Grooms <mgrooms@portlandmaine.gov>, Tatyana Vashchenko <tvashchenko@portlandmaine.gov>

Hi Sean,

Please find my additional comments for the 246 major site plan review below (Matt and Tatyana cc'd just for general reference):

Hope you had a good weekend, and appreciate you sending over the specific pages that needed further review. I believe these comments reflect the Dev Rev conversation we had earlier that week. My two primary concerns were the trenching impacts of the water line on the existing Prom tree and then the spacing of the unknown deciduous trees along turner street feels too tight for street tree-esque plantings there. Unless the applicant specifically wants to screen the facade from the sidewalk, it might be better to have additional spacing, or they can request a waiver.

Thanks!

Bob

PL-002490-2023
246 Eastern Promenade - Major Site Plan Review - landscape / site preservation comments
Project ID:PL-002490-2023

Summary -

Demolition of 12-unit Apartment. Construction of Two Residential Buildings with three and 11 units respectively

---

Comments from landscape and site preservation perspective -

General comment :

We appreciate the applicant's detailed attention given to site landscaping and a robust planting palette, thank you very much for your refinements to date and ability to adapt plans to better meet site landscape needs.

Specific comments:

L 1-00 Planting plan - please specify tree species along Turner street in front of the building. Ensure street tree plantings conform with section 4.6.1 for Residential development street tree spacing standards of 25’ to 35’ spacing on center. Current trees proposed appear to be 9’ spacing OC and 11’ O.C along Turner street, which, depending upon specific species proposed, will be overly dense for mature tree development.

L1-00 Planting plan - turner street trees - Applicant should be credited for the six street trees described in response letter for new trees planted within 20’ of R.O.W, and also a seventh tree shown in the planting plan at the end of the first parking space on lower left area of plan. A similar tree on the corner of the multi-unit building, if feasible / compatible with the building, would also be a sufficient relocation of a street tree replacement to accommodate more generous spacing for the six trees shown along Turner street. Current spacing of 9’ for deciduous trees along the street in front of building is of concern without further understanding of species selection and intent.

CMP - Some existing trees in abutting properties to the west of Turner street (along sidewalk and at south east corner of western abutting property) may merit additional caution to ensure proposed tree removals or various

construction access and activities within the site do not impact root zones or structural elements of those trees. Please ensure no laydown of materials or compaction of these species root zones that might extend into project work areas occur and those areas are protected from damage.

CMP - Tree protection note for tree within Eastern Promenade lawn. Trenching / sawcut limit line appears to come within structural root plate of existing tree. Please adjust trenching and utilities to protect existing trees. If utility work must be done within tree root zone (either feeder root zone or structural root plate) consider boring under roots once contractors are safe enough distance away from gas lines or other utilities within area.

C - 5.1 SD-7 and proposed water line - please adjust waterline location if at all possible further away from existing tree within Eastern Promenade esplanade. For portions of new lines that are clear of existing sewer and gas lines shown, and are within feeder roots and structural root plates of existing trees within esplanade, please consider boring those portions of new utilities under root systems to preserve the health and longevity of existing trees if lines can not be adjusted further away from tree roots.

[Quoted text hidden]

246 Eastern Promenade - Status Traffic Comments

Att. 5

Tom Errico <thomas.errico@tylin.com> Wed, Aug 9, 2023 at 3:12 PM
To: Sean King <sking@portlandmaine.gov>
Cc: Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Janine Ba <janineba@portlandmaine.gov>

Hi Sean – I have reviewed the updated application materials and offer the following status traffic review comments.

- New traffic volumes from the proposed project would not be expected to impact area mobility or safety.

Status: I have no further comment.

- The applicant shall provide information in support of a waiver for parking lot aisle width. This shall include vehicle turning templates for all parking spaces.

Status: The applicant has provided vehicle turning templates and I have the following comments.

  - **Revise the turning template for space #23 assuming a vehicle is occupying space #10 and bicycles occupy the storage space.**
  - **Adjust all turning templates such that the wheel path does not travel through a column (#18 is an example).**
  - **Space #9 (and the space behind it) has less aisle width area for maneuvering which will make maneuvering very difficult. I expect vehicles to enter head-in and back out of the space toward Turner Street. And either turn around in the handicap marked area or back out into Turner Street. I need to review this with other city staff and provide final direction in the future. My initial opinion is that I would find backing maneuvers into Turner Street to be acceptable given low volumes and speeds.**

- The applicant shall provide information on how the tandem parking spaces will be managed.

Status: The applicant notes that the tandem parking spaces will be utilized by vehicle owners from the same residential unit and thus can be easily self-managed. I have no further comment.

- The applicant should provide information that the elimination of existing parking spaces is not associated with an existing site plan approval.

Status: The applicant notes that the existing parking lot is not associated with a standing site plan approval. I have no further comment.

Please contact me if you have any questions.

Best regards,

Tom Errico, P.E.
NE TRAFFIC ENG. DIRECTOR
T +1 207.347.4354
M +1 207.400.0719
thomas.errico@tylin.com

TYLin

12 Northbrook Drive
Building A, Suite One
Falmouth, ME 04105, United States

TYLin.com



SHINBERG CONSULTING, LLC
181 State Street, Suite 303
PO Box 4424
Portland, Maine 04101
207-772-7070

April 25, 2023

To: Christine Gamando, Director, Portland Planning and Urban Development
From: Greg Shinberg, Owner's Representative
RE: Project Description 246 Eastern Promenade and 15 Turner Street condominiums

Dear Director Gramando, Planning Board Members and City Staff:

On behalf of ECK Realty LLC, we are pleased to present this condominium project for your review.

The 14 condominiums will be constructed in two separate buildings; 11 units with an elevator and internal trash and recycling room plus an enclosed parking garage that affronts on Eastern Promenade, plus a standalone three-unit condominium building that will face Turner Street.

Careful consideration has been given to designing a building that is attractive, functional and energy efficient, one that utilizes authentic materials and one that compliments the existing multi-family buildings located nearby.

This project benefits the city and the Munjoy Hill neighborhood in several ways by aligning with certain goals laid out in the city's strategic vision, including: Utilizing an urban infill strategy by establishing more housing in this desirable but densely populated neighborhood.

Replacing an old surface parking lot with housing and structured parking.
Erecting a structure that is extremely energy efficient and will meet or exceed local and state energy standards.

Residents of these new buildings will be within a quarter mile of the Munjoy Hill bus route and is within walking distance of the downtown and Old Port areas.

ECK Realty, LLC also owns a 28-unit building located nearby at 119 Morning Street. The extra surface parking not allocated to either building will be reserved for the existing nearby apartment building.

This parcel is located entirely in the R-6 zone. It is located across the street from the designated historic zone that ends at the east side of Turner Street.

Some of the key items to note are as follows:

- The Il-unit building will not exceed 45 feet in height.
- The 3-unit building will not exceed 35 feet in height.
- The enclosed parking garage will have 14 parking spaces, one of which will be reserved for a handicap space. All the enclosed parking garage spaces will be reserved for the larger 11-unit building.
- The 3-unit building will likely have 3 designated surface parking spaces.
- The remaining 11 surface parking spaces will be reserved for the building located at 119 Morning Street or this project. There will be 1 exterior handicap parking space.
- A draft construction and maintenance easement has been agreed to between ECK Realty, LLC and the two abutting property owners.
- Shinberg Consulting has met with Central Maine Power (CMP) to discuss how to provide power to the two buildings and refeed the power to the existing 10 condominiums located next door. The field rep has confirmed that CMP will provide an Ability to Serve Letter.
- Initial discussions are ongoing with the water district, sewer district and other utilities.

We look forward to working together to ensure that this project will be a welcome addition to the community.

M A R K
MUELLER
ARCHITECTS

May 5, 2023

Project owner: ECK Properties, Harry Krigman Cape Elizabeth Maine
Design team: Tadema Consulting, Aceto Landscape Architects and our office

Consulting Engineers: Structural Integrity
Bennett Engineering

ZONE ASSESSMENT:

R-6 Residential Zone:

The project goal increases compatibility with the city master plan in the R-6 district by providing additional housing in the City of Portland. In doing so our goal has been to design new housing in a fashion that honors and compliments existing housing in the neighborhood. We think in terms of thoughtful design that respectfully fits the context of the neighborhood and enhances local livability.

Neighborhood context: the local context is a collection of condominiums, apartment houses and single-family residences. Roof types vary from gable, hip and flat roofs. Building heights also vary from two – four stories.

Neighborhood walks have shown a variety of architectural styles. Historically the neighborhood is made up of smaller gable end houses, most could be classified as Victorian or Italianate. The larger more historically maintained buildings in the promenade district are located several blocks closer to the East and overlooking Fort Allen Park.

Today the area has been gentrified with a larger more diverse set of houses of varying styles. Many now include large vertical additions of eclectic design, most prior to the recent inclusion of this area in a historic district. As stated, currently the neighborhood includes many large multi-story condominium and apartment houses. This collection of buildings currently reflect large structures of no true style, but are composed of gable and flat roof buildings.

It is our assessment that the proposed main building, albeit tall in the front has not exceeded the space and bulk of the neighborhood.
The building on Turner Street, by design has been kept to a street level scale.

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

M A R K
MUELLER
ARCHITECTS

SITE DESIGN:

Massing, Ventilation and Wind: The massing theory behind the project is to visually reduce the scale of a larger building overlooking the Eastern Promenade. The front elevation achieves this by stepping the Promenade façade and porches further off the promenade each floor as the building increases in height. The Turner Street structure; by nature of its height and scale has a smaller street scale and fits comfortably in the neighborhood. .The courtyard encompassing the whole property has several functional purposes; landscape, additional exterior parking and cloistered entry space for the main building.

Based on site observation visits, the new buildings will not negatively impact the abutting structures with respect to wind. Conversely our project facing cold winter winds off the water will provide windward protection for abutters.

Shadows: Project building is not located adjacent to a public accessible open space

Snow and Ice Loading: The roofs, which are all flat will have small 8" parapet incorporated into their design. This change-in-height will prevent drifting snow blowing off the upper levels. Ice will be held back from a sliding condition by the same parapet.

View Corridors: No view corridors by the City of Portland have been designated this area

Historic Resources: The proposed three unit building on Turner Street and the main building on the Eastern Promenade are within 100 ft of a designated historic district.

Exterior Lighting: Architectural illumination is a wash of warm light at entrances and residential porches. Entrances will be lit for security, wayfinding and ambiance on a warm summer evening. Porches will be lit with low wall mount downlights of 3,000 Kelvin light fixtures.
See the photometrics for site considerations.

Noise and Vibration: The HVAC systems for the (14) living units consist of electric heat pumps. Heat pumps tend to be quieter than traditional exterior condensers**.** See architecture roof plan for further information.

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

M A R K
MUELLER
ARCHITECTS

Signage and Wayfinding: Street numbers for public safety identification will be applied on the main entrance door transom facing the Eastern Promenade. Relief street numbers shall be attached to the main building Turner Street and on the Turner Street building, and be can viewed on the building elevations.

A project/property sign on the street is not proposed.

ZONE - RELATED DESIGN STANDARDS :

Our Purpose:

Located on the Eastern Promenade, the building is sited overlooking Portland's historic Eastern Promenade landscape.

The project will entail 14 residential living unit, 11 units in the Eastern Promenade building and three in the smaller Turner Street structure.

Project organization has been placed on locating the front façade in an orientation parallel with the Promenade sidewalk. It is the element of the project that has required the most of discussion, design and re-design. The building footprint on the Promenade has been located set off the front property line to a depth aligning itself with the average setback of the neighboring properties. The small negative space remaining provide patio seating areas for the lower units and an earth ramp allowing easy wheelchair access to the building.

From early conception the concept behind the project is to reduce the scale of one large building to smaller more manageable 'building blocks' compatible with neighborhood scale. We achieve this thru a series of façade setbacks at each floor. A zoning predicated step-back is used at the upper most floor.

The small building on Turner Street provides a foreground to the main building with additional emphasis on neighborhood compatibility of a single family residence. It's internal function creates new housing with an intimate residential scale. The large building provides a backdrop as one walks up Turner Street, its where a majority of the living units are located. The surface parking, setback off the street with landscape gardens serves as additional parking for the project. The general feeling about the parking/ courtyard provides an area of openness between the buildings and an impression of an inner cloister as one approaches the main entrance.

The emphasis internally has been placed on water views. These views have been the sole design element determining interior plan arrangements

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

M A R K
MUELLER
ARCHITECTS

Scale, Form and Massing:

The neighborhood is a combination of multi-family and single-family residences. The single-family residences tend to be two story structures, existing multi-families predominate in the neighborhood with 3-4 story buildings.

Our small 3-unit building is low in comparison to the neighborhood. It's the project 'gem', the main building is marginally taller than the East Place condominiums. We have worked to set our main building as low as possible and still function in relation to the existing side walk grade. The Eastern Promenade sidewalk is the main determinate of the larger of the two buildings height. In this case, step-backs have been provided to 'rescind the scale' as the building reaches its upper limits.

Composition of Principal Facades:

Decisions early on allowed our design to emphasize and replicate the porches of neighboring buildings. In our project, they serve functionally as outdoor space. Their placement and location provide a rhythm of undulation and interlocking, an organizing element.

Window configurations on the promenade provide large fenestration for interior-views to the water. Their organization is based on traditional residential window types, casements and picture units that have a unique and diverse pattern about them. The windows for the remainder of the building have a rhythm and pattern more emulating of historic-punched openings one would find locally.

Relationship to the Street:

See the introduction to the architect's narrative, it encompasses this topic.

Roof Forms:

The project roofs are flat, ultimately providing a smaller scale when utilizing the four-story zoning height allowance. Neighborhood studies show a range of similar roofs sprinkled about in the vicinity. The flat roofs grant a visual character of the building, emphasizing its contemporary design.

Flat roofs in our design lend themselves to another use, upper wrap-around porches. The outdoor living component has been a large emphasis for the project from the outset.
Flat roofs, not pitching into the public way allow us to contain blowing ice and snow: as well as, provide a discreet location for mechanicals.

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

M A R K
MUELLER
ARCHITECTS

Façade Articulation:

Gables and Dormers: not applicable on flat roofs
Balconies: provided
Recessed Entries: provided
Covered Porches: provided
Bay Windows: provided on 2nd – 4th floors

Garage Doors:

The project does entail an overhead door width of12'.
There is a recess one side, and living space was created above.
The percentage of opening to wall ratio is 20%.

Orientation to the Street: this is an important element to our design, see the introduction

Entrances: the multi-family entry door can be seen on the building elevations. It is a recessed element, yet it provides an definitive place of entry

Visual Privacy: has been provided by setting first floor windows in both buildings at 24" above grade.

PROPORTION and SCALE:

Windows: has been addressed conceptually previously in our narrative, they are an important element in the overall composition.

The windows selected are vertical in nature. Their compositions have been placed to align vertically in the building. The combination of windows provide large expanse of glass for water views, smaller operable units for daylighting, egress and natural ventilation.

Fenestration: has been provided based on the scale of the overall mass. As walls and internal ceilings get tall, so do the windows and doors. All doors, building entrance and porch access have been kept to a standard size with transoms located above to align with window heights.

Main façade fenestration on both the Eastern Promenade and Turner Street building exceed 12%.

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

M A R K
MUELLER
ARCHITECTS

Porches: are wrap-around in nature and are intended to provide outdoor living and assist in emphasizing compatibility with the neighborhood. These building elements exceed 20% of the front facades, and are on average 10' minimum depth on the Eastern Promenade building and 8' deep on Turner Street.

BALANCE:

Facade balance is an instrumental concept in the design of 246 Eastern Promenade and 15 Turner Street. The building wanted to be contemporary, finding this idea of balanced asymmetry was a patient search.

See the front building elevations.

Window and Door Heights:

Amount of fenestration was an important consideration dictated by the owner. The desire was transparency that seizes the opportunity of activity on the Eastern Promenade and distant water views of the harbor.

In general, the windows and doors align. As mentioned previously, doors shall include transoms increasing their height to match the windows.
Windows in the main living areas are typically 9' high, their ceilings requiring window heights that offset the curse of excess negative space above windows.

246 Eastern Promenade:
- Living Areas: 9' high windows
- Bedrooms: 8' high
- Building breaks have been incorporated to offset this change in height

15 Turner Street:
- Living and Bedrooms: all windows are set at 8'

Alignment has been provided in the lower floors, upper levels are setback based on zoning; therefore its orientation is offset from the base of the building.

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

M A R K
MUELLER
ARCHITECTS

MATERIALS:

Materials:

Building materials are residential, both buildings.

We selected materials that complement the neighborhood on the lower-level and the body of the building. The upper clerestory, as a crenelation to the building, is clad in a complimentary manner with traditional material, it is opposing to the lower level in color. The upper story step-back is meant to be a recessive building element.

The exterior materials are rendered on the elevations.

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



Eastern Promenade View
Looking Southeast

Existing Building at 246
Eastern Promenade





Neighboring Properties
Looking toward
Quebec Street



Neighboring Properties
Looking up
Quebec Street

Neighboring Properties
on Quebec Street





Neighboring Properties
displaying various design
styles



Neighboring Properties
Looking down
Turner Street

Neighborhood Properties
on Morning Street





Neighborhood Properties
Looking up Turner Street



246 Eastern Promenade seen from Eastern Promenade Apartments

Neighboring Properities on Turner Street





Neighbohood Properties on Morning Street



Neighborhood Properties along Eastern Promenade

Neighboring Properities Lookinf Southeast on Eastern Promenade





Neighboring Properties Looking up Turner Street

CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST
Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

**** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ****

At the time of application submission, please contact the Department of Public Works regarding E-911 addressing for your project.

GENERAL APPLICATION DOCUMENTS	
Yes NA	**Project Description** ● Cover letter with detailed project description
Yes NA	**Completed Checklist** (this document)
Yes NA	**Evidence of 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** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes NA	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes NA	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** ● Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes **NA**	**Waiver Requests** (see Waiver Table) ● Written request for waiver describing request and compliance with applicable waiver standards
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

MAJOR 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** See Site Plan Standards Assessment	**Impact on Surrounding Street Systems (14-14.6.1(A))** ● Describe incremental volume of traffic impacts and mitigation measures. If needed
Yes **NA** See Site Plan Standards Assessment	**Access and Circulation (14-14.6.1(B))** Identify and describe the following: ● Site access and internal circulation, including ADA access ● Drive-up features, if applicable ● Loading and servicing needs, routes, and geometry, providing turning templates for delivery vehicles, if applicable ● Sidewalks and condition along street frontages and internal walkways ● Engineered details for ADA ramps and public sidewalks, meeting sidewalk material policy and construction requirements (Technical Manual, Section 1)
Yes **NA** See Site Plan Standards Assessment	**Public Transit (14-14.6.1(C)), if applicable** Identify and describe the following: ● Existing available transit service and proposed transit improvements, including design details, such as easement, pad base, and shelter
Yes **NA** See Site Plan Standards Assessment	**Off-Street Parking (14-14.6.1(D)), if applicable** Identify and describe the following: ● Proposed vehicular and bicycle parking supply (including ADA-compliant parking) in relation to applicable parking requirements in Article 19 of the land use code ● Curb cut separation and parking layout (Technical Manual, Section 1) ● Construction details for bicycle racks ● Management plan for snow storage and removal
Yes **NA**	**Transportation Demand Management (TDM) (14-14.6.1(E)), if applicable** ● Provide TDM plan drafted in accordance with Technical Manual Section 1 requirements

ENVIRONMENTAL	
Yes **NA**	**Preservation of Significant Natural Features (14-14.6.2(A)), if applicable** Identify and describe the following: ● High and moderate value waterfowl and wading habitat ● Aquifers (for Casco Bay Islands) ● Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) ● Proposed preservation areas and protection measures ● Documentation from environmental compliance consultants and determinations from applicable state and federal agencies
Yes **NA** See Site Plan Standards Assessment	**Landscape Preservation (14-14.6.2(B))** Identify and describe the following: ● Measures to preserve trees, including within required zoning setbacks (Technical Manual, Section 4) ● Measures to protect existing vegetation during construction
Yes **NA** See Site Plan Standards Assessment	**Site Landscaping and Buffers (14-14.6.2(C))** Identify and describe the following: ● Overall landscaping approach and consistency with standards ● The use of screening and buffering of service areas and between non-residential and residential uses ● Existing Heritage or Feature Trees on site and measures to preserve ● Compliance with street tree requirements
Yes **NA** See Site Plan Standards Assessment	**Water Quality, Stormwater Management, and Erosion Control (14-14.6.2(D))** Identify and describe the following: ● Erosion and sedimentation control plan and measures ● Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater law, as applicable ● Subsurface sanitary sewage disposal and groundwater protection measures

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY	
Yes NA See Site Plan Standards Assessment	**Consistency with City Master Plans (14-14.6.3(A))** ● Describe proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes NA See Site Plan Standards Assessment	**Public Safety and Fire Prevention (14-14.6.3(B))** Identify and describe the following: ● Compliance with Crime Prevention through Environmental Design (CPTED) requirements (Technical Manual, Section 3) ● Emergency vehicle access ● Consistency with public safety standards (Technical Manual, Section 3)
Yes NA	**Availability and Adequacy of Public Utilities (14-14.6.3(C)) (Technical Manual, Sections 2 & 9)** Identify and describe the following: ● Electrical services, including providing underground services ● Existing and proposed connections for public utilities and required public utility upgrades ● Sewer line connections
SITE DESIGN	
Yes NA See Architectural Narrative	**Massing, Ventilations and Wind Impact (14-14.6.4(A))** Identify and describe the following: ● Wind and ventilation impacts on adjoining structures and/or adjacent public spaces, including wind study, if applicable ● Bulk, location, or height impacts on adjoining structures
Yes **NA** See Architectural Narrative	**Shadows (14-14.6.4(B)), if applicable** ● Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes NA See Architectural Narrative	**Snow and Ice Loading (14-14.6.4(C))** ● Describe building design measures to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes **NA** See Architectural Narrative	**View Corridors (14-14.6.4(D)), if applicable** ● Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
Yes NA See Architectural Narrative	**Historic Resources (14-14.6.4(E)), if applicable** Identify and describe the following: ● The site's status as a designated landmark, within a historic district or historic landscape district, or within 100 feet of any designated landmark, historic district, or historic landscape district ● Compliance with standards for preservation and documentation of archaeological resources

Yes **NA** See Photometric Plan	**Exterior Lighting (14-14.6.4(F))** ● Describe how the proposed site lighting will adhere to photometrics requirements as it relates to light trespass and full cutoff fixture design, pursuant to Technical Manual Section 12
Yes **NA** See Architectural Narrative	**Noise and Vibration (14-14.6.4(G))** ● Provide data on noise levels for HVAC and other mechanical equipment, such as design specifications, to demonstrate consistency with state and federal noise emissions requirements as well as City code
Yes **NA** See Site Plan Standards Assessment	**Signage and Wayfinding (14-14.6.4(H)), if applicable** ● Provide signage plan showing the location, dimensions, height and setback of all existing and proposed signs ● Provide drawings of all commercial and directional signage on site
Yes **NA** See Architectural Narrative	**Zone-Related Design Standards (14-14.6.4(I))** ● Address any applicable design review standards by zone, including compliance with Design Manual

MAJOR SITE PLAN
DRAWINGS CHECKLIST

Please upload the following DRAWINGS with the listed details into e-Plan as separate pdfs.

All drawings must be submitted in a 24 x 36 sheet size.

BOUNDARY SURVEY (stamped by a Maine Licensed Surveyor and drawn as per Technical Manual Sec. 13)

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

All sheets – Include a title block with project title and the following information:

- Project street address
- Name and address of property owner & applicant
- Licensed design professional, incl firm that produced plans
- North arrow
- Date of preparation and revision history block
- Tax parcel (chart, block, and lot) number

Existing Conditions Plan with the following:

- Existing structures, with distance from primary building façade(s) to the property line
- Approximate location of structures on abutting properties
- All streets and intersections adjacent to the site
- Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials
- Existing public transit infrastructure
- Existing vehicle & bicycle parking areas
- Existing utilities on site and within adjacent rights-of-way
- Existing grades (two-foot contours preferred)
- Location of water courses, wetlands, and vegetation, or other significant natural features
- Existing soil conditions and location of test pits and borings
- Zoning boundary lines, including overlays
- Location of all existing easements and rights-of-way

Proposed Site Plan with the following:

- Proposed structures, including distance from primary building façade(s) to property lines
- Ground floor area, and finished floor elevations for all buildings
- Any proposed geometric modifications to streets and intersections adjacent to site
- Location, dimensions and materials of all 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, including turning templates
- Proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications
- Location of all snow storage areas
- Exterior lighting (please see Technical Manual Sec. 12 for photometrics requirements)

- Location of fire hydrants
- Location of solid waste management receptacles
- Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable
- Location of proposed easements and rights-of-way, including dimensions
- Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed

UTILITY PLAN including:

- Proposed electrical infrastructure
- Location, sizing and directional flows of all proposed sewer and stormwater infrastructure
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

GRADING AND DRAINAGE PLAN including:

- Proposed grades
- Proposed stormwater management measures meeting Technical Manual (Section 5) standards
- Any proposed alteration of a watercourse or wetlands
- Any groundwater protection measures
- Proposed buffers and preservation measures for wetlands or significant natural features

LANDSCAPE PLAN including:

- Existing vegetation to be preserved and preservation measures
- Proposed landscaping, screening, and street trees, including caliper widths for trees
- Planting schedule, including street trees

ARCHITECTURAL PLANS AND RENDERINGS including:

- Exterior building elevations, color renderings, illustrations of all sides
- Axonometric and street-level views for structures greater than three stories in height
- Provide context drawings, if applicable (Design Manual, page 1)
- Floor plans

CONSTRUCTION MANAGEMENT PLAN including:

- Specifics on traffic control, sidewalk sheds, and pedestrian rerouting
- Include a drawing and written narrative

OTHER

- Details and cross-sections, as necessary

NORMAN HANSON DETROY

Norman Hanson & DeTroy, LLC
Attorneys at Law
Two Canal Plaza
P.O. Box 4600
Portland, ME 04112-4600

T 207.774.7000
F 207.775.0806
www.nhdlaw.com
pdriscoll@nhdlaw.com

Paul F. Driscoll

April 17, 2023

Mr. Harry M. Krigman
24 Wildwood Drive
Cape Elizabeth, ME 04107

Premises: 246 Eastern Promenade and 119 Morning Street, Portland, Maine
Record Owner: Ellie & Chaya, Inc.
Sole Shareholder of Ellie & Chaya, Inc.: Harry M. Krigman
Property Manager: E.C.K. Realty LLC
Sole Member of E.C.K. Realty LLC: Harry M. Krigman
Tap Map and Lot No. 014-1-012-001

Dear Harry:

Per your request, this is confirmation that Ellie & Chaya, Inc. is the record owner of the land, buildings and improvements located at 246 Eastern Promenade and 119 Morning Street, Portland, Maine (collectively, the "Property"). Ellie & Chaya, Inc. acquired the Property under (a) the Quitclaim Deed of Perlin Realty, LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 and (b) the Quitclaim Deed of Esther Albert Realty LLC to Ellie & Chaya, Inc. also dated November 12, 2021 and recorded in the Registry of Deeds in Book 38884, Page 115. The separate properties acquired under these deeds are contiguous to one another.

The Property is managed for Ellie & Chaya, Inc. by E.C.K. Realty LLC.

This further confirms that you personally are the sole shareholder of Ellie & Chaya, Inc. and the sole member of E.C.K. Realty LLC.

Very truly yours,

Paul F. Driscoll

PFD/pfd

MAINE REAL ESTATE TAX-Paid

DLN#1002140171617

QUITCLAIM DEED

Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS, That **Perlin Realty LLC**, a Maine limited liability company with a mailing address of 160 East 38th St., #24E, New York, NY 10016, for consideration paid, grant to **Ellie & Chaya, Inc.**, a Maine corporation with a mailing address is 24 Wildwood Drive, Cape Elizabeth, Maine 04107, with **QUITCLAIM COVENANT**, the real property situated in the City of Portland, County of Cumberland and State of Maine more particularly described in Exhibit A attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, Mark Perlin, in his capacity as Manager of Perlin Realty LLC has hereunto set his hand and seal this 12th day of November, 2021.

Perlin Realty LLC

Witness

By: _____
Mark Perlin, Manager

State of Maine
County of Cumberland

November 12, 2021

Personally appeared before me the above named Mark Perlin, Manager of Perlin Realty LLC and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of Perlin Realty LLC.

Robert E. Danielson
Attorney At Law

DOC :81204 BK:38884 PG:118
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
11/12/2021, 01:53:50P
Register of Deeds Jessica M. Spaulding E-RECORDED

Exhibit A

A certain lot or parcel of land, with the buildings thereon, situated in Portland, County of Cumberland and State of Maine, and being more particularly described as follows:

A certain lot or parcel of land, situated on the northwesterly side of Turner Street in said Portland, bounded and described as follows:

Beginning at a stake on the northwesterly side of said Turner Street, which stake is distant one hundred forty-nine and forty-three hundredths (149.43) feet from the intersection of the northwesterly side line of Turner Street and the southerly side line of the Eastern Promenade measured on said line of said Turner Street; thence running north thirty-three degrees and twenty minutes west (N 33° 20' W), one hundred ninety-three and four tenths (193.4) feet to a point in a boulder marked by a drill hole and to the land now or formerly of the J. B. Brown heirs; thence running south fifty-nine degrees and ten minutes west (S 59° 10' W), ninety-five and sixty-four hundredths (95.64) feet by land of said Brown heirs to an iron set in the ground marking the westerly corner of the lot hereby conveyed (this course has been added to correct an omission in prior deeds. See correct legal description in deed recorded in Book 1333, Page 318); thence running south thirty-two degrees and four hundredths minutes east (S 32° 0.04' E), one hundred ninety-five and forty-one hundredths (195.41) feet to said Turner Street; thence running north fifty-seven degrees and fifty-six minutes east (N 57° 56' E) by said Turner Street one hundred (100) feet to the stake marking the point of the beginning.

The courses and distance used herein were prepared by E. C. Jordan & Co., Civil Engineers, October, 1929.

Also, a certain lot or parcel of land, together with the buildings thereon, situated on the southwesterly side of the Eastern Promenade in said Portland, bounded and described as follows:

Beginning at a point on the southwesterly side of the Eastern Promenade where the line of land now or formerly belonging to Gould and Clark intersects the Eastern Promenade between Quebec Street and Turner Street; thence running southeasterly by the said Eastern Promenade to the northeasterly end of the division line fixing the south and west boundaries as established by deed of Elias Thomas and others to Albert E. Neal, trustee, and others, dated September 1, 1925 and recorded in the Cumberland County Registry of Deeds, Book 1224, Page 137; thence southwesterly to the southwesterly end of said division line as above described; thence northwesterly at right angles to the said Gould and Clark land eighty-four (84) feet, more or less, to the said Gould and Clark division line; thence northeasterly by said Gould and Clark division line ninety-six (96) feet, more or less, to the said Eastern Promenade and the point of beginning.

Being the same premises conveyed to Perlin Realty LLC by deed of Esther Albert Realty LLC, dated December 21, 2004, recorded in the Cumberland County Registry of Deeds in Book 22172, Page 136.

MAINE REAL ESTATE TAX-Paid

DLN#1002140171614

QUITCLAIM DEED

Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS, That **Esther Albert Realty LLC,** a Maine limited liability company with a mailing address of 160 East 38th St., #24E, New York, NY 10016, for consideration paid, grant to **Ellie & Chaya, Inc.**, a Maine corporation with a mailing address is 24 Wildwood Drive, Cape Elizabeth, Maine 04107, with **QUITCLAIM COVENANT**, the real property situated in the City of Portland, County of Cumberland and State of Maine more particularly described in Exhibit A attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, Mark Perlin, in his capacity as Manager of Esther Albert Realty LLC has hereunto set his hand and seal this 12th day of November, 2021.

Esther Albert Realty LLC

Witness

By: _____
Mark Perlin, Manager

State of Maine
County of Cumberland

November 12, 2021

Personally appeared before me the above named Mark Perlin, Manager of Esther Albert Realty LLC and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of Esther Albert Realty LLC.

_____
Robert E. Danielson
Attorney At Law

DOC :81203 BK:38884 PG:116
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
11/12/2021, 01:50:31P
Register of Deeds Jessica M. Spaulding E-RECORDED

Exhibit A

A certain lot or parcel of land, together with the buildings thereon, situated on the easterly side of Morning Street in said Portland, bounded and described as follows:

Beginning at a point on the easterly side line of said Morning Street at the northwesterly corner of a lot of land conveyed by Henry Deering and others to Albert E. Perry by their warranty deed recorded May 19, 1892 in the Cumberland County Registry of Deeds, Book 590, Page 409, said point of beginning being eighty (80) feet northwesterly from the point of intersection of said side line of Morning Street with the northwesterly line of Congress Street; thence at right angles and northeasterly ninety-seven and eighty-two hundredths (97.82) feet, more or less, to a point; thence at right angles and northwesterly eighty-two and fifty hundredths (82.50) feet to a point; thence at right angles and southwesterly ninety-seven and eighty-two hundredths (97.82) feet to the easterly side line of Morning Street; thence southeasterly and along said line eighty-two and fifty hundredths (82.50) feet to the point of beginning; said lot having an area of 8070 feet, be the same more or less, and being lots numbered 7 and 8 in block "C" on a plan of land recorded in said Registry of Deeds, Plan Book 4, Page 18.

Being a portion of the same premises conveyed to Esther Albert Realty LLC by deed of Diane R. Perlin and Esther R. Albert and Diane R. Perlin, Trustees of the Trust established on December 23, 1965 by Diane R. Perlin, dated April 4, 1998, recorded in the Cumberland County Registry of Deeds in Book 13748, Page 281.

SHINBERG CONSULTING, LLC
181 State Street, Suite 303
PO Box 4424
Portland, Maine 04101
207-772-7070

April 19, 2023

Christine Gramando
Director, Planning and Urban Development Department, City of Portland
and the City of Portland Planning Board Members
389 Congress Street
Portland, Maine 04101

RE: Summary of Existing Easements: 246 Eastern Promenade and 15 Turner Street condominiums

Based on the survey provided by Owen Haskell, Inc there are no existing easements that encumber the property owned by ECK Realty, LLC located at 246 Eastern Promenade and 15 Turner Street.

As shown on the survey there is an access easement for the Eastern Place Condominiums listed as 25665 / 101. This provides access for the 10 condominiums located next door to the rear yard.

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT is made this ____ day of July, 2023 by and between PROMENADE PLACE CONDOMINIUM ASSOCIATION, a Maine nonprofit corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantor"), and ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantee").

For valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in consideration of the mutual promises and covenants set forth herein, the parties agree as follows:

1. GRANT OF EASEMENT:

Grantor, acting as the condominium association for Promenade Place Condominium, a condominium declared under the Declaration noted below, pursuant to the provisions of the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes (the "Act"), and specifically Section 1603-102(9) of the Act, for consideration paid, grants to Grantee, to be appurtenant to the land of the Grantee described in the Quitclaim Deed of Perlin Realty LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117, (the "Ellie & Chaya Property"), the following perpetual rights and easements over, under and upon a portion of the land described in the Declaration of Condominium of Promenade Place Condominium dated August 13, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31710, Page 234, such portion being more particularly described in Schedule A annexed hereto and incorporated herein by reference (the "Easement Area"):

The perpetual right and easement over, under and upon the Easement Area to construct, maintain, repair and replace a retaining wall (or similar structure, including but not limited to a boundary wall, or fence) (the "Improvements") in accordance with City of Portland land use approval requirements, along the boundary line between the Ellie & Chaya Property and the land described in the Declaration (the "Condominium Property"), including the right to enter upon the Easement Area with workers and heavy equipment for all of the purposes stated above. The foregoing rights and easements shall be appurtenant to the Ellie & Chaya Property and shall burden the Easement Area. Grantor reserves the use and enjoyment of the Easement Area for any purpose that does not unreasonably interfere with Grantee's rights under this Easement Deed.

Notwithstanding anything to the contrary, Grantee shall not interfere with Grantor's use and enjoyment of and access to the paved drive off Turner Street and the parking areas shown on the plan titled "Promenade Place Condominium Plan" prepared by Northeast Civil Solutions dated 07-02-2104 and recorded on August 12, 2014 in Cumberland County Registry of Deeds in Plan Book 214, Page 270. Grantor's use and enjoyment of the paved drive off Turner Street and parking areas shall specifically include but not be limited to vehicular ingress and egress over

such paved drive to access the parking areas by Grantor and residents and guests of the Promenade Place Condominium. The grant of this Easement shall not be construed to reduce the easement rights granted to Grantor pursuant to that certain Easement Deed dated October 22, 2007 and recorded in Deed Book 25665, Page 103 of the Cumberland County Registry of Deeds (the "Access Easement"). The Access Easement and rights granted to Grantor thereunder shall continue in full force and effect.

2. OBLIGATIONS OF GRANTEE:

Prior to or upon execution of this Easement Deed, Grantee shall pay Grantor the sum of three thousand dollars ($3,000.00) to cover legal costs incurred by Grantor in connection with this Easement.

Grantee shall not install the Improvements without first obtaining the written approval from Grantor of the design, size, and appearance of the Improvements, which shall not be unreasonably withheld, conditioned, or delayed. Grantor may reasonably request engineering reports from Grantee confirming the structural soundness and safety of the proposed design of the Improvements prior to granting its approval.

Grantor shall perform vibration monitoring on Grantor's two condominium buildings during heavy construction on the Ellie & Chaya Property or the Easement Area. This shall include Grantee's performance of a written pre-construction vibration assessment on the condominium buildings' structure, and delivering a copy of the same to Grantor, prior to Grantee commencing construction on the Ellie & Chaya Property or performing any work on the Improvements and/or in the Easement Area. Prior to the commencement of any construction of the Improvements, the Easement Area or Ellie & Chaya Property and until the Improvements and all construction on the Ellie & Chaya Property is fully complete, Grantee shall install and maintain on Grantor's condominium buildings a seismograph of a type commonly used in the construction industry for purposes of measuring construction vibrations on buildings. The seismograph shall be installed and monitored by a contractor knowledgeable in construction vibration monitoring and the vibration data stored. The vibration monitoring data shall be made available to the Grantor upon request.

Grantee, at its sole cost and expense, shall (i) install the Improvements; (ii) keep and maintain the Improvements in good order, condition and appearance; and (iii) promptly repair any damage caused by Grantee to the Easement Area, the Improvements or any other part of the Condominium Property.

All work performed by Grantee hereunder: (i) shall be performed in good and workmanlike manner by skilled contractors insured as required herein and in accordance with sound engineering principles and practices; (ii) conducted between the hours of 8:00 AM and 6:00 PM on weekdays, unless otherwise agreed to by Grantor in advance, (iii) for maintenance or repair work, completed to equal or better than existing standards, and (iv) upon commencement, be pursued to completion as diligently and expeditiously as reasonably possible. Grantee shall be solely responsible for obtaining any and all necessary permits and other approvals that may be

required by any federal, State or local authorities for use of the Easement Area by Grantee as set forth above.

Except in an emergency situation in which immediate work is necessary to prevent harm to person or property, Grantee shall provide Grantor with at least 3 days' notice whenever it intends to have contractors access the Easement Area for purposes of performing any work within the Easement Area. Grantee shall also provide Grantor with at least seven (7) days' notice prior to the commencement of any pile driving or other noisy heavy construction. Notification hereunder may be done by telephone or email to such person as may be designated by Grantor.

To the fullest extent permitted by law, Grantee shall defend, indemnify and hold harmless Grantor, including Grantor's directors, officers, members, property managers, employees and agents (the "Grantor Indemnified Parties"), from and against any and all claims, damages, losses and expenses, including but not limited to attorney's fees and costs, arising out of, relating to or resulting from: (1) the Improvements; or (2) the use of the Easement Area and/or the work performed hereunder, or anyone directly or indirectly employed by Grantee, contracted by Grantee or anyone for whose acts Grantee may be liable. Notwithstanding the foregoing, Grantee's obligation to indemnify hereunder does not extend to any claims, damages, losses and expenses caused by the gross negligence, or willful misconduct, of Grantor.

Grantee's use of the Easement Area is at Grantee's sole risk. In no event shall Grantor or any Grantor Indemnified Party be responsible for any injury of Grantee's employees, contractors, or agents, and Grantee waives the right to any claims against the Grantor related to on-the-job injuries. Grantee agrees to indemnify and hold harmless Grantor from all claims, losses or attorney's fees due to property damage caused by the negligence or intentional misconduct of Grantee's employees, contractors, or agents.

Grantee and any contractors of Grantee performing work within the Easement Area or on any other Condominium Property (a) shall be insured up to at least $2,000,000 ($1,000,000 per occurrence) of liability insurance, covering claims for bodily injury, occupational sickness, death, and motor vehicle liability, as well as, for Grantee, contractual indemnity coverage sufficient to cover Grantee's indemnity obligations hereunder; and (b) shall provide Workers Compensation as required by Maine law, including disability benefit or similar employee benefit acts which are applicable to the work for all persons employed by Grantee or any of its contractors. Grantee shall add and maintain Grantor, Grantor's property management company, Directors, Officers, and agents as additional named insureds on all liability policies carried by Grantee. Before Grantee or any of its contractors commences any work hereunder, and upon request by Grantor at any time, Grantee shall provide Grantor with Certificates of Insurance and proof of Grantor's additional insured status demonstrating that Grantee and its contractors carry insurance meeting these requirements.

If Grantee fails to maintain the Improvements as specified in this Agreement, or damages the Easement Area or any other part of the Condominium Property and fails to repair it within a 7 day period, and if the Grantee does not cure such failure within thirty (30) days after written notice from Grantor, then Grantor may perform any maintenance it reasonably deems required

and shall bill the Grantee the cost of said maintenance. If the Grantee shall fail to pay such costs within thirty (30) days of receipt of said bill for costs, then such amounts shall bear interest at the rate of ten percent (10%) per annum and Grantor shall have all of the remedies available to the Grantor pursuant to applicable law, and in addition shall have the right to collect Grantor's attorneys' fees if Grantor prevails in any lawsuit for collection of such sums.

Once the Improvements are constructed in the Easement Area, Grantee, its successors and assigns, will not place or store construction equipment or materials within the Easement Area.

3. ASSUMPTION BY CONDOMINIUM ASSOCIATION:

Prior to selling the first dwelling unit in the Ellie & Chaya Property, Grantee shall form a condominium association (the "Condominium Association") in connection with the Ellie & Chaya Property in which all dwelling unit owners in the Ellie & Chaya Property shall become members and which will succeed to Grantee's rights and obligations under this Agreement and shall be bound thereby.

Grantee shall cause the Condominium Association to assume and be bound by this Agreement pursuant to a recorded instrument, but such actions shall not release Grantee from its obligations hereunder. Upon assumption of this Agreement by the Condominium Association as provided in the preceding sentence, and provided Grantee has complied with its obligations under this Agreement and upon the turn over of control of the Condominium Association from Grantee, the Grantor shall look solely to the Condominium Association for performance of the obligations of Grantee.

4. GENERAL:

The invalidity of any clause, part or provision of this agreement shall not affect the validity of the remaining portions thereof.

This Agreement is created pursuant to, and shall be construed in accordance with and governed by the laws of the State of Maine.

Notices shall be in writing and shall be deemed to have been duly delivered the next day after mailing if sent by certified mail or by recognized overnight courier, addressed to the recipient at its last known address and, if applicable to the registered agent for such party on file with the Maine Secretary of State.

This Agreement shall run with the land and shall both benefit and burden the Ellie & Chaya Property and the Condominium Property. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns. This Agreement may not be modified except in a written instrument executed by both parties and recorded in the Cumberland County Registry of Deeds.

IN WITNESS WHEREOF, PROMENADE PLACE CONDOMINIUM ASSOCIATION ("Grantor") and ELLIE & CHAYA, INC ("Grantee") have caused this instrument to be executed and acknowledged by their duly-authorized representatives, on this ____ day of _____, 2023.

PROMENADE PLACE
CONDOMINIUM ASSOCIATION

_____ By:_____
Witness Mike Hutchinson
Its President

[Acknowledgement Located on Following Page]

STATE OF MAINE
Cumberland, ss.

_____ ___, 2023

Personally, appeared the above-named Mike Hutchinson, President of Promenade Place Condominium Association, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

ELLIE & CHAYA, LLC

_____
Witness

By:_____

_____

Its: _____

[Acknowledgement Located on Following Page]

STATE OF MAINE _____ ___, 2023
Cumberland, ss.

Personally, appeared the above-named _____, _____ of _____, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

SCHEDULE A

The legal description of the Easement Area is as follows:

Beginning at a point at the westerly sideline of the Eastern Promenade at the point where the Ellie & Chaya Property and the land described in the Declaration meet.

THENCE, S 42° 37’ 32” W a distance of 115.32 feet to a capped iron rod.

THENCE S 49° 57’ 19” E a distance of 114.28 feet to an iron rod found in the northerly sideline of Turner Street.

THENCE easterly along the northerly sideline of Turner Street a distance of 5.0 feet to a point.

THENCE N 49° 57’ 19” W a distance of 109.28 feet, more or less, to a point.

THENCE N 42° 37’ 32” E a distance of 110.32 feet, more or less, to the westerly sideline of the Eastern Promenade.

THENCE N 66° 49; 28’ W along the westerly sideline of the Eastern Promenade a distance of 5.0 feet, more or less, to the point of beginning.

TREE INSTALLATION AND MAINTENANCE AGREEMENT

THIS TREE INSTALLATION AND MAINTENANCE AGREEMENT (the "Agreement") is made and entered into on this 16th day of June, 2023 by and between ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine ("ECI") and EASTERN PROMENADE LIMITED LIABILITY COMPANY, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine ("Eastern").

Recitals:

A. ECI is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of Turner Street and Morning Street described in (i) the Quitclaim Deed of Esther Albert Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 115 and (ii) the Quitclaim Deed of Perlin Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (as described in such deeds collectively, the "ECI Property");

B. The parcels of land comprising the ECI Property are contiguous to one another and constitute a single parcel for purposes of this Agreement;

C. Eastern is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of the Eastern Promenade, Québec Street, Emerson Street and Turner Street described in the Warranty Deed to Eastern dated March 10, 1998 and recorded in the Cumberland County Registry of Deeds in Book 13664, Page 80 (as described in such deed, the "Eastern Property");

D. The Eastern Property is bounded on the northwest and southwest by the ECI Property as depicted on the Plan entitled "Boundary & Topographical Survey at 246 Eastern Promenade, Portland, Maine" made for Shinberg Consulting, LLC dated March 31, 2022 and recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan"), a reduced copy of which is annexed here to as Exhibit A;

E. In connection with ECI's intention to develop and construct a condominium on the ECI Property in accordance with City of Portland land-use requirements for the project, ECI has requested that Eastern grant it an easement to be appurtenant to the ECI Property and to encumber Eastern Property to allow ECI, its successors and assigns, to install evergreen trees on the northwesterly line of the Eastern Property and ornamental and maples trees on the southwesterly line of the Eastern Property, all in accordance with the depiction of such trees on the Plan;

F. Eastern is willing to grant the easement to ECI referred to in Recital E on the following conditions: (i) ECI, its successors and assigns, shall install and maintain the trees depicted on the Plan at its sole cost and expense and in a good and healthy state at all times, (ii) ECI shall grant Eastern an easement to be appurtenant to the Eastern Property and to encumber ECI Property to allow Eastern, its successors and assigns, to enter upon the ECI Property to maintain the trees in a good and healthy state at all times in the event that ECI fails to do so, and (iii) ECI shall grant Eastern an easement over, under and upon a strip of land five (5) feet in width on and within that portion of the ECI Property that is immediately contiguous to the Eastern Property, for the length of the common boundary (all such land, the "Five-Foot Strip"), such easement to be for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or any of condominium units declared or to be declared on the ECI Property;

G. ECI is willing to accept the conditions required by Eastern set forth in Recital F for the reciprocal easement rights;

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which the parties do hereby acknowledge, ECI and Eastern agree as follows:

1. Accuracy of Recitals. Recitals A through G, inclusive, of this Agreement are true and accurate in all respects.

2. Grant of Easement by Eastern to ECI.

(a) Eastern hereby grants ECI the perpetual right and easement, to be appurtenant to the ECI Property and to encumber the Eastern Property, to allow ECI to install, maintain, prune and replace at its sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A. ECI shall install and maintain the trees depicted on the Plan and in a good and healthy state at all times.

(b) To exercise its rights under the granted herein, ECI shall provide Eastern with ten (10) days prior written notice of its intention to enter onto the Eastern Property to install, maintain, prune or replace the trees depicted on the Plan. ECI shall make use of only that portion of the Eastern Property that is reasonably necessary for ECI to exercise its rights under the easement granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to Eastern and its tenants to the maximum extent possible. After exercising its rights under this easement, ECI shall immediately restore the

condition of the Eastern Property to the condition it was in before such exercise of the easement rights granted hereby.

(d) ECI shall defend and indemnify Eastern, its members, successors and assigns, of and from any and claims, demands, actions or losses asserted against Eastern by any third party arising out of the exercise by ECI of the easement rights granted hereby, or arising out of the alleged negligence of Eastern relating to the trees and land under them depicted on the Plan.

(e) In advance of ECI entering on the land of Eastern to exercise the easement rights granted hereby, ECI shall provide Eastern with an insurance certificate naming Eastern as additional insured and providing Eastern with commercially reasonable property and liability insurance coverage against property damage and liability for any losses or damages arising from ECI's exercise of the easement rights.

3. Grant of Easements by ECI to Eastern.

(a) ECI hereby grants Eastern the following perpetual rights and easements, to be appurtenant to the Eastern Property and to encumber the ECI Property:

(i) The perpetual right and easement to allow Eastern to install, maintain, prune and replace at ECI's sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times; and

(ii) The perpetual right and easement over, under and upon the Five-Foot Strip, for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or with any condominium units declared or to be declared on the ECI Property.

(b) To exercise its rights under the granted herein, Eastern shall provide ECI with ten (10) days prior written notice of its intention to enter onto the ECI Property to install, maintain, prune or replace the trees depicted on the Plan or for temporary access over, under and upon the Five-Foot Strip in support and during the course of construction or development of the Eastern Property. Eastern shall make use of only that portion of the ECI Property that is reasonably necessary for Eastern to exercise its rights under the easements granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to ECI and condominium unit owners on the ECI Property to the maximum extent possible. After exercising its rights under these easements,

Eastern shall immediately restore the condition of the ECI Property to the condition it was in before such exercise of the easement rights granted hereby, provided, however, that ECI, its successors and assigns, shall be solely responsible for all costs and expenses incurred by Eastern in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times.

4. Covenants Running with the Land.

(a) For the avoidance of doubt, the parties intend that all obligations and undertakings under this Agreement, to the extent that they are not deemed grants of a real property right, are covenants running with the land and shall be just as binding on and just as enforceable by any future owners of the Eastern Property and the ECI Property, as the case may be, as if granted by any such future owner of either property.

IN WITNESS WHEREOF, ELLIE & CHAYA, INC. and EASTERN PROMENADE LIMITED LIABILITY COMPANY have executed, acknowledged and delivered this Agreement by their duly authorized officers as of the date first above written.

[Signatures and Acknowledgements Located on Following Page]

ELLIE & CHAYA, INC.

Witness

By: _____
Harry Krigman
Its President

EASTERN PROMENADE LIMITED LIABILITY COMPANY

Witness

By: _____
Lloyd L. Lathrop, III
Its Sole Member

STATE OF MAINE
Cumberland, ss.

June 20, 2023

Personally appeared the above-named Harry Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Ellie & Chaya, Inc.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028

STATE OF MAINE
Cumberland, ss.

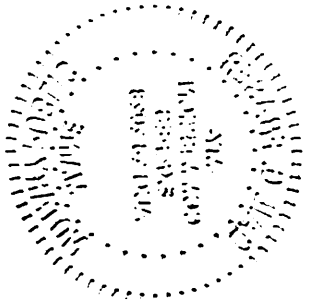
June 16, 2023

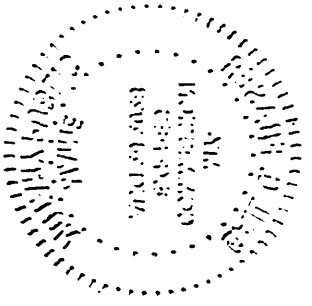
Personally appeared the above-named Lloyd L. Lathrop, III. Sole Member of Eastern Promenade Limited Liability Company, and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Eastern Promenade Limited Liability Company.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028





Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) R-6

All Projects:

	Required	Proposed
Lot Size	None	27,206 S.F.
Area Per Dwelling Unit	725 SF	1,943 S.F.
Minimum Street Frontage	20 ft.	184 ft.
Front Yard Minimum	5 ft.	7.9 ft.
Front Yard Maximum	None	-
Rear Yard	10 ft.	10.2 ft.
Yard Right	5 ft.	5.7 ft.
Yard Left	5 ft.	11.0 ft.
Side Street Setback	0 ft.	6.0 ft.
Step Back	10' side, 15' rear	10' side, 15' rear
Maximum Lot Coverage	60%	58.5%
Minimum Lot Coverage	None	-
Maximum Height	45 ft.	
Open Space	20%	24.1%
Maximum Impervious Area	None	-
Pavement Setback	None	-
Floor Area Ratio	None	-
Off Street Parking Spaces	11	27
Loading Bays	None	-
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):			

SITE PLAN STANDARDS ASSESSMENT

14.1 OVERVIEW

This project conforms to all applicable Site Plan Standards of Section 14.6 of the city's Land Use Ordinance as described in the following narrative.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

The project will not have a significant impact on the surrounding street system. Vehicles will access the site and parking areas from existing access points and the estimated number of new vehicle trips generated by the project is insignificant compared to existing trips on surrounding streets.

B. Access and Circulation:

1. In General
   a. Vehicle access to the site will be from Turner Street, which carries less traffic than Eastern Promenade. The project will not create conflicts with existing turning movements and traffic flows.

   b. Pedestrian access to the site will be provided via public sidewalks along the Eastern Promenade and Turner Street frontages. Continuous internal walkways provide pedestrian access from proposed buildings to the surrounding public sidewalks. Door controlled access will be provided at each of the building entry locations.

   c. Vehicle access to the site will be from Turner Street, which carries less traffic than Eastern Promenade. The project will not create conflicts with existing turning movements and traffic flows.

   d. Vehicle stacking is not expected on the site.

2. Loading and Servicing
   Service vehicles are not expected to enter the site regularly.

3. Curb and Sidewalks.
   a. Granite curb and brick sidewalks exist along the site's Eastern Promenade and Turner Street frontages. The Turner Street sidewalk is proposed to be reconstructed across the site frontage. All sidewalk improvements shall conform to the City of Portland Technical Manual as shown on the project drawings.

   b. Sections of sidewalk located along Turner Street will be replaced in accordance with City of Portland Technical Design Standards.

c. No waiver is requested for sidewalk installation.

d. No waiver is requested for curb installation.

C. Public Transit Access:

1. A transit stop for Metro Bus Route 1 (Congress Street) is located at the corner of Eastern Promenade and Turner Street. The project features less than 20 dwelling units, so a new transit shelter is not required.

2. The closest transit stop is located on public sidewalks, which will be accessed directly from the project site.

3. No waiver is requested from the Public Transit Access standards.

D. Parking:

1. Vehicular Parking:

a. Article 19 of the Land Use Code requires one parking space per residential unit in multifamily developments. In the R6 Zone, no parking is required for the first three dwelling units. The proposed project includes 14 residential units, which requires 11 off-street parking spaces to meet the code.

The site will feature 27 off-street parking spaces broken down as follows:

- 14 enclosed parking spaces in the 11-unit building (246 Eastern Prom). These spaces will be used by the residents of 246 Eastern Prom.

- 4 tandem covered parking spaces on the ground floor of the 3-unit building (15 Turner Street). Three or four of these spaces will be designated for use by residents of 15 Turner Street.

- 4 uncovered tandem parking spaces and 5 uncovered single parking spaces. These spaces will be used by residents of 119 Morning Street.

b. A TDM plan is not required for this project.

c. The number of off-street parking spaces exceeds the required number of spaces for the proposed on-site residential units by 16. However, the project will reduce surface parking on the site by 12 spaces, and excess spaces will be used by the residents of 119 Morning Street, who currently use the existing surface parking lot.

d. The proposed parking spaces meet the minimum dimensional standards of the City of Portland Technical Manual. The proposed access aisle varies from 20' to 24' due to physical constraints of the site and parking garage.

2. Bicycle Parking:

a. The project requires 2 bicycle parking spaces for every 5 dwelling units, or 6 spaces. Bicycle spaces will be provided at bicycle racks inside the parking garage of 246 Eastern Prom, and four spaces will be provided on bike hitches adjacent to the 15 Turner Street building.

b. No waiver is requested from the bicycle parking requirements.

3. Snow Storage:

a. Snow removal on the site will only be necessary within the paved access drive and surface parking area. Limited areas at the head of the proposed parking spaces will be used for snow storage. When snow accumulates to the point that it encroaches on parking spaces, it will be removed from the site needed.

b. Snow will not be stored in parking areas and will not affect stormwater management systems.

4. Electric Vehicle (EV) Charging:

a. Twelve of the parking spaces within the garage and 2 surface parking spaces will feature EV chargers. In total, 52% of the proposed parking spaces on the site will have EV charging infrastructure. This exceeds the requirements of Section 1.14 of the City of Portland Technical Manual.

E. Transportation Demand Management (TDM): A TDM plan is not required for this project.

14.6.2 Environmental Quality Standards

A. Preservation of Significant Natural Features:

1. The development site has been entirely developed and does not contain any significant natural features including wetlands, vernal pools or other protected resources or wildlife habitats.

2. No preservation areas are located adjacent to the project site.

3. No waiver is required.

B. Landscaping Preservation:

1. A limited number of trees will be removed to accommodate the proposed buildings. Trees will only be removed when necessary to redevelop the site.

2. Limited vegetation currently exists on the project site, and little vegetation will be preserved. The proposed landscaping plan incorporates significant planting areas.

3. A small number of trees within the building setback areas will be removed. With proposed buildings located within approximately 5' of the property line, preserving large trees in the setback is impractical.

4. The plan includes planting 28 new trees, as shown on the Planting Plan (Sheet L1-00). This exceeds the requirement for replacement of existing trees to be removed.

5. Replacement trees will be planted in accordance with this standard. A contribution to the City of Portland Tree Fund is not required.

C. Site Landscaping and Buffers:

1. The total frontage for this property is 795 linear feet. Code requires 1 tree or 6 plantings per 30 linear feet of frontage. This project requires 27 trees or 159 plantings. The Planting Plan (Sheet L1-00) indicates both trees and plantings well in excess of the code-required minimum.

2. Buffers

   a. The Planting Plan (Sheet L1-00) indicates a ground mounted transformer pad at the northwest interior corner of the parking lot. Additionally, trash and storage areas will be located behind and/or within the buildings. The Landscape Architect and design team have coordinated closely on the location of all utility, trash, and storage areas so as to minimize visual presence from the street. Sheet L1-00 indicates dense planting around the electrical transformer.

   b. The project is non a nonresidential development. This standard is not applicable.

   c. Evergreen vegetated buffers are not necessary to screen the project from detrimental impacts of existing surrounding development.

3. Parking and Vehicle Display Lot Landscaping:

a. The proposed surface parking lot includes 9 uncovered parking spaces. The landscaping plan includes 14 trees in and around the parking lot.

b. Not applicable. The proposed parking lot includes less than 40 parking spaces.

c. The proposed project includes planting that exceeds the requirements for parking lot planting. No waiver is required.

4. Street Trees:

a. Street trees and alternative plantings intended to meet the objectives of the street tree requirements are proposed on the project site and are described below.

b. The relatively narrow sidewalks and frequency of underground utilities adjacent to the proposed building make the installation of street trees impractical within the Turner Street right-of-way. Seven trees are proposed within 20' of the property boundary and will be visible from the right-of-way. See the Planting Plan (Sheet L1-00) for the location and species of proposed street trees.

D. Water Quality, Stormwater Management and Erosion Control:

1. The existing project site contains approximately 16,596 square feet of impervious surface, comprised of a paved surface parking lot and the existing building. Redevelopment of the project site will result in approximately 20,640 square feet of impervious surface, an increase of approximately 4,044 square feet. A summary of existing and proposed impervious surfaces on the site are presented in the table below.

	Existing Condition	Proposed Condition	Difference
Total Site Area	27,206 sf	27,206 sf	0 sf
Impervious Area	16,596 sf	20,640 sf	4,044 sf
Roof Area	3,345 sf	15,921 sf	12,576 sf
Non-Roof Impervious	13,251 sf	4,719 sf	-8,532 sf

The

In the existing condition, runoff from the entire site drains into the public separated storm drain network in Eastern Promenade. In the post-development condition, runoff from the building will be conveyed directly to the Middle Street combined sewer via a roof drain. Runoff from the remainder of the site will continue to drain overland to Middle Street, where it will be collected in the combined sewer system.

a. The project will not result in flooding of adjacent lots.

b. The volume and rate of runoff onto adjacent lots will not increase as a result of the project.

c. The volume and rate of stormwater runoff onto adjacent properties are expected to remain very similar to the existing condition. The project will not create ponding, flooding, or other drainage problems on adjacent lots or within the surrounding streets.

d. The volume and rate of stormwater runoff entering the city's separated storm drain network are expected to remain very similar to the existing condition. The project will not create problems downstream or exceed the capacity of the system.

2. The project meets the applicable standards of Section 5 of the Technical Manual. A Stormwater Permit from the Maine Department of Environmental Protection is not required due to the project's relatively small size.

   In accordance with the City of Portland Technical Manual, the project is required to meet the Basic and Flooding standards. A site-specific erosion and sedimentation control plan has been developed for the project with an emphasis on perimeter control, limiting disturbance, and rapid stabilization. The locations of proposed erosion control measures are shown on the Grading and Drainage Plan (Sheet C-5.0), and erosion control notes and details area shown on Sheet C-5.2.

   A Stormwater Management Report has been provided separately. The report includes required submission materials, including subcatchment plans, pre and post development hydrologic models, and analysis of the flooding standard.

3. The project will not pose a risk of groundwater contamination. No hazardous materials will be stored on site, and stormwater will not be directly infiltrated into the ground.

14.6.3 Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans:

1. The project has been designed to be consistent with the City of Portland Land Use Ordinance and off-premises infrastructure.

2. No easements, rights, and improvements to connect or continue off-premises public infrastructure is required.

B. Public Safety and Fire Prevention:

1. The site has been designed to promote safety and security for residents and their guests. The parking garage will be accessed through a remote-activated door, and site lighting will provide added security.

2. The buildings may be accessed by emergency vehicles from Eastern Promenade and Turner Street.

C. Public Utilities:

1. The project will be served by public water and sewer utilities. Terradyn Consultants has been coordinating on the design of domestic and fire protection services with the Portland Water District (PWD). PWD is currently waiting for sprinkler system calculations before it issues a letter stating that a sufficient and healthful water supply exists. A Wastewater Capacity Application has been completed and will be forwarded to the Public Works Department for review.

2. Underground power will be provided to the proposed buildings from a new pad mounted transformer located near the garage entrance.

3. All proposed utility infrastructure meets the standards of the Technical Manual.

4. The project will be connected to the public sewer system in Eastern Promenade and Turner Street. Each proposed building will include a separate sanitary sewer service.

5. This standard is not applicable. The project includes less than 20 residential units.

14.6.4 Site Design Standards

A. Massing, Ventilation and Wind Impact:

1. The bulk, location and height of the proposed building will not result in adverse impacts to abutting properties.

2. The bulk, location and height of the proposed building will not substantially reduce the value or utility of adjacent structures.

3. HVAC systems will be located on the roof of the building and will not be visible from the street. Venting is proposed to be directed away from public spaces and adjacent residential sites.

B. Shadows:
The project is not expected to cause shadows on publicly available open space or have an adverse effect on vegetation as a result of shadows cast from the proposed buildings.

C. Snow and Ice Loading:
The proposed buildings will have flat roofs. Accumulated snow and ice will not fall onto adjacent properties or public ways.

D. View Corridors:
The project site is located outside of any protected view corridors.

E. Historic Resources:

1. The development is not within a designated historic district.

2. The project is within 100' of a historic district. See the Architectural Narrative for information on how the project is compatible with the major character-defining elements of the historic district in the immediate vicinity of the project.

3. There are no known archaeological resources on the site.

F. Exterior Lighting:

1. Site Lighting

   a. Site lighting will be provided by building and pole mounted lights. All fixtures will feature full cut-off optics to prevent unintended light pollution. Proposed lighting is shown on the Lighting Photometric Plan (Sheet C-7.0).

   b. House-side shielding is not necessary on the project.

2. Architectural and Specialty Lighting:

   a. No architectural or specialty lighting is proposed.

   b. No up-lighting is proposed.

3. Street Lighting:
No new street lights are proposed.

G. Noise and Vibration:
Noise levels are expected to meet the permitted levels for the R-6 Zone.

a. HVAC and Mechanical Equipment
   (i) HVAC equipment will be located on the roof and will meet all applicable state and federal emissions requirements. The units will not be visible from the surrounding streets or adjacent sites.

H. Signage and Wayfinding:

1. For 246 Eastern Promenade, street numbers for public safety identification will be applied on the main entrance door transoms facing Eastern Promenade, and relief street numbers will be attached facing Turner Street. For 15 Turner Street, street numbers will be applied facing Turner Street. All street numbers are shown on the architectural elevations provided. A free-standing project sign is not proposed.

2. Directional signage on the site will be limited to parking signs and will meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 20 of the Land Use Code.

I. Design Standards:

1. See the Architectural Narrative prepared by Mark Muller Architects for a description of how the project meets these standards.

Gorham Savings Bank

April 18, 2023

Portland Planning Board
389 Congress Street, 4th Floor
Portland, ME 04101

RE: 246 Eastern Promenade and 17 turner Street

Dear Sir or Madam:

I am currently reviewing a request for financing from Harry Krigman for the development of condominiums at 246 Eastern Promenade and 17 Turner Street in Portland.

I have reviewed plans for the proposed development. Based on the review and my knowledge of Mr. Krigman and the work of Shinberg Consulting, in my opinion 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,

Todd Abbotoni

Todd Abbotoni
Vice President, Commercial Lending

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

Property Location: 246 Eastern Promenade & 15 Turner Street

Subject: Major 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) Structural Integrity
4) Bennett Engineering
5) Jeanne Handy Interior Design
6) Aceto Landscape Architects
7) Terradyn Consultants LLC Civil Engineers
8) Owen Haskell, Inc Land Surveyors

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

We have provided both Owners Representative services in addition to acting at the Developer / Owner for many projects in the greater Portland area for over 35 years.

Some of the notable projects that Shinberg Consulting has provided Owner's Representative Services include:

- The Intermed Building, 84 Marginal Way, Portland
- Hyatt Hotel Old Port, Portland
- The Press Hotel, Portland
- 63 Marginal Way, Portland
- 645 Congress Street, Portland
- 135 Sheridan Street Condominiums, Portland
- 959 Congress Street, Portland
- The Mina Building, Portland
- 50 Portland Pier, Portland
- 154 Clark St. for Shalom House, Portland
- Randall Place for The Opportunity Alliance, Portland
- Two Lights Dental, Cape Elizabeth
- Ocean House Commons, Cape Elizabeth
- Just for Kids Dental, Scarborough
- 600 to 606 Congress Street, Portland
- 59 State Street Portland
- 655 Congress Street, Portland
- 169 / 171 State Street, Portland
- 5 Points Shopping Center, Biddeford
- 100 Foden Road, South Portland
- The Mark, Cumberland Foreside
- Brunswick Technologies, Brunswick
- Bishop Farm Residential Subdivision, Freeport

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 Standard 1.10.3 - Parking Lot and Parking Space Design	Vehicular access shall be provided by one or more aisles. The minimum two way drive aisle width is 24 feet for standard, right-angle parking, and is otherwise dependent on parking space orientation...	Waiver requested to allow a 20' two-way drive aisle width for parking within the proposed garage under the 11-unit building.	The garage dimensions are constrained by the building structure. Parking will be for residents, not for the public. Attached is a figure showing how vehicles can maneuver into and out of all spaces within the garage.

TERRADYN CONSULTANTS, LLC

207.926.5111
info@terradynconsultants.com
www.terradynconsultants.com

STORMWATER MANAGEMENT REPORT
246 Eastern Promenade

The following information is provided in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14.6.2.D.

1. OVERVIEW

ECK Realty, LLC intends to redevelop the project site located at 246 Eastern Promenade and 15 Turner Street in Portland, Maine. The project includes removal of an existing 12-unit residential building and construction of two new residential buildings with associated site and utility improvements. This narrative describes the stormwater runoff patterns and methods of stormwater management for the existing (pre-development) and proposed (post-development) conditions.

2. EXISTING CONDITIONS

The project site is 27,206 square feet in area and is currently developed with an existing 12-unit apartment building and a 40-space (+/-) surface parking lot. The existing site has 16,596 square feet of impervious surface comprised of roof and paved areas.

246 Eastern Prom Existing Conditions	
Total Site Area	27,206 sf
Impervious Area	16,596 sf
Roof Area	3,345 sf
Non-Roof Impervious	13,251 sf

The L-shaped lot has frontage on both Eastern Promenade and Turner Street in Portland. The site generally slopes from south to north, towards Eastern Promenade. No formal stormwater management infrastructure exists on the site. Runoff currently drains overland onto the abutting property to the north (Eastern Place Condominium) and into Eastern Promenade. All site runoff is ultimately tributary to the public storm drain network in Eastern Promenade.

The NRCS Medium Intensity Soil Survey identifies native soils on the site as Hinkley Loamy Sand, an excessively drained, HSG A soil.

3. PROPOSED PROJECT

The proposed project includes removal of the existing building and construction of two new buildings with associated site improvements. The majority of the parking for residents of the proposed buildings will be located within or under the new buildings. The existing surface parking lot will be reduced in size. The proposed post-development condition will have 20,604 square feet of impervious area.

246 Eastern Prom Proposed Conditions	
Total Site Area	27,206 sf
Impervious Area	20,640 sf
Roof Area	15,921 sf
Non-Roof Impervious	4,719 sf

Stormwater runoff in the proposed condition will continue to ultimately drain to the public stormdrain system in Eastern Promenade. Both proposed buildings will feature flat roofs and will drain by internal roof drains. A new on-site storm drain network will collect runoff from the surface parking area and the smaller building and will convey it into a new public storm drain in Turner Street. The new public storm drain will connect to the existing system at the intersection of Turner Street and Eastern Promenade.

The roof of the larger building will drain directly into the existing storm drain network in Eastern Promenade.

The proposed development will result in a reduction in non-roof impervious area by approximately 8,532 square feet. Per Section 5.II.D of the City of Portland Technical Manual, the project is not required to provide stormwater treatment in accordance with the General Standard.

4. FLOODING STANDARD

Stormwater Quantity control is required as part of city requirements for this project. The proposed development has been designed to minimize stormwater runoff from the site in excess of the natural pre-development conditions. A hydrologic analysis of pre-development and post-development conditions was conducted based upon the methodology contained in the USDA Soil Conservation Service's Technical Releases No. 20 and 55 (SCS TR-20 and TR-55). For Cumberland County, Maine a 24-hour SCS Type III Storm distribution was used for the analysis using the following storm frequencies and rainfall amounts, per Maine DEP Chapter 500:

Storm Event	24-Hour Rainfall
2–Year Storm	3.1 inches
10–Year Storm	4.6 inches
25–Year Storm	5.8 inches

Runoff curve numbers, time of concentration, and travel time data were established based on methods outlined in the USDA TR-55 manual. A minimum time of concentration of 5 minutes and a maximum sheet flow distance of 150 linear feet was used in the models.

4.1 Pre-Development Conditions

The pre-development HydroCAD model includes three sub-catchments, draining to a single Study Point representing the existing public storm drain system in Eastern Promenade.

The Pre-Development Watershed Map (Sheet WS-1) shows sub-watershed boundaries, time of concentration flow paths, and study points and is attached in Appendix 1.

The Pre-Development HydroCAD model is attached in Appendix 3.

Pre-Development peak rates of runoff at the Study Point are listed in the table below.

Pre-Development Peak Rates of Runoff (cfs)	
Storm Event	**Peak Rate of Runoff**
2–Year Storm	1.10
10–Year Storm	2.20
25–Year Storm	3.14

4.2 Post-Development Conditions

The post-development HydroCAD model includes five sub-catchments, tributary to the same Study Point described in Section 4.1. The Post-Development Watershed Map (Sheet WS-2) and HydroCAD model are attached in Appendix 2 and 4, respectively.

Post-Development peak rates of runoff at the Study Point are listed in the table below.

Post-Development Peak Rates of Runoff (cfs)	
Storm Event	**Peak Rate of Runoff**
2–Year Storm	1.46
10–Year Storm	2.47
25–Year Storm	3.31

4.3 Peak Flow Analysis

In order to determine the impact of the proposed site re-development on the peak rate of runoff leaving the project site, the results of the pre-development and post-development stormwater models were directly compared and are compiled in the table below.

Peak Runoff Flow Rates Comparison		
Storm Event	**Pre-Development (cfs)**	**Post-Development (cfs)**
2-Year	1.10	1.46
10-Year	2.20	2.47
25-Year	3.14	3.31

The peak rate of runoff entering the municipal storm drain network in Eastern Promenade is expected to increase slightly as a result of the proposed re-development project. The anticipated increase in peak flow rate is greatest in the 2-year storm event (0.36 cfs) and becomes smaller as the storm events become larger (0.17 cfs in the 25-year storm event). The separated storm drain network is believed to have the capacity to accept the small increase in peak flow rates.

5. CONCLUSIONS

The proposed redevelopment project will create approximately 4,000 square feet of additional impervious area. A stormwater management system was designed to ensure:

- Stormwater draining onto or across the project site in the pre-development condition will not be impeded or redirected so as to create ponding on, or flooding of, adjacent lots.

- The small increase in volume or flow rate of stormwater draining from the lot onto adjacent lots and city property can be handled on the adjacent lot and city property without creating ponding, flooding, or other drainage problems.

- The small increase in volume or rate of stormwater draining from the project site into the city's separated storm drain system may be accommodated in the system without creating downstream problems or exceeding the capacity of the storm sewer system.

Appendices
1 Pre-Development Watershed Map
2 Post-Development Watershed Map
3 Pre-Development HydroCAD Model
4 Post-Development HydroCAD Model



Prepared By:
Michael Tadema-Wielandt, P.E.
Maine License #11567
TERRADYN CONSULTANTS, LLC

APPENDIX 1

Pre-Development Watershed Map



STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10001
LICENSED PROFESSIONAL ENGINEER

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: PRE-DEVELOPMENT WATERSHED PLAN

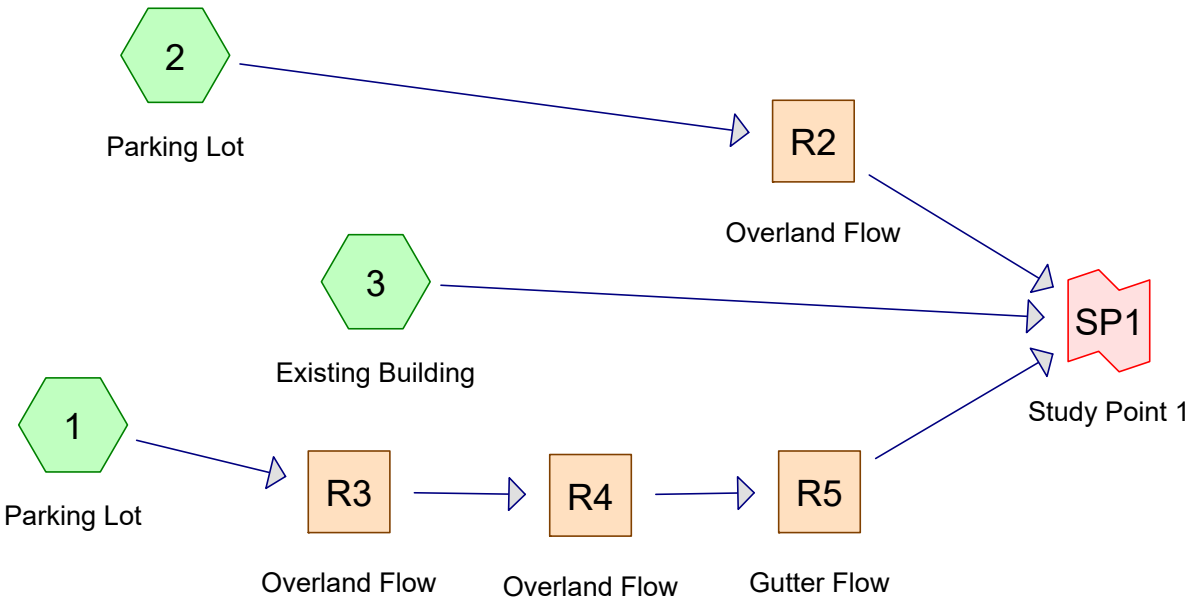
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1"=20'
JOB NO: 22-144
SHEET: WS-1

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 SWM.dwg

APPENDIX 2

Pre-Development HydroCAD Model



Subcat Reach Pond Link

Routing Diagram for 22-144-PRE
Prepared by Terradyn Consultants, LLC, Printed 5/12/2023
HydroCAD® 10.00-26 s/n 03654 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.288	49	50-75% Grass cover, Fair, HSG A (2, 3)
0.031	68	<50% Grass cover, Poor, HSG A (1)
0.497	98	Unconnected pavement, HSG A (1, 2, 3)
0.816	**80**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Parking Lot Runoff Area=5,923 sf 77.51% Impervious Runoff Depth>2.04"
Flow Length=100' Tc=5.0 min CN=91 Runoff=0.34 cfs 0.023 af

Subcatchment 2: Parking Lot Runoff Area=13,894 sf 61.38% Impervious Runoff Depth>1.16"
Tc=5.0 min CN=79 Runoff=0.47 cfs 0.031 af

Subcatchment 3: Existing Building Runoff Area=15,734 sf 54.30% Impervious Runoff Depth>0.99"
Tc=5.0 min CN=76 Runoff=0.44 cfs 0.030 af

Reach R2: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.88 fps Inflow=0.47 cfs 0.031 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.45 cfs 0.031 af

Reach R3: Overland Flow Avg. Flow Depth=0.01' Max Vel=1.13 fps Inflow=0.34 cfs 0.023 af
n=0.013 L=160.0' S=0.0281 '/' Capacity=8.57 cfs Outflow=0.32 cfs 0.023 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.76 fps Inflow=0.32 cfs 0.023 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.30 cfs 0.023 af

Reach R5: Gutter Flow Avg. Flow Depth=0.07' Max Vel=1.68 fps Inflow=0.30 cfs 0.023 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.30 cfs 0.023 af

Link SP1: Study Point 1 Inflow=1.10 cfs 0.084 af
Primary=1.10 cfs 0.084 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.084 af Average Runoff Depth = 1.23"
39.07% Pervious = 0.319 ac 60.93% Impervious = 0.497 ac

Summary for Subcatchment 1: Parking Lot

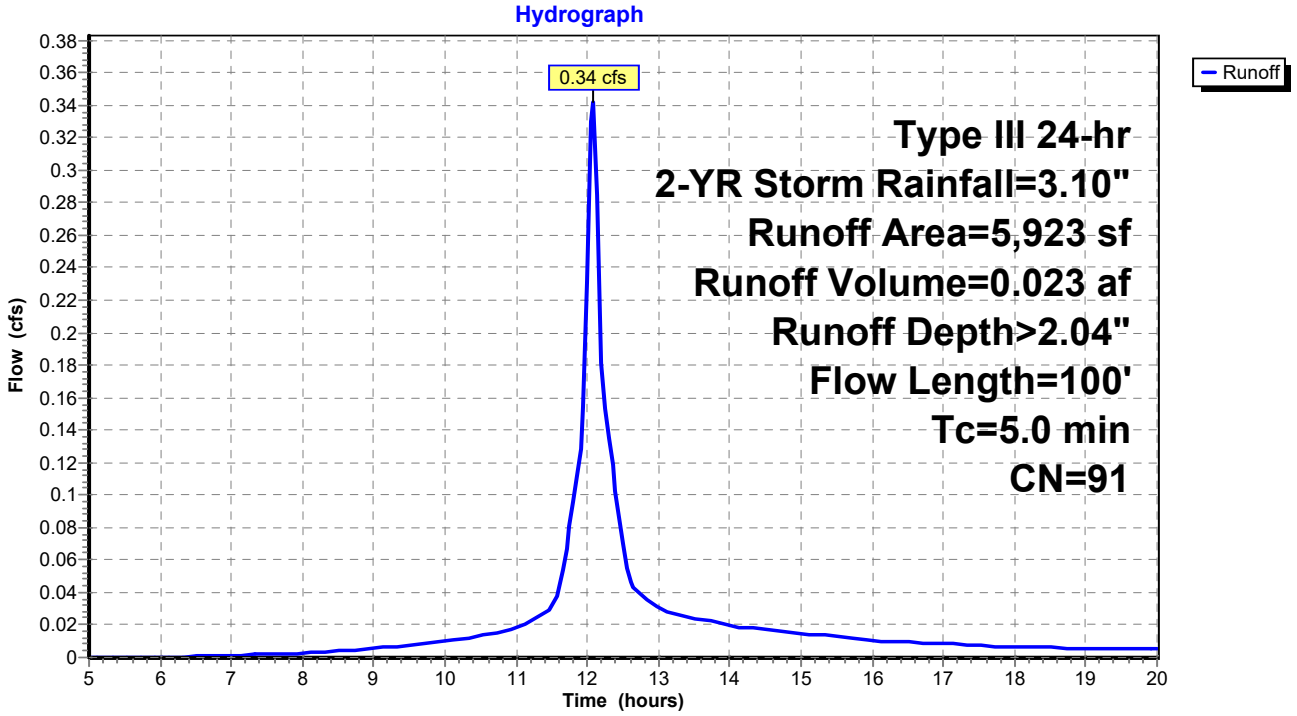
Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.023 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
4,591	98	Unconnected pavement, HSG A
1,332	68	<50% Grass cover, Poor, HSG A
5,923	91	Weighted Average
1,332		22.49% Pervious Area
4,591		77.51% Impervious Area
4,591		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	85	0.5300	4.86		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.0	15	0.1600	6.44		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
4.7					**Direct Entry, 5 Minute Minimum**
5.0	100	Total			

Subcatchment 1: Parking Lot



Summary for Subcatchment 2: Parking Lot

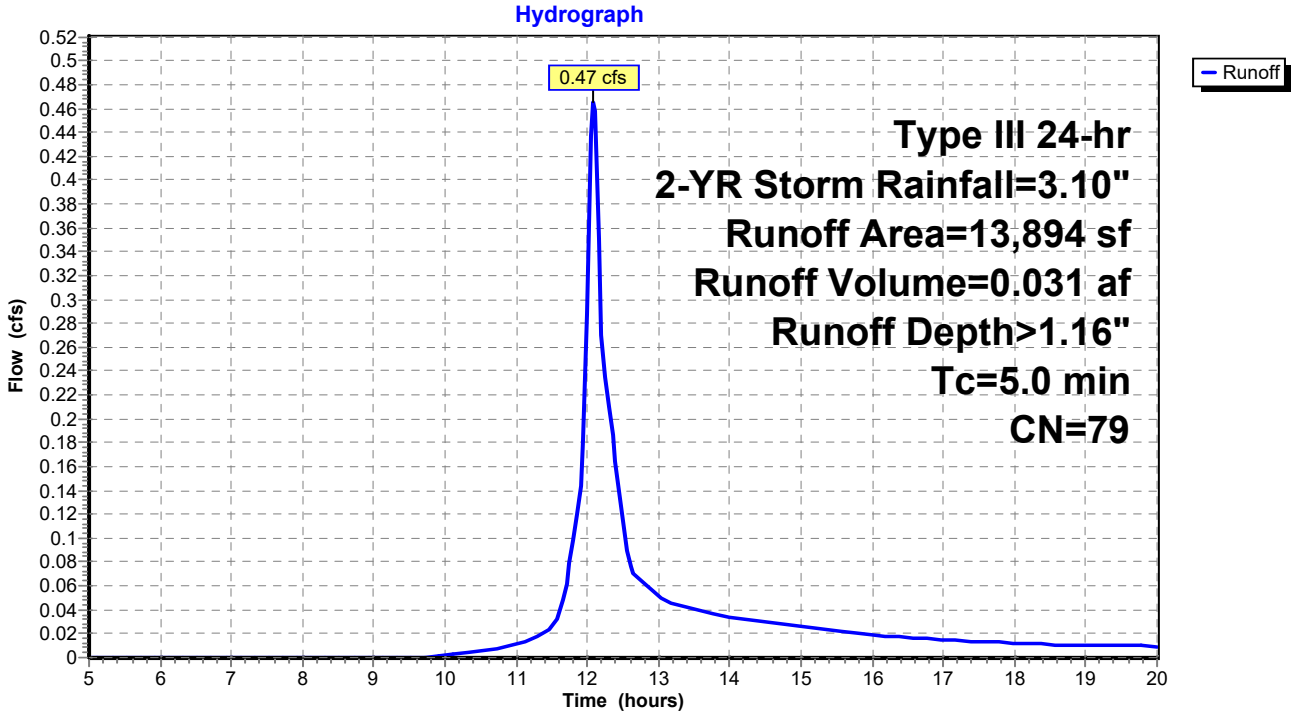
Runoff = 0.47 cfs @ 12.08 hrs, Volume= 0.031 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
8,528	98	Unconnected pavement, HSG A
5,366	49	50-75% Grass cover, Fair, HSG A
13,894	79	Weighted Average
5,366		38.62% Pervious Area
8,528		61.38% Impervious Area
8,528		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 2: Parking Lot



Summary for Subcatchment 3: Existing Building

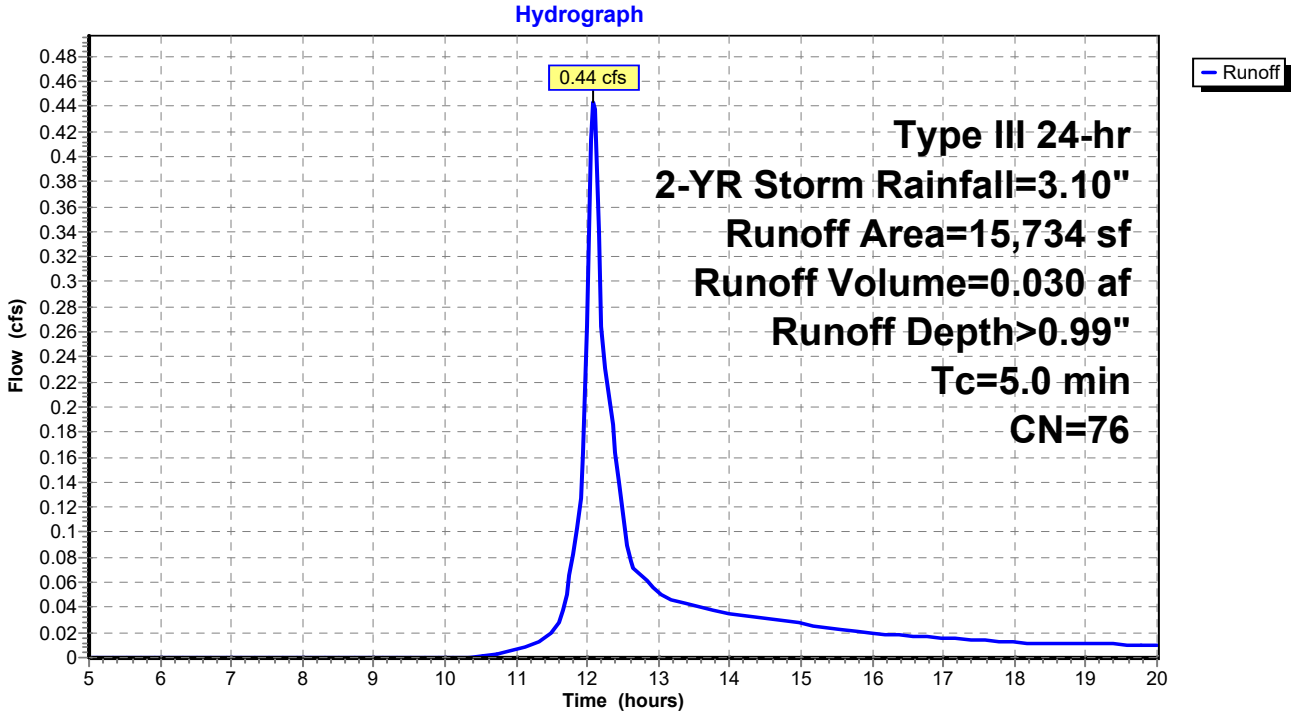
Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.030 af, Depth> 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
8,544	98	Unconnected pavement, HSG A
7,190	49	50-75% Grass cover, Fair, HSG A
15,734	76	Weighted Average
7,190		45.70% Pervious Area
8,544		54.30% Impervious Area
8,544		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 3: Existing Building



Summary for Reach R2: Overland Flow

Inflow Area = 0.319 ac, 61.38% Impervious, Inflow Depth > 1.16" for 2-YR Storm event
Inflow = 0.47 cfs @ 12.08 hrs, Volume= 0.031 af
Outflow = 0.45 cfs @ 12.11 hrs, Volume= 0.031 af, Atten= 4%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.88 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.28 fps, Avg. Travel Time= 3.1 min

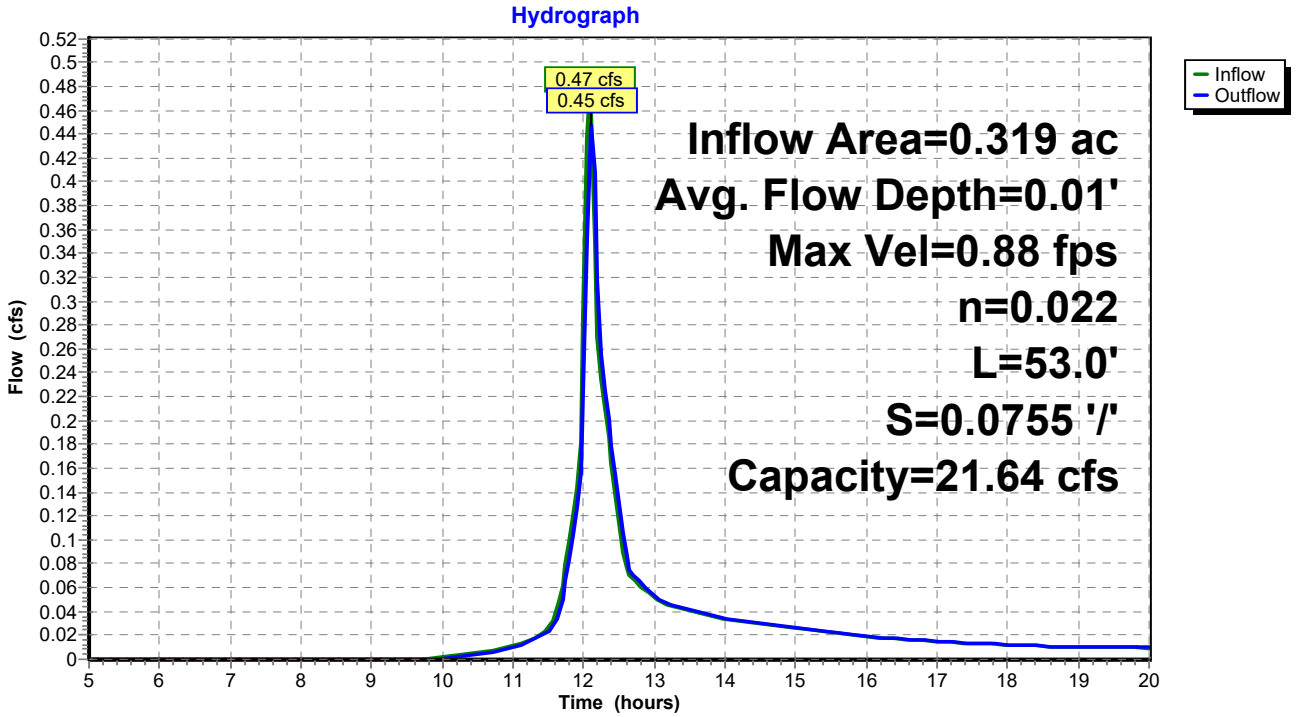
Peak Storage= 28 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'



‡

Reach R2: Overland Flow



Summary for Reach R3: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 2.04" for 2-YR Storm event
Inflow = 0.34 cfs @ 12.07 hrs, Volume= 0.023 af
Outflow = 0.32 cfs @ 12.14 hrs, Volume= 0.023 af, Atten= 6%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.13 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.31 fps, Avg. Travel Time= 8.5 min

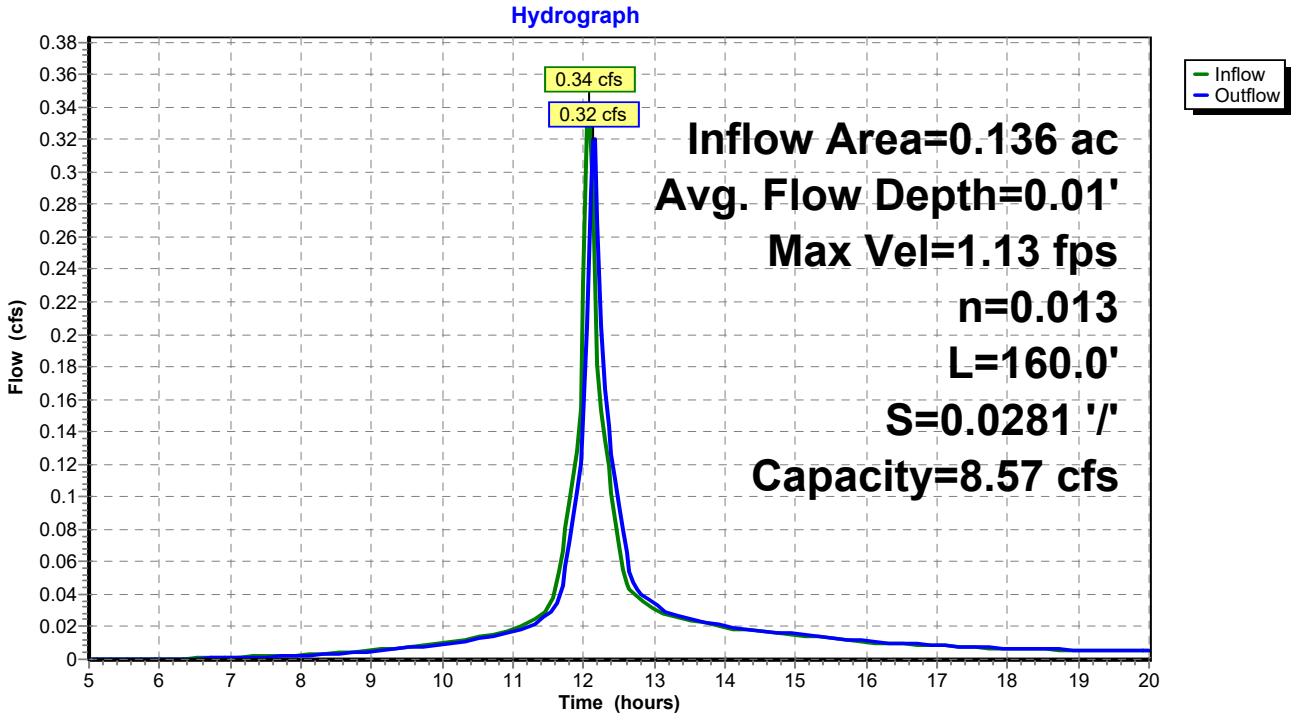
Peak Storage= 47 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 2.2 sf, Capacity= 8.57 cfs

20.00' x 0.10' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 24.00'
Length= 160.0' Slope= 0.0281 '/'
Inlet Invert= 101.50', Outlet Invert= 97.00'



‡

Reach R3: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 2.03" for 2-YR Storm event
Inflow = 0.32 cfs @ 12.14 hrs, Volume= 0.023 af
Outflow = 0.30 cfs @ 12.18 hrs, Volume= 0.023 af, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.76 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 4.1 min

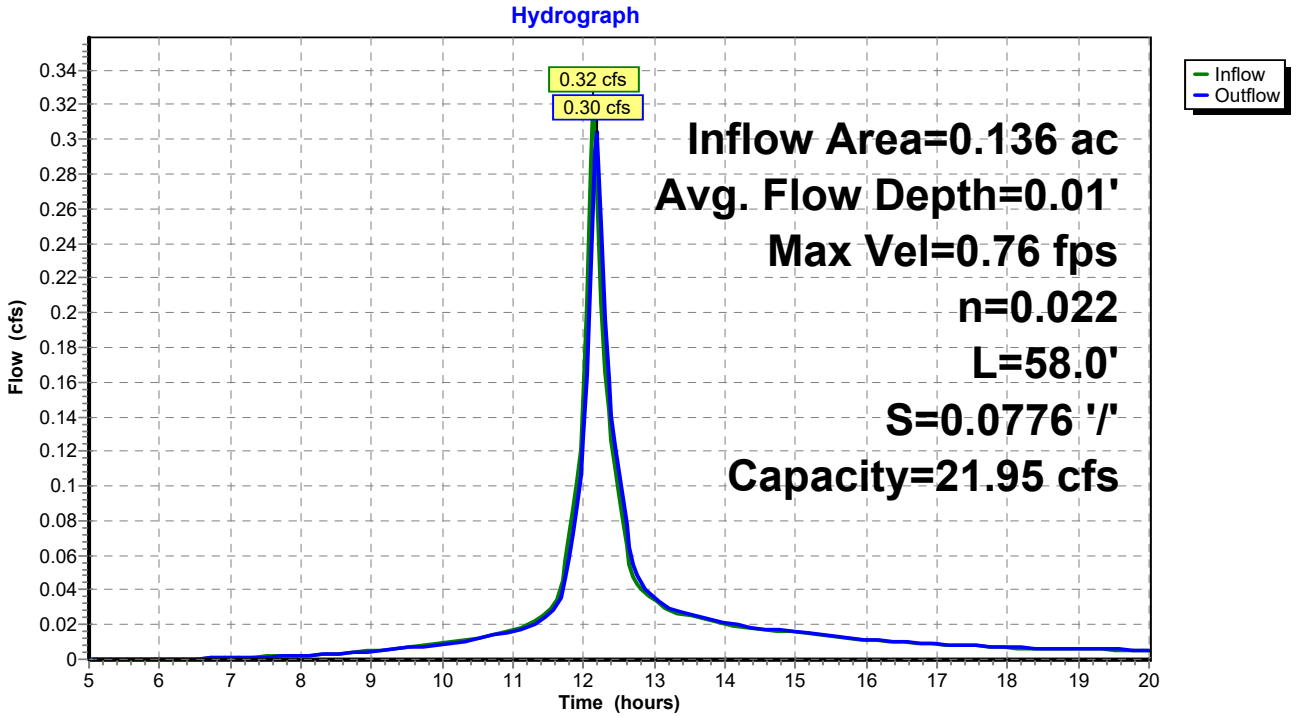
Peak Storage= 24 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'



‡

Reach R4: Overland Flow



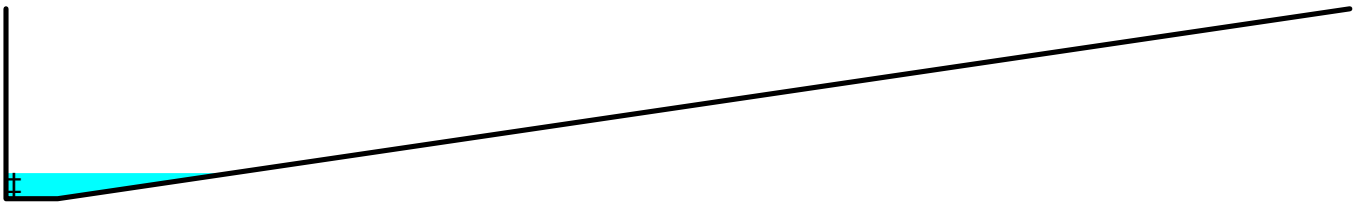
Summary for Reach R5: Gutter Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 2.02" for 2-YR Storm event
Inflow = 0.30 cfs @ 12.18 hrs, Volume= 0.023 af
Outflow = 0.30 cfs @ 12.20 hrs, Volume= 0.023 af, Atten= 1%, Lag= 1.0 min

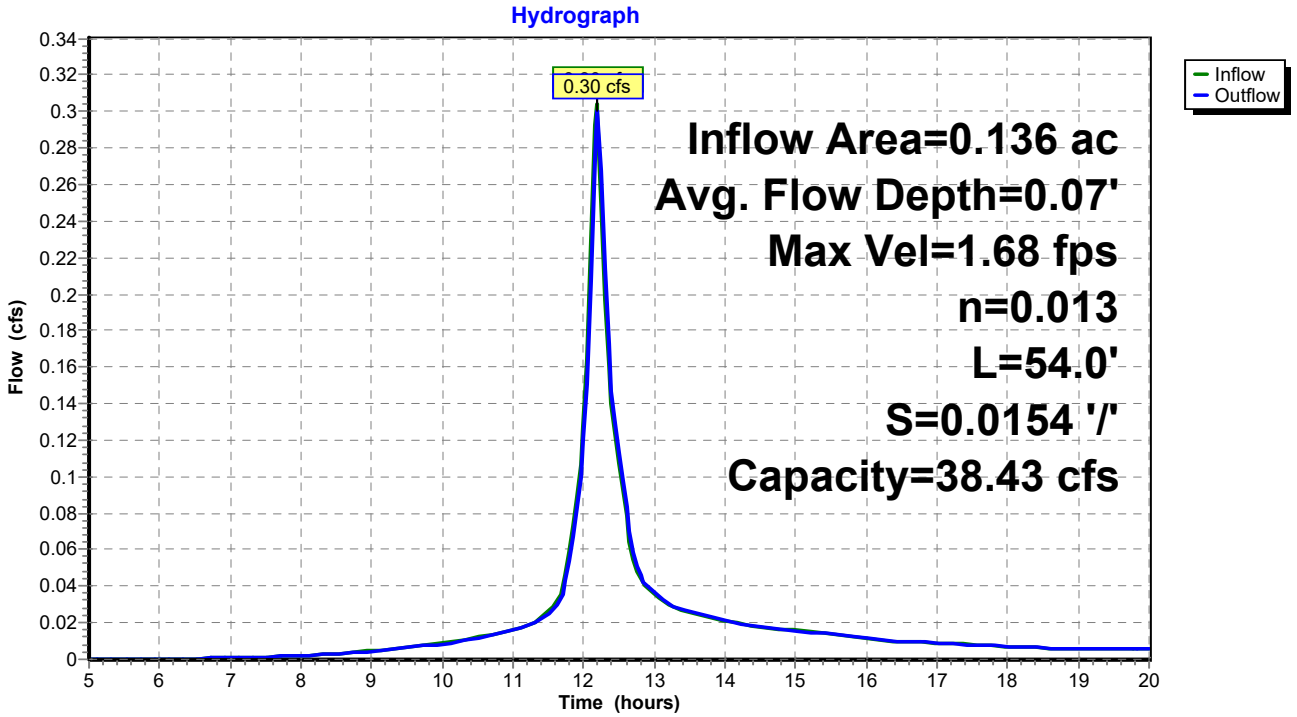
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.68 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.67 fps, Avg. Travel Time= 1.3 min

Peak Storage= 10 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'



Reach R5: Gutter Flow

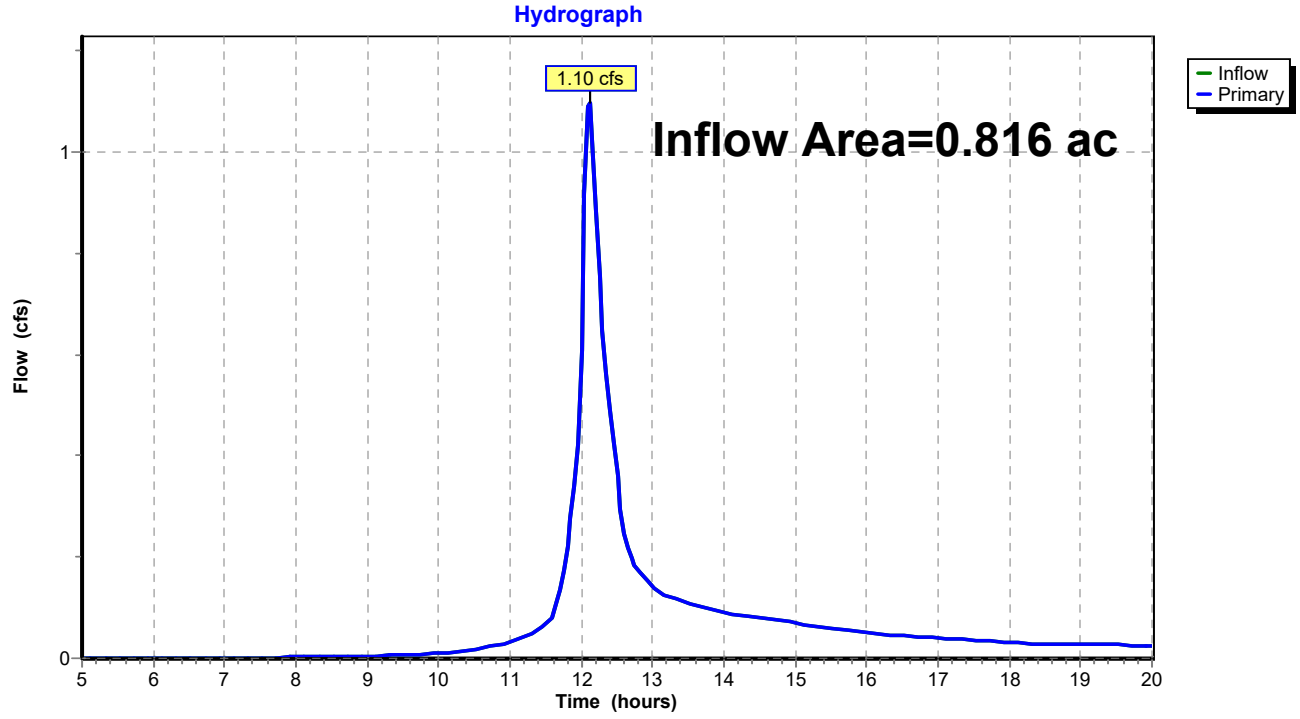


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 60.93% Impervious, Inflow Depth > 1.23" for 2-YR Storm event
Inflow = 1.10 cfs @ 12.11 hrs, Volume= 0.084 af
Primary = 1.10 cfs @ 12.11 hrs, Volume= 0.084 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Parking Lot Runoff Area=5,923 sf 77.51% Impervious Runoff Depth>3.40"
Flow Length=100' Tc=5.0 min CN=91 Runoff=0.55 cfs 0.038 af

Subcatchment 2: Parking Lot Runoff Area=13,894 sf 61.38% Impervious Runoff Depth>2.29"
Tc=5.0 min CN=79 Runoff=0.92 cfs 0.061 af

Subcatchment 3: Existing Building Runoff Area=15,734 sf 54.30% Impervious Runoff Depth>2.05"
Tc=5.0 min CN=76 Runoff=0.93 cfs 0.062 af

Reach R2: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.14 fps Inflow=0.92 cfs 0.061 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.90 cfs 0.061 af

Reach R3: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.37 fps Inflow=0.55 cfs 0.038 af
n=0.013 L=160.0' S=0.0281 '/' Capacity=8.57 cfs Outflow=0.52 cfs 0.038 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.92 fps Inflow=0.52 cfs 0.038 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.50 cfs 0.038 af

Reach R5: Gutter Flow Avg. Flow Depth=0.08' Max Vel=1.90 fps Inflow=0.50 cfs 0.038 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.49 cfs 0.038 af

Link SP1: Study Point 1 Inflow=2.20 cfs 0.161 af
Primary=2.20 cfs 0.161 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.161 af Average Runoff Depth = 2.37"
39.07% Pervious = 0.319 ac 60.93% Impervious = 0.497 ac

Summary for Subcatchment 1: Parking Lot

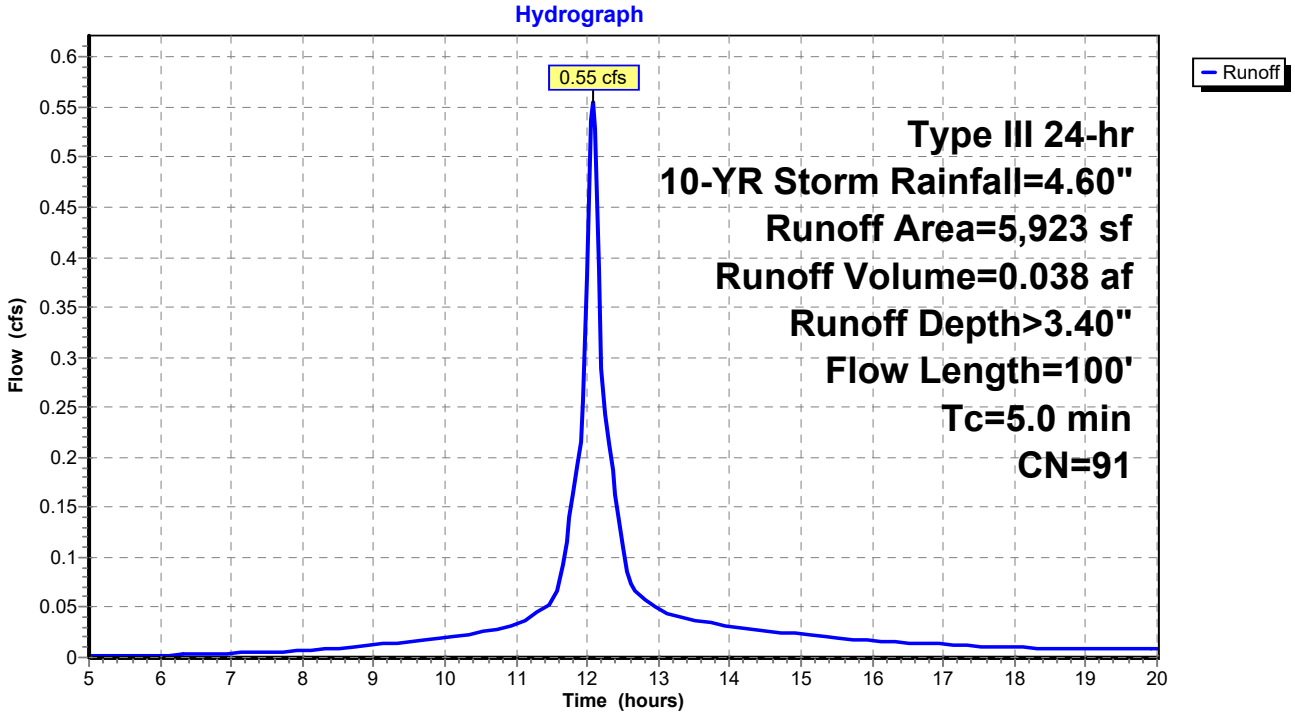
Runoff = 0.55 cfs @ 12.07 hrs, Volume= 0.038 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
4,591	98	Unconnected pavement, HSG A
1,332	68	<50% Grass cover, Poor, HSG A
5,923	91	Weighted Average
1,332		22.49% Pervious Area
4,591		77.51% Impervious Area
4,591		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	85	0.5300	4.86		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.0	15	0.1600	6.44		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
4.7					**Direct Entry, 5 Minute Minimum**
5.0	100	Total			

Subcatchment 1: Parking Lot



Summary for Subcatchment 2: Parking Lot

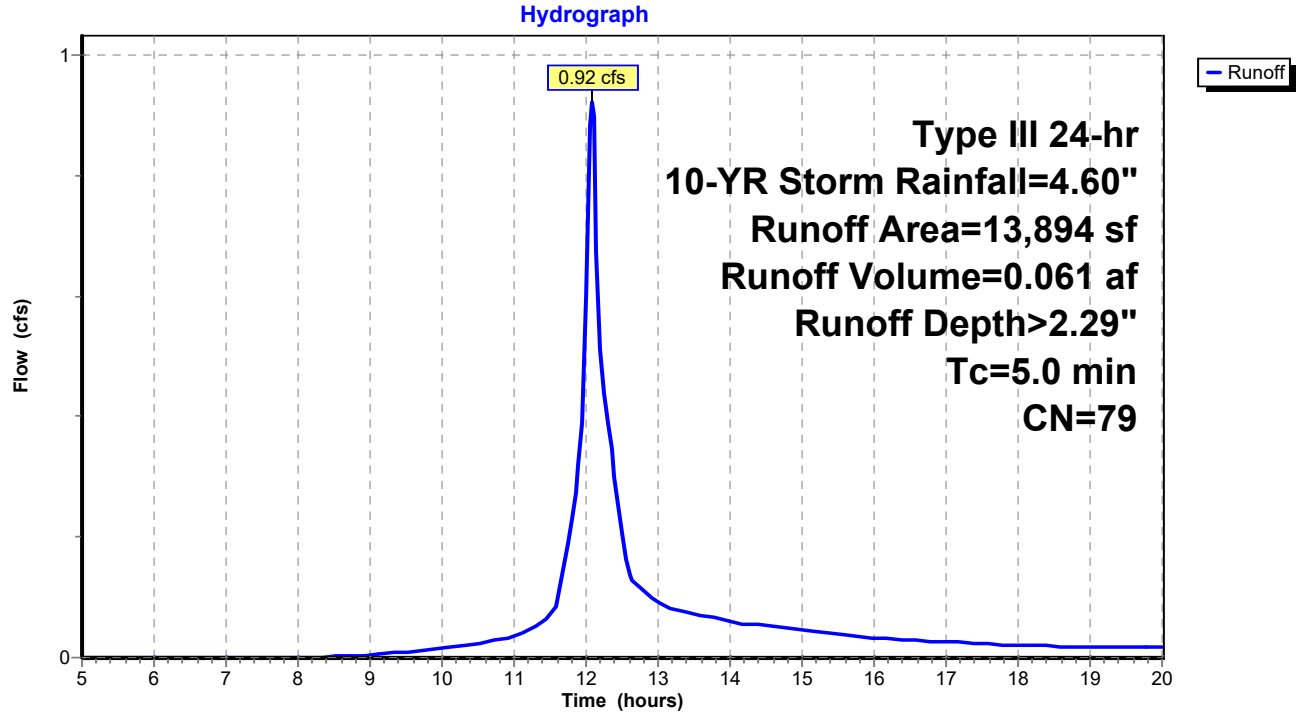
Runoff = 0.92 cfs @ 12.08 hrs, Volume= 0.061 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
8,528	98	Unconnected pavement, HSG A
5,366	49	50-75% Grass cover, Fair, HSG A
13,894	79	Weighted Average
5,366		38.62% Pervious Area
8,528		61.38% Impervious Area
8,528		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 2: Parking Lot



Summary for Subcatchment 3: Existing Building

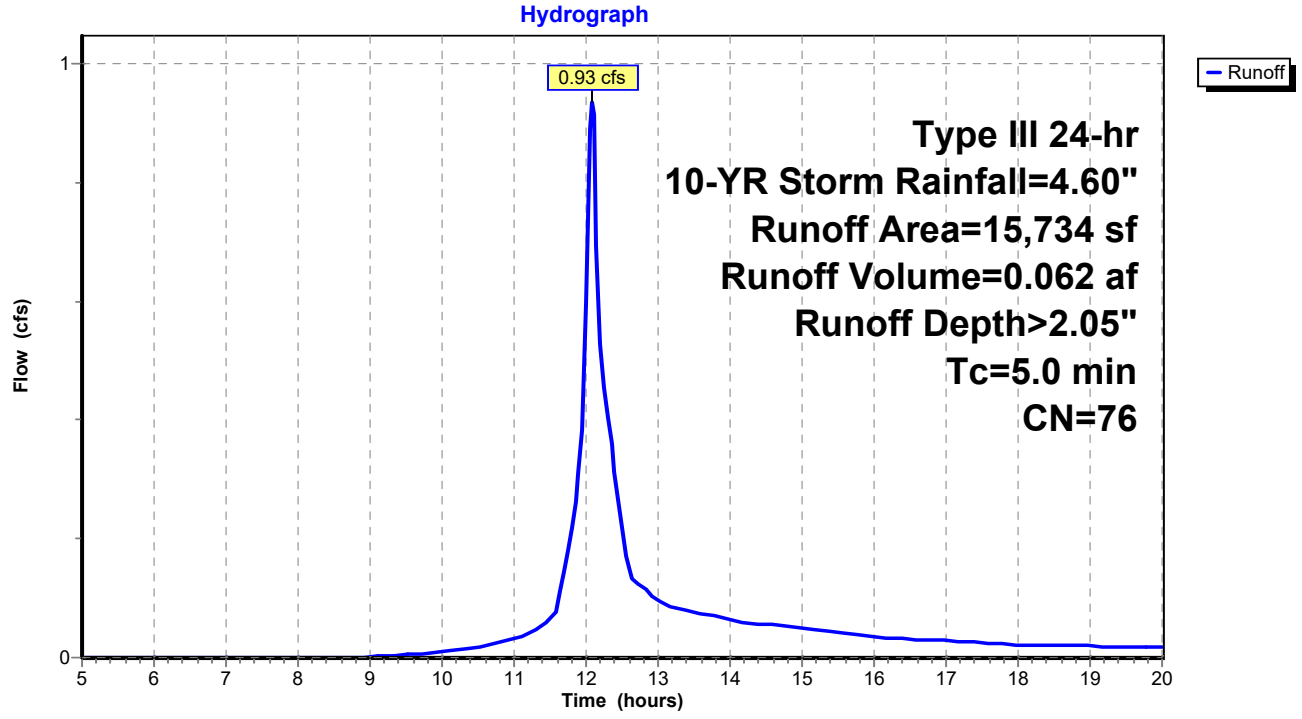
Runoff = 0.93 cfs @ 12.08 hrs, Volume= 0.062 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
8,544	98	Unconnected pavement, HSG A
7,190	49	50-75% Grass cover, Fair, HSG A
15,734	76	Weighted Average
7,190		45.70% Pervious Area
8,544		54.30% Impervious Area
8,544		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 3: Existing Building



Summary for Reach R2: Overland Flow

Inflow Area = 0.319 ac, 61.38% Impervious, Inflow Depth > 2.29" for 10-YR Storm event
Inflow = 0.92 cfs @ 12.08 hrs, Volume= 0.061 af
Outflow = 0.90 cfs @ 12.10 hrs, Volume= 0.061 af, Atten= 3%, Lag= 1.4 min

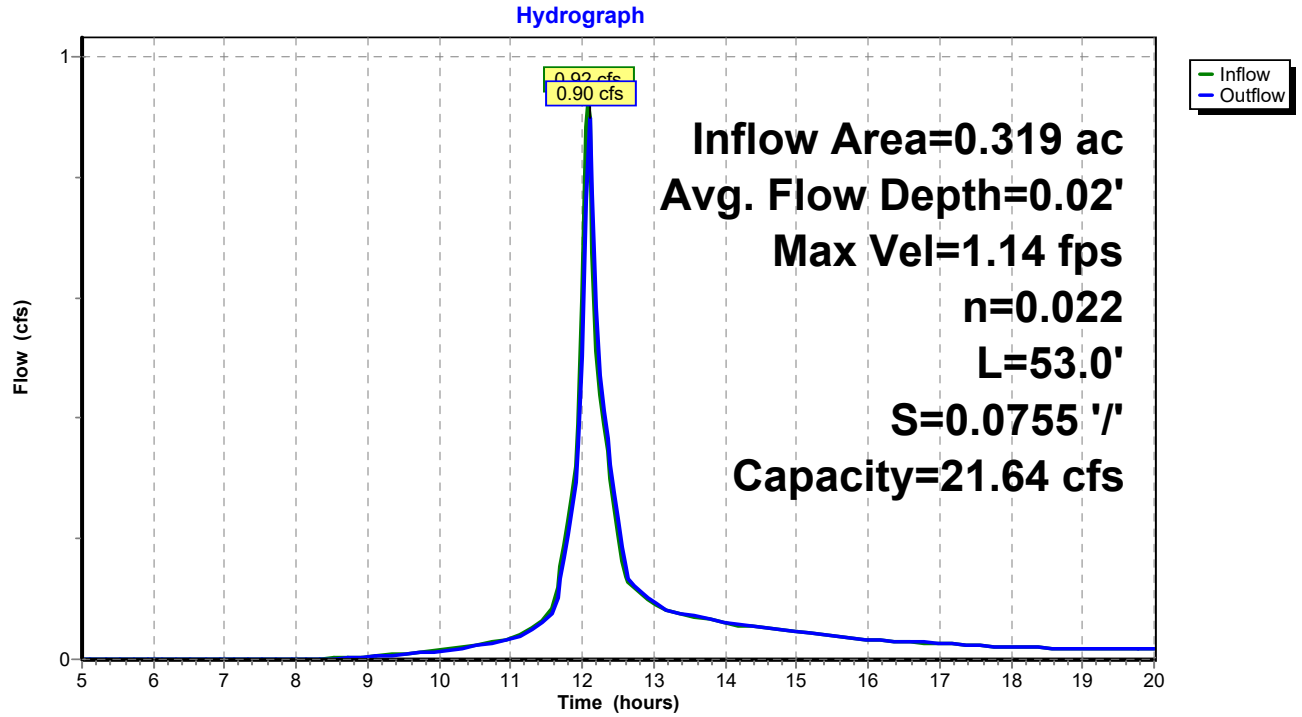
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.34 fps, Avg. Travel Time= 2.6 min

Peak Storage= 43 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'



Reach R2: Overland Flow



Summary for Reach R3: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 3.40" for 10-YR Storm event
Inflow = 0.55 cfs @ 12.07 hrs, Volume= 0.038 af
Outflow = 0.52 cfs @ 12.13 hrs, Volume= 0.038 af, Atten= 7%, Lag= 3.6 min

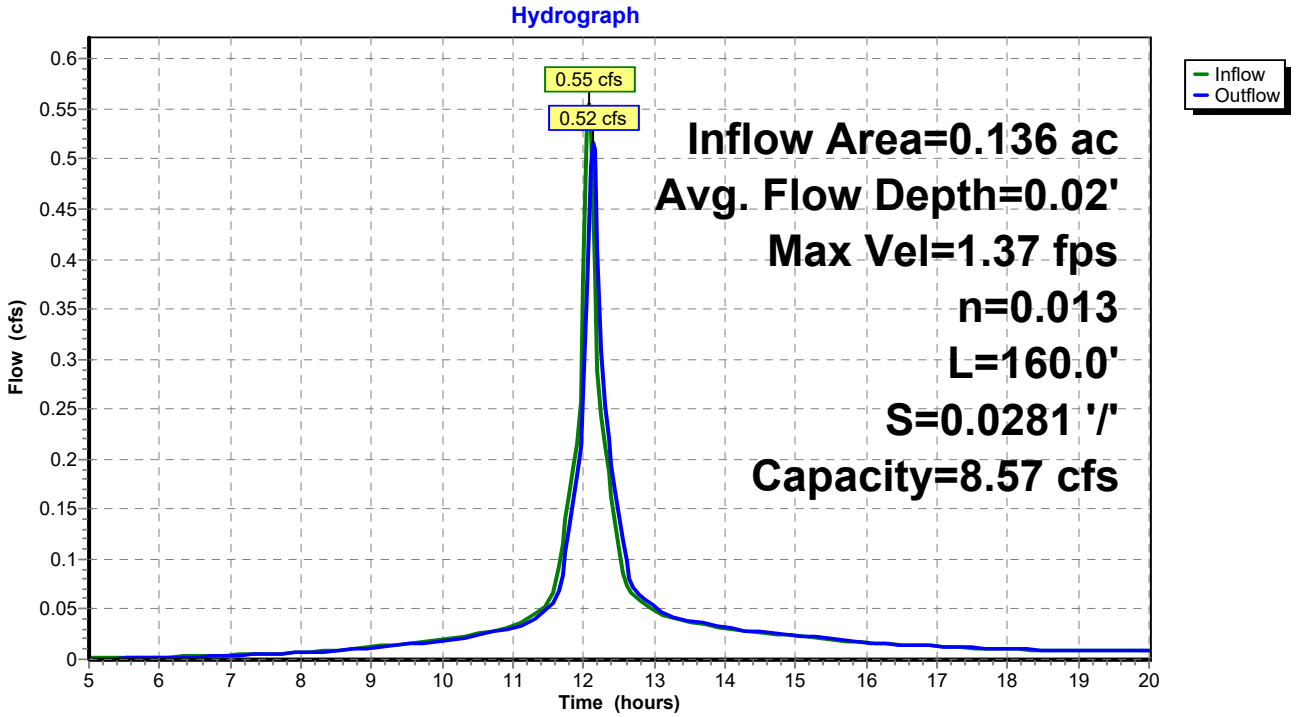
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.37 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 0.37 fps, Avg. Travel Time= 7.2 min

Peak Storage= 63 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.10' Flow Area= 2.2 sf, Capacity= 8.57 cfs

20.00' x 0.10' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 24.00'
Length= 160.0' Slope= 0.0281 '/'
Inlet Invert= 101.50', Outlet Invert= 97.00'



Reach R3: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 3.39" for 10-YR Storm event
Inflow = 0.52 cfs @ 12.13 hrs, Volume= 0.038 af
Outflow = 0.50 cfs @ 12.16 hrs, Volume= 0.038 af, Atten= 3%, Lag= 1.7 min

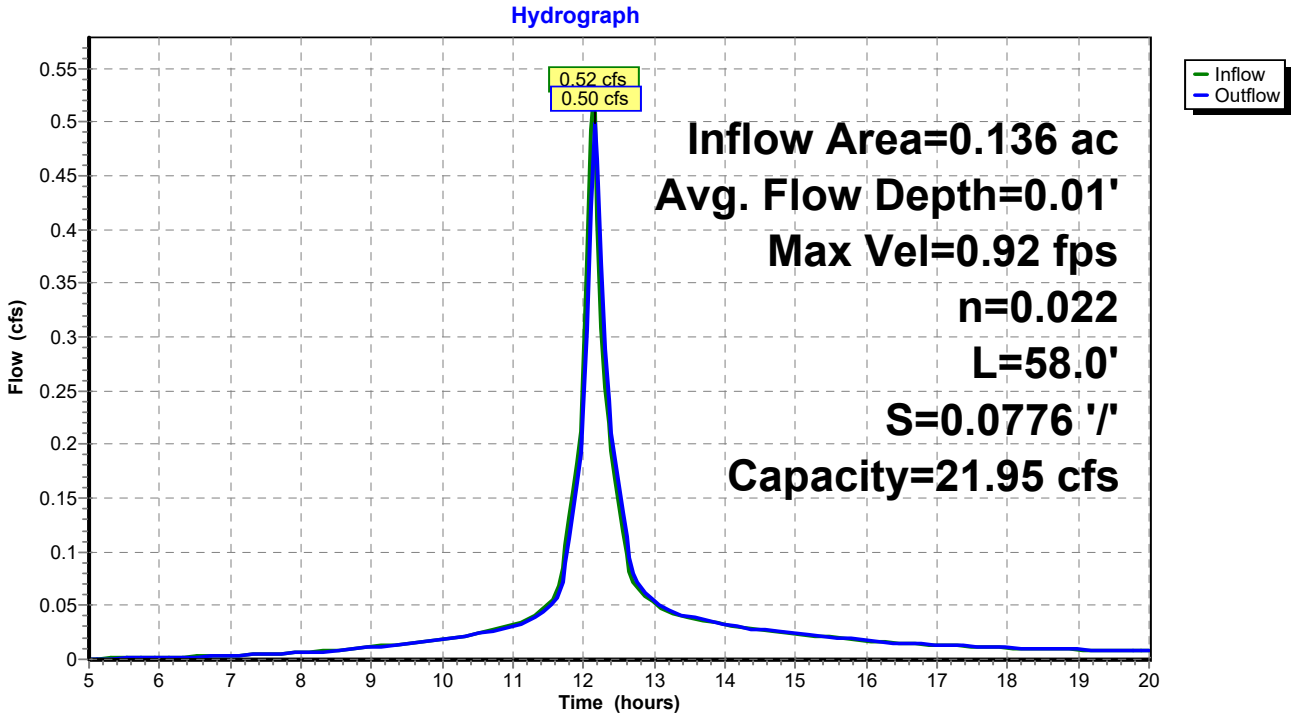
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.92 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.27 fps, Avg. Travel Time= 3.6 min

Peak Storage= 33 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'



Reach R4: Overland Flow



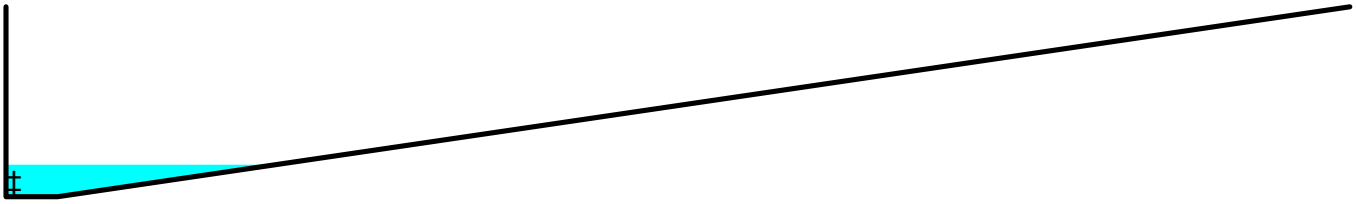
Summary for Reach R5: Gutter Flow

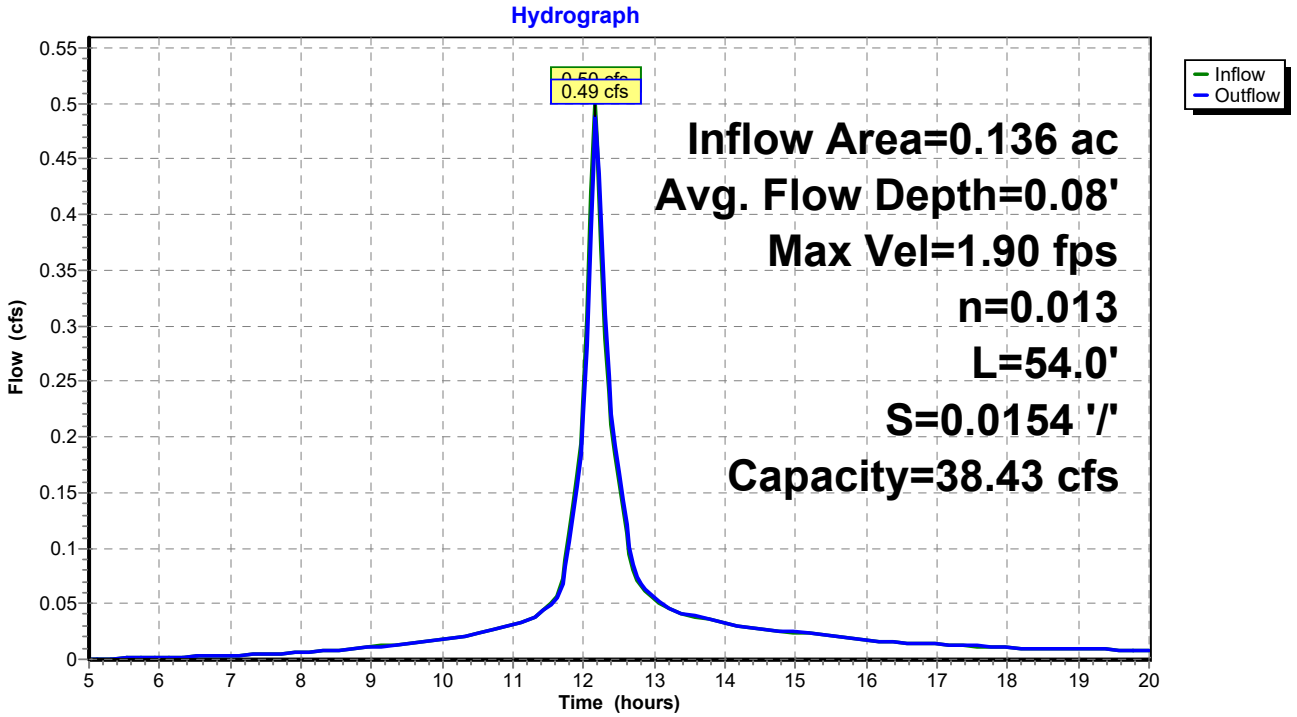
Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 3.38" for 10-YR Storm event
Inflow = 0.50 cfs @ 12.16 hrs, Volume= 0.038 af
Outflow = 0.49 cfs @ 12.17 hrs, Volume= 0.038 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.90 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 1.2 min

Peak Storage= 14 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'



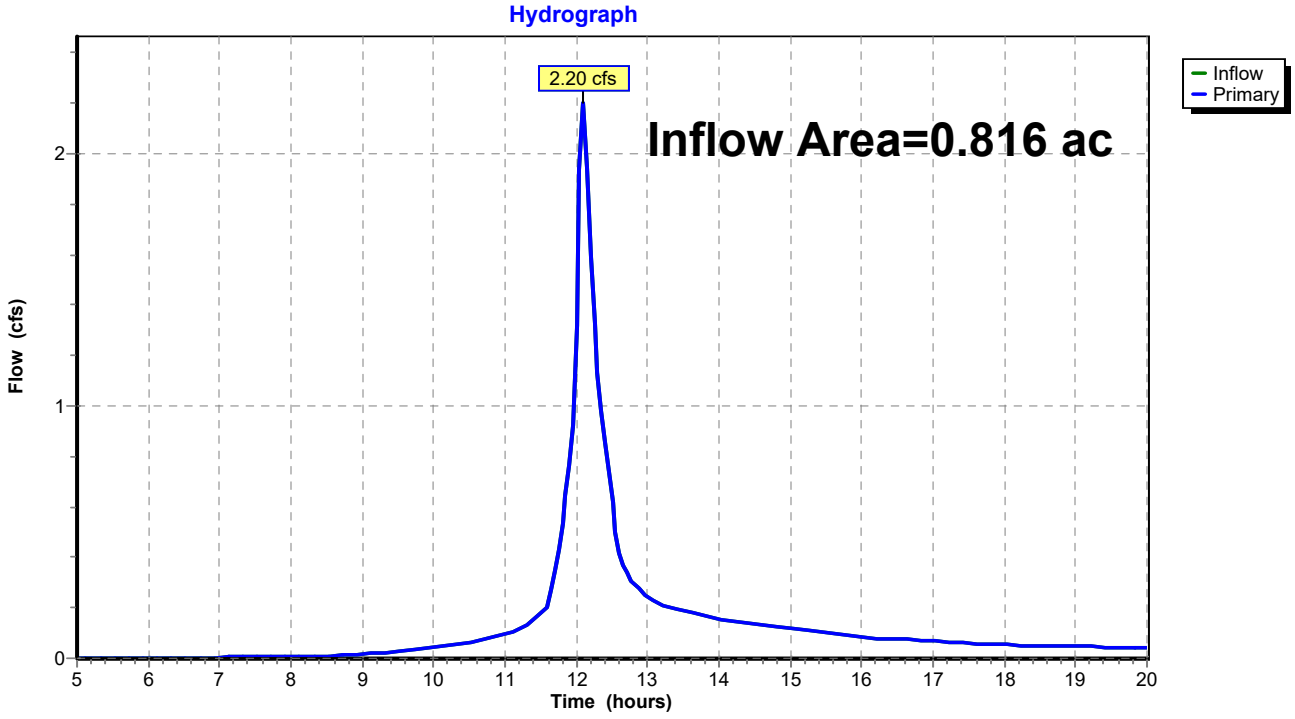


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 60.93% Impervious, Inflow Depth > 2.36" for 10-YR Storm event
Inflow = 2.20 cfs @ 12.10 hrs, Volume= 0.161 af
Primary = 2.20 cfs @ 12.10 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Parking Lot Runoff Area=5,923 sf 77.51% Impervious Runoff Depth>4.50"
Flow Length=100' Tc=5.0 min CN=91 Runoff=0.72 cfs 0.051 af

Subcatchment 2: Parking Lot Runoff Area=13,894 sf 61.38% Impervious Runoff Depth>3.28"
Tc=5.0 min CN=79 Runoff=1.31 cfs 0.087 af

Subcatchment 3: Existing Building Runoff Area=15,734 sf 54.30% Impervious Runoff Depth>2.99"
Tc=5.0 min CN=76 Runoff=1.36 cfs 0.090 af

Reach R2: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.30 fps Inflow=1.31 cfs 0.087 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=1.28 cfs 0.087 af

Reach R3: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.52 fps Inflow=0.72 cfs 0.051 af
n=0.013 L=160.0' S=0.0281 '/' Capacity=8.57 cfs Outflow=0.67 cfs 0.051 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=1.01 fps Inflow=0.67 cfs 0.051 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.66 cfs 0.051 af

Reach R5: Gutter Flow Avg. Flow Depth=0.09' Max Vel=2.04 fps Inflow=0.66 cfs 0.051 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.64 cfs 0.051 af

Link SP1: Study Point 1 Inflow=3.14 cfs 0.228 af
Primary=3.14 cfs 0.228 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.228 af Average Runoff Depth = 3.36"
39.07% Pervious = 0.319 ac 60.93% Impervious = 0.497 ac

Summary for Subcatchment 1: Parking Lot

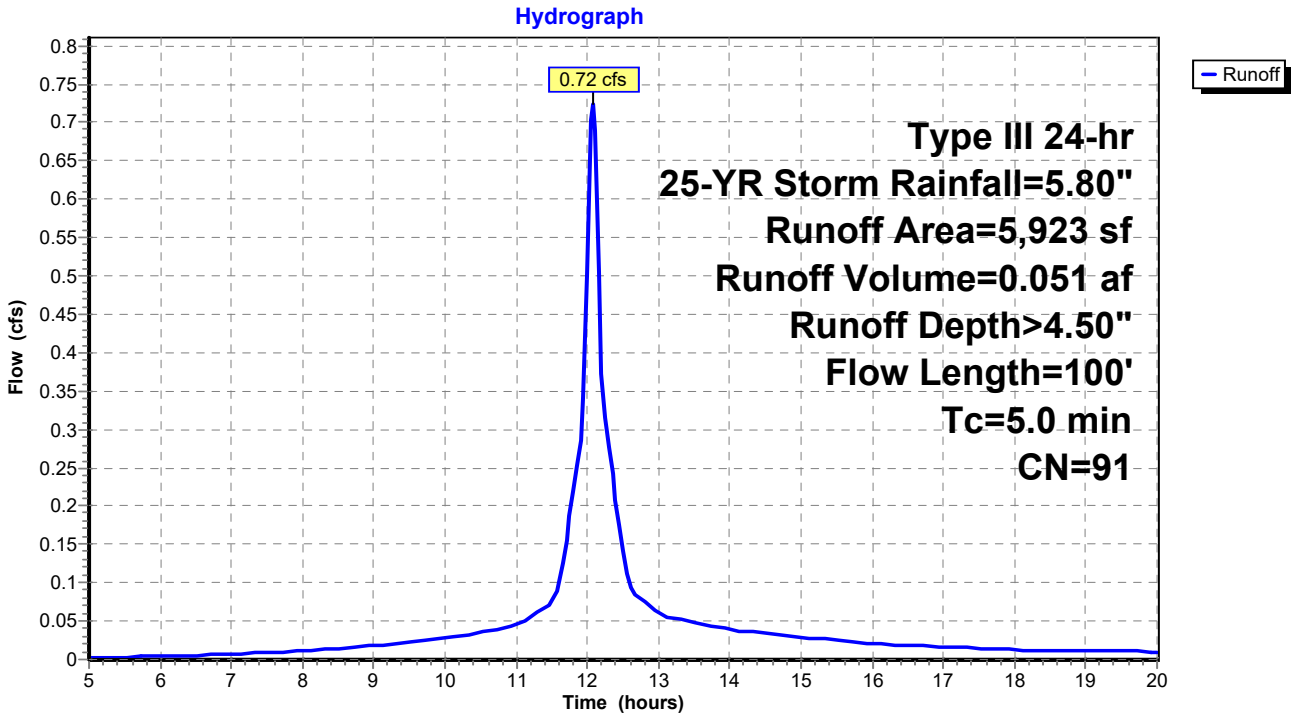
Runoff = 0.72 cfs @ 12.07 hrs, Volume= 0.051 af, Depth> 4.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
4,591	98	Unconnected pavement, HSG A
1,332	68	<50% Grass cover, Poor, HSG A
5,923	91	Weighted Average
1,332		22.49% Pervious Area
4,591		77.51% Impervious Area
4,591		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	85	0.5300	4.86		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.0	15	0.1600	6.44		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
4.7					**Direct Entry, 5 Minute Minimum**
5.0	100	Total			

Subcatchment 1: Parking Lot



Summary for Subcatchment 2: Parking Lot

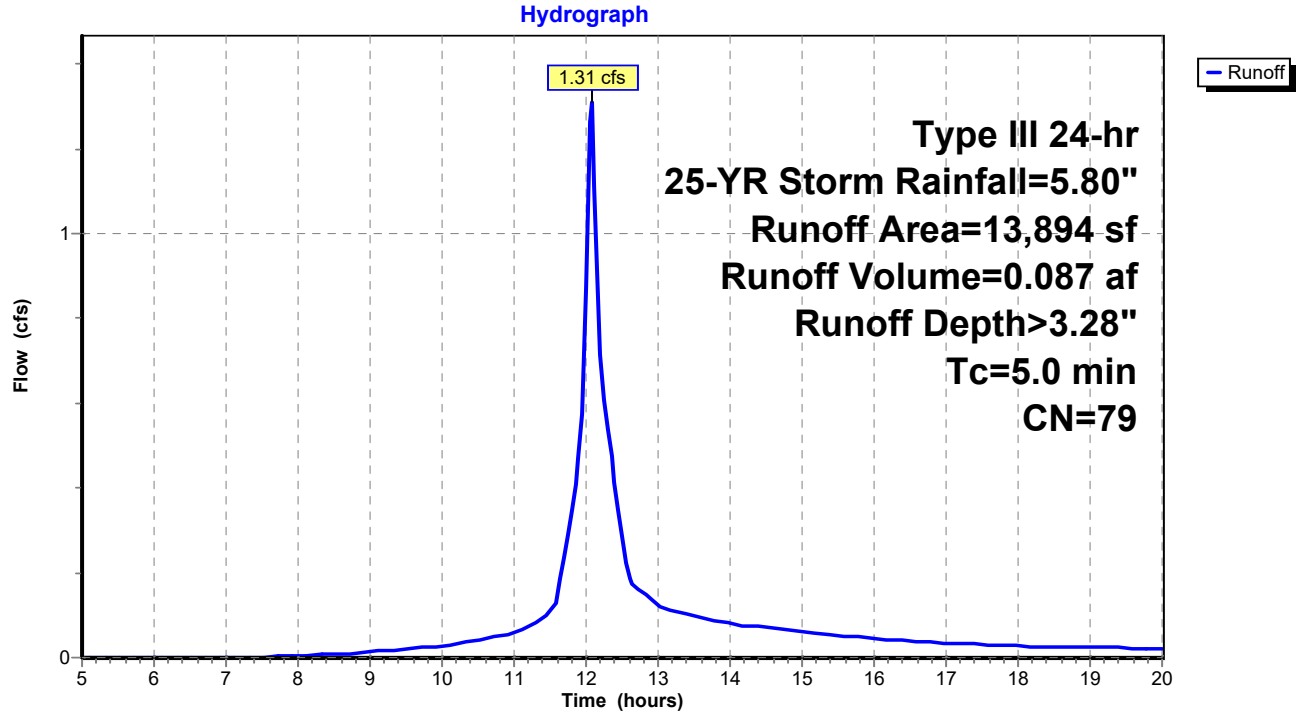
Runoff = 1.31 cfs @ 12.08 hrs, Volume= 0.087 af, Depth> 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
8,528	98	Unconnected pavement, HSG A
5,366	49	50-75% Grass cover, Fair, HSG A
13,894	79	Weighted Average
5,366		38.62% Pervious Area
8,528		61.38% Impervious Area
8,528		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 2: Parking Lot



Summary for Subcatchment 3: Existing Building

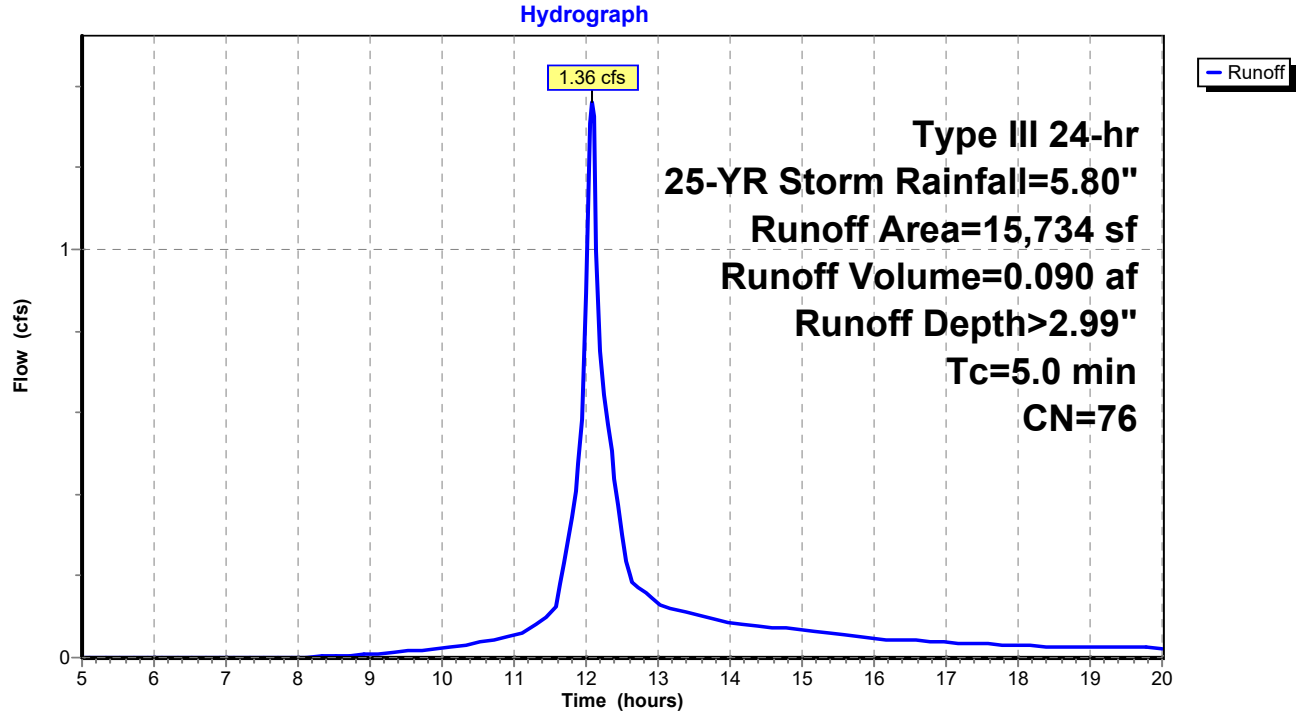
Runoff = 1.36 cfs @ 12.08 hrs, Volume= 0.090 af, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
8,544	98	Unconnected pavement, HSG A
7,190	49	50-75% Grass cover, Fair, HSG A
15,734	76	Weighted Average
7,190		45.70% Pervious Area
8,544		54.30% Impervious Area
8,544		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 3: Existing Building



Summary for Reach R2: Overland Flow

Inflow Area = 0.319 ac, 61.38% Impervious, Inflow Depth > 3.28" for 25-YR Storm event
Inflow = 1.31 cfs @ 12.08 hrs, Volume= 0.087 af
Outflow = 1.28 cfs @ 12.10 hrs, Volume= 0.087 af, Atten= 2%, Lag= 1.3 min

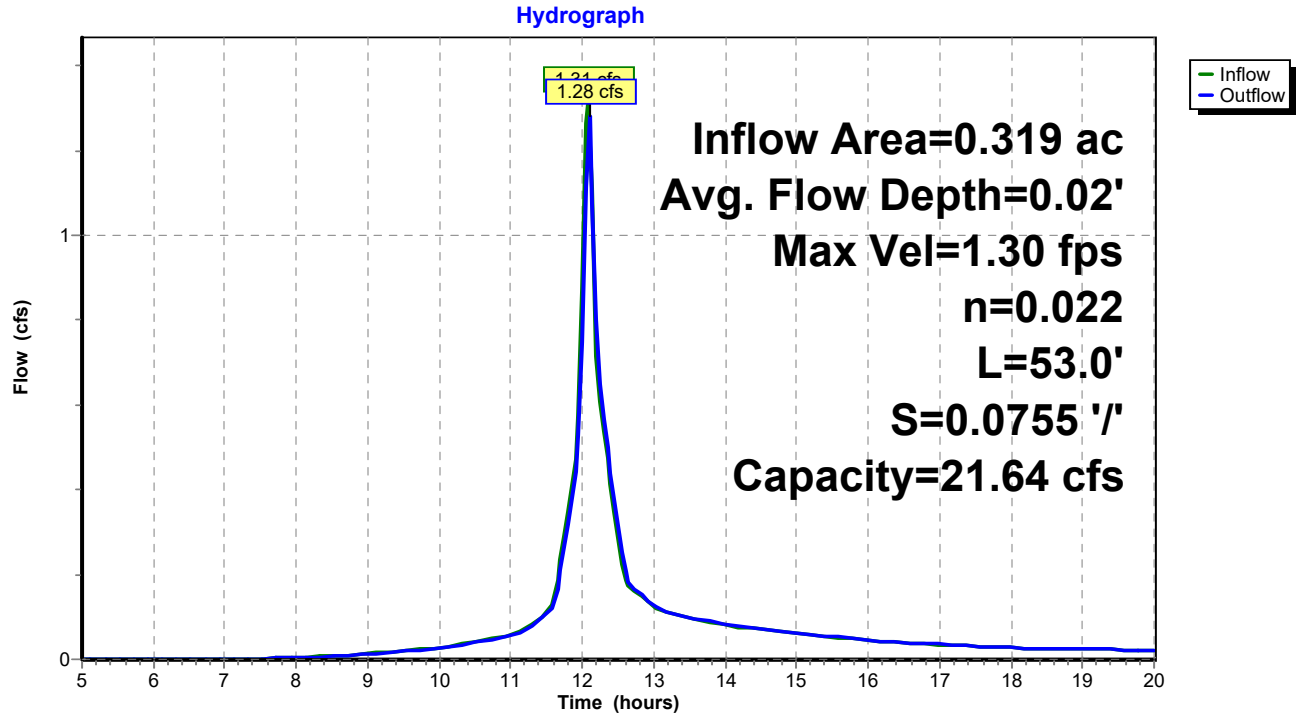
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.30 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.37 fps, Avg. Travel Time= 2.4 min

Peak Storage= 53 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'



Reach R2: Overland Flow



Summary for Reach R3: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 4.50" for 25-YR Storm event
Inflow = 0.72 cfs @ 12.07 hrs, Volume= 0.051 af
Outflow = 0.67 cfs @ 12.12 hrs, Volume= 0.051 af, Atten= 7%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.52 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.41 fps, Avg. Travel Time= 6.5 min

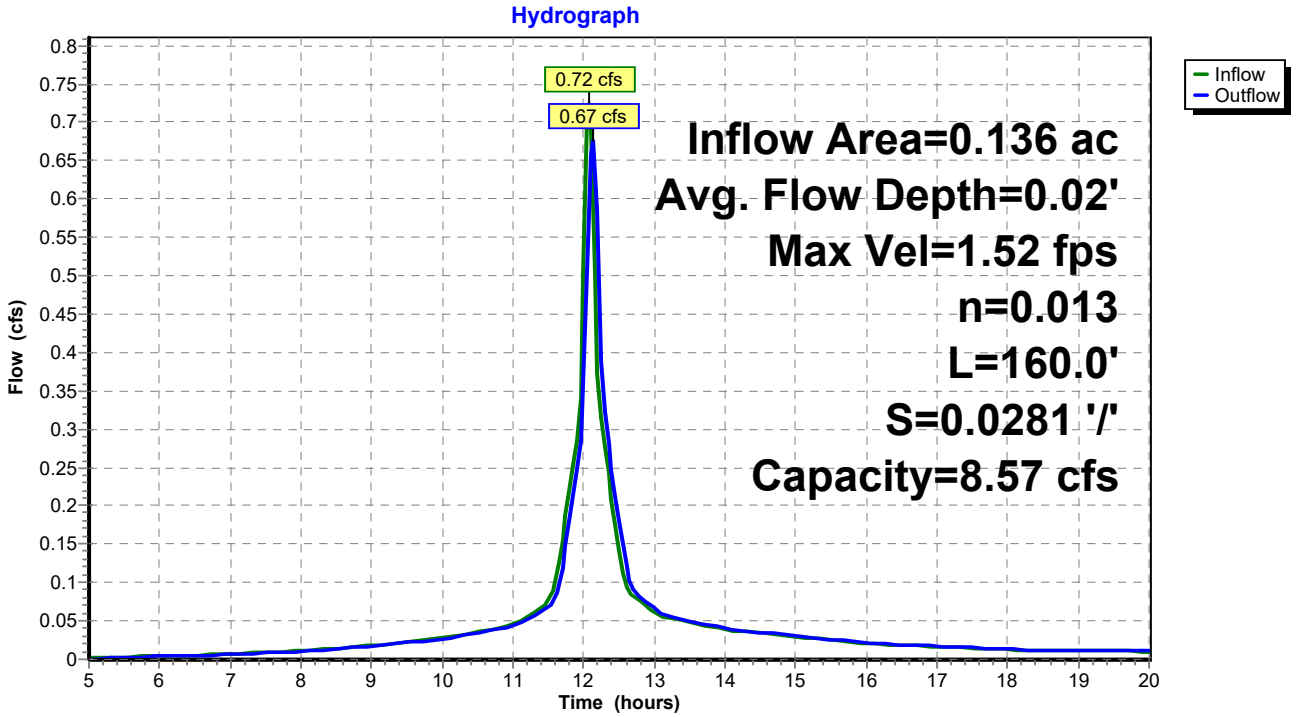
Peak Storage= 75 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.10' Flow Area= 2.2 sf, Capacity= 8.57 cfs

20.00' x 0.10' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 24.00'
Length= 160.0' Slope= 0.0281 '/'
Inlet Invert= 101.50', Outlet Invert= 97.00'



‡

Reach R3: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 4.49" for 25-YR Storm event
Inflow = 0.67 cfs @ 12.12 hrs, Volume= 0.051 af
Outflow = 0.66 cfs @ 12.15 hrs, Volume= 0.051 af, Atten= 3%, Lag= 1.6 min

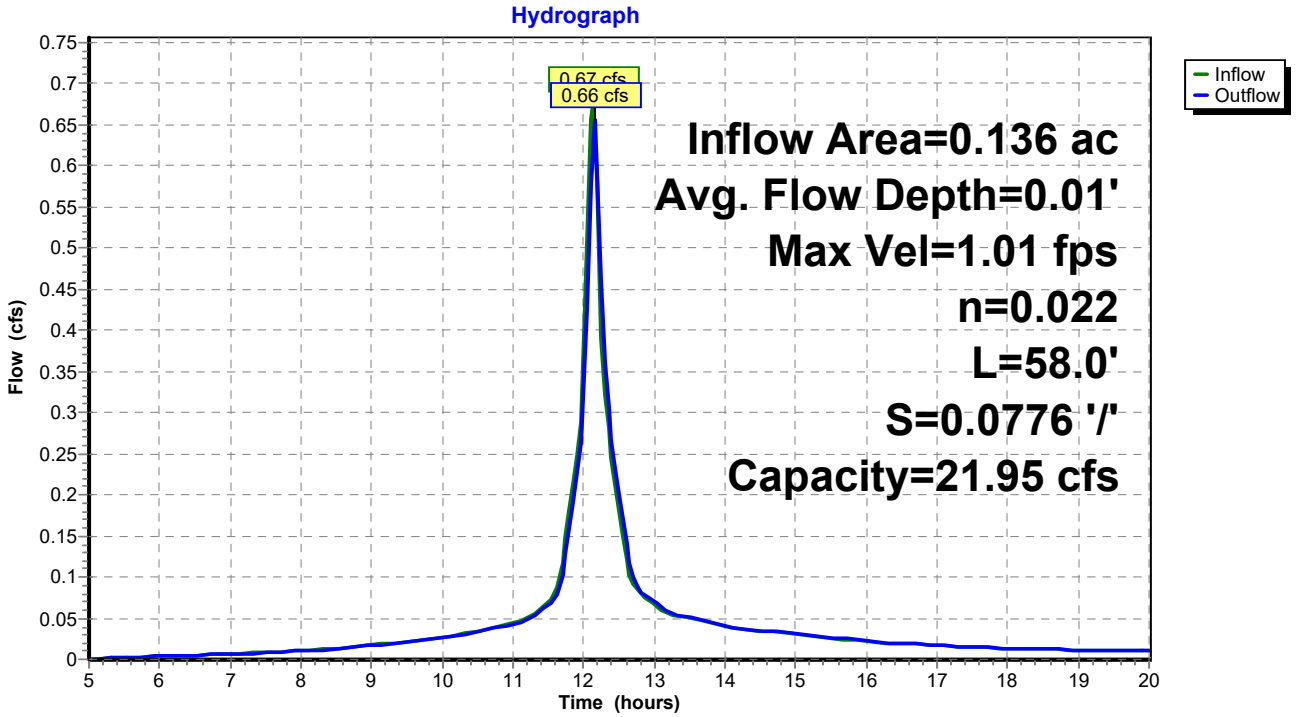
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.01 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.29 fps, Avg. Travel Time= 3.3 min

Peak Storage= 38 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'



Reach R4: Overland Flow



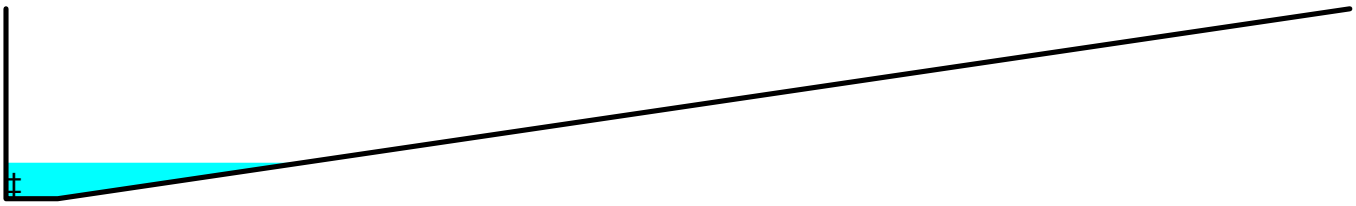
Summary for Reach R5: Gutter Flow

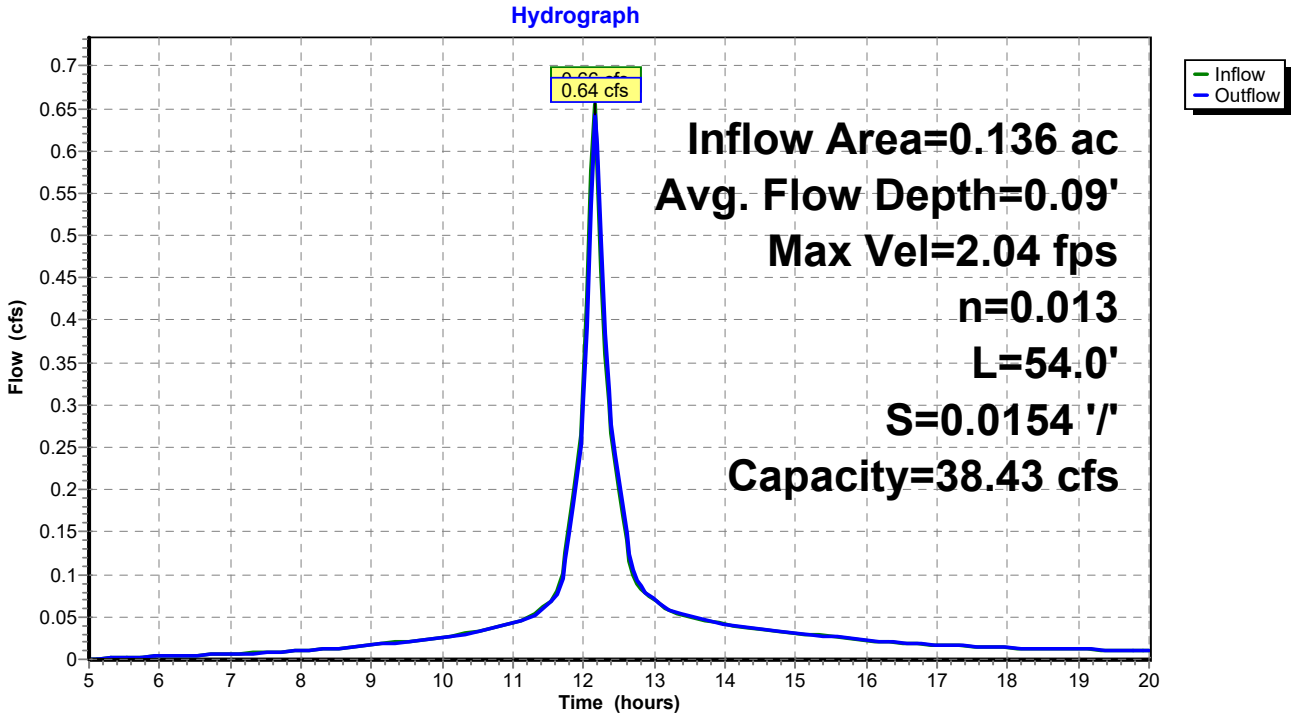
Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 4.48" for 25-YR Storm event
Inflow = 0.66 cfs @ 12.15 hrs, Volume= 0.051 af
Outflow = 0.64 cfs @ 12.16 hrs, Volume= 0.051 af, Atten= 2%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.04 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 1.1 min

Peak Storage= 17 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'



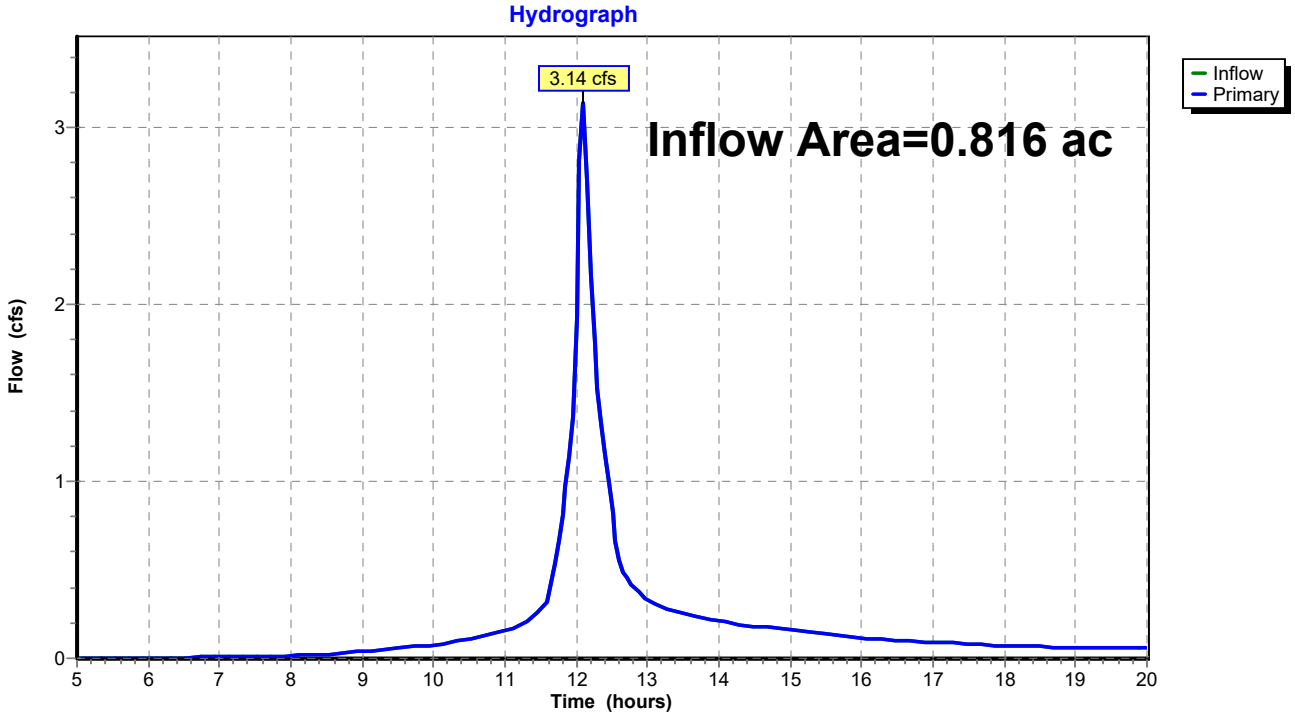


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 60.93% Impervious, Inflow Depth > 3.35" for 25-YR Storm event
Inflow = 3.14 cfs @ 12.10 hrs, Volume= 0.228 af
Primary = 3.14 cfs @ 12.10 hrs, Volume= 0.228 af, Atten= 0%, Lag= 0.0 min

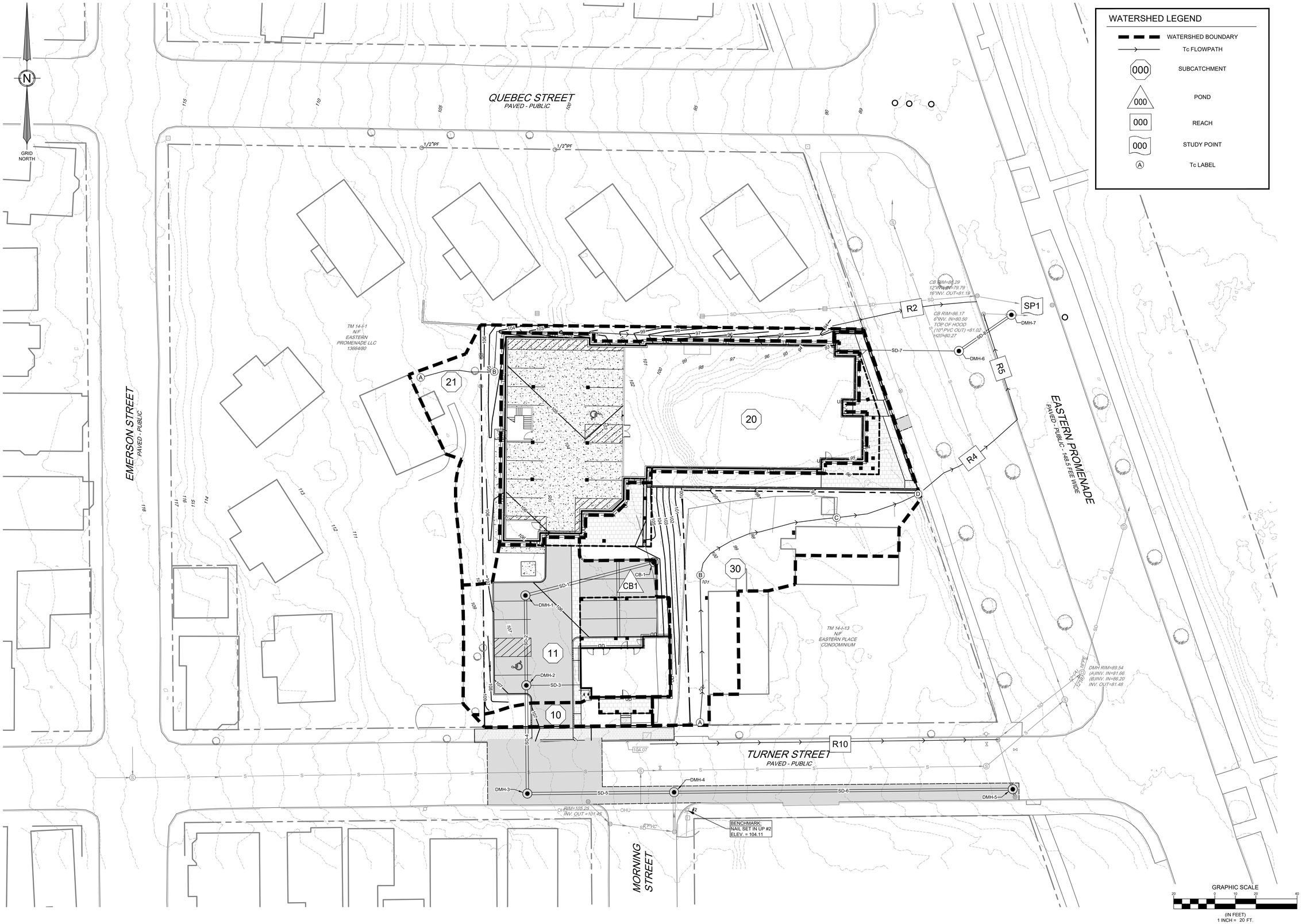
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



APPENDIX 3

Post-Development Watershed Map



STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13401
LICENSED PROFESSIONAL ENGINEER

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

TERRADYN CONSULTANTS, LLC
CWI Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: POST-DEVELOPMENT WATERSHED PLAN

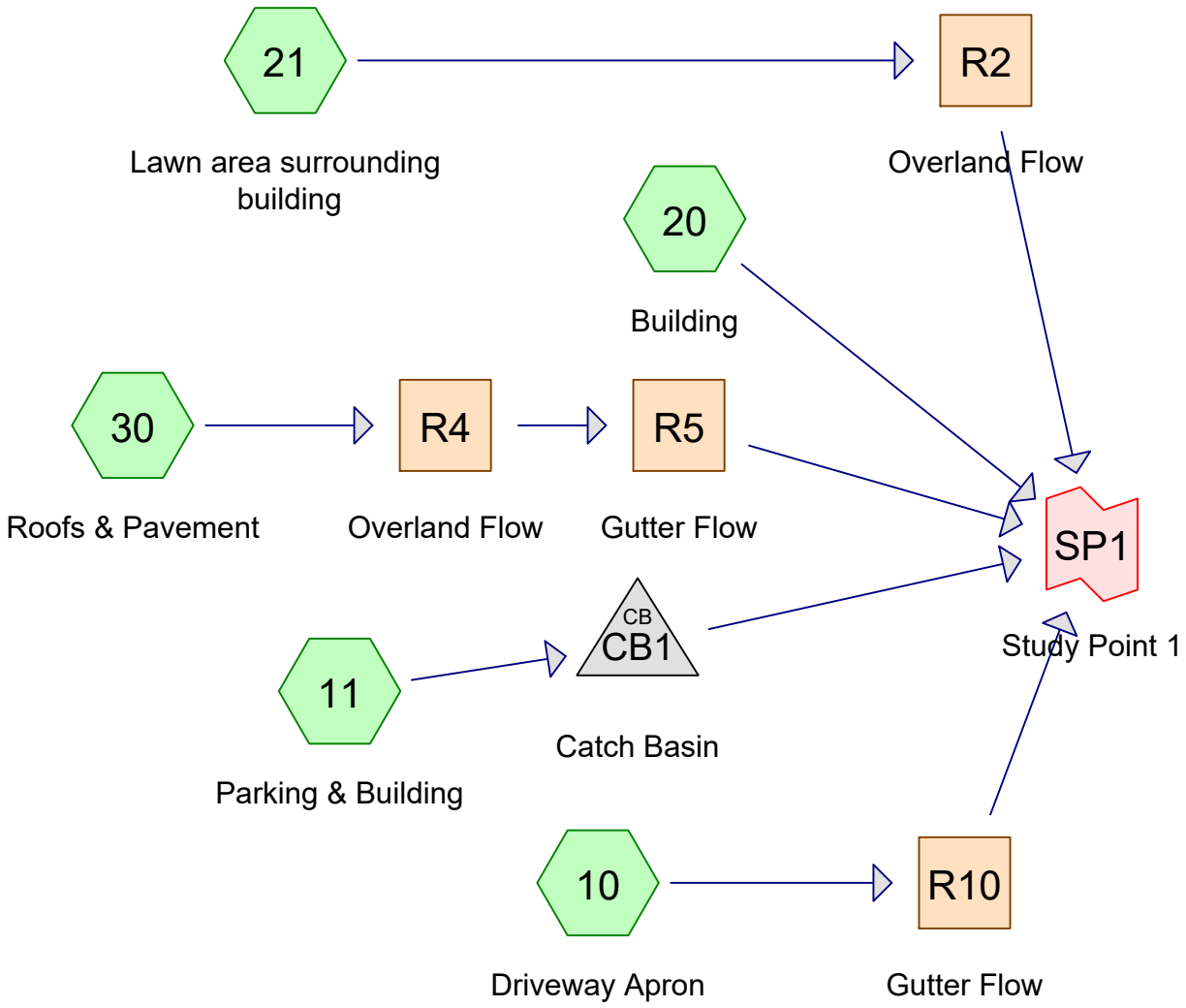
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1"=20'
JOB NO: 22-144
SHEET: WS-2

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 SWM.dwg

APPENDIX 4

Post-Development HydroCAD



Subcat Reach Pond Link

Routing Diagram for 22-144-POST
Prepared by Terradyn Consultants, LLC, Printed 5/12/2023
HydroCAD® 10.00-26 s/n 03654 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.022	49	50-75% Grass cover, Fair, HSG A (30)
0.009	68	<50% Grass cover, Poor, HSG A (11)
0.194	39	>75% Grass cover, Good, HSG A (10, 11, 21, 30)
0.302	98	Roofs, HSG A (20)
0.289	98	Unconnected pavement, HSG A (10, 11, 21, 30)
0.816	**82**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10: Driveway Apron Runoff Area=985 sf 52.89% Impervious Runoff Depth>0.69"
Tc=5.0 min CN=70 Runoff=0.02 cfs 0.001 af

Subcatchment 11: Parking & Building Runoff Area=7,026 sf 80.50% Impervious Runoff Depth>1.79"
Tc=5.0 min CN=88 Runoff=0.36 cfs 0.024 af

Subcatchment 20: Building Runoff Area=13,144 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=0.91 cfs 0.067 af

Subcatchment 21: Lawn area surrounding Runoff Area=4,069 sf 9.44% Impervious Runoff Depth>0.00"
Flow Length=218' Tc=5.0 min UI Adjusted CN=42 Runoff=0.00 cfs 0.000 af

Subcatchment 30: Roofs & Pavement Runoff Area=10,326 sf 58.45% Impervious Runoff Depth>0.89"
Tc=5.0 min CN=74 Runoff=0.26 cfs 0.017 af

Reach R10: Gutter Flow Avg. Flow Depth=0.01' Max Vel=1.23 fps Inflow=0.02 cfs 0.001 af
n=0.013 L=170.0' S=0.0618 '/' Capacity=77.04 cfs Outflow=0.02 cfs 0.001 af

Reach R2: Overland Flow Avg. Flow Depth=0.00' Max Vel=0.19 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.00 cfs 0.000 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.70 fps Inflow=0.26 cfs 0.017 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.24 cfs 0.017 af

Reach R5: Gutter Flow Avg. Flow Depth=0.06' Max Vel=1.58 fps Inflow=0.24 cfs 0.017 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.24 cfs 0.017 af

Pond CB1: Catch Basin Peak Elev=98.05' Inflow=0.36 cfs 0.024 af
12.0" Round Culvert n=0.013 L=378.0' S=0.0425 '/' Outflow=0.36 cfs 0.024 af

Link SP1: Study Point 1 Inflow=1.46 cfs 0.110 af
Primary=1.46 cfs 0.110 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.110 af Average Runoff Depth = 1.62"
27.59% Pervious = 0.225 ac 72.41% Impervious = 0.591 ac

Summary for Subcatchment 10: Driveway Apron

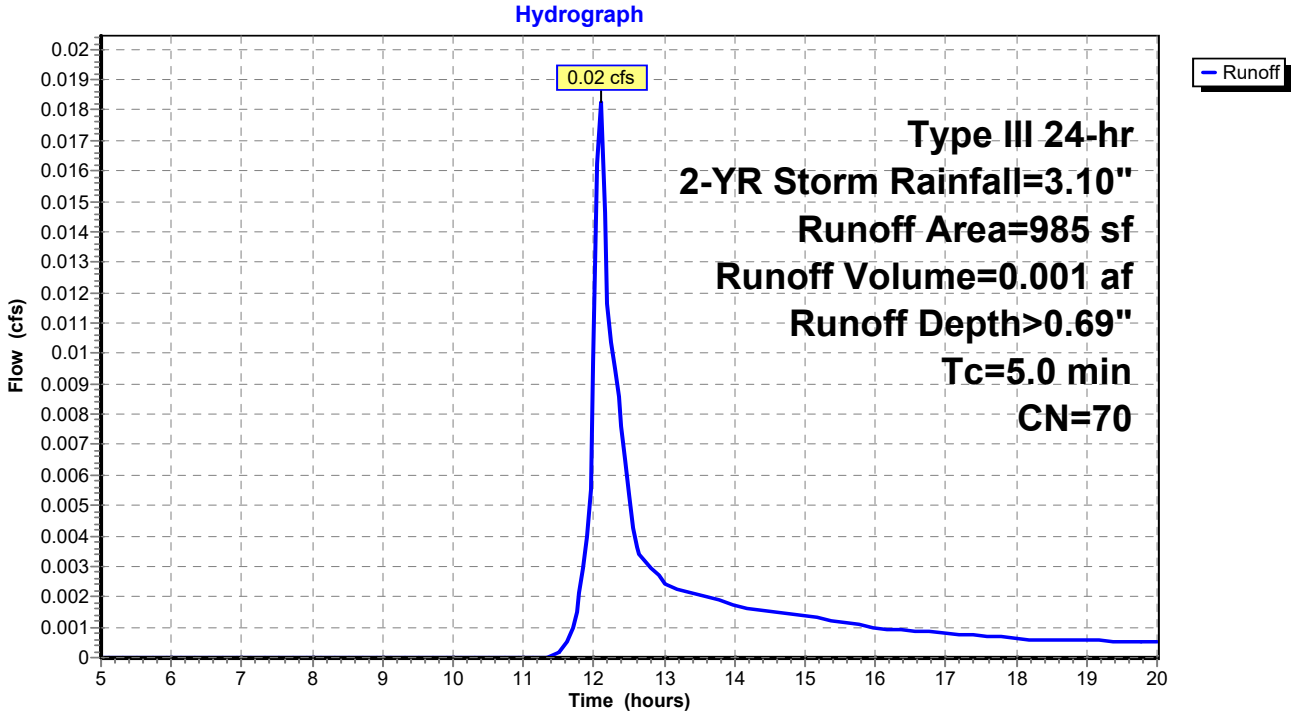
Runoff = 0.02 cfs @ 12.09 hrs, Volume= 0.001 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
521	98	Unconnected pavement, HSG A
464	39	>75% Grass cover, Good, HSG A
985	70	Weighted Average
464		47.11% Pervious Area
521		52.89% Impervious Area
521		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 10: Driveway Apron



Summary for Subcatchment 11: Parking & Building

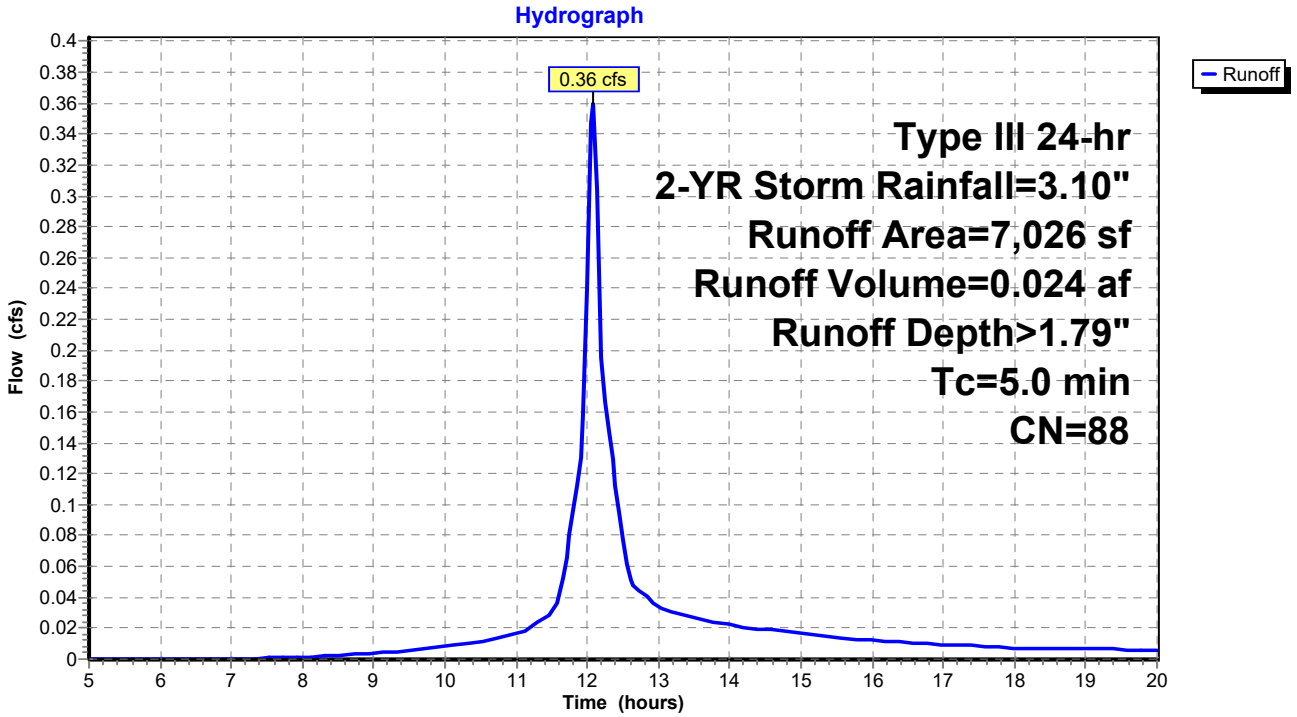
Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.024 af, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
5,656	98	Unconnected pavement, HSG A
972	39	>75% Grass cover, Good, HSG A
398	68	<50% Grass cover, Poor, HSG A
7,026	88	Weighted Average
1,370		19.50% Pervious Area
5,656		80.50% Impervious Area
5,656		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 11: Parking & Building



Summary for Subcatchment 20: Building

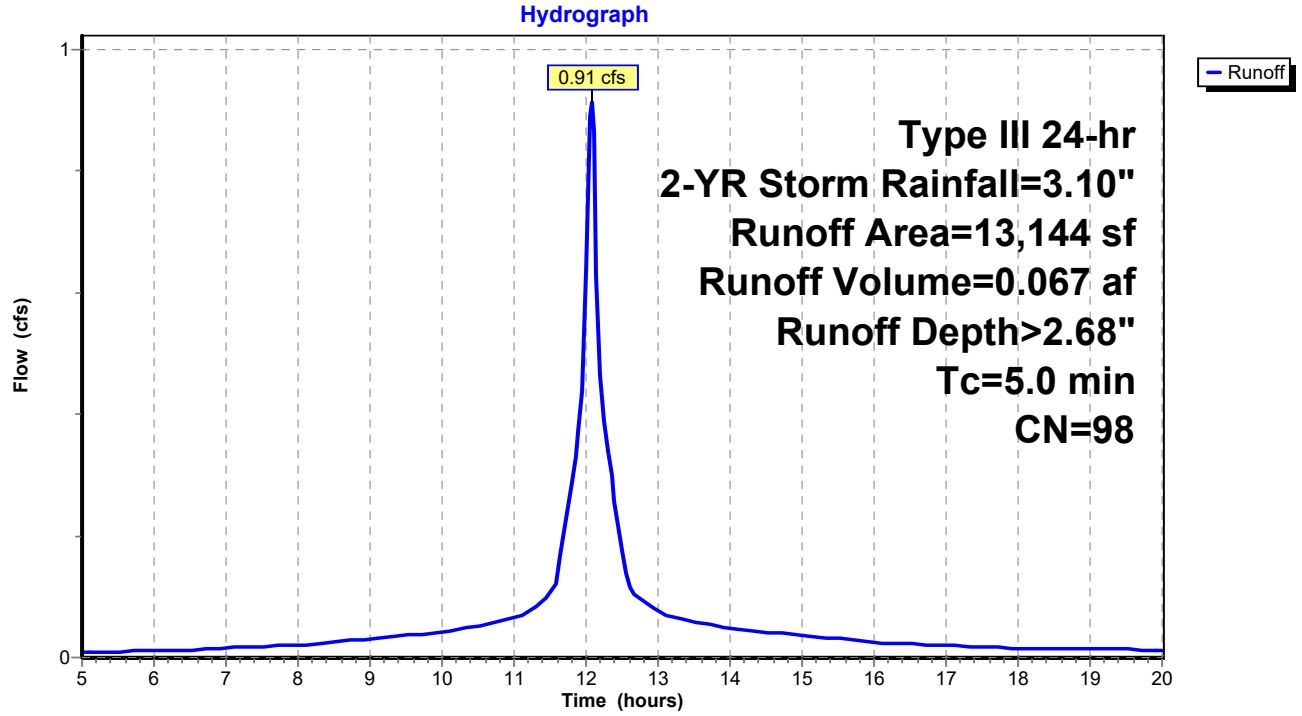
Runoff = 0.91 cfs @ 12.07 hrs, Volume= 0.067 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
13,144	98	Roofs, HSG A
13,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 20: Building



Summary for Subcatchment 21: Lawn area surrounding building

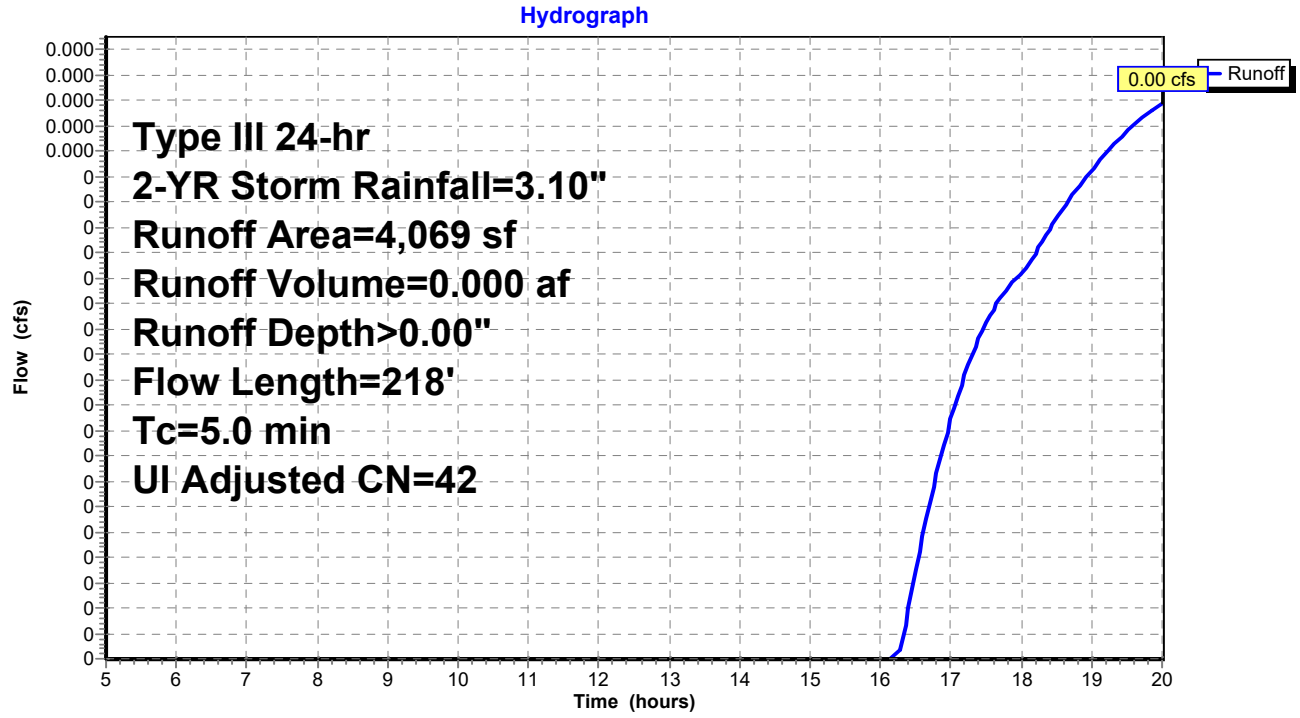
Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Adj	Description
384	98		Unconnected pavement, HSG A
3,685	39		>75% Grass cover, Good, HSG A
4,069	45	42	Weighted Average, UI Adjusted
3,685			90.56% Pervious Area
384			9.44% Impervious Area
384			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	36	0.0970	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.4	182	0.0570	2.19	0.28	**Trap/Vee/Rect Channel Flow, B-C** Bot.W=1.00' D=0.10' Z= 3.0 '/' Top.W=1.60' n= 0.030 Earth, grassed & winding
1.3					**Direct Entry, 5 Minute Minimum**
5.0	218	Total			

Subcatchment 21: Lawn area surrounding building


Hydrograph
Type III 24-hr
2-YR Storm Rainfall=3.10"
Runoff Area=4,069 sf
Runoff Volume=0.000 af
Runoff Depth>0.00"
Flow Length=218'
Tc=5.0 min
UI Adjusted CN=42
0.00 cfs
Runoff
Flow (cfs)
Time (hours)
0.000
0.000
0.000
0.000
0.000
0
0
0

Summary for Subcatchment 30: Roofs & Pavement

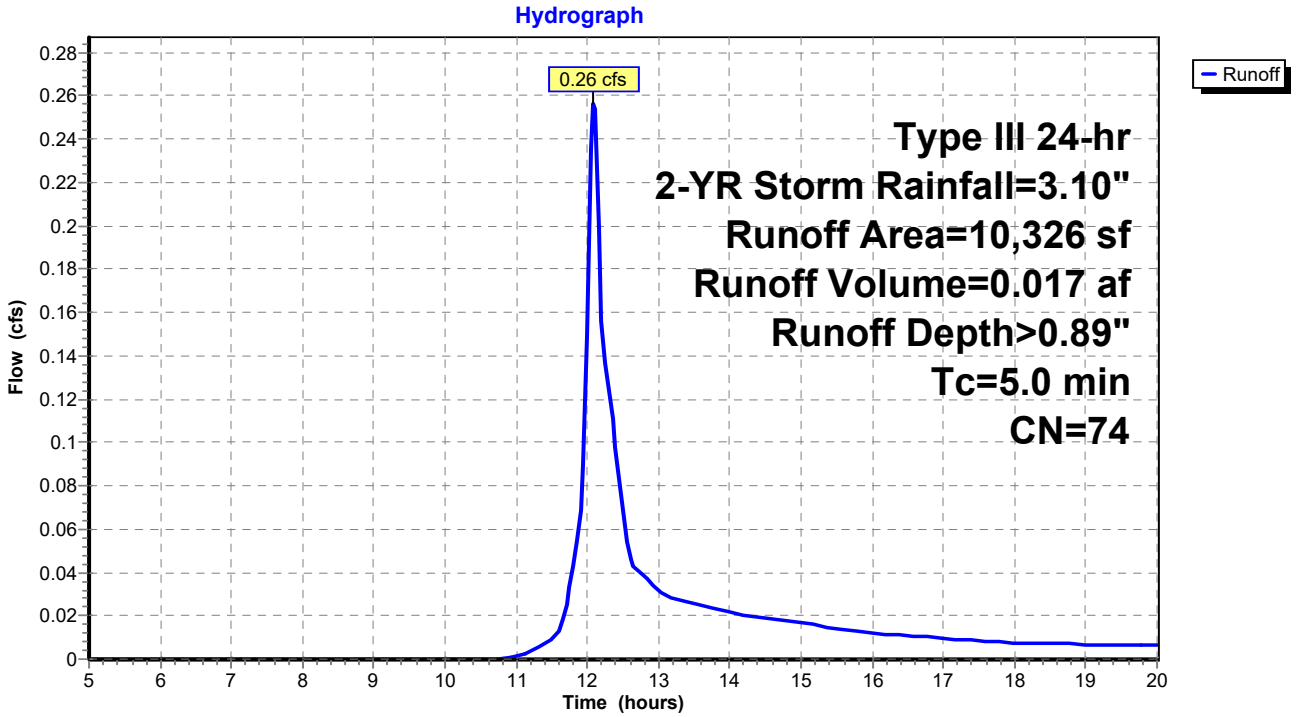
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
6,036	98	Unconnected pavement, HSG A
3,315	39	>75% Grass cover, Good, HSG A
975	49	50-75% Grass cover, Fair, HSG A
10,326	74	Weighted Average
4,290		41.55% Pervious Area
6,036		58.45% Impervious Area
6,036		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 30: Roofs & Pavement



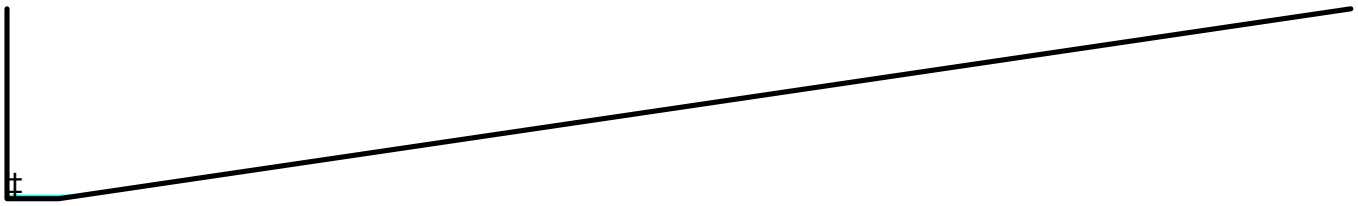
Summary for Reach R10: Gutter Flow

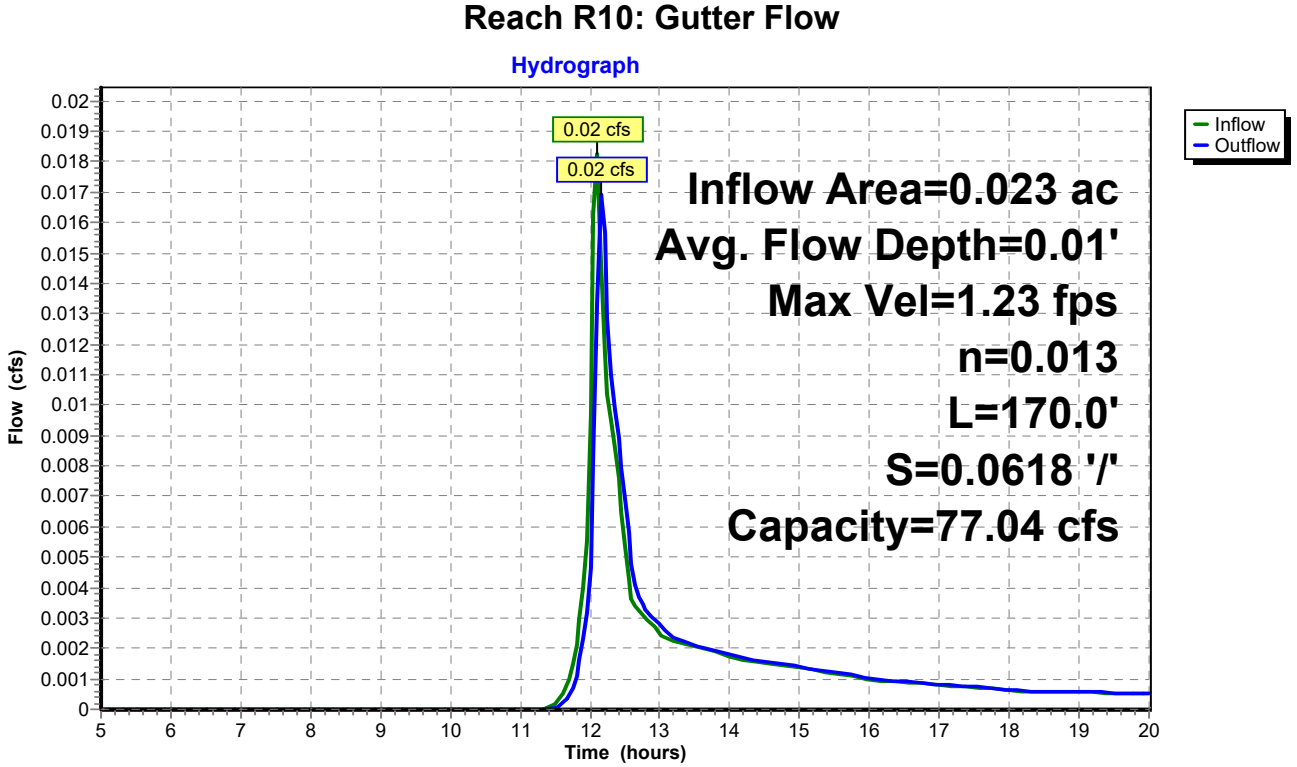
Inflow Area = 0.023 ac, 52.89% Impervious, Inflow Depth > 0.69" for 2-YR Storm event
Inflow = 0.02 cfs @ 12.09 hrs, Volume= 0.001 af
Outflow = 0.02 cfs @ 12.16 hrs, Volume= 0.001 af, Atten= 7%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.23 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 0.79 fps, Avg. Travel Time= 3.6 min

Peak Storage= 2 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 77.04 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 170.0' Slope= 0.0618 '/'
Inlet Invert= 103.50', Outlet Invert= 93.00'





Summary for Reach R2: Overland Flow

Inflow Area = 0.093 ac, 9.44% Impervious, Inflow Depth > 0.00" for 2-YR Storm event
Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Atten= 1%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.19 fps, Min. Travel Time= 4.8 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 4.8 min

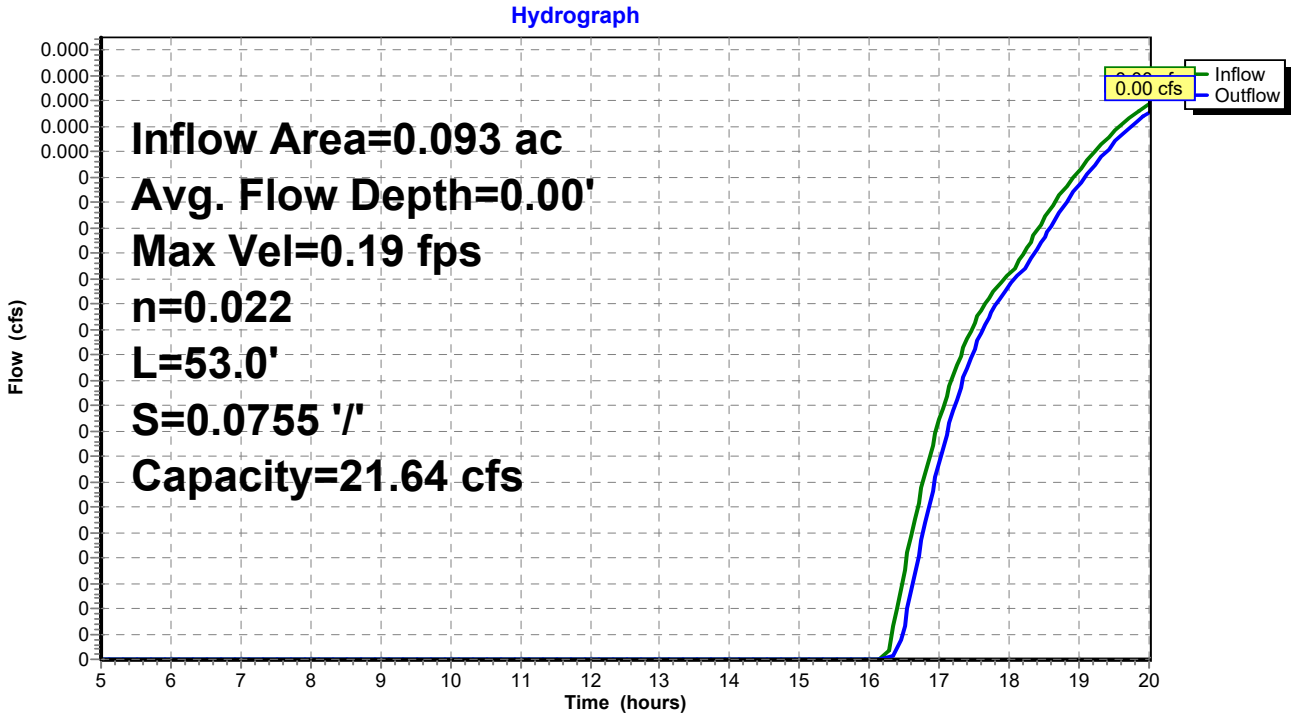
Peak Storage= 0 cf @ 20.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'



‡

Reach R2: Overland Flow



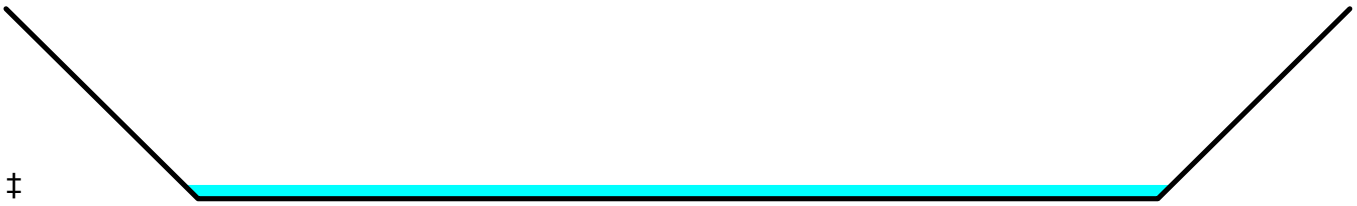
Summary for Reach R4: Overland Flow

Inflow Area = 0.237 ac, 58.45% Impervious, Inflow Depth > 0.89" for 2-YR Storm event
Inflow = 0.26 cfs @ 12.09 hrs, Volume= 0.017 af
Outflow = 0.24 cfs @ 12.13 hrs, Volume= 0.017 af, Atten= 6%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.70 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.25 fps, Avg. Travel Time= 3.9 min

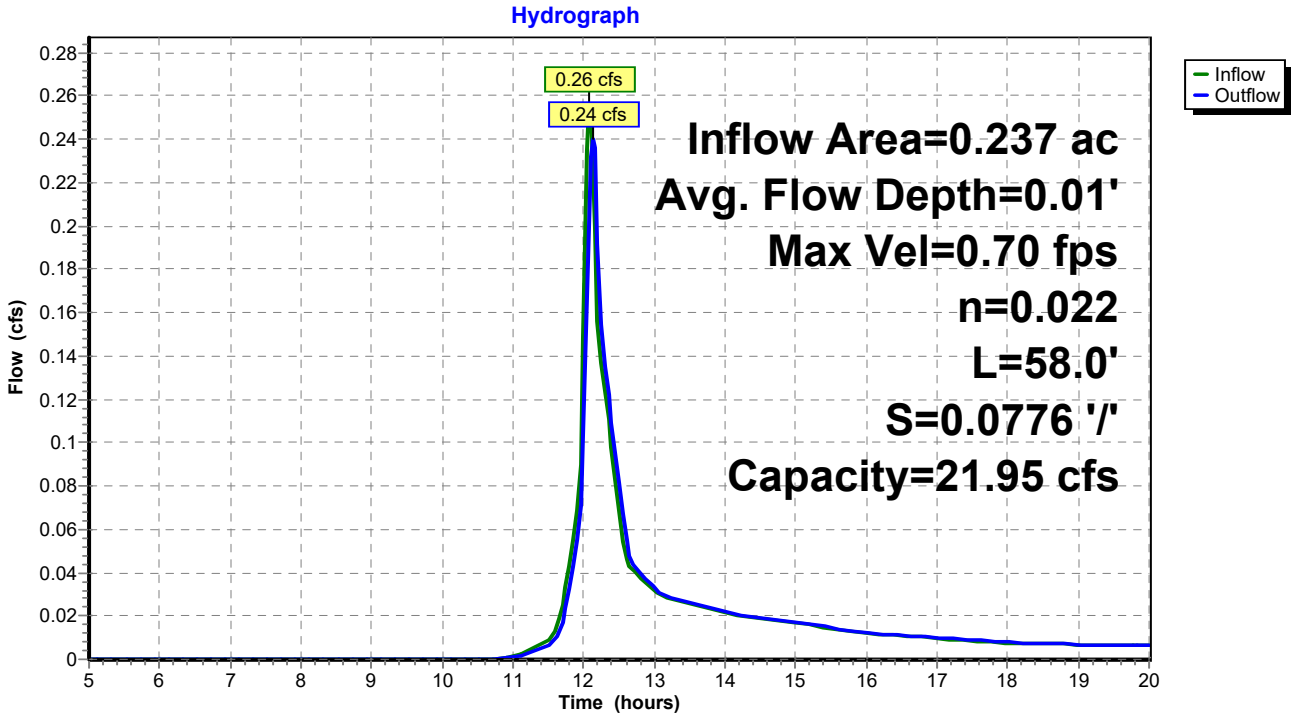
Peak Storage= 21 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'



‡

Reach R4: Overland Flow



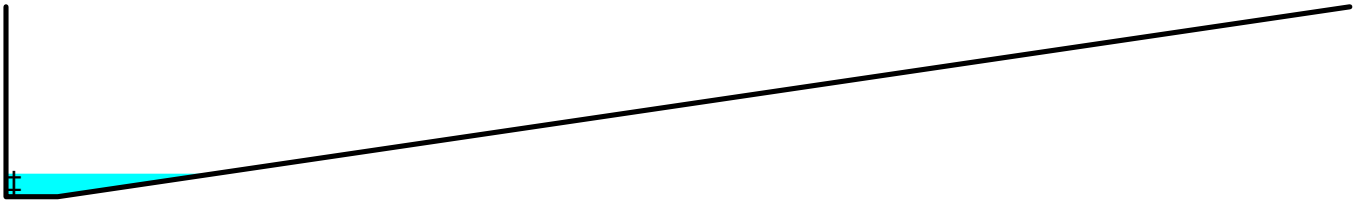
Summary for Reach R5: Gutter Flow

Inflow Area = 0.237 ac, 58.45% Impervious, Inflow Depth > 0.88" for 2-YR Storm event
Inflow = 0.24 cfs @ 12.13 hrs, Volume= 0.017 af
Outflow = 0.24 cfs @ 12.15 hrs, Volume= 0.017 af, Atten= 1%, Lag= 1.2 min

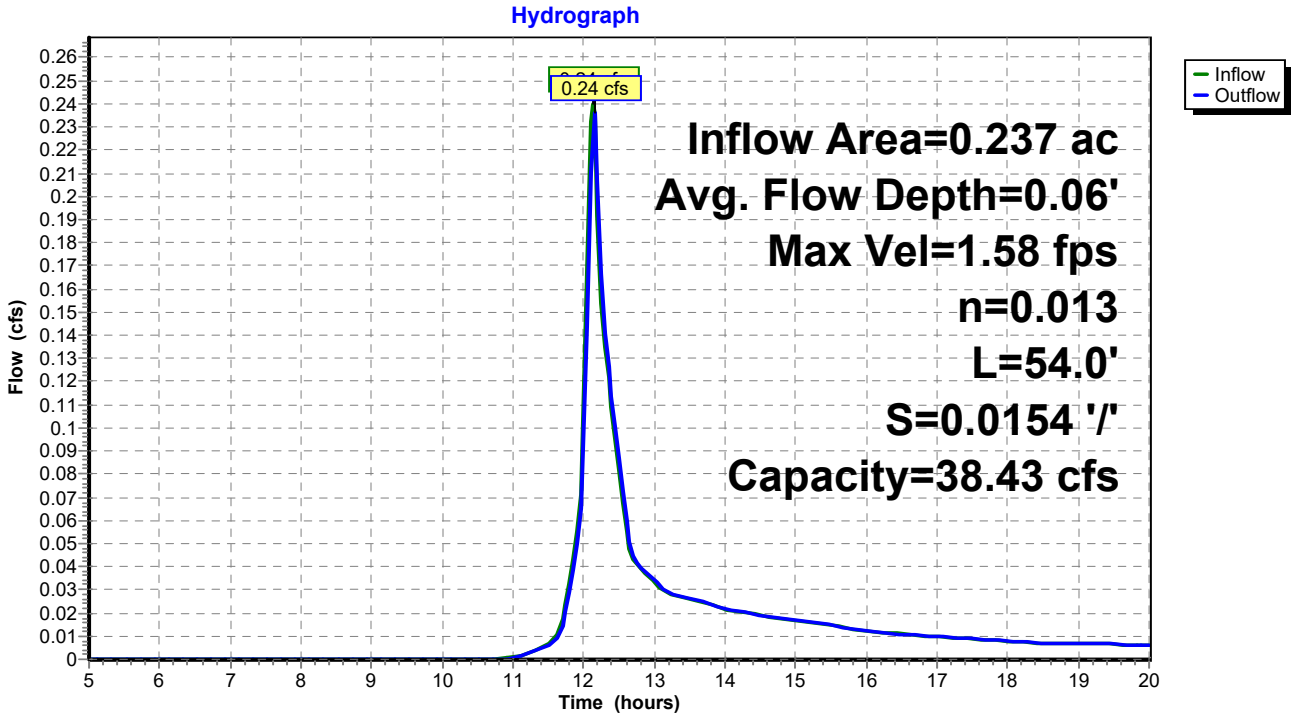
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.58 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.73 fps, Avg. Travel Time= 1.2 min

Peak Storage= 8 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'



Reach R5: Gutter Flow



Summary for Pond CB1: Catch Basin

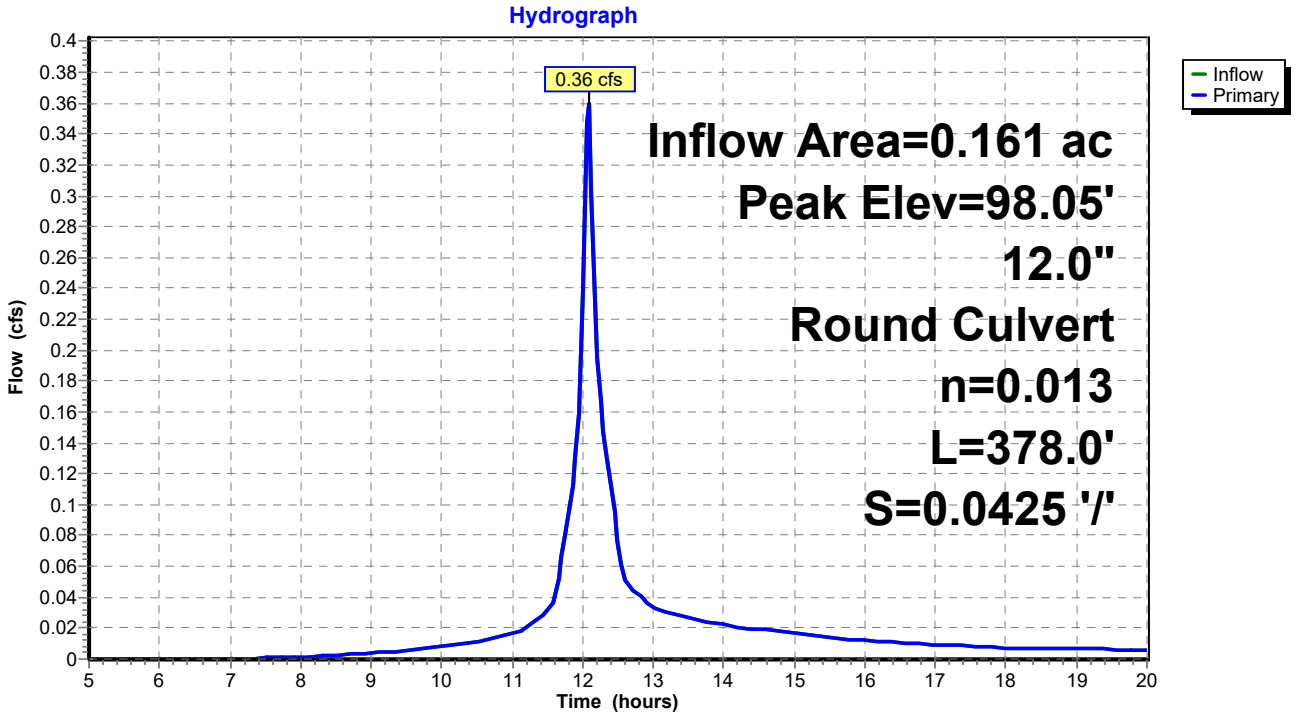
Inflow Area = 0.161 ac, 80.50% Impervious, Inflow Depth > 1.79" for 2-YR Storm event
Inflow = 0.36 cfs @ 12.08 hrs, Volume= 0.024 af
Outflow = 0.36 cfs @ 12.08 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.08 hrs, Volume= 0.024 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 98.05' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	**12.0" Round Culvert** L= 378.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 97.75' / 81.67' S= 0.0425 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.35 cfs @ 12.08 hrs HW=98.04' (Free Discharge)
1=Culvert (Inlet Controls 0.35 cfs @ 1.84 fps)

Pond CB1: Catch Basin

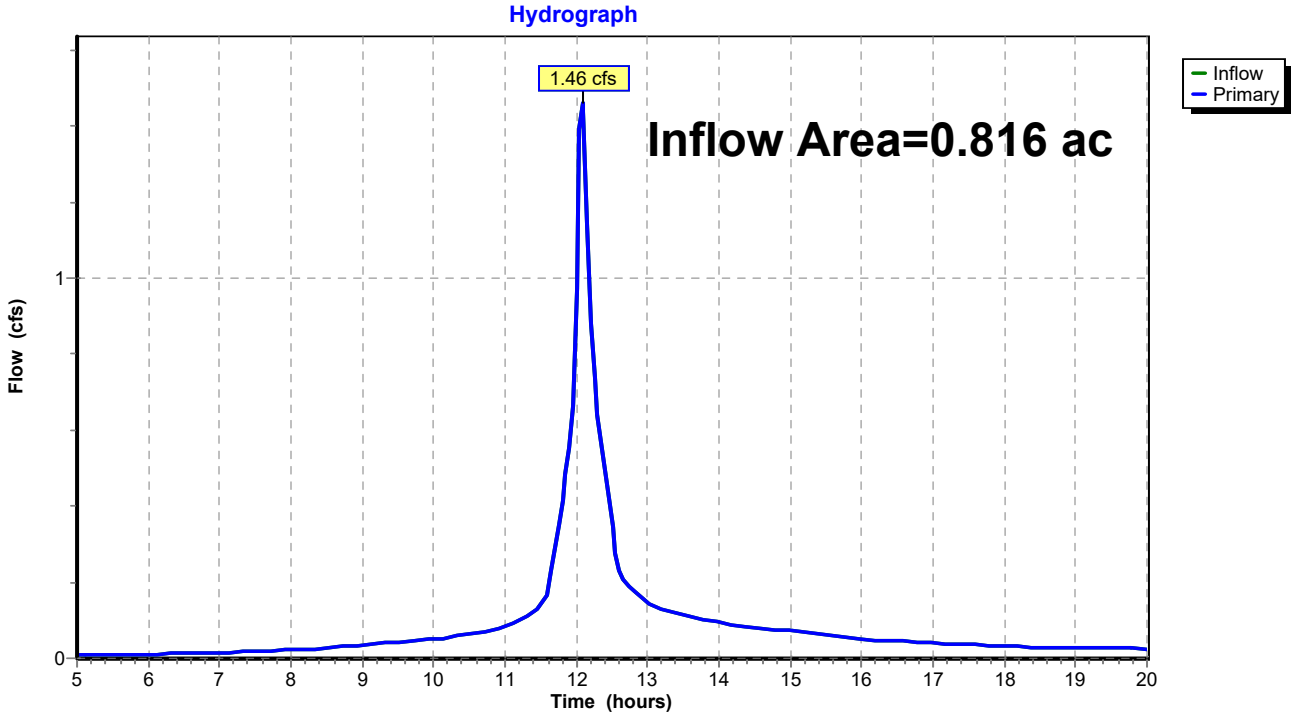


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 72.41% Impervious, Inflow Depth > 1.62" for 2-YR Storm event
Inflow = 1.46 cfs @ 12.08 hrs, Volume= 0.110 af
Primary = 1.46 cfs @ 12.08 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10: Driveway Apron Runoff Area=985 sf 52.89% Impervious Runoff Depth>1.60"
Tc=5.0 min CN=70 Runoff=0.05 cfs 0.003 af

Subcatchment 11: Parking & Building Runoff Area=7,026 sf 80.50% Impervious Runoff Depth>3.10"
Tc=5.0 min CN=88 Runoff=0.61 cfs 0.042 af

Subcatchment 20: Building Runoff Area=13,144 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=1.37 cfs 0.102 af

Subcatchment 21: Lawn area surrounding Runoff Area=4,069 sf 9.44% Impervious Runoff Depth>0.17"
Flow Length=218' Tc=5.0 min UI Adjusted CN=42 Runoff=0.01 cfs 0.001 af

Subcatchment 30: Roofs & Pavement Runoff Area=10,326 sf 58.45% Impervious Runoff Depth>1.90"
Tc=5.0 min CN=74 Runoff=0.57 cfs 0.037 af

Reach R10: Gutter Flow Avg. Flow Depth=0.02' Max Vel=1.65 fps Inflow=0.05 cfs 0.003 af
n=0.013 L=170.0' S=0.0618 '/' Capacity=77.04 cfs Outflow=0.04 cfs 0.003 af

Reach R2: Overland Flow Avg. Flow Depth=0.00' Max Vel=0.19 fps Inflow=0.01 cfs 0.001 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.00 cfs 0.001 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.95 fps Inflow=0.57 cfs 0.037 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.55 cfs 0.037 af

Reach R5: Gutter Flow Avg. Flow Depth=0.09' Max Vel=1.94 fps Inflow=0.55 cfs 0.037 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.53 cfs 0.037 af

Pond CB1: Catch Basin Peak Elev=98.14' Inflow=0.61 cfs 0.042 af
12.0" Round Culvert n=0.013 L=378.0' S=0.0425 '/' Outflow=0.61 cfs 0.042 af

Link SP1: Study Point 1 Inflow=2.47 cfs 0.185 af
Primary=2.47 cfs 0.185 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.185 af Average Runoff Depth = 2.73"
27.59% Pervious = 0.225 ac 72.41% Impervious = 0.591 ac

Summary for Subcatchment 10: Driveway Apron

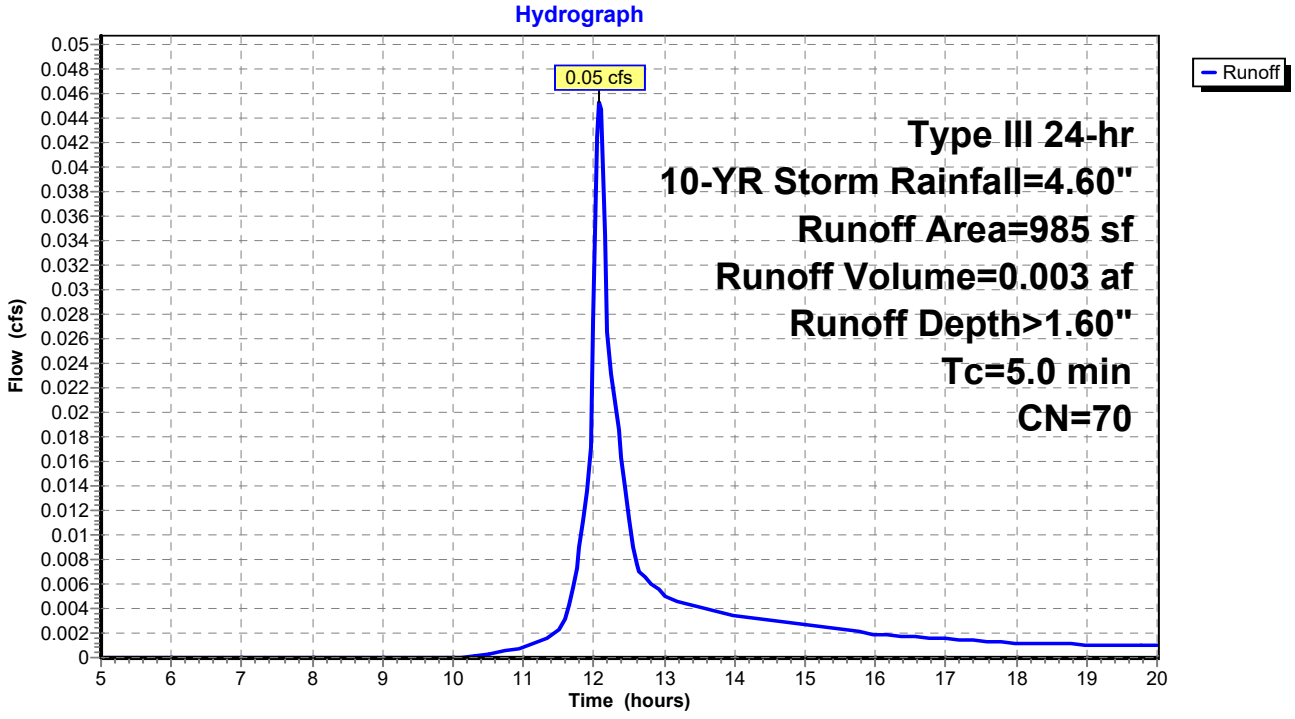
Runoff = 0.05 cfs @ 12.08 hrs, Volume= 0.003 af, Depth> 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
521	98	Unconnected pavement, HSG A
464	39	>75% Grass cover, Good, HSG A
985	70	Weighted Average
464		47.11% Pervious Area
521		52.89% Impervious Area
521		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 10: Driveway Apron



Summary for Subcatchment 11: Parking & Building

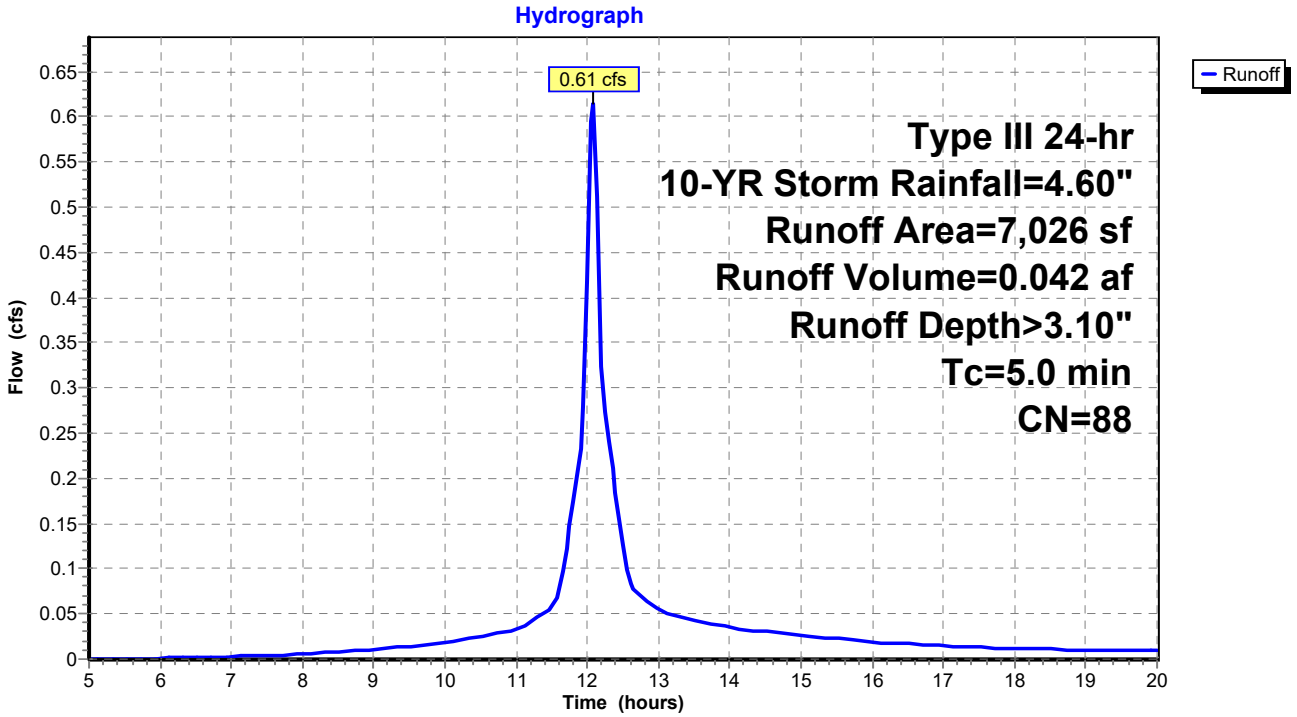
Runoff = 0.61 cfs @ 12.07 hrs, Volume= 0.042 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
5,656	98	Unconnected pavement, HSG A
972	39	>75% Grass cover, Good, HSG A
398	68	<50% Grass cover, Poor, HSG A
7,026	88	Weighted Average
1,370		19.50% Pervious Area
5,656		80.50% Impervious Area
5,656		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 11: Parking & Building



Summary for Subcatchment 20: Building

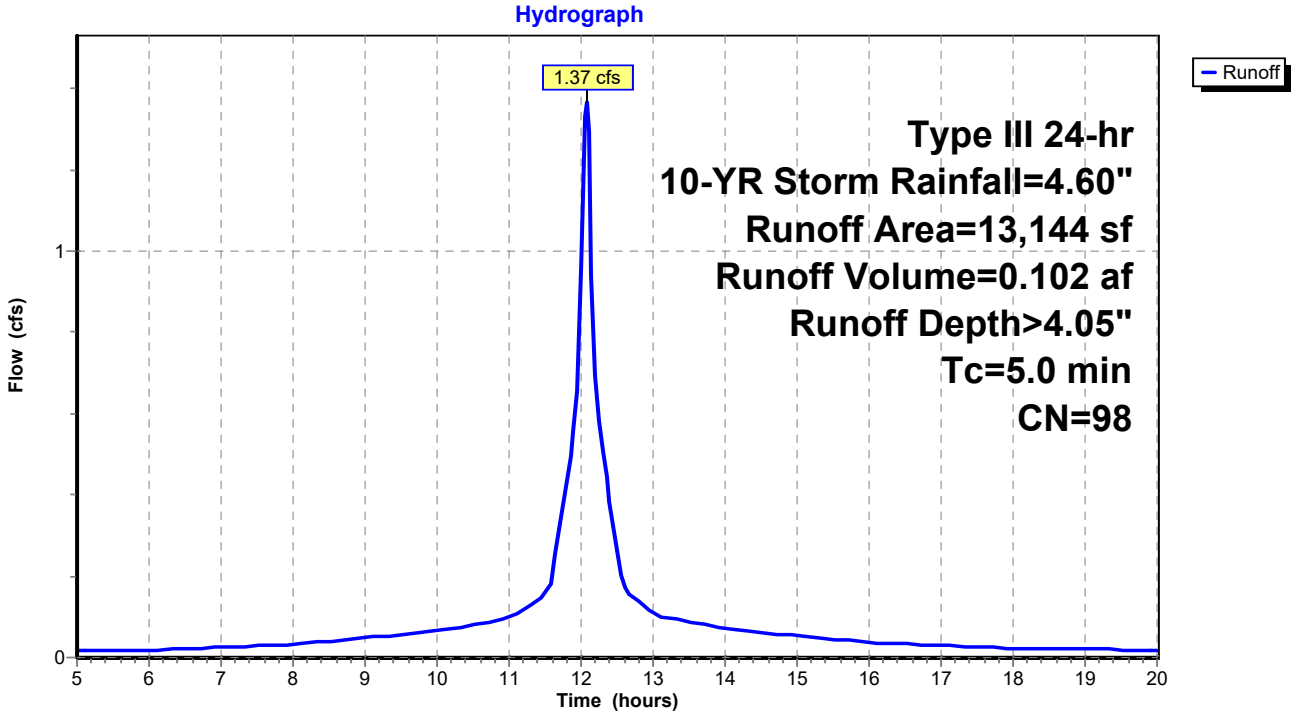
Runoff = 1.37 cfs @ 12.07 hrs, Volume= 0.102 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
13,144	98	Roofs, HSG A
13,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 20: Building



Summary for Subcatchment 21: Lawn area surrounding building

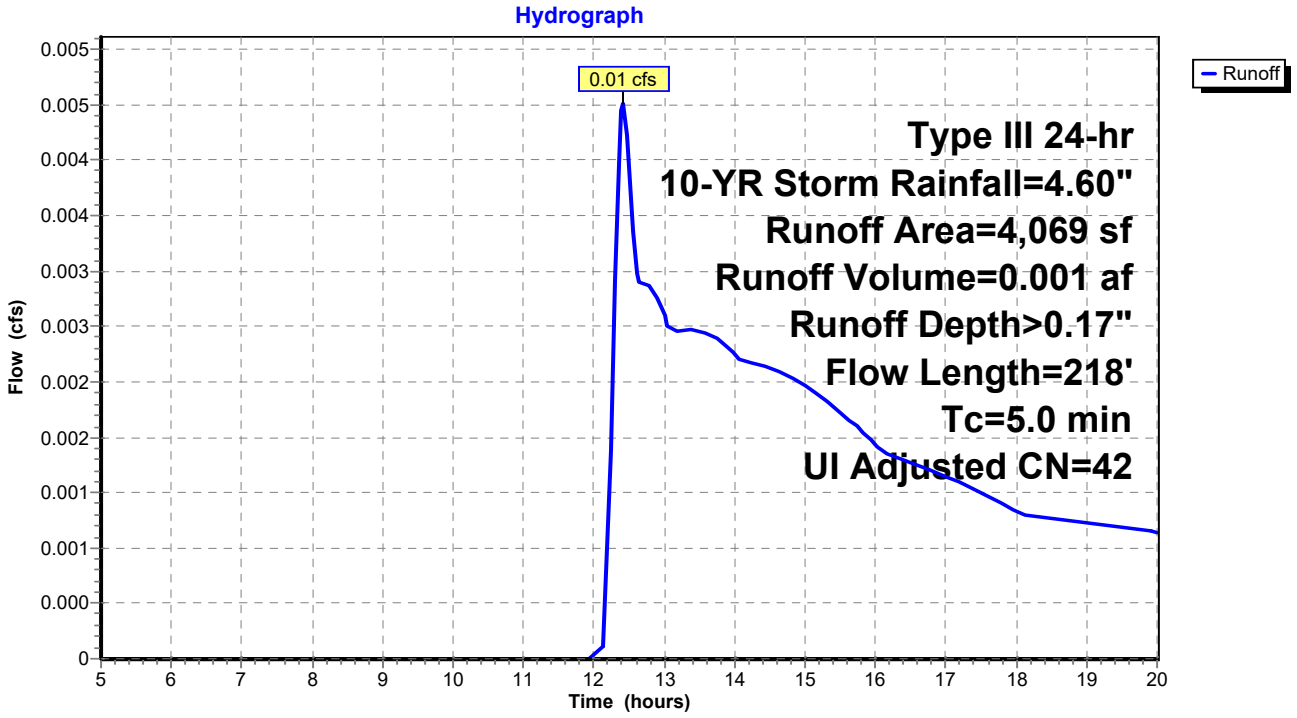
Runoff = 0.01 cfs @ 12.42 hrs, Volume= 0.001 af, Depth> 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Adj	Description
384	98		Unconnected pavement, HSG A
3,685	39		>75% Grass cover, Good, HSG A
4,069	45	42	Weighted Average, UI Adjusted
3,685			90.56% Pervious Area
384			9.44% Impervious Area
384			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	36	0.0970	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.4	182	0.0570	2.19	0.28	**Trap/Vee/Rect Channel Flow, B-C** Bot.W=1.00' D=0.10' Z= 3.0 '/' Top.W=1.60' n= 0.030 Earth, grassed & winding
1.3					**Direct Entry, 5 Minute Minimum**
5.0	218	Total			

Subcatchment 21: Lawn area surrounding building



Summary for Subcatchment 30: Roofs & Pavement

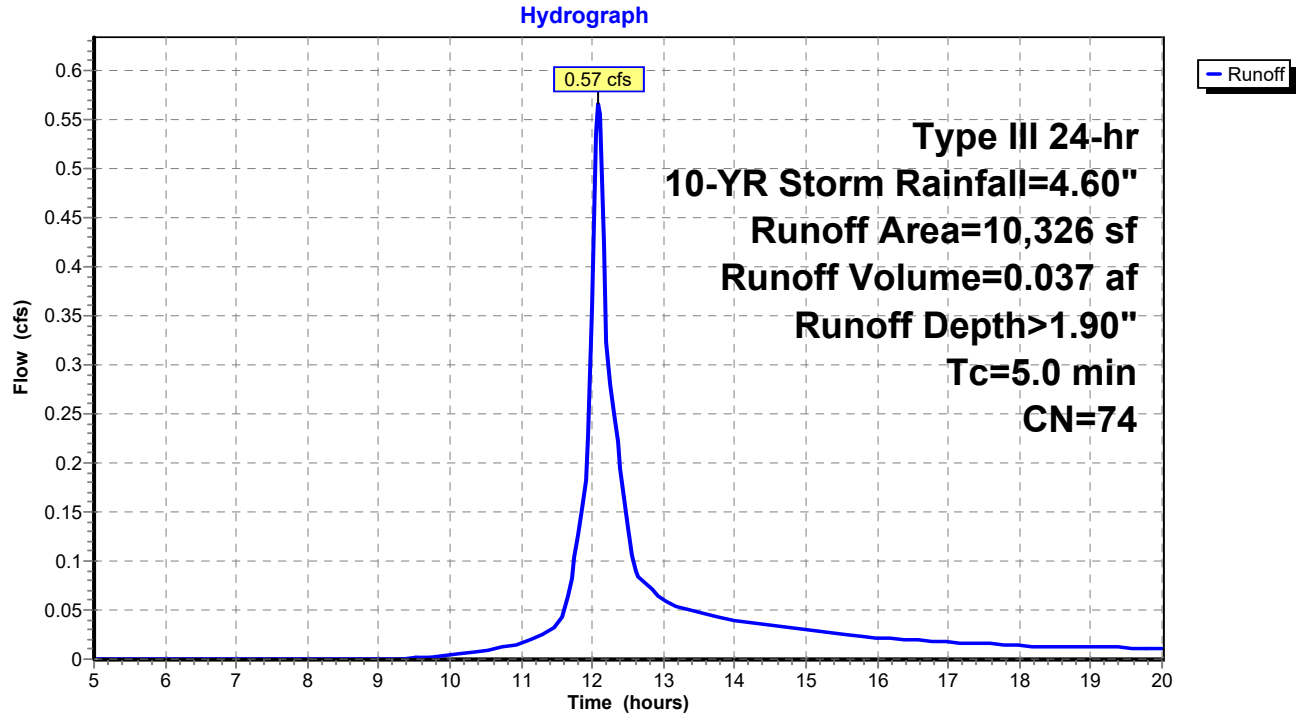
Runoff = 0.57 cfs @ 12.08 hrs, Volume= 0.037 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Storm Rainfall=4.60"

Area (sf)	CN	Description
6,036	98	Unconnected pavement, HSG A
3,315	39	>75% Grass cover, Good, HSG A
975	49	50-75% Grass cover, Fair, HSG A
10,326	74	Weighted Average
4,290		41.55% Pervious Area
6,036		58.45% Impervious Area
6,036		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 30: Roofs & Pavement



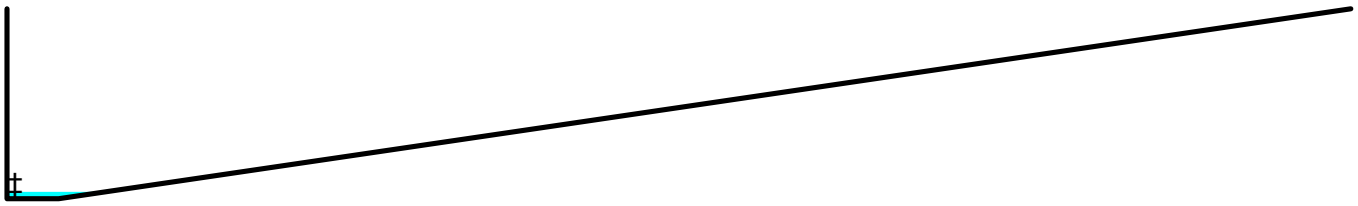
Summary for Reach R10: Gutter Flow

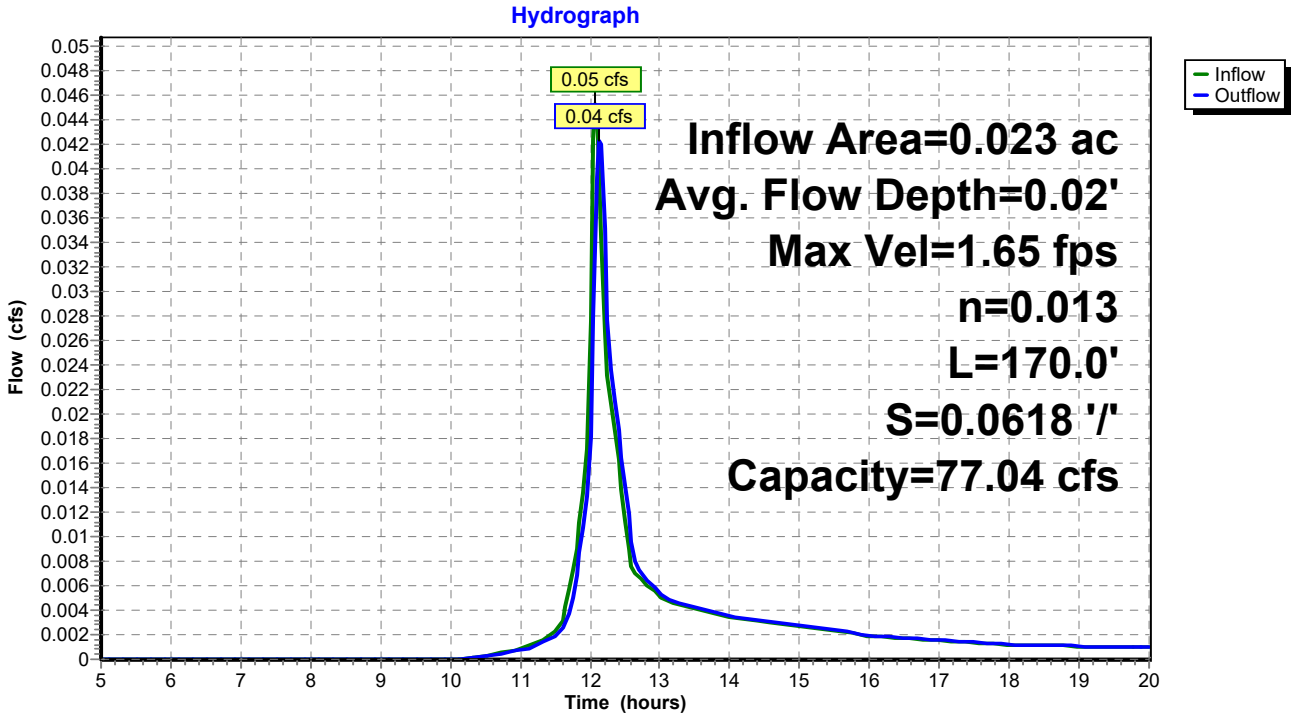
Inflow Area = 0.023 ac, 52.89% Impervious, Inflow Depth > 1.60" for 10-YR Storm event
Inflow = 0.05 cfs @ 12.08 hrs, Volume= 0.003 af
Outflow = 0.04 cfs @ 12.14 hrs, Volume= 0.003 af, Atten= 7%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.65 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.82 fps, Avg. Travel Time= 3.4 min

Peak Storage= 5 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 77.04 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 170.0' Slope= 0.0618 '/'
Inlet Invert= 103.50', Outlet Invert= 93.00'





Summary for Reach R2: Overland Flow

Inflow Area = 0.093 ac, 9.44% Impervious, Inflow Depth > 0.17" for 10-YR Storm event
Inflow = 0.01 cfs @ 12.42 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 12.59 hrs, Volume= 0.001 af, Atten= 11%, Lag= 9.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.19 fps, Min. Travel Time= 4.8 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 4.8 min

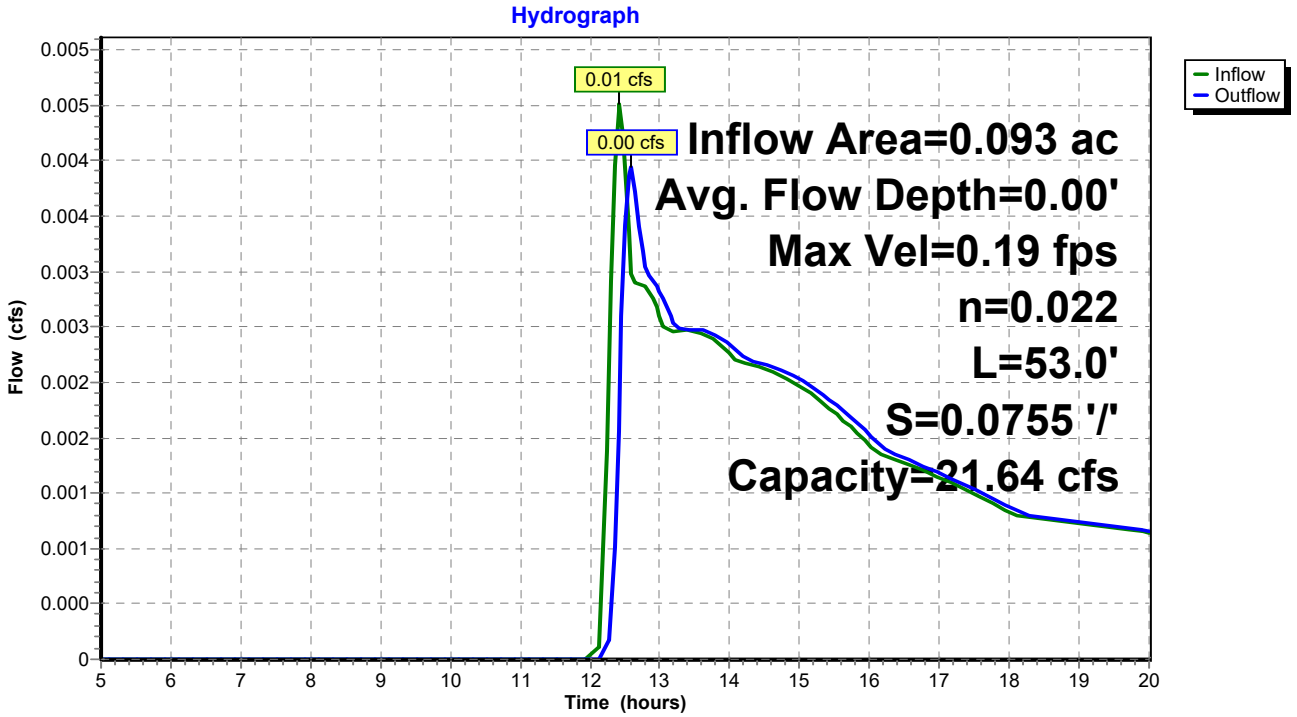
Peak Storage= 1 cf @ 12.50 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'



‡

Reach R2: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.237 ac, 58.45% Impervious, Inflow Depth > 1.90" for 10-YR Storm event
Inflow = 0.57 cfs @ 12.08 hrs, Volume= 0.037 af
Outflow = 0.55 cfs @ 12.11 hrs, Volume= 0.037 af, Atten= 4%, Lag= 1.7 min

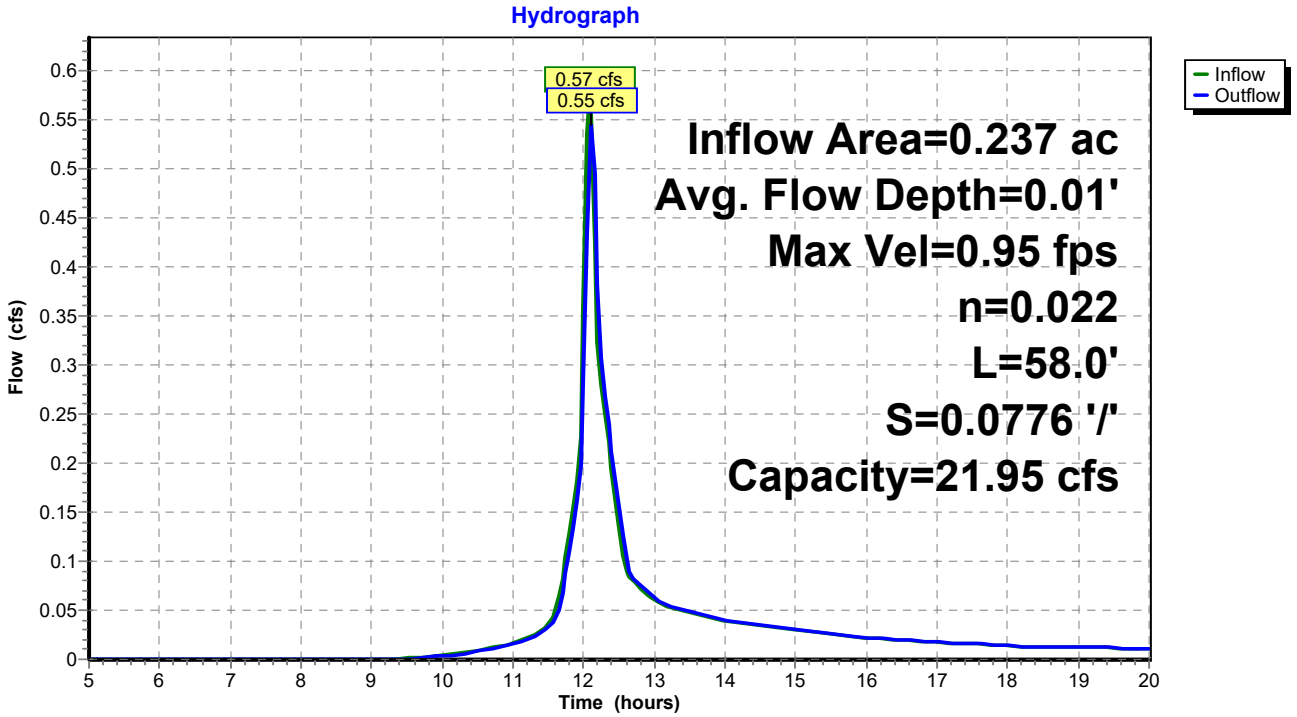
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.95 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.30 fps, Avg. Travel Time= 3.2 min

Peak Storage= 35 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'



Reach R4: Overland Flow



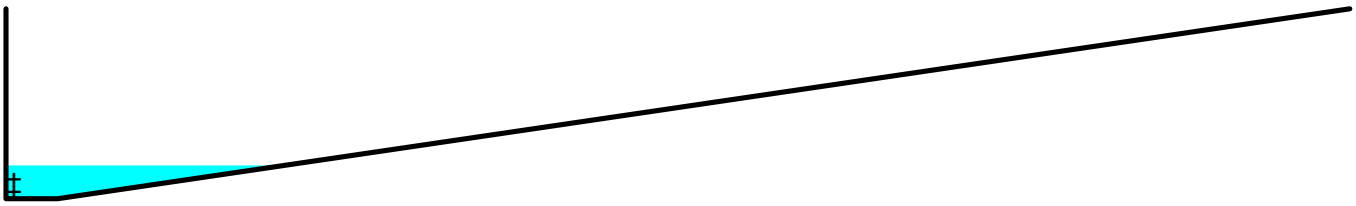
Summary for Reach R5: Gutter Flow

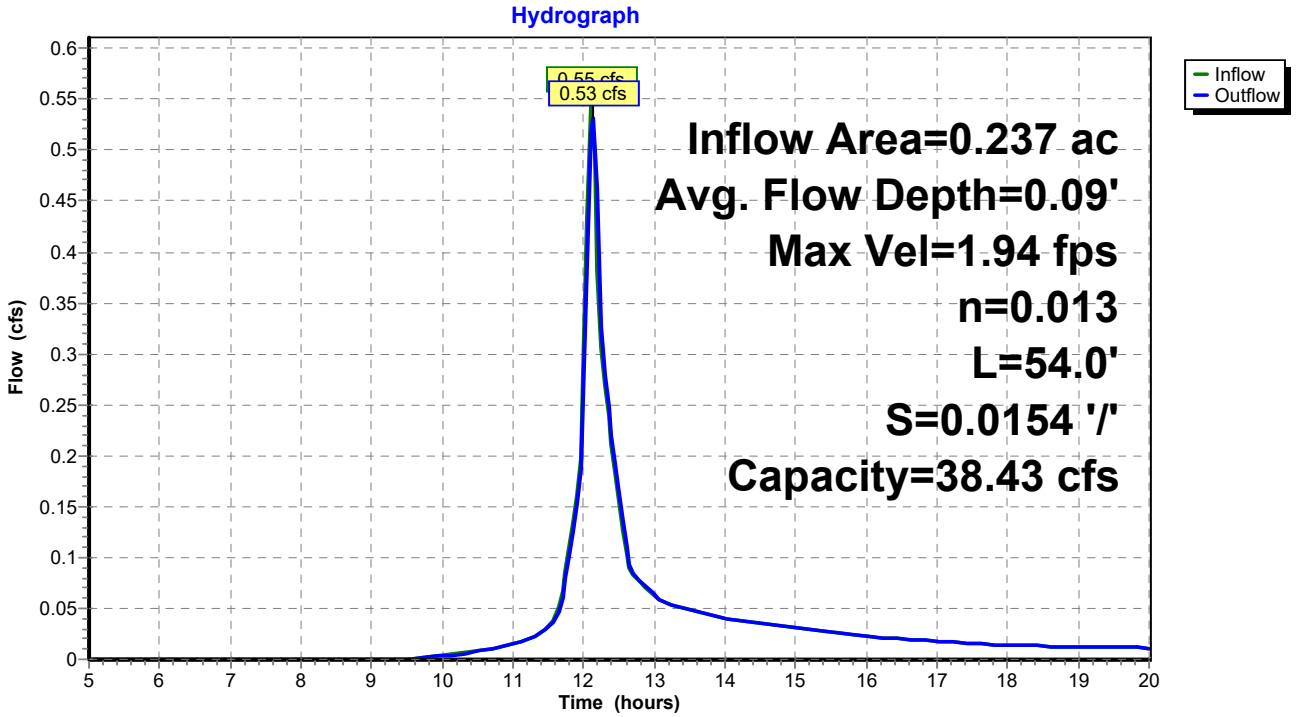
Inflow Area = 0.237 ac, 58.45% Impervious, Inflow Depth > 1.89" for 10-YR Storm event
Inflow = 0.55 cfs @ 12.11 hrs, Volume= 0.037 af
Outflow = 0.53 cfs @ 12.12 hrs, Volume= 0.037 af, Atten= 3%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.94 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 1.1 min

Peak Storage= 15 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'





Summary for Pond CB1: Catch Basin

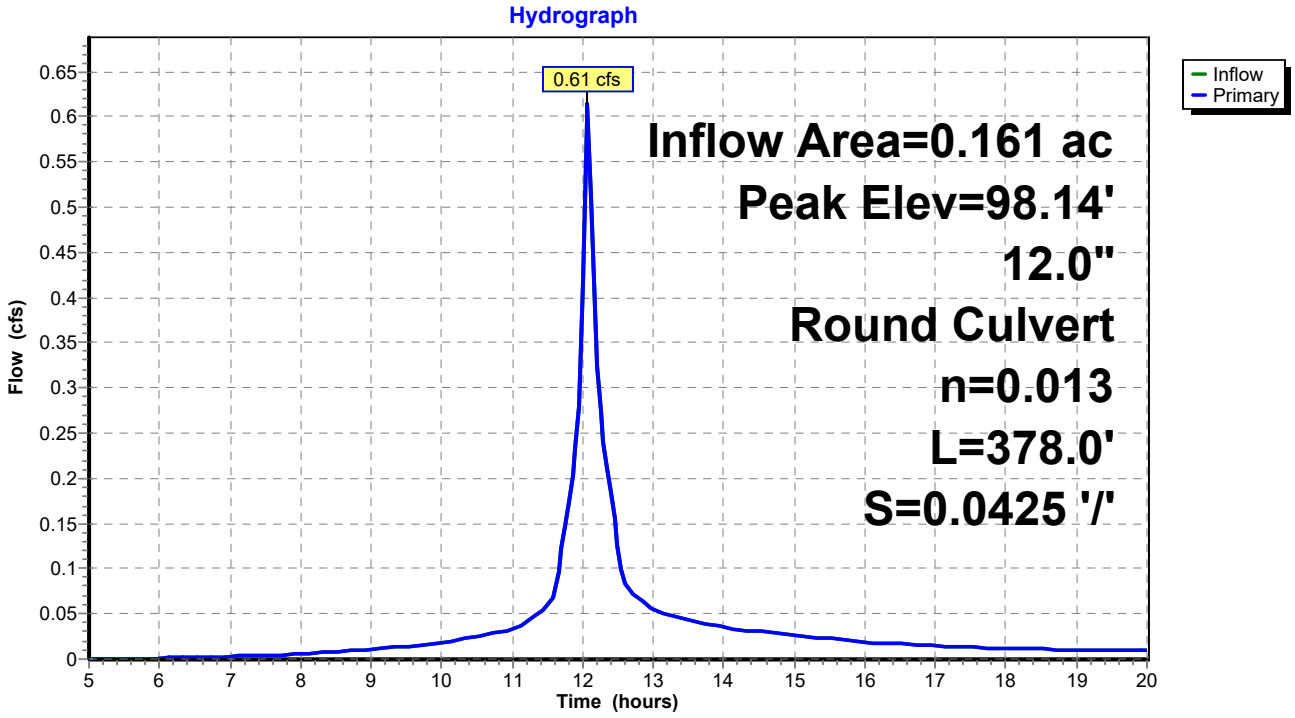
Inflow Area = 0.161 ac, 80.50% Impervious, Inflow Depth > 3.10" for 10-YR Storm event
Inflow = 0.61 cfs @ 12.07 hrs, Volume= 0.042 af
Outflow = 0.61 cfs @ 12.07 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.61 cfs @ 12.07 hrs, Volume= 0.042 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 98.14' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	**12.0" Round Culvert** L= 378.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 97.75' / 81.67' S= 0.0425 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.07 hrs HW=98.14' (Free Discharge)
1=Culvert (Inlet Controls 0.59 cfs @ 2.11 fps)

Pond CB1: Catch Basin

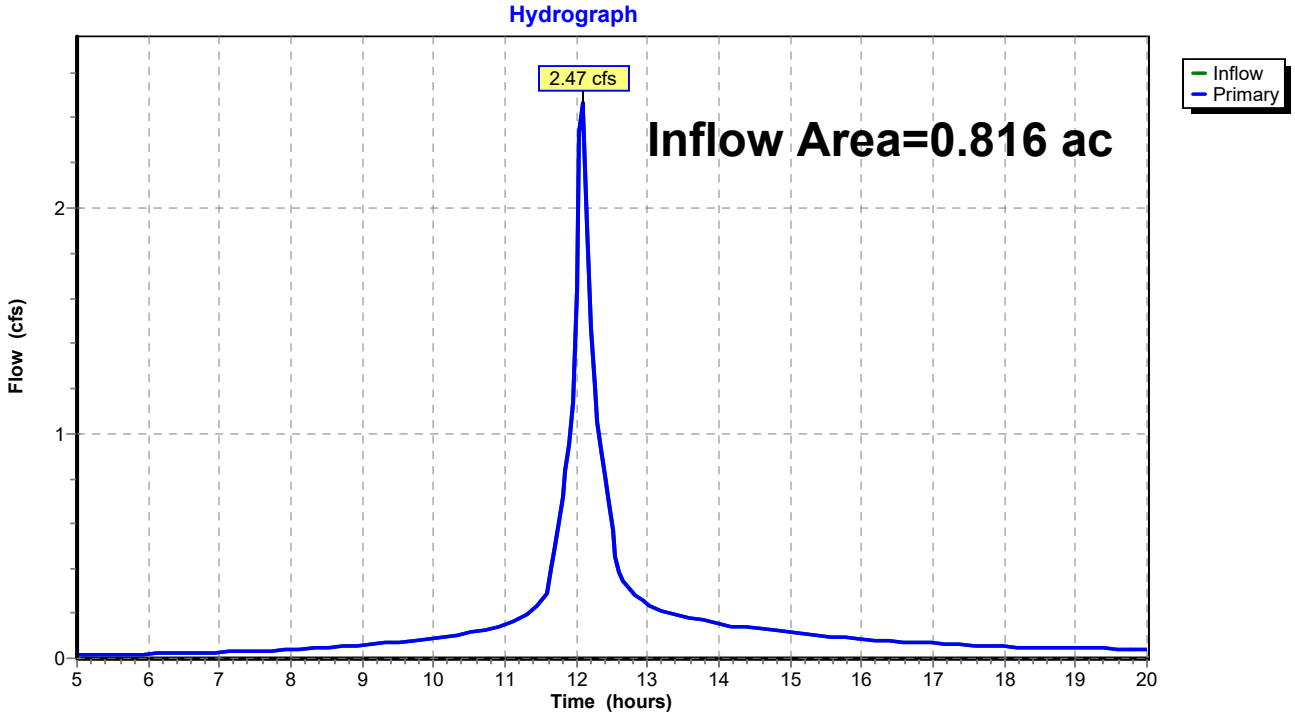


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 72.41% Impervious, Inflow Depth > 2.72" for 10-YR Storm event
Inflow = 2.47 cfs @ 12.08 hrs, Volume= 0.185 af
Primary = 2.47 cfs @ 12.08 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10: Driveway Apron Runoff Area=985 sf 52.89% Impervious Runoff Depth>2.45"
Tc=5.0 min CN=70 Runoff=0.07 cfs 0.005 af

Subcatchment 11: Parking & Building Runoff Area=7,026 sf 80.50% Impervious Runoff Depth>4.19"
Tc=5.0 min CN=88 Runoff=0.82 cfs 0.056 af

Subcatchment 20: Building Runoff Area=13,144 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=1.73 cfs 0.129 af

Subcatchment 21: Lawn area surrounding Runoff Area=4,069 sf 9.44% Impervious Runoff Depth>0.47"
Flow Length=218' Tc=5.0 min UI Adjusted CN=42 Runoff=0.02 cfs 0.004 af

Subcatchment 30: Roofs & Pavement Runoff Area=10,326 sf 58.45% Impervious Runoff Depth>2.81"
Tc=5.0 min CN=74 Runoff=0.84 cfs 0.055 af

Reach R10: Gutter Flow Avg. Flow Depth=0.02' Max Vel=1.87 fps Inflow=0.07 cfs 0.005 af
n=0.013 L=170.0' S=0.0618 '/' Capacity=77.04 cfs Outflow=0.07 cfs 0.005 af

Reach R2: Overland Flow Avg. Flow Depth=0.00' Max Vel=0.28 fps Inflow=0.02 cfs 0.004 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.02 cfs 0.004 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=1.11 fps Inflow=0.84 cfs 0.055 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.81 cfs 0.055 af

Reach R5: Gutter Flow Avg. Flow Depth=0.10' Max Vel=2.16 fps Inflow=0.81 cfs 0.055 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.80 cfs 0.055 af

Pond CB1: Catch Basin Peak Elev=98.21' Inflow=0.82 cfs 0.056 af
12.0" Round Culvert n=0.013 L=378.0' S=0.0425 '/' Outflow=0.82 cfs 0.056 af

Link SP1: Study Point 1 Inflow=3.31 cfs 0.249 af
Primary=3.31 cfs 0.249 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.249 af Average Runoff Depth = 3.67"
27.59% Pervious = 0.225 ac 72.41% Impervious = 0.591 ac

Summary for Subcatchment 10: Driveway Apron

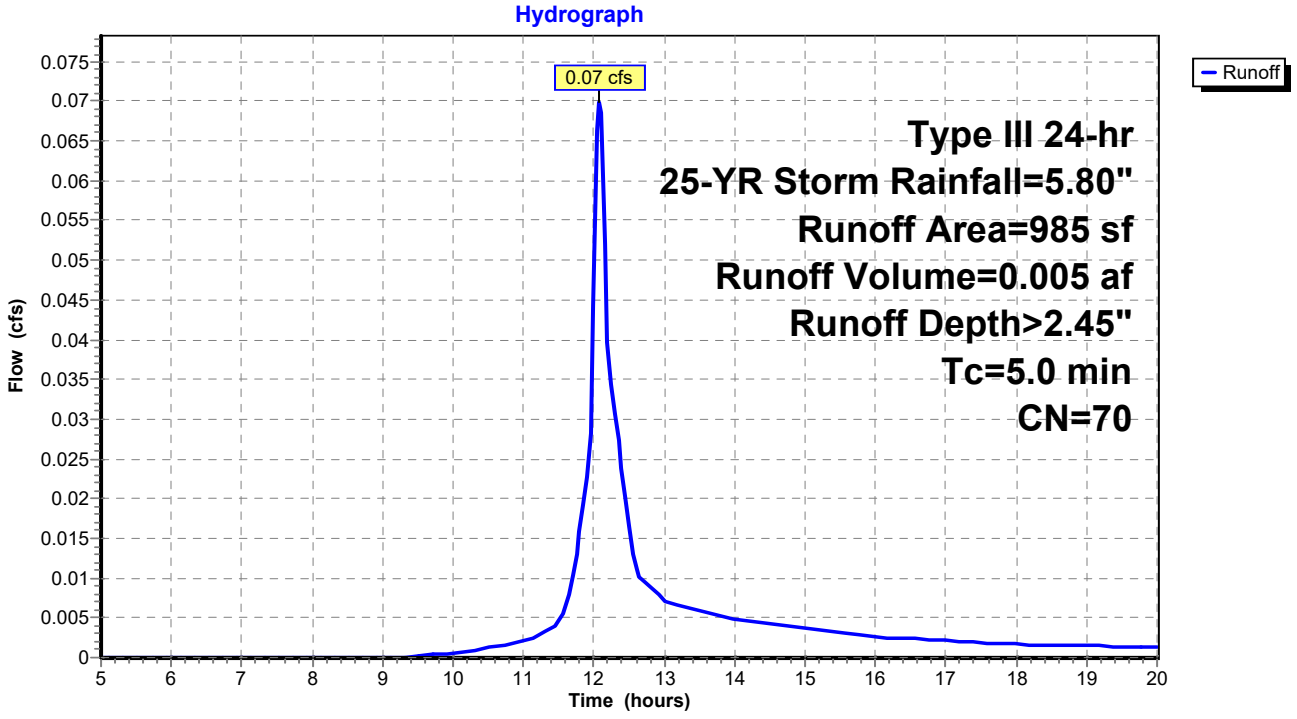
Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
521	98	Unconnected pavement, HSG A
464	39	>75% Grass cover, Good, HSG A
985	70	Weighted Average
464		47.11% Pervious Area
521		52.89% Impervious Area
521		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 10: Driveway Apron



Summary for Subcatchment 11: Parking & Building

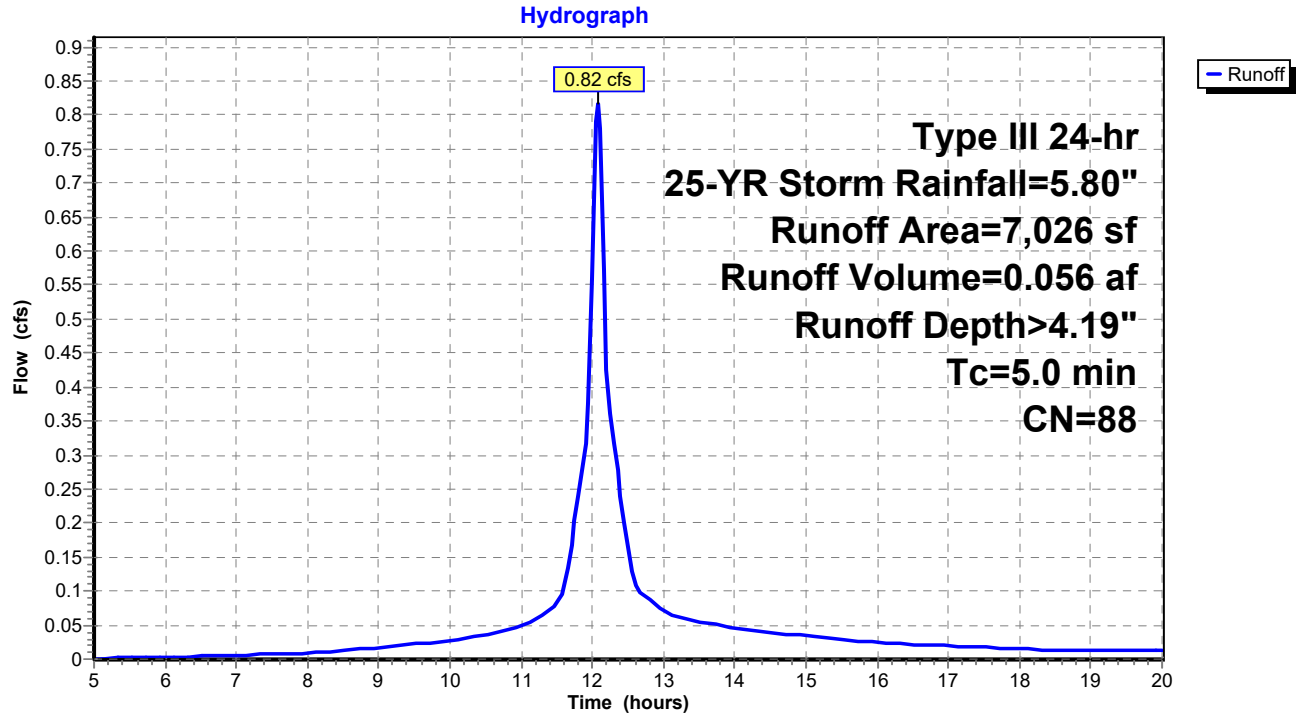
Runoff = 0.82 cfs @ 12.07 hrs, Volume= 0.056 af, Depth> 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
5,656	98	Unconnected pavement, HSG A
972	39	>75% Grass cover, Good, HSG A
398	68	<50% Grass cover, Poor, HSG A
7,026	88	Weighted Average
1,370		19.50% Pervious Area
5,656		80.50% Impervious Area
5,656		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 11: Parking & Building



Summary for Subcatchment 20: Building

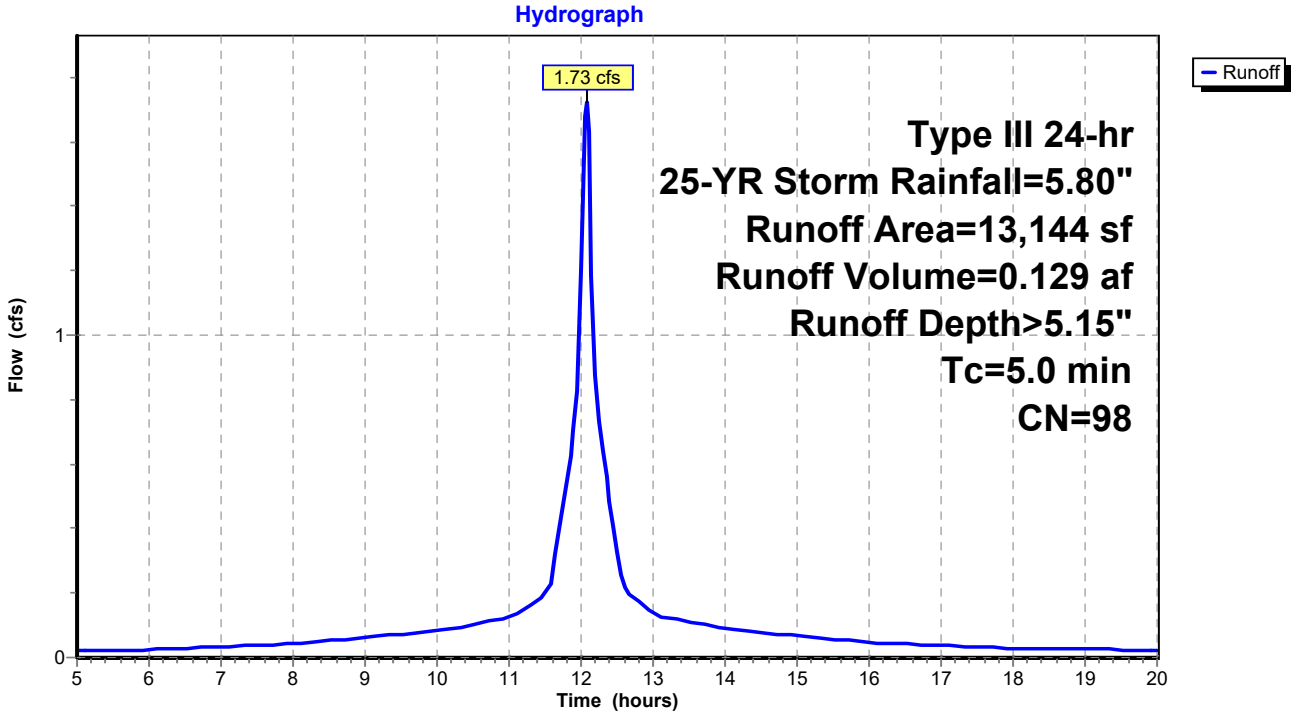
Runoff = 1.73 cfs @ 12.07 hrs, Volume= 0.129 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
13,144	98	Roofs, HSG A
13,144		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 20: Building



Summary for Subcatchment 21: Lawn area surrounding building

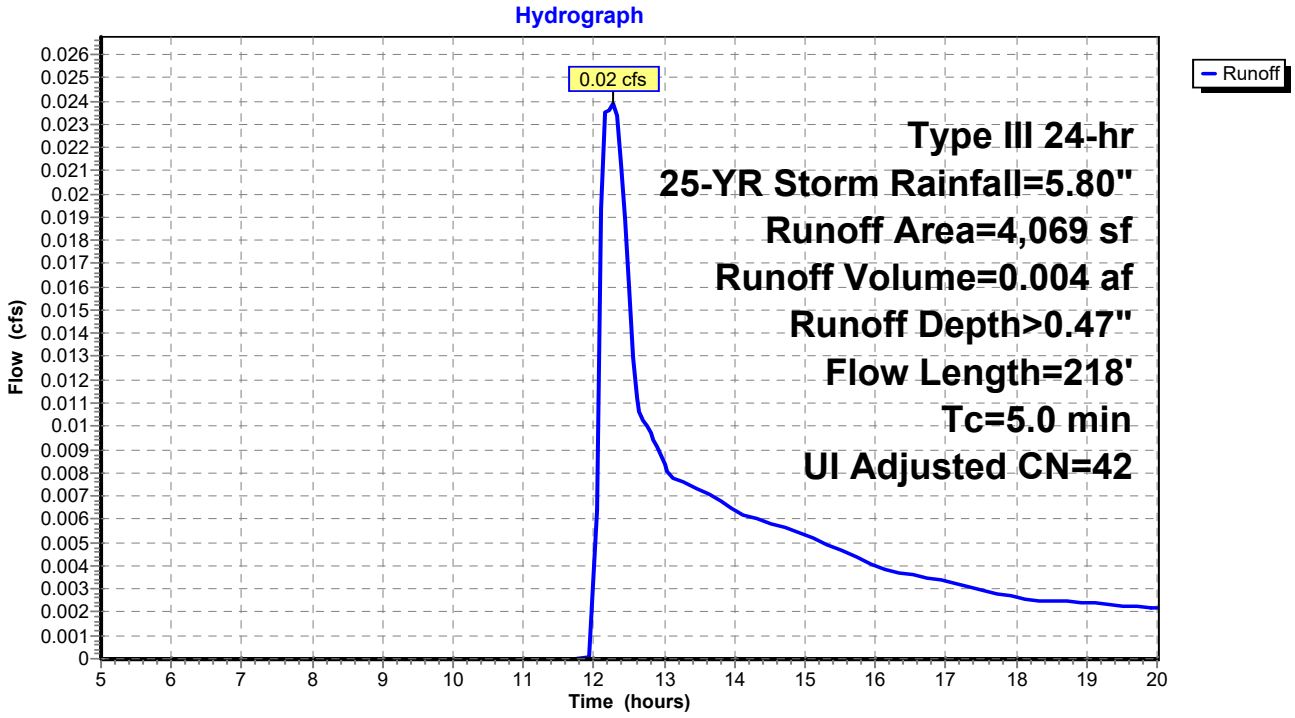
Runoff = 0.02 cfs @ 12.27 hrs, Volume= 0.004 af, Depth> 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Adj	Description
384	98		Unconnected pavement, HSG A
3,685	39		>75% Grass cover, Good, HSG A
4,069	45	42	Weighted Average, UI Adjusted
3,685			90.56% Pervious Area
384			9.44% Impervious Area
384			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	36	0.0970	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.4	182	0.0570	2.19	0.28	**Trap/Vee/Rect Channel Flow, B-C** Bot.W=1.00' D=0.10' Z= 3.0 '/' Top.W=1.60' n= 0.030 Earth, grassed & winding
1.3					**Direct Entry, 5 Minute Minimum**
5.0	218	Total			

Subcatchment 21: Lawn area surrounding building



Summary for Subcatchment 30: Roofs & Pavement

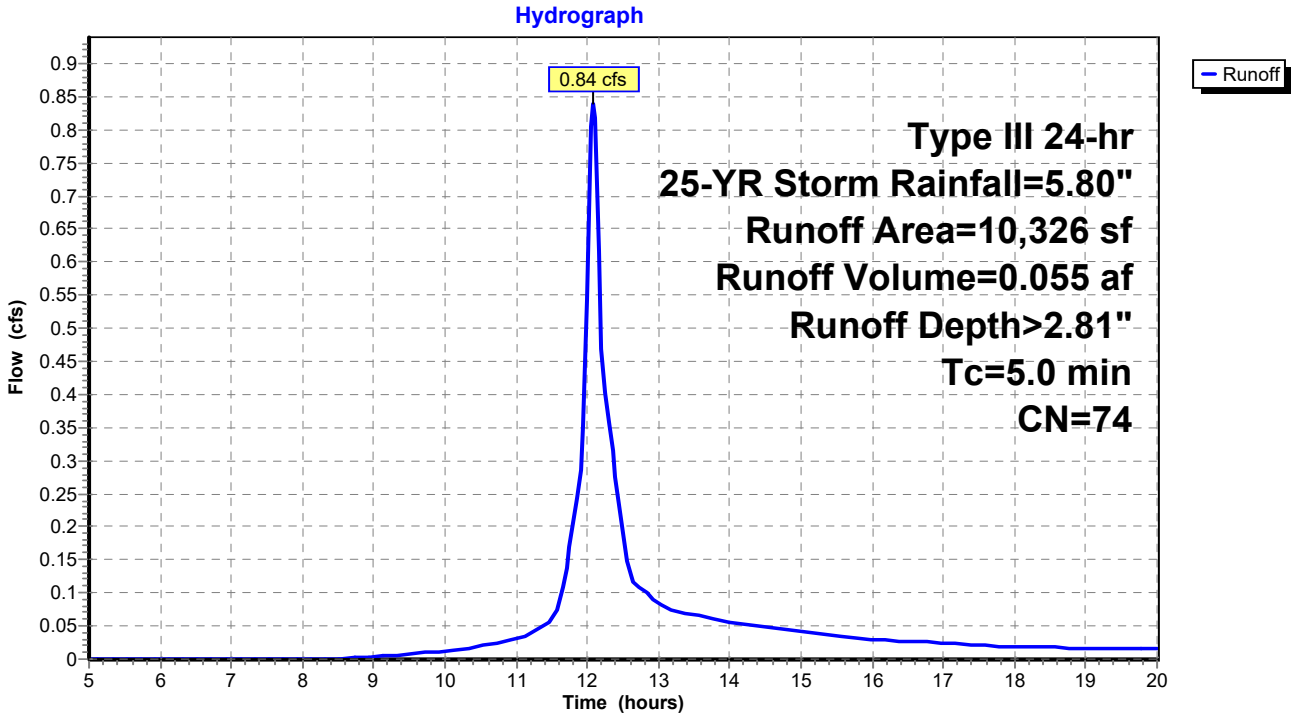
Runoff = 0.84 cfs @ 12.08 hrs, Volume= 0.055 af, Depth> 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Storm Rainfall=5.80"

Area (sf)	CN	Description
6,036	98	Unconnected pavement, HSG A
3,315	39	>75% Grass cover, Good, HSG A
975	49	50-75% Grass cover, Fair, HSG A
10,326	74	Weighted Average
4,290		41.55% Pervious Area
6,036		58.45% Impervious Area
6,036		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 30: Roofs & Pavement



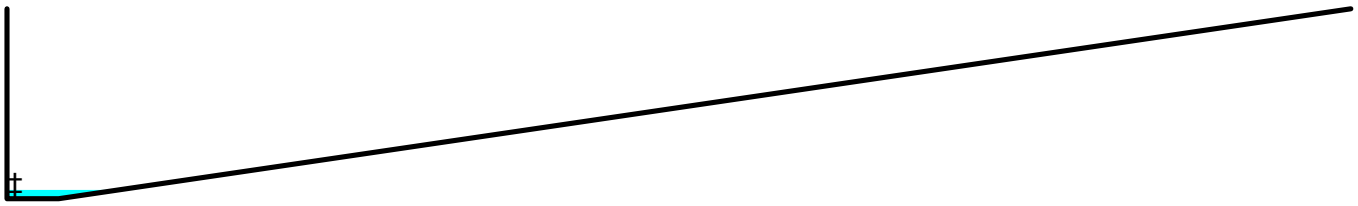
Summary for Reach R10: Gutter Flow

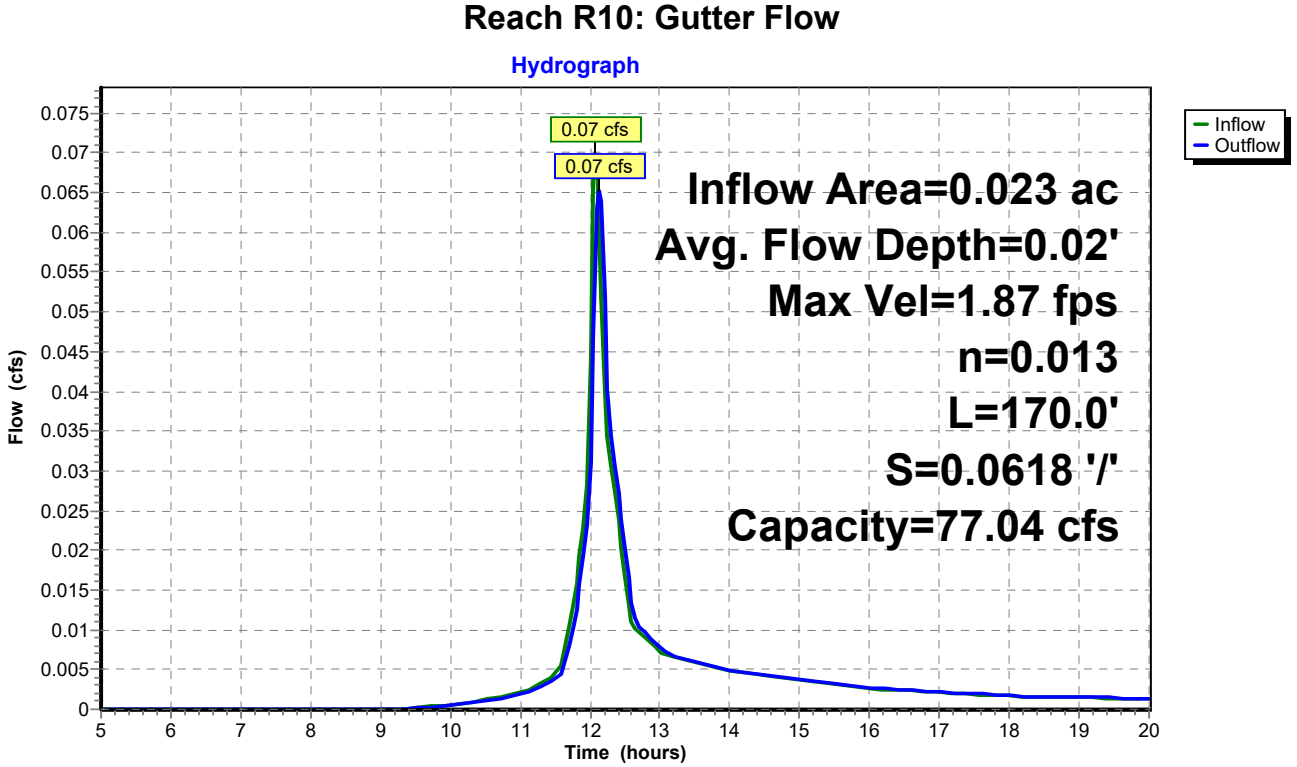
Inflow Area = 0.023 ac, 52.89% Impervious, Inflow Depth > 2.45" for 25-YR Storm event
Inflow = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.13 hrs, Volume= 0.005 af, Atten= 7%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.87 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 3.3 min

Peak Storage= 6 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 77.04 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 170.0' Slope= 0.0618 '/'
Inlet Invert= 103.50', Outlet Invert= 93.00'





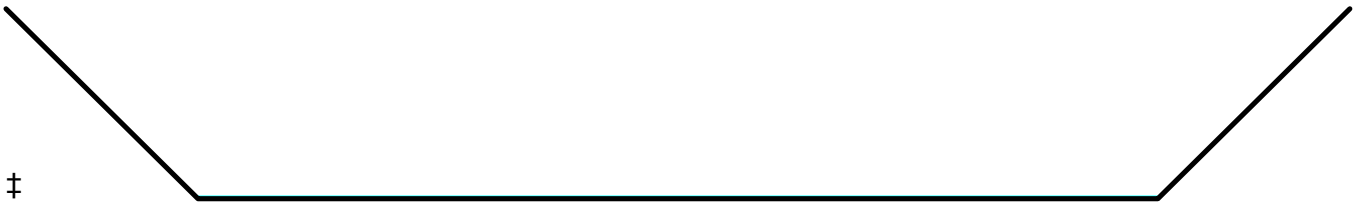
Summary for Reach R2: Overland Flow

Inflow Area = 0.093 ac, 9.44% Impervious, Inflow Depth > 0.47" for 25-YR Storm event
Inflow = 0.02 cfs @ 12.27 hrs, Volume= 0.004 af
Outflow = 0.02 cfs @ 12.36 hrs, Volume= 0.004 af, Atten= 1%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.28 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 4.6 min

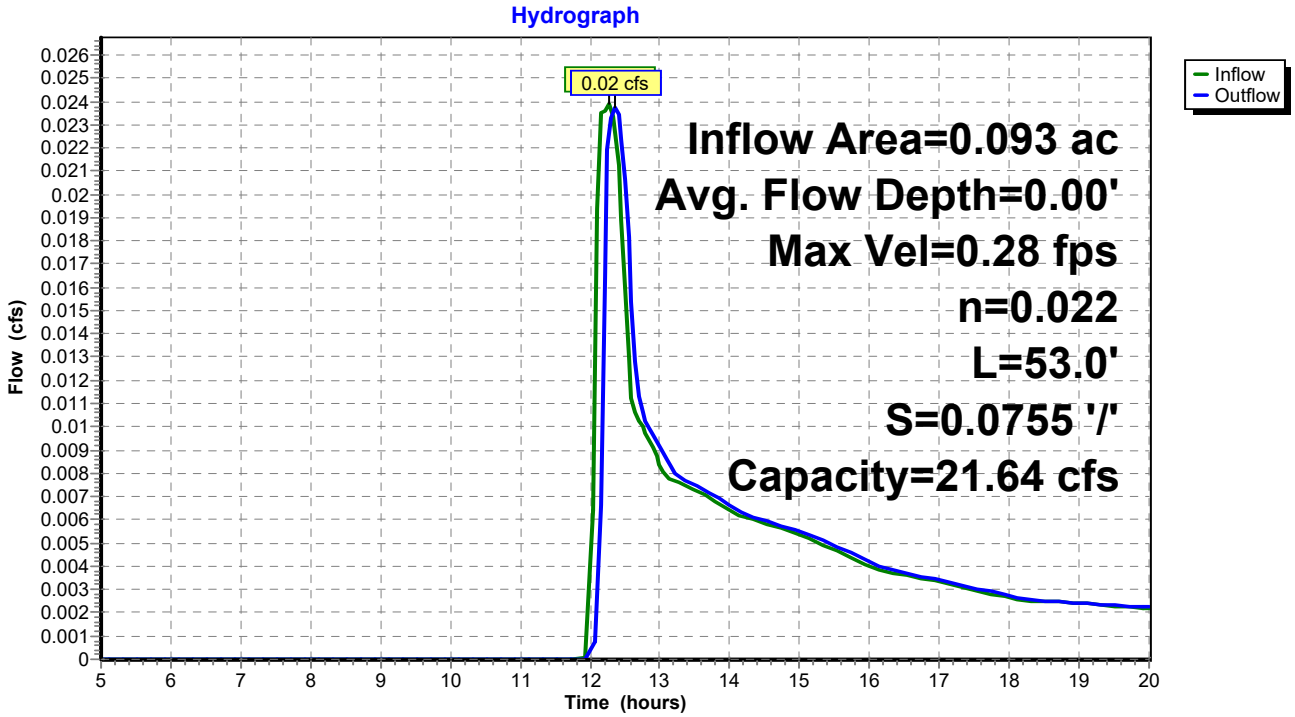
Peak Storage= 5 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'



‡

Reach R2: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.237 ac, 58.45% Impervious, Inflow Depth > 2.81" for 25-YR Storm event
Inflow = 0.84 cfs @ 12.08 hrs, Volume= 0.055 af
Outflow = 0.81 cfs @ 12.10 hrs, Volume= 0.055 af, Atten= 3%, Lag= 1.5 min

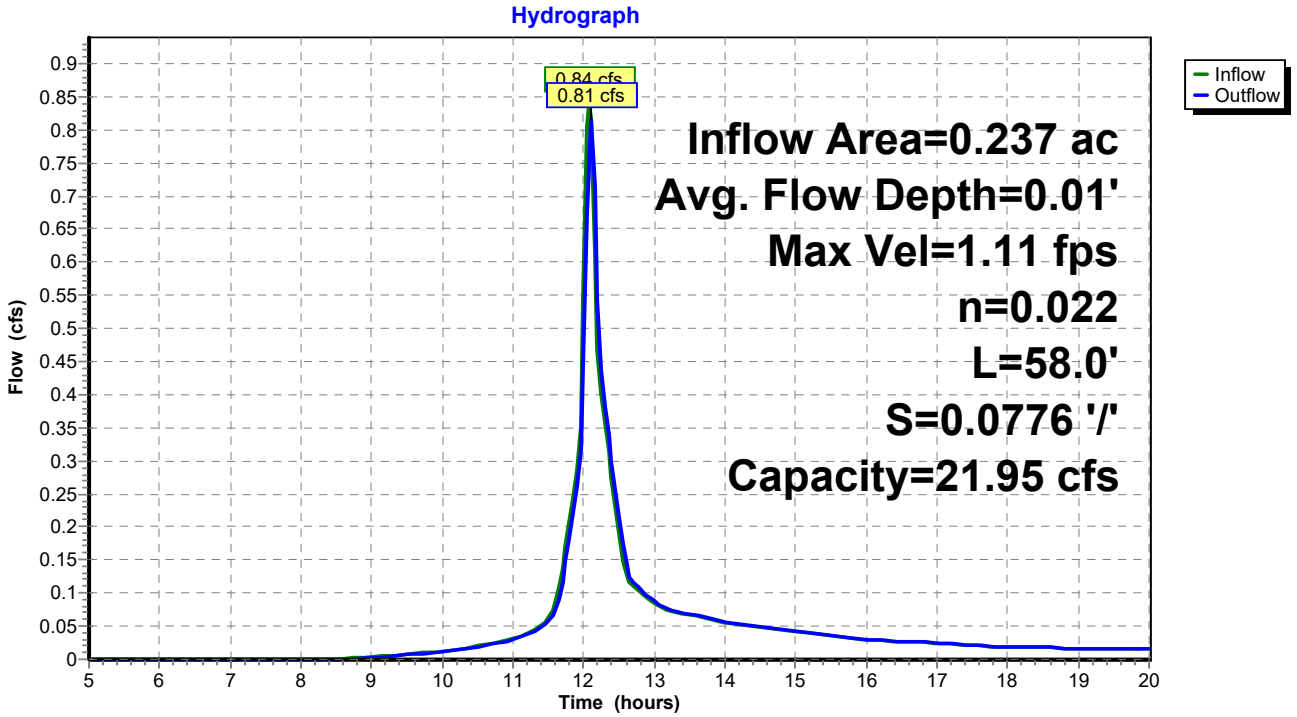
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.11 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 0.33 fps, Avg. Travel Time= 2.9 min

Peak Storage= 44 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'



Reach R4: Overland Flow



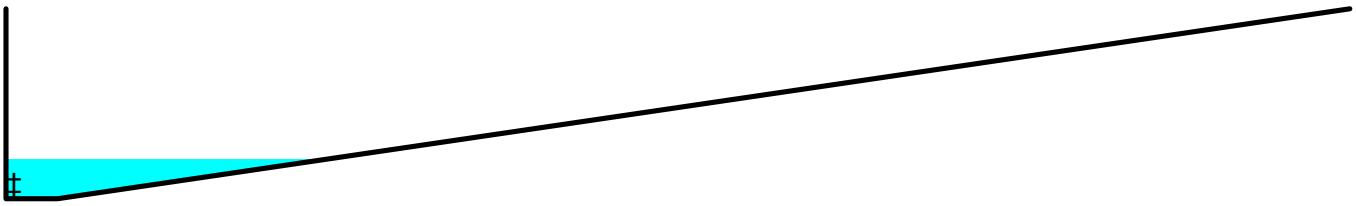
Summary for Reach R5: Gutter Flow

Inflow Area = 0.237 ac, 58.45% Impervious, Inflow Depth > 2.80" for 25-YR Storm event
Inflow = 0.81 cfs @ 12.10 hrs, Volume= 0.055 af
Outflow = 0.80 cfs @ 12.12 hrs, Volume= 0.055 af, Atten= 2%, Lag= 0.7 min

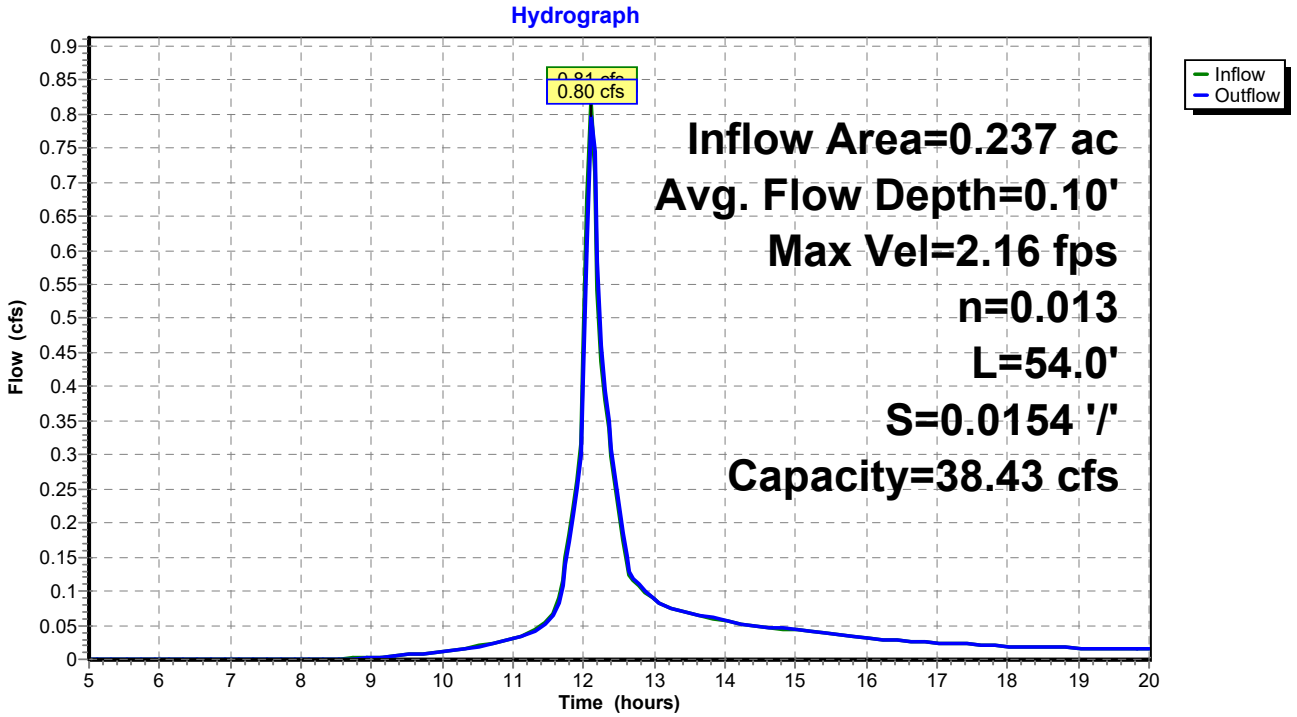
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.16 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 1.0 min

Peak Storage= 20 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'



Reach R5: Gutter Flow



Summary for Pond CB1: Catch Basin

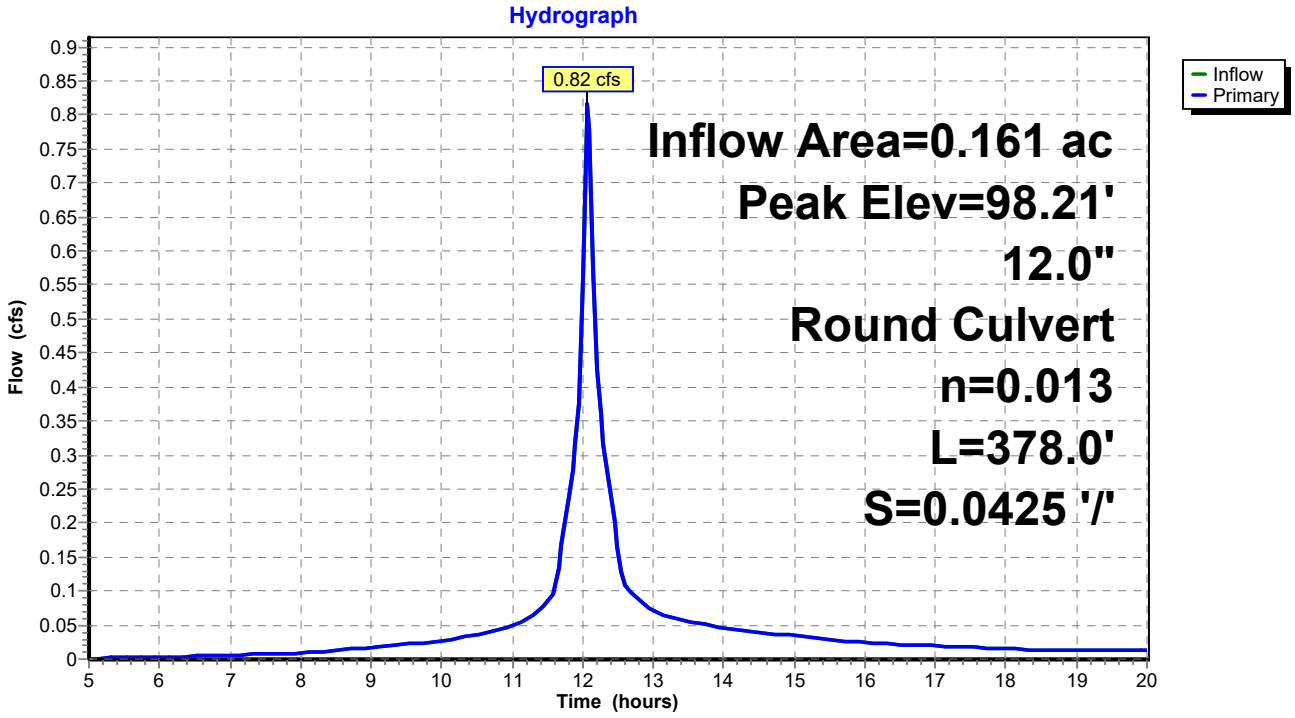
Inflow Area = 0.161 ac, 80.50% Impervious, Inflow Depth > 4.19" for 25-YR Storm event
Inflow = 0.82 cfs @ 12.07 hrs, Volume= 0.056 af
Outflow = 0.82 cfs @ 12.07 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.07 hrs, Volume= 0.056 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 98.21' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	**12.0" Round Culvert** L= 378.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 97.75' / 81.67' S= 0.0425 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.07 hrs HW=98.20' (Free Discharge)
1=Culvert (Inlet Controls 0.79 cfs @ 2.29 fps)

Pond CB1: Catch Basin

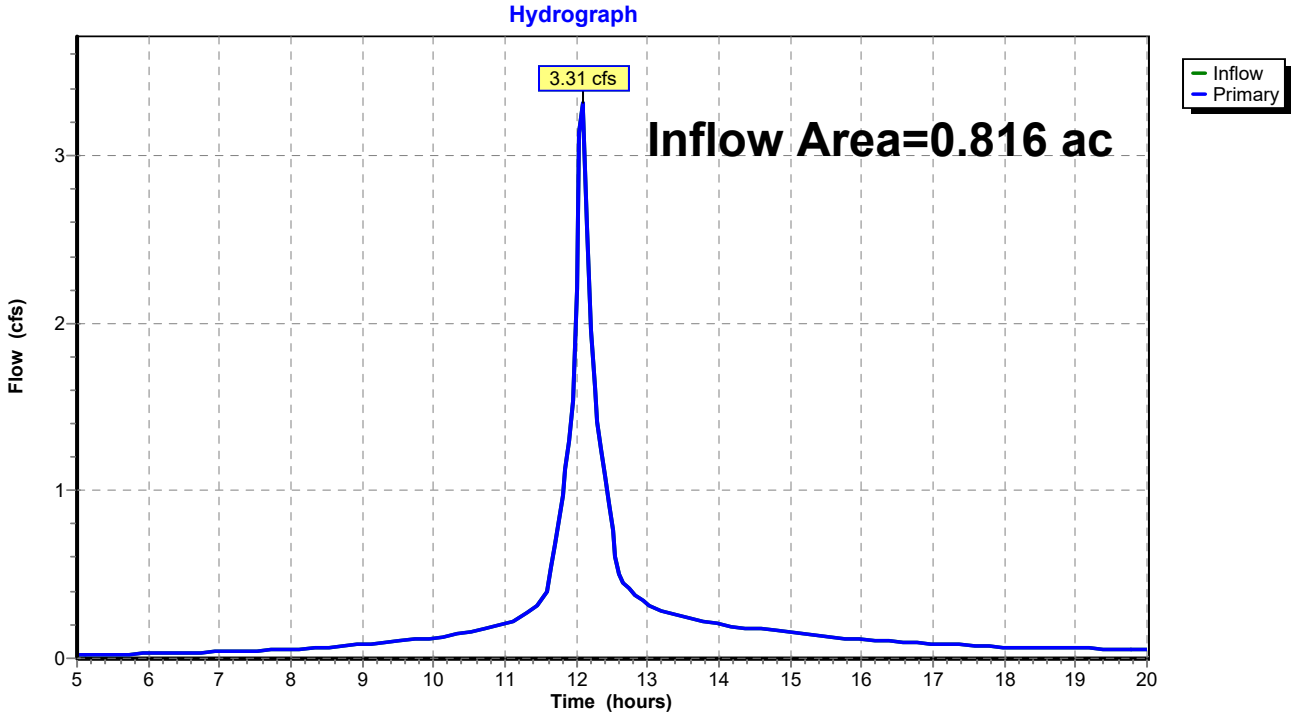


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 72.41% Impervious, Inflow Depth > 3.67" for 25-YR Storm event
Inflow = 3.31 cfs @ 12.08 hrs, Volume= 0.249 af
Primary = 3.31 cfs @ 12.08 hrs, Volume= 0.249 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



UTILITIES

11.1 OVERVIEW

The proposed project will involve installation of new utility services to the two new buildings. All new utility services will be provided from the franchise utilities available within Turner Street and Eastern Promenade. The proposed locations of the new utility services are shown on the Site Utility Plan (Sheet C-6.0).

11.2 WATER SUPPLY

The proposed project will receive its water supply from the Portland Water District's (PWD) public water supply system. Separate fire and domestic services will be installed to each building from PWD's existing main in Turner Street. The existing water service to the site will be retired as part of the project. Terradyn Consultants has been coordinating the design of the new water services with PWD. The sprinkler designer is currently preparing flow calculations requested by PWD. The applicant will provide an Ability to Serve letter from PWD when it is available.

11.2.1 TOTAL PROJECT WATER USAGE

The total average daily water demand for the proposed project is estimated to be 3,270 gallons per day, based on design flows published in the State of Maine Subsurface Wastewater Disposal Rules.

1 x 1 Bedroom Residential Units at 120 gpd/unit	= 120 gpd
4 x 2 Bedroom Residential Units at 180 gpd/unit	= 720 gpd
9 x 3 Bedroom Residential Units at 270 gpd/unit	= 2,430 gpd
Total:	= 3,270 gpd

11.3 WASTEWATER DISPOSAL

The proposed project will be connected to the Portland Water District's and City of Portland's wastewater collection and conveyance systems. The City of Portland Wastewater Capacity Application has been completed and forwarded to Brad Roland of the City's Water Resources Department.

The overall project is anticipated to generate an average daily flow of approximately 3,270 gpd. The existing 12-residential units on the site generated approximately 1,440 gpd. The net increase in wastewater flows is expected to be approximately 1,830 gpd. Based on the existing sewer system in the area, there appears to be adequate capacity to handle these projected flow amounts.

11.4 ELECTRICITY SUPPLY

CMP currently maintains overhead and underground utilities in the area. Electrical power for the project will be fed from a pad-mounted transformer that will be installed near the proposed garage entrance.

shinberg
CONSULTING, LLC

Property Location: 246 Eastern Promenade & 15 Turner Street

Subject: Construction Management Plan

Date: July 24, 2023

On behalf of ECK Realty, Shinberg Consulting ("SC") will hire the General Contractor ("GC") to perform all site work and construct both buildings. SC will coordinate the utility work required by the Owner. SC will act as the Owner's Representative for the duration of the project.

Construction Management Document

1) The GC 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) SC will coordinate a site meeting with the city of Portland Inspections Department representative(s) and the city of Portland Department of Public Works ("DPW") and the GC with their site contractor.

3) The GC will contact Dig Safe prior to any work commencing on the site.

4) Temporary erosion control measures will be installed in any areas that feed into the city combined sewer and storm drains.

5) The GC will contact the Portland Water Department prior to work commencing.

6) Temporary signage will be installed as required by the city of Portland DPW. See the attached exhibit.

7) The GC will construct temporary crosswalks / tip downs that comply with ADA requirements. See attached exhibit.

8) The GC will coordinate the delivery of materials that will be stored on site within the fenced in areas. See attached exhibit.

9) The GC will manage the parking of all employees and subcontractors. Most or all the parking can be provided on site during construction.

10) The GC will provide dewatering and other special measures as required by the city standards.

11) The GC will contact CMP to protect any overhead or underground wires prior to work commencing.

12) All work will be performed during the hours of operation outlined in the city of Portland's guidelines.

shinberg CONSULTING

NEIGHBORHOOD MEETING SIGN IN SHEET

JUNE 7, 2023 5 TO 7 PM
EAST END COMMUNITY CENTER, 195 NORTH ST.
PORTLAND, MAINE
RESIDENTIAL CONDOMINIUM DEVELOPMENT LOCATED AT 246 EASTERN PROMENADE AND 15 TURNER STREET

MEMBERS OF THE PUBLIC IN ATTENDANCE

NAME	EMAIL
WILLIAM GRIBIZIS	WGRIBIZI@gmail.com
RUDINA GRIBIZIS	RUDINARG@gmail.com
Kaili Moore	kaili@presumptslotpm.com
MARY ROY	MARYROY@PORTSIDEREG.COM
KAREN McMann	[illegible]krnski[illegible]@gmail.com
Robin Shapiro	robinrebeccashapiro@gmail.com
JOAN BANNON	joanbannon@yahoo.com
DAVID BANNON	DAVIDBANNON@YAHOO.COM
MICHAEL FLAHERTY	MICHAEL FLAHERTY5[illegible]@YAHOO.CO
SADHBH NEILAN	SIVENEILAN@YAHOO.COM
Kristen Frongillo	kfronge@gmail
DAVID ROBERTS	davidxcskier@gmail.com

NAME	EMAIL
Elizabeth Harrington	Lizharrington@LIVE.com
BRIAN Harrington	BRIANHarrington39@msn.com
Peter Murray	pmurray@gwi.net

DEVELOPER AND CONSUTANT TEAM IN ATTENDANCE

NAME	EMAIL
NICK Aceto	NA@acetoLA.com
GREG SHINBERG	gls@shinbergconsulting.com
EVAN DEMERS	evan@mullerarchitects.com
mark mueller	mark@muellerarchitects.com

246 Eastern Promenade and 15 Turner Street Condominiums

Notes compiled by Evan Demers of Mark Mueller Architects and Greg Shinberg of Shinberg Consulting

Neighborhood Meeting

June 7, 2023, 5:00-7:00 PM – East End Community School, Portland, ME

Developer and Consultant Team in Attendance:

- Greg Shinberg - Shinberg Consulting, LLC (“GS”)
- Nick Aceto - Aceto Landscape Architects (“NA”)
- Mark Mueller - Mark Mueller Architects (“MM”)
- Evan Demers - Mark Mueller Architects (“ED”)
- Harry Krigman - ECK Realty, LLC (“HK”)

Members of Public in Attendance:

- Approximately 18, see sign-in sheet attached. GS asked members of the public to share their initials when asking questions or making comments. (The members of the public opted to not share their initials when speaking.)

Team Notes:

1. GS presented an overview of the project. GS then introduced the development team and gave a description of the process to date, summarizing approximately 1.5 years of preliminary design work.

2. GS presented the approximate time frame for the anticipated Planning Board entitlements, additional design, and construction. GS anticipates that, after entitlements, it will take approximately 18 months to complete construction.

3. GS informed the neighbors that the owner has opted to pay the fee in lieu of building 25% affordable condos, as required under the Green New Deal, which totals $603,698, based on the

current fee of $172,485 for each of 3.5 units. GS noted that this fee is paid into the City of Portland Housing Trust Fund. GS has been told by City staff that their goal is to use these funds to build approximately 5-7 new units of affordable housing based on a cost of approximately $350,000 per unit.

4. NA presented an overall project description.

5. MM presented an overall project description.

6. During the presentations by NA and MM, several neighbors asked questions. GS asked the neighbors to wait until NA and MM finished their presentation.

7. GS asked the neighbors whether they would be comfortable providing their initials when making a comment or asking a question. The neighbors continued making comments and asking questions but did not offer their initials.

Questions and Comments from Neighbors:

8. There appears to be a loss of parking, where will all of the current users park?

9. Where will the other users (Morning St tenants) park when it is reduced?

   - GS: At present, there are no long term parking leases. The residents in both 246 Eastern Prom and 119 Morning Street currently use some of the parking lot. At present, many of the residents park on the street, rather than in the parking lot.

10. How tall will the new street trees on Turner St be when installed?

    - NA: The trees will be smaller in scale than some of the large trees that are currently located in the neighborhood. The reason for this is to keep the trees from overwhelming the new buildings when they are fully grown.

11. Are there any variances you will need to complete the proposed project as presented?

    - GS: No

12. How tall is the Turner St building?

    - MM: The building is well below the 35’ maximum height allowed.

13. What goals were set forth while approaching this project?

    - NA: Good urban design following the goals established in the City of Portland Comprehensive

Plan. This includes porches facing the street, appropriate landscaping with retaining walls and hardscape, and less surface parking. Our goal is to assure that we are consistent with the other buildings nearby and that we create a streetscape that is inviting. Public streets are public places. We try to reduce the impact of vehicles and reduce parking where we can. We also try to utilize the City infrastructure wherever possible.

- MM: We walked around the neighborhood prior to starting the design.

14. People park on the street and this project will create more competition for that parking.

15. Why was the color red chosen to appear on the Turner St building?

    - MM: We chose a salmon color that we thought would be a good compliment to the neighborhood. However, we are open to other color choices.

16. What is the timeframe of the construction process?

    - GS: We anticipate that obtaining the Planning Board approvals will take several months. After approvals, there will be a process to complete the drawings and submit to the City an application for a building permit. Once the building permit is issued, we anticipate approximately 15-18 months to construct the project.

17. Why is the Eastern Promenade building four stories and not shorter?

    - MM: We felt that this was in character with the other houses along the Prom and in the neighborhood.

    - NA: It is important to note that our proposed design has a garden-level entrance from the Prom that is 6'-7' lower than the five-unit condominium building to the east. The current building code requires that this entrance meets all ADA requirements. To keep the design in character with the neighborhood, it is important to design this main entry with a small ramp that allows for wheelchair access. It is also important to note that the building is designed to meet the maximum height allowance of 45', as determined by the Average Grade Plane. This is a 4-story building that is similar to other buildings that fall within the 45' height restriction.

18. An additional floor was added to the condominiums next door sometime in the past.

19. What precedents were used in designing this building?

    - MM: Turner Street is the line of the historic district. We take our cues from the rooflines, siding, colors, porches, parking, heights, windows and doors, and other exterior elements.

20. Why was a more traditional approach not taken when designing? Not in character with neighbors.

- MM: We believe that it is in character with the neighborhood.

21. Could the red color of the Turner ST building be changed?

    - MM: Yes, we will consider changing this color.

22. Why is there so much glass on the Eastern Prom façade, seems “airlifted from Miami”?

    - MM: We disagree. There are many homes along the Prom that have large windows and doors to bring in the beauty of the Prom and the ocean beyond.

23. Is a potential 3D aerial Model available to be rendered for scale?

    - MM and ED showed the perspective drawing to the neighbors.

24. Where will the HVAC be located?

    - ED showed the location of the HVAC units at different roofs.

25. What will the site planting be like?

    - NA and ED showed the neighbors the site planting plan.

26. Why are the decks so large? Can you reduce size?

    - MM: We believe that this helps to create good design for the building with shadow lines and interesting fenestration. We believe that the decks are appropriately sized.

27. The roof top units will extend the height of the overall building?

    - MM: The rooftop units may extend no more than 5’ above the overall building height, as shown on the plans. (The HVAC units may reach a maximum height of 50’, as permitted, utilizing the average grade plane.)

28. Were there other designs brought forward in this process or are there any other designs to be presented?

    - MM: Yes, as a team we spent close to 18 months reviewing several design options.

29. The building resembles a “Lego” house, it looks modular.

30. Will there need to be any sheet piling work done on the project?

- GS and ED showed the neighbors where the sheet piling will be needed.

31. How long will the sheet piling take to complete?

    - GS: We are not certain. It depends on the site conditions. However, we have already completed geotechnical borings and, based on this information, we anticipate the pilings will take approximately two weeks.

32. What is the procedure to ensure the neighboring homes will not endure any issues during and after construction?

    - GS: We will require the General Contractor (TBD) to document the existing conditions of any properties located nearby.

33. How can we be sure that nothing will happen to our properties during blasting / driving?

    - GS: We do not anticipate any blasting based on the geotechnical information. We cannot assure you that nothing will happen during construction. However, we all carry adequate insurance for unforeseen issues and must present a construction management plan to the City prior to any work commencing.

34. Driving down the street all you will see is a massive building, the perspective does not seem accurate.

35. Is there any consideration surrounding existing and aging infrastructure? What will happen if anything breaks?

    - GS: As stated before, we will do everything possible to prevent any adverse effect on the existing infrastructure.

36. Is there any consideration for a pitched roof?

    - MM: We believe that a flat roof is more in character with many of the homes in the neighborhood.

37. What will the noise be like from the HVAC system?

    - ED: As shown on the plan, the rooftop units are located as close as possible to the center of the roof to reduce any impact on the neighbors.

    - GS: The City has an ordinance that states that the decibel level of HVAC units cannot exceed a certain level at the property line. This is a rule that must be followed to obtain a building permit.

38. Could you reduce the deck / balcony size?

    - MM: As stated earlier, we believe that the decks and balconies add important shadow lines and fenestration.

39. Can you lighten the color of the building to be more congruent with the neighbors?

    - MM: We can look at alternatives.

40. How many units are there in the new project compared to the existing building?

    - GS: The building that faces the Prom will have a total of 11 units with 14 enclosed parking spaces. The building located on Turner Street will have a total of three units. The project will have a total of 14 units. At present there are 12 units in the building facing the Prom.

41. How many people are parking there now? Where will they park after the project?

    - HK: Some people in both 246 Eastern Prom and 119 Morning Street rent parking on a month-to-month basis. At this time, we have about half of the 40 spaces in the existing parking lot leased.

TERRADYN CONSULTANTS, LLC

207.926.5111
info@terradynconsultants.com
www.terradynconsultants.com

Att. Q

July 28, 2023

RESPONSE TO REVIEW COMMENTS

PL-002490-2023 | 246 Eastern Promenade
Portland, Maine 0410
Project #22-144

Sean King, PLA Urban Designer
389 Congress Street, 4th Floor
Portland, ME 04101

Dear Sean:

We have received and reviewed staff comments on the proposed redevelopment of 246 Eastern Promenade (City of Portland Project #PL-002490-2023), dated June 6, 2023 and updated on June 14, 2023. The project design team has prepared the following responses to the comments. For clarity, each comment is repeated below, followed by our response in **bold text**.

INCLUSIONARY ZONING CONDITIONAL USE

- The applicant shall indicate how the development will provide requirements for workforce housing under Land Use Code 18.2.3.

  Applicant Response: The applicant intends to pay a fee-in-lieu of providing workforce units within the development in accordance with Section 18.2.3.C.6.

SITE REVIEW

- The applicant shall submit ability to serve for all respective utility services under 14.6.3.C.1.

  Applicant Response: Request for confirmation of ability to serve has been sent to the Portland Water District and the Department of Public Works (DPW). Final confirmation will be provided when received.

- Applicant shall provide boundary of excavation, replacement of grades, brick sidewalk and seeded loam for new sewer and storm drainage connection at Eastern Promenade. In addition, utility trenching and installation of utilities shall not significantly impact existing mature trees and root systems at the Eastern Promenade.

  Applicant Response: The drawings have been updated to include the information described in this comment.

- The applicant shall address the existing utility easement 1694/437 for the existing utility pole and overhead utility wire that currently spans across the property. The applicant shall provide acceptance of proposed removal from Cumberland County Power and Light Company and its successors.

  Applicant Response: Shinberg Consulting met with Central Maine Power ("CMP") in April and again in early July to review the design for providing power to the transformer that will provide power to the 2 buildings. The current overhead lines that serve the existing 12-unit building will be removed and new underground conduit and utilities will get installed.

- The applicant shall address the existing access easement 25665/101 to maintain or replace the existing overhead utility wire for the abutting property at 236 Eastern Promenade.

  Applicant Response: At the meetings with CMP, we discussed how to remove the overhead lines that feed the existing buildings located at 236 Eastern Promenade and replace them with underground conduit and utilities from an existing pole on the southeast side of Turner Street at the corner of Morning Street. We are working with the Owners of the Condominiums to relocate the utilities. ECK Realty, LLC will pay for the cost of the improvements.

- The applicant shall indicate snow storage areas on site plans under 14.6.4.C.

  Applicant Response: Snow storage areas have been added to the Site Plan (Sheet C-4.0). The site features limited areas to store snow. When the capacity of the storage areas is exceeded, snow will be removed from the site.

- The applicant shall submit preliminary condominium documents for buildings, shared spaces, parking and all site operations.

  Applicant: We have commenced the draft of the condominium documents. It is reasonable to anticipate that there may be feedback at the workshop that will provide guidance to complete the Preliminary Condominium Documents.

- The applicant shall indicate EV charger symbols for each parking space required and/or proposed in addition to on-site plans under Technical Manual 1.14.

  Applicant Response: The project includes 27 total parking spaces. Section 1.14 of the Technical Manual requires 5 of the spaces to have Level 2 chargers and an additional 13 spaces to be made EV-ready with conduit and sufficient electrical supply. The applicant proposes to provide Level 2 EV chargers for 16 parking spaces using dual-head chargers located between spaces. EV charger symbols have been added to the Site and Utility Plans.

- The applicant shall indicate any existing parking lease agreements that would impact the proposed development program.

  Applicant Response: There are no parking leases at the existing parking lot.

- The applicant has provided a Construction Management Plan and narrative, staff finds the following:

  - Construction management plan shall utilize the existing conditions plan to include site management, erosion control, construction staging areas, parking during construction, dewatering and other special measures. See attached template

    Applicant Response: The Construction Management Plan (Sheet C-3.1) has been updated with the requested information.

  - All temporary crosswalks require ADA compliance and cannot utilize the existing abutting property driveway, staff recommends the temporary crosswalk relocate to the corner of Turner Street and to observe street occupancy permit requirements.

    Applicant Response: The Construction Management Plan (Sheet C-3.1) has been updated. Sidewalk closure signs and temporary crosswalks have been updated accordingly.

  - Proposed grading and maintenance easement must be acceptable in writing from abutting properties. Construction activity shall not occur on abutting properties without prior authorization.

    Applicant Response: The Tree Installation and Maintenance Agreement is complete between ECK Realty LLC and Eastern Promenade Limited Liability Company, and a DRAFT Tree Installation and Maintenance Agreement has been presented to the Owners of Promenade Place Condominium Association. The details of this agreement are under discussion now. Copies of the agreements are attached for review.

    No construction activity will occur on abutting properties without prior authorization.

  - Utility construction and sidewalk replacement at Eastern Promenade shall require an appropriate sidewalk closure to reroute pedestrians for any work within City's right of way, staff recommends temporary crosswalks redirect pedestrians to north sidewalk at Eastern Promenade.

    Applicant Response: The Construction Management Plan (Sheet C-3.1) has been updated. Sidewalk closure signs and temporary crosswalks have been updated accordingly.

  - Traffic control plans shall be provided and use of public parking spaces or the blockage of any portion of sidewalk for the purpose of construction activity shall require an occupancy permit and appropriate fee as assessed by the Department of Public Works.

    Applicant Response: A note has been added to the Construction Management Plan (Sheet C-3.1) referencing the requirement for an Occupancy Permit.

DESIGN REVIEW

- The Applicant should consider darker (heavier) materials at the base of the 11-unit building and lighter tone materials to terminate the building's upper floor.

  Applicant Response: Please see the revised building elevations with updated material colors to reflect staff comments.

- Staff recommends a front façade composition that segments the building into two parts to further reduce the scale of the building's width. Staff suggests the elimination of the deck overhang and façade projection located in the middle of the front elevation along with stacked balconies that carry to the top floor. In addition, the Applicant shall be aware that stepbacks in the R-6 are only required for building heights above 35 feet to be 10 feet from the side property line and 15 feet from the rear property line. The current stepback distance at the right elevation is approximately 17'-4" and at the left elevation is approximately 21'-4".

  Applicant Response: Please see the revised building elevations with updated front deck composition to reflect staff comments. We have received stepback zoning definition clarification from John Sullivan in zoning to confirm the step is from the building at the ground level, not from the setbacks. Stepbacks remain as originally proposed with added dimensional clarity on elevation sheets.

- The proposed three-unit building with frontage on Turner Street fits within the surrounding context as a two-story height structure. Staff finds the building recession at the front elevation for bicycle storage does not contribute to a balanced front elevation, the Applicant should consider an alternative storage location to provide a more balanced front elevation composition.

  Applicant Response: Please see the revised Turner Street building elevation with updated corner infill to reflect staff comments.

- Staff recommends the applicant consider a shared entry and stairway for the three-unit building facing Turner Street to allow for direct access to the public street for each dwelling unit that is consistent with the surrounding neighborhood context.

  Applicant Response: The Turner Street building entry remains with a pedestrian entry consistent with the Design Review Standards and the neighborhood; minor revisions to this area to further enhance the entry have been implemented (see elevations). Internal circulation within requires a rear access point for the upper units, being consistent with the associated covered rear parking with each unit.

ZONING

- The applicant needs to provide the average grade for both buildings. They need to provide the finished grade at the major corners of each building and then add the average grade line to the elevations for each building.

Applicant Response: The average grade for the two proposed buildings are as follows:

246 Easter Promenade: 99.58'
15Turner Street: 105.56'

Spot grades are provided at each building corner on the Detailed Grading Plan (Sheet C-5.1)

TRAFFIC CONSULTANT

- The applicant shall provide information in support of a waiver for parking lot aisle width proposed for the 11-unit building. This shall include vehicle turning templates for all parking spaces.

  Applicant Response: A waiver request has been uploaded to the E-Plan document section. Parking Turning Analysis plans have been added to the plan set.

- The applicant shall provide information on how the tandem parking spaces will be managed.

  Applicant Response: The 4 of the tandem parking spaces will be sold to Units 200 and 300 in the stand-alone 3-unit building located at 15 Turner Street. 4 of the tandem parking spaces will be leased to 2 separate apartments located nearby at 119 Morning Street. This property is owned by ECK Realty, LLC.

- The applicant should provide information that the elimination of existing parking spaces is not associated with an existing site plan approval.

  Applicant Response: The existing parking lot is not associated with an existing site plan approval.

DEPARTMENT OF PUBLIC WORKS – ENGINEERING & TRANSPORTATION

- The City's Technical Manual has been recently updated and approved. After reviewing the proposed details for this project it is clear that you are using the outdated details. The applicant shall update all proposed details (Site, Sewer, Stormwater, Landscape, …. details) to meet the requirements of the recently approved technical manual update. CAD files can be obtained upon request.

  Applicant Response: Applicable details have been updated to reflect the latest version of the Technical Manual.

- The applicant shall label all improvements in the ROW. Improvements and existing conditions in the ROW shall be dimensions on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths as well as when a width changes.

  Applicant Response: Additional dimensions have been added to existing conditions and improvements within the right-of-way.

- The applicant shall update the plans to label and or provide spot grades and slopes for the proposed sidewalks and driveway improvements at grade breaks.

  Applicant Response: Additional spot grades and notes have been added to the proposed sidewalk and driveway apron. See Sheet C-5.1.

- The proposed brick sidewalk cross slope shall not exceed 2% at the property line. If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope.

  Applicant Response: Additional spot grades and notes have been added to the Detailed Grading Plan (Sheet C-5.1) to ensure the Turner Street sidewalk is constructed in accordance with this comment.

- The plans need to show and label existing and proposed curb. Is the applicant planning to reset the existing granite curb? If the existing Granite Curb will be reset the applicant shall insure that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation / during construction.

  Applicant Response: The project will include resetting existing curb and installing new curb within public rights-of-way. These locations have been noted clearly on the Site Plan (C-4.0). A note regarding the condition of the existing curb has been added to the Existing Conditions & Demolition Plan (Sheet C-3.0).

- On the site plan note the location of the curb that will be removed and reset or new curb installed per the current City standards.

  Applicant Response: The project will include resetting existing curb and installing new curb within public rights-of-way. These locations have been noted clearly on the Site Plan (C-4.0).

- It is the City's standard to have the sidewalk material continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope. The applicant shall depict the proposed sidewalk and driveway on the plans to meet the current City standards. The sidewalk and driveway shall be constructed in accordance with the City's Sidewalk and Driveway Apron Material Policy and the granite curb installed per the current City standards. The applicant shall update the plans and provide spot grades and slopes for the proposed sidewalk. The sidewalk material shall be continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope per the current City standards.

  Applicant Response: The most recent driveway apron detail from the City of Portland Technical Manual has been added to the drawings (Sheet C-8.0). Spot grades have also been added to the Detailed Grading Plan (Sheet C-5.1) to ensure proper cross slope of the pedestrian route.

- All pavement cuts in the City ROW shall be repaired per the Minor Excavation Pavement Repair Details (prior to paving the finished surface) found in the Rules and Regulations for Excavation Activity.

  Applicant Response: Details for pavement repairs within the city right-of-way are located on Detail Sheet C-8.0.

- The applicant is required to get an excavation permit and coordinate with the Department of Public Works prior to any work within the street Right of Way.

  Applicant Response: A note regarding the requirement for an excavation permit is located on General Notes Sheet C-1.1.

- If during the proposed renovations the applicant's contractor requires occupying the City's right of way for placing a dumpster, staging, additional parking spaces and or parking / using vehicles for construction purposes (for example), then the applicant will be required to apply for a Street Occupancy Permit or a Sidewalk Occupancy Permit. Also, be aware that a traffic control plan is required with the submission of an occupancy permit impacting pedestrian routing and or the normal movement of vehicles.

  Applicant Response: A note regarding the need for a Street and/or Sidewalk Occupancy Permit has been added to the Construction Management Plan (Sheet C-3.1).

- The applicant shall reconstruct the existing driveway aprons to be compliant per the City's Technical Manual Section 1, Figure I-9C and the City's Sidewalk and Driveway Apron Material Policy.

  Applicant Response: We believe that the plans reflect the most recent driveway apron and sidewalk details and material policies of the City of Portland.

DEPARTMENT OF PUBLIC WORKS – WATER RESOURCES

- The applicant shall submit a wastewater capacity application to DPW water resources for review and approval.

  Applicant Response: A wastewater capacity application was submitted to Brad Roland at the Department of Public Works, Water Resources Department via email on May 8, 2023.

- Flows from the grassed swale running along the northerly and westerly edge of the property should be conveyed into the site's proposed storm drain network to prevent concentrated flows from discharging across eastern promenade esplanade. The concern would be nuisance erosion occurring on City park land downstream of the proposed development site.

  Applicant Response: A field inlet has been added at the eastern terminus of the proposed swale to collect runoff prior to discharging it onto the esplanade.

- The applicant shall add City standard details from the most current version of section # 2 of the Tech Manual for private sewer lateral connections into public sewers.

  Applicant Response: The most recent detail for a private sewer lateral connection has been added to Detail Sheet C-8.1.

- It is requested that the applicant add a note to the plans pertaining to existing catch basin structures impacted by the proposed storm drain work in Turner street: "The Contractor and City of Portland DPW to assess the condition of existing catch basin structures in the field to determine if reuse is acceptable."

  Applicant Response. The requested note regarding the condition of existing catch basins has been added to the Grading & Drainage Plan (Sheet C-5.0).

- DPW does not have a hydraulic model of the existing City storm drain system in this project area to fully understand the impacts of the increased stormwater runoff flows this project is proposing to add into the system. The applicant should provide stormwater management in order for the project to meet the flooding standard to ensure the flow increases don't cause or contribute to existing capacity issues in the system.

  Applicant Response: More information on how the project will meet the flooding standard will be provided in a subsequent submission.

- DPW is requesting that SD-5 and SD-6 be upsized to 18" storm drains.

  Applicant Response: The requested changes to the storm drain network have been made on the Grading & Drainage Plan (Sheet C-5.0).

- DPW is requesting that the applicant upsize the existing 12" storm drain pipe connecting DMH-5 to the existing City CB on the northerly side of Turner to a 18" storm drain. City records indicate the outlet pipe from the City catch basin on the northerly side of Turner Street is an 18" PVC pipe.

  Applicant Response: The requested change has been made to the Grading & Drainage Plan (Sheet C-5.0).

- The existing City storm drain outlet pipe at DMH-7 is a 10" ID pipe according to City mapping records. SD-8 shall be downsized such that it isn't larger than the outlet pipe.

  Applicant Response: Proposed storm drain pipe SD-8 has been downsized to 6" diameter. This change is shown on the Grading & Drainage Plan (Sheet C-5.0).

STORMWATER

- The project is required to provide for stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. The project is a redevelopment project and is reducing the amount of non-roof impervious surface.

- The Applicant has calculated a slight increase in stormwater runoff amounts. It should be confirmed that there is not concern with downstream stormwater system capacities. The project also includes installation of new stormwater infrastructure in the ROW, and this should be coordinated with the Department of Public Works.

  Applicant Response: More information on how the project will meet the flooding standard will be provided in a subsequent submission.

- The project is proposing to direct stormwater along the western edge of the site onto the adjacent property. A grading easement has been identified along the western edge of the property. The Applicant should confirm with the neighboring property that there are no concerns with the proposed grading. The amount of flow is anticipated to be very small, but will be within a defined swale that did not exist based on existing conditions grades. Further evaluation and coordination with the neighboring property is required.

  Applicant Response: The grading on the western and northern property boundaries has been revised. No new grading is proposed on abutting properties, and runoff in the proposed grass swale is now designed to be collected on the project site in a field inlet and piped into the site's storm drain system.

- The demolition and site plans should reflect the pavement impact in the Eastern Promenade due to the proposed stormwater infrastructure installation and the water service retiring.

  Applicant Response: The drawings have been updated to reflect the proposed impacts within the Eastern Promenade right-of-way.

- The grading plan shows grades within the parking area. The collection of runoff in this area should be clarified – drainage from within covered parking areas must be sent through an oil water separator and to the sanitary sewer separate from site stormwater and sewer.

  Applicant Response: A new catch basin and oil/grit separator has been added within the garage to collect water and direct it to the internal building sewer. See Sheets C-5.0 and C-5.1.

- The grading plan shows grades that encroach into abutting properties, the Applicant is required to document any drainage easement with abutting property owners. The Applicant shall handle stormwater drainage on site to not require drainage problems onto the City right of way or adjacent lots under 14.6.2.D.1.b.

  Applicant Response: Grading and maintenance easements shown on the drawings have been agreed upon with abutting land owners. Final executed easements will be provided to the city planning department when complete.

  The project will not cause drainage or erosion problems within the city right-of-way or on adjacent lots. The only stormwater runoff from the site onto an adjacent lot is at the eastern property line adjacent to Eastern Place Condominium. A large portion

of the existing parking lot drains across this property line today. In the proposed condition, the area tributary to the Easter Place Condominium parcel is greatly reduced. The existing slope located on this property line will be regraded and stabilization will be improved with plantings shown on the Planting Plan (Sheet L 1-00).

LANDSCAPING & ENVIRONMENTAL QUALITY

- General comment - ensure any additional planting / street tree requirements for the number of housing units meet waiver standards in section 4.6 of city technical manual. Provide information on any tree fund donations that will occur for unit requirements that are unable to be met with new plantings proposed.

  Applicant Response: The project includes 14 residential units. Section 4.6 of the Technical Manual requires that one street tree be provided within the city right-of-way for each unit of multi-family housing. Planting street trees within adjacent city rights-of-way is not feasible given site constraints. The sidewalk on Turner Street is only 6.5' wide, which is not wide enough for street trees, and the Eastern Promenade vegetated esplanade already features trees that the applicant is not proposing to alter.

  The applicant proposes to provide alternatives to street trees in accordance with Section 4.6.4 of the Technical Manual as follows:

  - **3 existing healthy trees are located within the Eastern Promenade right-of-way along the site frontage. Tree protection notes for these trees have been added to the project drawings.**

  - **6 new trees will be planted within 20' of the public right-of-way. The trees are shown on the Landscape Plan (Sheet L 1-00).**

  - **The applicant proposes to contribute $2,000 to the City of Portland Tree Fund for the 5 remaining street trees required under this section ($400 per tree).**

- C-3.1 CMP V1 - Please show tree protection, limits of work, laydown and delivery storage locations on CMP. Any removal of significant trees that are unable to be replaced and require waiver request / approval shall be done under guidance of 4.3.8 for replacement tree cost contributions.

  Applicant Response: The information on tree protection, limits of work, laydown and delivery storage locations has been added to the Construction Management Plan (Sheet C-3.1). Ten trees on the site and one tree in the Turner Street right-of-way will be removed for construction. It is believed that no feature mature trees are located on the site, and no existing trees on the site will be protected. The proposed landscaping plan includes replacement trees for the ten trees that will be removed.

- C-3.1 CMP V1 - Include notes or other means of referencing tree and site protection standards that meet sections 4.2 and 4.3 of Chapter 4 in the city technical manual. These standards are for preservation of existing vegetation and significant site features.

Applicant Response: Applicable notes have been added to the Construction Management Plan (Sheet C-3.1).

- C-5.1 Detailed Grading plan - show TOW elevation at eastern walkway edge along east side of building and for retaining wall along Eastern Promenade sidewalk area.

  Applicant Response: Information on retaining wall heights and step locations will be provided in a subsequent submission.

- C - 5.1 Detailed Grading plan - label all existing walkways, streets, and significant on site or adjacent structures

  Applicant Response: The information referenced has been added to the Detailed Grading Plan (Sheet C-5.1).

- L 1-00 Planting Plan - Provide labels and quantities for specific tree species proposed.

  Applicant Response: The Landscape Plan has been updated to indicate proposed quantities and species.

- L 1-00 Planting Plan - shed is referenced in plan notes as being relocated. Update note to reference specific plan within larger plan submittal set and/ or show actual relocation of shed.

  Applicant Response: The plan note has been updated/removed as the specific construction and maintenance access easement agreement between the applicant and adjacent property owner will spell out specific measures for replacing and/or relocating existing conditions and structures where not specifically indicated on plan, such as the shed.

- L 1-00 Planting Plan - NF is shown along turner street under new street tree plantings. Is this meant to be NE - walkers low catmint? Please clarify.

  Applicant Response: The Landscape Plan has been updated, removing Nepeta and replacing it with more suitable species. All plan notes and schedule have been updated.

- L100 Planting Plan - ensure plantings along accessible walkways are species with compact or non ranging growth habit that do not encroach into these areas. Concern with Rhus aromatica adjacent to such spaces. The species is a fine selection for massing or naturalizations, but should be planted with generous clearance from pedestrian pathways.

  Applicant Response: The Landscape Plan has been updated accordingly.

- L100 Planting Plan - Clarify shrub species at western surface parking spaces adjacent to transformer planting bed and on the west side of entrance driveway. Recommend cornus sericea species not be in areas that will obstruct site lines for vehicular drivers or in circumstances where pedestrians might be screened from vehicular traffic view. Any woody stemmed plants in areas that impact vehicular sight lines for drivers parking or

entering/exiting sites should be species with mature growth dimensions that will not create visibility concerns.

Applicant Response: The project team has analyzed sight lines with proposed planting and feels comfortable with the updated plan and species selections.

- L100 Planting Plan - Indicate height of retaining walls proposed and ensure plantings along walls and abutting boundaries comply with 4.5.7 and 4.5.2 of the site buffer requirements in chapter 4 of the technical manual.

  Applicant Response: Confirmed. Additional planting has been included and species adjusted to create additional and enhanced buffering conditions, particularly along the southern and eastern frontages.

We look forward to meeting with the Planning Board for a workshop on this project on August 15th. In the interim, please contact me with additional questions or comments.

Sincerely,
TERRADYN CONSULTANTS, LLC



Michael Tadema-Wielandt, P.E.
Vice President

Attachments:
Easement Agreements

cc. Harry Krigman
Mark Muller Architects
Nick Aceto
Greg Shinberg

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT is made this ____ day of July, 2023 by and between PROMENADE PLACE CONDOMINIUM ASSOCIATION, a Maine nonprofit corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantor"), and ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantee").

For valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in consideration of the mutual promises and covenants set forth herein, the parties agree as follows:

1. GRANT OF EASEMENT:

Grantor, acting as the condominium association for Promenade Place Condominium, a condominium declared under the Declaration noted below, pursuant to the provisions of the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes (the "Act"), and specifically Section 1603-102(9) of the Act, for consideration paid, grants to Grantee, to be appurtenant to the land of the Grantee described in the Quitclaim Deed of Perlin Realty LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117, (the "Ellie & Chaya Property"), the following perpetual rights and easements over, under and upon a portion of the land described in the Declaration of Condominium of Promenade Place Condominium dated August 13, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31710, Page 234, such portion being more particularly described in Schedule A annexed hereto and incorporated herein by reference (the "Easement Area"):

The perpetual right and easement over, under and upon the Easement Area to construct, maintain, repair and replace a retaining wall (or similar structure, including but not limited to a boundary wall, or fence) (the "Improvements") in accordance with City of Portland land use approval requirements, along the boundary line between the Ellie & Chaya Property and the land described in the Declaration (the "Condominium Property"), including the right to enter upon the Easement Area with workers and heavy equipment for all of the purposes stated above. The foregoing rights and easements shall be appurtenant to the Ellie & Chaya Property and shall burden the Easement Area. Grantor reserves the use and enjoyment of the Easement Area for any purpose that does not unreasonably interfere with Grantee's rights under this Easement Deed.

Notwithstanding anything to the contrary, Grantee shall not interfere with Grantor's use and enjoyment of and access to the paved drive off Turner Street and the parking areas shown on the plan titled "Promenade Place Condominium Plan" prepared by Northeast Civil Solutions dated 07-02-2104 and recorded on August 12, 2014 in Cumberland County Registry of Deeds in Plan Book 214, Page 270. Grantor's use and enjoyment of the paved drive off Turner Street and parking areas shall specifically include but not be limited to vehicular ingress and egress over

such paved drive to access the parking areas by Grantor and residents and guests of the Promenade Place Condominium. The grant of this Easement shall not be construed to reduce the easement rights granted to Grantor pursuant to that certain Easement Deed dated October 22, 2007 and recorded in Deed Book 25665, Page 103 of the Cumberland County Registry of Deeds (the "Access Easement"). The Access Easement and rights granted to Grantor thereunder shall continue in full force and effect.

2. OBLIGATIONS OF GRANTEE:

Prior to or upon execution of this Easement Deed, Grantee shall pay Grantor the sum of three thousand dollars ($3,000.00) to cover legal costs incurred by Grantor in connection with this Easement.

Grantee shall not install the Improvements without first obtaining the written approval from Grantor of the design, size, and appearance of the Improvements, which shall not be unreasonably withheld, conditioned, or delayed. Grantor may reasonably request engineering reports from Grantee confirming the structural soundness and safety of the proposed design of the Improvements prior to granting its approval.

Grantor shall perform vibration monitoring on Grantor's two condominium buildings during heavy construction on the Ellie & Chaya Property or the Easement Area. This shall include Grantee's performance of a written pre-construction vibration assessment on the condominium buildings' structure, and delivering a copy of the same to Grantor, prior to Grantee commencing construction on the Ellie & Chaya Property or performing any work on the Improvements and/or in the Easement Area. Prior to the commencement of any construction of the Improvements, the Easement Area or Ellie & Chaya Property and until the Improvements and all construction on the Ellie & Chaya Property is fully complete, Grantee shall install and maintain on Grantor's condominium buildings a seismograph of a type commonly used in the construction industry for purposes of measuring construction vibrations on buildings. The seismograph shall be installed and monitored by a contractor knowledgeable in construction vibration monitoring and the vibration data stored. The vibration monitoring data shall be made available to the Grantor upon request.

Grantee, at its sole cost and expense, shall (i) install the Improvements; (ii) keep and maintain the Improvements in good order, condition and appearance; and (iii) promptly repair any damage caused by Grantee to the Easement Area, the Improvements or any other part of the Condominium Property.

All work performed by Grantee hereunder: (i) shall be performed in good and workmanlike manner by skilled contractors insured as required herein and in accordance with sound engineering principles and practices; (ii) conducted between the hours of 8:00 AM and 6:00 PM on weekdays, unless otherwise agreed to by Grantor in advance, (iii) for maintenance or repair work, completed to equal or better than existing standards, and (iv) upon commencement, be pursued to completion as diligently and expeditiously as reasonably possible. Grantee shall be solely responsible for obtaining any and all necessary permits and other approvals that may be

required by any federal, State or local authorities for use of the Easement Area by Grantee as set forth above.

Except in an emergency situation in which immediate work is necessary to prevent harm to person or property, Grantee shall provide Grantor with at least 3 days' notice whenever it intends to have contractors access the Easement Area for purposes of performing any work within the Easement Area. Grantee shall also provide Grantor with at least seven (7) days' notice prior to the commencement of any pile driving or other noisy heavy construction. Notification hereunder may be done by telephone or email to such person as may be designated by Grantor.

To the fullest extent permitted by law, Grantee shall defend, indemnify and hold harmless Grantor, including Grantor's directors, officers, members, property managers, employees and agents (the "Grantor Indemnified Parties"), from and against any and all claims, damages, losses and expenses, including but not limited to attorney's fees and costs, arising out of, relating to or resulting from: (1) the Improvements; or (2) the use of the Easement Area and/or the work performed hereunder, or anyone directly or indirectly employed by Grantee, contracted by Grantee or anyone for whose acts Grantee may be liable. Notwithstanding the foregoing, Grantee's obligation to indemnify hereunder does not extend to any claims, damages, losses and expenses caused by the gross negligence, or willful misconduct, of Grantor.

Grantee's use of the Easement Area is at Grantee's sole risk. In no event shall Grantor or any Grantor Indemnified Party be responsible for any injury of Grantee's employees, contractors, or agents, and Grantee waives the right to any claims against the Grantor related to on-the-job injuries. Grantee agrees to indemnify and hold harmless Grantor from all claims, losses or attorney's fees due to property damage caused by the negligence or intentional misconduct of Grantee's employees, contractors, or agents.

Grantee and any contractors of Grantee performing work within the Easement Area or on any other Condominium Property (a) shall be insured up to at least $2,000,000 ($1,000,000 per occurrence) of liability insurance, covering claims for bodily injury, occupational sickness, death, and motor vehicle liability, as well as, for Grantee, contractual indemnity coverage sufficient to cover Grantee's indemnity obligations hereunder; and (b) shall provide Workers Compensation as required by Maine law, including disability benefit or similar employee benefit acts which are applicable to the work for all persons employed by Grantee or any of its contractors. Grantee shall add and maintain Grantor, Grantor's property management company, Directors, Officers, and agents as additional named insureds on all liability policies carried by Grantee. Before Grantee or any of its contractors commences any work hereunder, and upon request by Grantor at any time, Grantee shall provide Grantor with Certificates of Insurance and proof of Grantor's additional insured status demonstrating that Grantee and its contractors carry insurance meeting these requirements.

If Grantee fails to maintain the Improvements as specified in this Agreement, or damages the Easement Area or any other part of the Condominium Property and fails to repair it within a 7 day period, and if the Grantee does not cure such failure within thirty (30) days after written notice from Grantor, then Grantor may perform any maintenance it reasonably deems required

and shall bill the Grantee the cost of said maintenance. If the Grantee shall fail to pay such costs within thirty (30) days of receipt of said bill for costs, then such amounts shall bear interest at the rate of ten percent (10%) per annum and Grantor shall have all of the remedies available to the Grantor pursuant to applicable law, and in addition shall have the right to collect Grantor's attorneys' fees if Grantor prevails in any lawsuit for collection of such sums.

Once the Improvements are constructed in the Easement Area, Grantee, its successors and assigns, will not place or store construction equipment or materials within the Easement Area.

3. ASSUMPTION BY CONDOMINIUM ASSOCIATION:

Prior to selling the first dwelling unit in the Ellie & Chaya Property, Grantee shall form a condominium association (the "Condominium Association") in connection with the Ellie & Chaya Property in which all dwelling unit owners in the Ellie & Chaya Property shall become members and which will succeed to Grantee's rights and obligations under this Agreement and shall be bound thereby.

Grantee shall cause the Condominium Association to assume and be bound by this Agreement pursuant to a recorded instrument, but such actions shall not release Grantee from its obligations hereunder. Upon assumption of this Agreement by the Condominium Association as provided in the preceding sentence, and provided Grantee has complied with its obligations under this Agreement and upon the turn over of control of the Condominium Association from Grantee, the Grantor shall look solely to the Condominium Association for performance of the obligations of Grantee.

4. GENERAL:

The invalidity of any clause, part or provision of this agreement shall not affect the validity of the remaining portions thereof.

This Agreement is created pursuant to, and shall be construed in accordance with and governed by the laws of the State of Maine.

Notices shall be in writing and shall be deemed to have been duly delivered the next day after mailing if sent by certified mail or by recognized overnight courier, addressed to the recipient at its last known address and, if applicable to the registered agent for such party on file with the Maine Secretary of State.

This Agreement shall run with the land and shall both benefit and burden the Ellie & Chaya Property and the Condominium Property. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns. This Agreement may not be modified except in a written instrument executed by both parties and recorded in the Cumberland County Registry of Deeds.

IN WITNESS WHEREOF, PROMENADE PLACE CONDOMINIUM ASSOCIATION ("Grantor") and ELLIE & CHAYA, INC ("Grantee") have caused this instrument to be executed and acknowledged by their duly-authorized representatives, on this ____ day of _____, 2023.

PROMENADE PLACE
CONDOMINIUM ASSOCIATION

_____ By:_____
Witness Mike Hutchinson
Its President

[Acknowledgement Located on Following Page]

STATE OF MAINE
Cumberland, ss.

_____ ___, 2023

Personally, appeared the above-named Mike Hutchinson, President of Promenade Place Condominium Association, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

ELLIE & CHAYA, LLC

_____
Witness

By:_____

_____

Its: _____

[Acknowledgement Located on Following Page]

STATE OF MAINE _____ ___, 2023
Cumberland, ss.

Personally, appeared the above-named _____, _____ of _____, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

SCHEDULE A

The legal description of the Easement Area is as follows:

Beginning at a point at the westerly sideline of the Eastern Promenade at the point where the Ellie & Chaya Property and the land described in the Declaration meet.

THENCE, S 42° 37’ 32” W a distance of 115.32 feet to a capped iron rod.

THENCE S 49° 57’ 19” E a distance of 114.28 feet to an iron rod found in the northerly sideline of Turner Street.

THENCE easterly along the northerly sideline of Turner Street a distance of 5.0 feet to a point.

THENCE N 49° 57’ 19” W a distance of 109.28 feet, more or less, to a point.

THENCE N 42° 37’ 32” E a distance of 110.32 feet, more or less, to the westerly sideline of the Eastern Promenade.

THENCE N 66° 49; 28’ W along the westerly sideline of the Eastern Promenade a distance of 5.0 feet, more or less, to the point of beginning.

TREE INSTALLATION AND MAINTENANCE AGREEMENT

THIS TREE INSTALLATION AND MAINTENANCE AGREEMENT (the "Agreement") is made and entered into on this 16th day of June, 2023 by and between ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine ("ECI") and EASTERN PROMENADE LIMITED LIABILITY COMPANY, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine ("Eastern").

Recitals:

A. ECI is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of Turner Street and Morning Street described in (i) the Quitclaim Deed of Esther Albert Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 115 and (ii) the Quitclaim Deed of Perlin Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (as described in such deeds collectively, the "ECI Property");

B. The parcels of land comprising the ECI Property are contiguous to one another and constitute a single parcel for purposes of this Agreement;

C. Eastern is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of the Eastern Promenade, Québec Street, Emerson Street and Turner Street described in the Warranty Deed to Eastern dated March 10, 1998 and recorded in the Cumberland County Registry of Deeds in Book 13664, Page 80 (as described in such deed, the "Eastern Property");

D. The Eastern Property is bounded on the northwest and southwest by the ECI Property as depicted on the Plan entitled "Boundary & Topographical Survey at 246 Eastern Promenade, Portland, Maine" made for Shinberg Consulting, LLC dated March 31, 2022 and recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan"), a reduced copy of which is annexed here to as Exhibit A;

E. In connection with ECI's intention to develop and construct a condominium on the ECI Property in accordance with City of Portland land-use requirements for the project, ECI has requested that Eastern grant it an easement to be appurtenant to the ECI Property and to encumber Eastern Property to allow ECI, its successors and assigns, to install evergreen trees on the northwesterly line of the Eastern Property and ornamental and maples trees on the southwesterly line of the Eastern Property, all in accordance with the depiction of such trees on the Plan;

F. Eastern is willing to grant the easement to ECI referred to in Recital E on the following conditions: (i) ECI, its successors and assigns, shall install and maintain the trees depicted on the Plan at its sole cost and expense and in a good and healthy state at all times, (ii) ECI shall grant Eastern an easement to be appurtenant to the Eastern Property and to encumber ECI Property to allow Eastern, its successors and assigns, to enter upon the ECI Property to maintain the trees in a good and healthy state at all times in the event that ECI fails to do so, and (iii) ECI shall grant Eastern an easement over, under and upon a strip of land five (5) feet in width on and within that portion of the ECI Property that is immediately contiguous to the Eastern Property, for the length of the common boundary (all such land, the "Five-Foot Strip"), such easement to be for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or any of condominium units declared or to be declared on the ECI Property;

G. ECI is willing to accept the conditions required by Eastern set forth in Recital F for the reciprocal easement rights;

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which the parties do hereby acknowledge, ECI and Eastern agree as follows:

1. Accuracy of Recitals. Recitals A through G, inclusive, of this Agreement are true and accurate in all respects.

2. Grant of Easement by Eastern to ECI.

(a) Eastern hereby grants ECI the perpetual right and easement, to be appurtenant to the ECI Property and to encumber the Eastern Property, to allow ECI to install, maintain, prune and replace at its sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A. ECI shall install and maintain the trees depicted on the Plan and in a good and healthy state at all times.

(b) To exercise its rights under the granted herein, ECI shall provide Eastern with ten (10) days prior written notice of its intention to enter onto the Eastern Property to install, maintain, prune or replace the trees depicted on the Plan. ECI shall make use of only that portion of the Eastern Property that is reasonably necessary for ECI to exercise its rights under the easement granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to Eastern and its tenants to the maximum extent possible. After exercising its rights under this easement, ECI shall immediately restore the

condition of the Eastern Property to the condition it was in before such exercise of the easement rights granted hereby.

(d) ECI shall defend and indemnify Eastern, its members, successors and assigns, of and from any and claims, demands, actions or losses asserted against Eastern by any third party arising out of the exercise by ECI of the easement rights granted hereby, or arising out of the alleged negligence of Eastern relating to the trees and land under them depicted on the Plan.

(e) In advance of ECI entering on the land of Eastern to exercise the easement rights granted hereby, ECI shall provide Eastern with an insurance certificate naming Eastern as additional insured and providing Eastern with commercially reasonable property and liability insurance coverage against property damage and liability for any losses or damages arising from ECI's exercise of the easement rights.

3. Grant of Easements by ECI to Eastern.

(a) ECI hereby grants Eastern the following perpetual rights and easements, to be appurtenant to the Eastern Property and to encumber the ECI Property:

(i) The perpetual right and easement to allow Eastern to install, maintain, prune and replace at ECI's sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times; and

(ii) The perpetual right and easement over, under and upon the Five-Foot Strip, for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or with any condominium units declared or to be declared on the ECI Property.

(b) To exercise its rights under the granted herein, Eastern shall provide ECI with ten (10) days prior written notice of its intention to enter onto the ECI Property to install, maintain, prune or replace the trees depicted on the Plan or for temporary access over, under and upon the Five-Foot Strip in support and during the course of construction or development of the Eastern Property. Eastern shall make use of only that portion of the ECI Property that is reasonably necessary for Eastern to exercise its rights under the easements granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to ECI and condominium unit owners on the ECI Property to the maximum extent possible. After exercising its rights under these easements,

Eastern shall immediately restore the condition of the ECI Property to the condition it was in before such exercise of the easement rights granted hereby, provided, however, that ECI, its successors and assigns, shall be solely responsible for all costs and expenses incurred by Eastern in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times.

4. Covenants Running with the Land.

(a) For the avoidance of doubt, the parties intend that all obligations and undertakings under this Agreement, to the extent that they are not deemed grants of a real property right, are covenants running with the land and shall be just as binding on and just as enforceable by any future owners of the Eastern Property and the ECI Property, as the case may be, as if granted by any such future owner of either property.

IN WITNESS WHEREOF, ELLIE & CHAYA, INC. and EASTERN PROMENADE LIMITED LIABILITY COMPANY have executed, acknowledged and delivered this Agreement by their duly authorized officers as of the date first above written.

[Signatures and Acknowledgements Located on Following Page]

ELLIE & CHAYA, INC.

Witness

By: _____
Harry Krigman
Its President

EASTERN PROMENADE LIMITED LIABILITY COMPANY

Witness

By: _____
Lloyd L. Lathrop, III
Its Sole Member

STATE OF MAINE
Cumberland, ss.

June 20, 2023

Personally appeared the above-named Harry Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Ellie & Chaya, Inc.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028

STATE OF MAINE
Cumberland, ss.

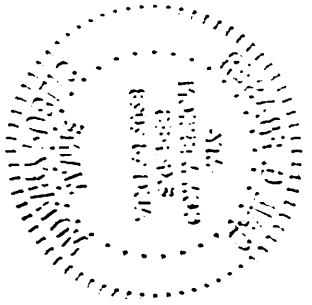
June 16, 2023

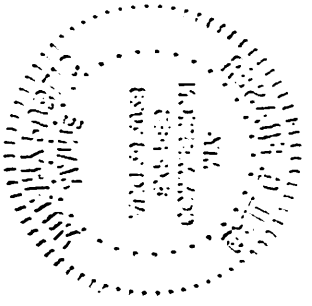
Personally appeared the above-named Lloyd L. Lathrop, III. Sole Member of Eastern Promenade Limited Liability Company, and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Eastern Promenade Limited Liability Company.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028





Att. R


246
246 EASTERN PROM 8/15/2023
APPLICATION ID: PL-002490-2023
NOTICE OF
PUBLIC MEETING
CITY OF PORTLAND
PLANNING BOARD
Find agenda at: www.portlandmaine.gov/agendas
For more information, call (207) 874-8719


246 EASTERN PROM 8/15/2023
APPLICATION ID PL-002490-2023
NOTICE OF
PUBLIC MEETING
CITY OF PORTLAND
PLANNING BOARD

Mary Roy

56 Wilson St. - Unit #3
Portland, ME 04101
mroy122@gmail.com

Christine Grimando, Director
Planning & Urban Development
389 Congress St. – 4th FL
Portland, ME 04101

June 20, 2023

Regarding: 246 Eastern Promenade and 15 Turner Street.

Dear Ms. Grimando,

I am writing this letter to express my support for the project proposed by ECK Realty located at 246 Eastern Promenade and 15 Turner Street.
I have been a resident of Munjoy Hill for the past 20 years. Back in 2003, my husband and I did a massive renovation of our home on North St. Since then, I have watched the neighborhood change over the years, increasing in density with the development of several new condominium projects. I have made many friends through these new housing options and appreciate the creative and practical use of space to provide for much needed housing in Portland and especially on the Hill.

ECK Realty has proposed a development that will also add more housing to our community and my neighborhood with their plan for 246 Eastern Promenade and 15 Turner Street. Much care and thoughtful planning has been made to assure that the new multi-unit construction (1) creates much needed housing units and (2) fits into the neighborhood aesthetically. I fully support this proposal for more housing on Munjoy Hill.

Sincerely,

Mary Roy

Cc: Brandon Mazer, Chair
Justin Barker, Vice-Chair

DocuSign Envelope ID: 2BAF30EB-F634-418A-8968-C20473902F03

Planning Board City of Portland Maine

389 Congress Street

Portland, ME 04101

August 7, 2023

Subject: Concerns about Proposed Real Estate Developments by ECK Realty LLC / Ellie + Chaya on Eastern Promenade

Dear Members of the Planning Board,

We hope this letter finds you well. We are writing as concerned residents of the Eastern Promenade neighborhood to express our apprehensions regarding the proposed real estate developments by ECK Realty LLC / Ellie + Chaya. We deeply cherish the historical significance and aesthetics of our neighborhood and believe that the modern design of the proposed buildings does not harmonize well.

Munjoy Hill and more specifically, the Eastern Promenade, are more than just a collection of buildings; they are a tapestry of history, culture, and community. The unique architectural styles of our homes and structures reflect the evolution of our neighborhood over time. They narrate stories of generations past and encapsulate the character and identity that make Eastern Promenade a cherished place to live and a unique destination for people from all around the world to visit.

The modern design of the current development proposal proposed buildings will disrupt this harmonious blend of history and culture. The charm of our neighborhood lies in the Victorian, Colonial, and other historic architectural styles that have stood the test of time (some of which survived the Great Fire). Continuing to develop modern buildings that do not complement this existing fabric will compromise the unique sense of place of the Eastern Promenade and its iconic views of Casco Bay.

The architecture of a city also plays a crucial role in its identity and tourism appeal. Historic and scenic neighborhoods, like Eastern Promenade, draw visitors from far and wide, not only for their unique charm but also for the stories they tell. Disrupting the architectural harmony of such

DocuSign Envelope ID: 2BAF30EB-F634-418A-8968-C20473902F03

neighborhoods risks diluting their appeal and eroding their uniqueness.

As cities grow and evolve, it is essential for planners, developers, and city officials to approach economic growth in a thoughtful and intentional manner. While we realize development is necessary for progress, it doesn't have to come at the cost of sacrificing a neighborhood's character and heritage. Surely we can find a way to strike a balance between embracing progress and preserving the elements that make Portland and its neighborhoods so special.

Therefore, we kindly request the Planning Board to consider the significance of architecture and its role in fostering a strong sense of community identity as this project moves through approvals. We urge you to evaluate the proposed developments with a critical eye on how well they align with the existing architectural fabric of Eastern Promenade and the values of our community.

It is our hope that the Planning Board, in collaboration with developers like ECK Realty LLC / Ellie + Chaya, will support projects that respect and enhance the character of historic neighborhoods like ours. By doing so, we can ensure a sustainable and harmonious growth for our city while preserving the essence of what makes Eastern Promenade a cherished place for its residents and visitors alike.

Thank you for your attention to our concerns, and for all of your hard work. We trust that you will give careful consideration to the impact of these proposed developments on our beloved neighborhood. If you require any further information or would like to discuss this matter further, please feel free to contact us.

Respectfully,

DocuSigned by:
Helen Coyne
8DC0A8B9E29843D...

Helen Coyne
236 Eastern Promenade Unit 1

DocuSigned by:
F6FAA5B161CA496...

Rudina Gribizis
236 Eastern Promenade Unit 3

DocuSigned by:
29963F8076784B6...

Cami Wolff
234 Eastern Promenade Unit 1

246 Eastern Prom Public Hearing - Abutting Neighbor Input

david bannon <davidbannon@yahoo.com> Thu, Aug 10, 2023 at 2:57 PM
To: "planning@portlandmaine.gov" <planning@portlandmaine.gov>
Cc: "sking@portlandmaine.gov" <sking@portlandmaine.gov>, "b.vestal@munjoyhill.org" <b.vestal@munjoyhill.org>

Dear Planning Board Members & Ms. Grimando

I am traveling and will not be available for the public hearing that you are sponsoring for the August 15th meeting to discuss the 246 Eastern Prom development so I wanted to offer my input herein. I did initially write the usual letter (below) that you would expect a bordering neighbor to write in objecting to the development but after reading it over, there is nothing compelling or unusual that would impact the Planning Board's decision.... the usual blah, blah, blah.

With the experience on the Planning Board, I am sure that you appreciate that the 246 Eastern Prom development is overly ambitious for that plot of land. It is unnecessarily large in scale and scope and represents the equivalent of wedging a Walmart-sized building into that small area.

And while there are no specific Munjoy Hill development guidelines embedded within the 2030 Portland Development Plan, I believe that the Planning Board, as stewards of the Eastern Prom and Munjoy Hill neighborhood, can appreciate the impact of how such a large development will detract from the beauty and character of what is one of the most majestic attributes of Portland - the Eastern Prom.

The scope of this project is just an example of profit maximization by a real estate developer. The proposed development doesn't have to be of that proposed size and could very easily be designed to better fit into the neighborhood and Eastern Prom frontage.

I advocate that the Portland Planning Board deny the project as proposed and subsequently work with the developer to reduce the height of the buildings and scale back the development to some degree. This approach is in the best interest of all constituents and demonstrates how the City Planning organization can work in support shared neighborhood interests and planned development.

Thank you for your consideration.

++

David P Bannon
32 Turner Street
Portland Maine 04101

August 2, 2023

Planning & Urban Development Department
Planning Division, 4th Floor
389 Congress Street
Portland, Maine 04101

Subject: Concerns Regarding Proposed Building Variance in 246 East Promenade Family Neighborhood

Dear Members of the Portland Planning & Urban Development Board,

As a concerned citizen and longtime resident of the Munjoy Hill family neighborhood, I am writing to express my deep apprehensions regarding the proposed building variance for the construction of a tall 4-story development in our cherished community. I believe it is crucial for the Planning Board to consider the following concerns before making a decision that could significantly impact our neighborhood's character and quality of life. Recognizing that affordable housing is a strategic necessity for the City of Portland, this scope and scale of this project should be a major concern all residents of Munjoy Hill as well as City Planners.

First and foremost, the proposed development has the potential to substantially alter the character that makes our family neighborhood unique – it is just too large a development for the proposed location. The charm, scale, and aesthetic appeal of our community could be irreversibly affected, leading to a sense of displacement and loss among residents who have called this area their home for years.

Furthermore, the introduction of a taller building would undoubtedly increase population density in our neighborhood. This heightened density could bring about various challenges, particularly with regards to traffic congestion and parking scarcity. Our streets are already strained during peak hours, and an influx of residents and vehicles could exacerbate the situation, making it increasingly difficult for families to navigate their own neighborhood safely.

One of the cherished aspects of our community is the abundant natural light that fills our homes and outdoor spaces on Munjoy Hill and along the Eastern Prom. Unfortunately, the proposed tall building has the potential to cast long shadows over neighboring properties, significantly reducing the amount of sunlight available. This reduction in natural light could impact the quality of life for families, affecting our mental well-being, and diminishing the enjoyment of our outdoor spaces.

Privacy is another critical concern for families in Munjoy Hill as the density increases. The proposed development's height may compromise the privacy of adjacent homes, balconies, and yards. This invasion of privacy could have a detrimental effect on the sense of security and tranquility that families in the area currently enjoy.

Moreover, the increased population density resulting from the development could put strain on our existing amenities, such as parks, schools, and community facilities. These resources are already valued and utilized by residents, and an influx of new residents might compromise their accessibility and quality. It is important to ensure that our neighborhood's amenities can adequately serve both existing and future residents.

Lastly, I am deeply concerned about the potential impact this tall development could have on property values in our neighborhood. Many residents have invested their hard-earned resources into their homes, relying on the stability and desirability of our community. The introduction of a taller building nearby could create uncertainty and potentially lower property values, which would be a significant blow to homeowners and the overall stability of our neighborhood.

In light of these concerns, I kindly request that the Planning Board takes into account the objections outlined above when evaluating the proposed building variance. It is crucial that the long-term well-being and satisfaction of the residents in the East Promenade family neighborhood are given due consideration.

I appreciate your attention to these matters and thank you for your dedication to preserving the integrity and character of our community. Please do not hesitate to contact me if you require any additional information or if there is an opportunity for public engagement where I can voice my concerns in person.

Yours sincerely,

David P. Bannon

SITE DEVELOPMENT PLANS

FOR

EASTERN PROM CONDOS

246 EASTERN PROMENADE & 15 TURNER STREET
PORTLAND, MAINE

APPLICANT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

PROJECT PARCEL
CITY OF PORTLAND TAX ASSESSOR'S MAP, BLOCK, & LOT NUMBERS

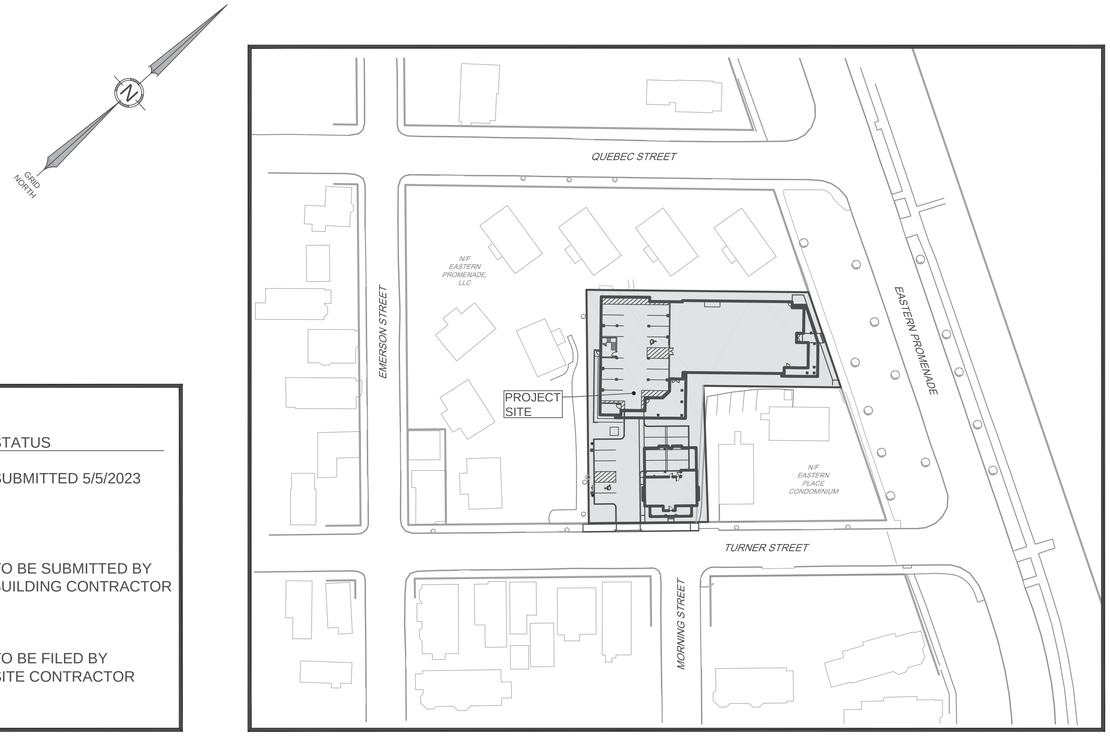
MAP	BLOCK	LOT	CURRENT OWNER
14	I	12	ELLIE & CHAYA, INC.

SHEET INDEX

C-1.0	COVER SHEET AND LOCATION MAP
C-1.1	GENERAL NOTES AND LEGEND
1	BOUNDARY AND TOPOGRAPHIC SURVEY - BY OTHERS
C-2.0	RECORDING PLAT - IN PROGRESS
C-3.0	EXISTING CONDITIONS AND DEMOLITION PLAN
C-3.1	CONSTRUCTION MANAGEMENT PLAN
C-4.0	SITE LAYOUT PLAN
C-5.0	GRADING AND DRAINAGE PLAN
C-5.1	DETAILED GRADING PLAN
C-5.2	EROSION CONTROL NOTES AND DETAILS
C-6.0	UTILITY PLAN
C-7.0	PHOTOMETRIC LIGHTING PLAN
C-7.1	SITE LIGHTING FIXTURES
C-8.0	SITE DETAILS
C-8.1	UTILITY AND DRAINAGE DETAILS
C-9.0	PARKING TURNING ANALYSIS
C-9.1	PARKING TURNING ANALYSIS
C-9.2	PARKING TURNING ANALYSIS
L 1-00	PLANTING PLAN - BY OTHERS

PERMITS

TYPE OF PERMIT	GOVERNING BODY	STATUS
MAJOR SITE PLAN	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL, 389 CONGRESS STREET PORTLAND, ME 04101 TEL. 207.874.8722	SUBMITTED 5/5/2023
BUILDING PERMIT	CITY OF PORTLAND CODE ENFORCEMENT OFFICE CITY HALL, 389 CONGRESS STREET PORTLAND, ME 04101 TEL. 207.874.8900	TO BE SUBMITTED BY BUILDING CONTRACTOR
UTILITY/STREET OPENING	CITY OF PORTLAND PUBLIC SERVICES DIVISION 55 PORTLAND STREET PORTLAND, ME 04101 TEL. 207.874.8801	TO BE FILED BY SITE CONTRACTOR



LOCATION MAP
SCALE: 1" = 60'

PREPARED BY

CIVIL ENGINEER:
TERRADYN CONSULTANTS, LLC
565 CONGRESS STREET, SUITE 201
PORTLAND, MAINE 04101
207.926.5111
CONTACT: MICHAEL TADEMA-WIELANDT, P.E.

ARCHITECT:
MARK MUELLER ARCHITECTS
100 COMMERCIAL STREET, #205
PORTLAND, ME 04101
207.774.9057
CONTACT: MATTHEW PELLETIER

SURVEYOR:
OWEN HASKELL, INC.
309 U.S. ROUTE ONE, UNIT 10
FALMOUTH, MAINE 04105
207.774.0424
CONTACT: SAM GLIDDEN, PLS

LANDSCAPE ARCHITECT:
ACETO LANDSCAPE ARCHITECTS
424 FORE STREET #3B
PORTLAND, MAINE 04101
207.221.3390
CONTACT: NICK ACETO, LA

UTILITIES

SEWER/STORM
CITY OF PORTLAND
DEPARTMENT OF PUBLIC WORKS
212 CANCO ROAD
PORTLAND, MAINE 04103
207.874.8801

WATER
PORTLAND WATER DISTRICT
225 DOUGLASS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.774.5961

ELECTRIC
CENTRAL MAINE POWER COMPANY
162 CANCO ROAD
PORTLAND, ME 04103
(207) 842-2367

TELEPHONE
CONSOLIDATED COMMUNICATIONS
58 WESTMINSTER STREET
LEWISTON, MAINE 04240
(207) 782-2249

NATURAL GAS
UNITIL
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
888.301.7700

DIG SAFE SYSTEM, INC.
TEL. 1-888-DIG-SAFE (344-7233)
WWW.DIGSAFE.COM

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13267
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENT'S

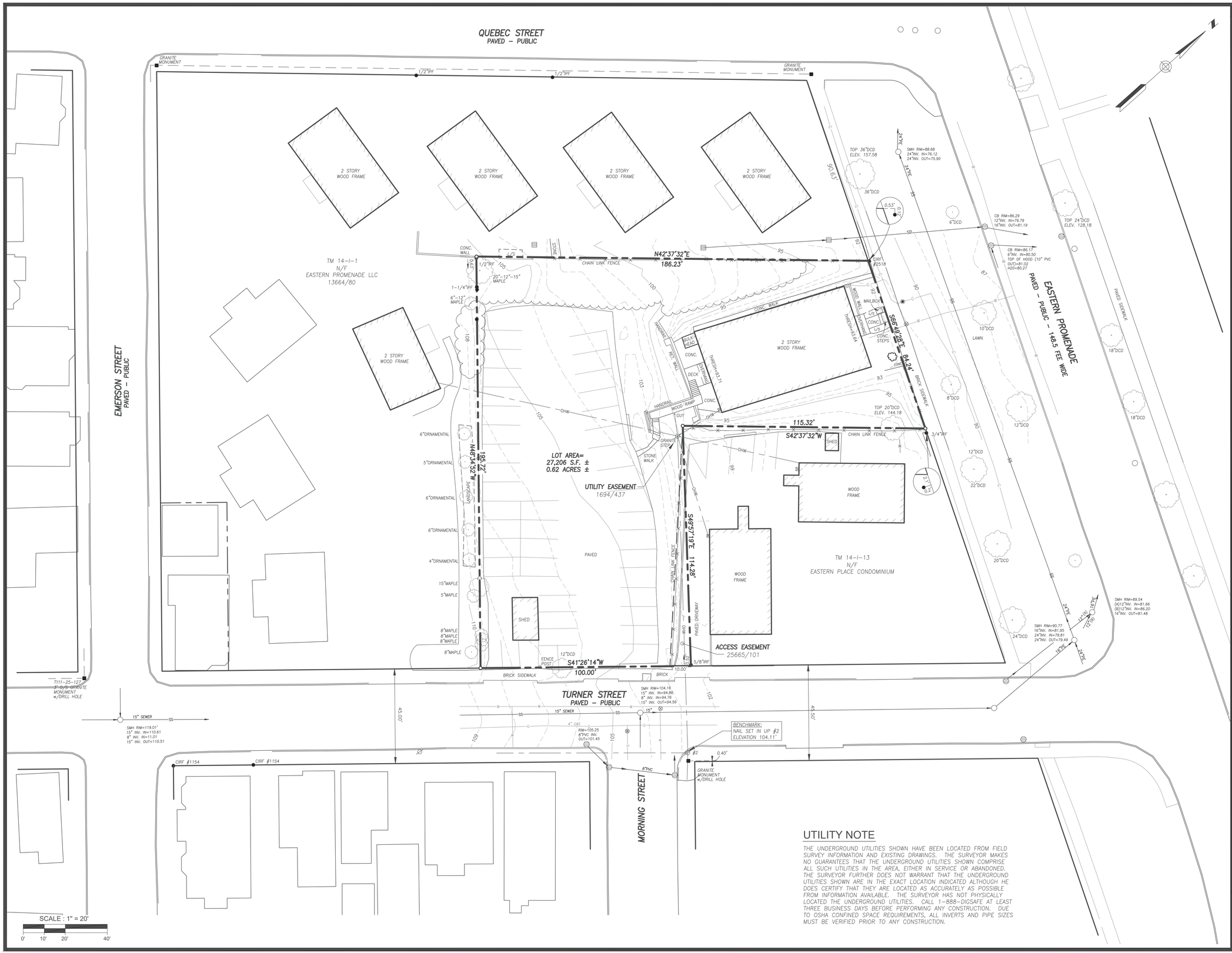
ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

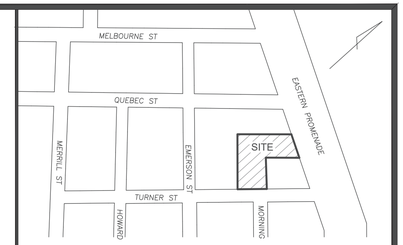
PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101
SHEET TITLE: COVER SHEET AND LOCATION MAP
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 60'
JOB NO: 22-144
SHEET: C-1.0

C:\DD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 C.dwg





LOCATION MAP

N.T.S.

LEGEND

- CAPPED IRON ROD SET
- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- ⊠ EM ELECTRIC METER
- SIGN
- CATCH BASIN
- WATER VALVE OR SHUTOFF
- GAS VALVE
- DECIDUOUS TREE
- SHRUB / BUSH
- FENCE
- CURB
- OHW OVERHEAD WIRES
- W WATER LINE
- G GAS LINE
- SS SANITARY SEWER
- 100 1' CONTOUR
- IPF/IRF IRON PIPE OR ROD FOUND
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- L/S LANDSCAPED AREA
- CONC. CONCRETE

PLAN REFERENCES

1. "SITE PLAT AT 33 TURNER STREET, PORTLAND, MAINE MADE FOR RECORD OWNER CHARLTON SMITH" JULY 28, 2017 BY OWEN HASKELL, INC. OHI JOB# 2017–072P.

2. "PROMENADE PLACE CONDOMINIUM PLAN PREPARED FOR G.O. ENTERPRISES, LLC," BY NORTHEAST CIVIL SOLUTIONS, DATED DECEMBER 22, 2005 AND REVISED THROUGH JULY 2, 2014. RECORDED IN PLAN BOOK 214, PAGE 270.

3. "LAND TITLE SURVEY MADE FOR EASTERN PROMENADE LIMITED LIABILITY COMPANY" MARCH 4, 1998, REVISED THRU MARCH 10, 1998 BY OWEN HASKELL, INC.

4. "STANDARD BOUNDARY SURVEY ON QUEBEC, EMERSON & TURNER STREET, PORTLAND, MAINE MADE FOR JOHN QUIRK" OCT. 14, 1994 BY OWEN HASKELL, INC.

5. "PLAN OF BOUNDARY SURVEY, 246 EASTERN PROMENADE, PORTLAND, MAINE, MADE FOR DIANE & MARK PERLIN," BY TITCOMB ASSOCIATES, DATED AUGUST 31, 2020.

GENERAL NOTES

1. OWNER OF RECORD: ELLIE & CHAYA, INC.
24 WILDWOOD DRIVE, CAPE ELIZABETH, MAINE
TAX MAP 14 BLOCK I LOT 12
C.C.R.D. BOOK 38884 PAGE 117

2. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83. CITY MONUMENTS USED:

T111–25–127	T111–25–129
N:304431.88	N:304776.37
E: 2931512.49	E:2931122.91

3. ELEVATIONS ARE BASED ON OFFICIAL CITY BENCHMARK T102–67–1, MONUMENT AT THE CORNER OF WILSON AND MORNING STREETS. ELEVATION = 114.63'.

4. MAPPING OF NEIGHBORHOOD BUILDINGS ARE PROVIDED BY CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS.

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

SAMUEL D. GLIDDEN, PLS #2520

9–13–22
DATE

STATE OF MAINE
SAMUEL D. GLIDDEN
2520
PROFESSIONAL LAND SURVEYOR

REV.	DATE	DESCRIPTION
1	09-13-2022	ADDITIONAL UTILITIES, INVERTS

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.

Boundary & Topographic Survey
At
246 Eastern Promanade, Portland, Maine
Made for
Shinberg Consulting, LLC
181 State Street, Suite 303, Portland, Maine
c/o Eck Realty, LLC

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG / JLW	DATE: MARCH 31, 2022	JOB NO. 2022-009 P	
CHECKED BY: SDG	SCALE: 1" = 20'	DRWG. NO. 1	

GENERAL NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXITS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS.
3. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-DIGSAFE). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO EXTRA EXPENSE TO THE OWNER.
5. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
6. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
7. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS, WHICHEVER IS MORE STRINGENT.
8. TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY OWEN HASKELL, INC. ELEVATIONS ARE BASED ON. "M" MONUMENT AT THE NORTHEAST CORNER OF HILL AND BRAMHALL ST. ELEVATION=133.54' CITY DATUM.
9. FEMA MAP COMMUNITY PANEL NUMBER 230051 0013 B. THE SITE IS LOCATED IN A C ZONE.
10. THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED IN THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL THE PROPERTY WHICH APPEARS IN THE RECORD OF THE PLANNING BOARD PROCEEDINGS ARE CONDITIONS OF THE APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVALS IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING AUTHORITY.
11. ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
12. ALL CURB SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AS NOTED ON THE PLANS: GRANITE CURB SHALL MEET THE REQUIREMENTS OF MaineDOT SPECIFICATIONS 609.03 AND CITY OF PORTLAND TECHNICAL STANDARDS.
13. ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
14. THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, AND UNDERGROUND POWER. THE PROJECT INCLUDES UPDATES TO THE POWER SERVICE INCLUDING THE INSTALLATION OF NEW UNDERGROUND SYSTEM. SEE SITE ELECTRICAL PLANS FOR DETAILS.
15. THE CONTRACTOR IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PUBLIC WORKS INSPECTION SERVICES DIVISION (874-8300 EXT. 8838), CODE ENFORCEMENT OFFICE AND DEVELOPMENT REVIEW COORDINATOR IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING MAY BE REQUIRED TO INCLUDE THE PUBLIC WORKS AUTHORITY OR DEVELOPMENT REVIEW COORDINATOR.
16. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
17. WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN MUST BE EMPLOYED ON ADJACENT STREETS AS NECESSARY. THE CONTRACTOR SHALL COORDINATE AND SEEK APPROVAL FROM THE PUBLIC SERVICE DIVISION FOR THE PLACEMENT/PARKING OF EQUIPMENT WITHIN THE PUBLIC RIGHT OF WAY.
18. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12. ALL DEMOLITION MATERIAL FROM THE PROJECT SITES SHALL BE TAKEN TO THE RIVERSIDE RECYCLING FACILITY OR AS OTHERWISE DIRECTED PENDING THE RESULTS OF A HAZARDOUS BUILDING MATERIALS SURVEY AS AUTHORIZED AND COORDINATED BY THE OWNER. ALL SALVAGED MATERIAL WITHIN THE PUBLIC R.O.W.(SIDEWALKS, BRICKS, GRANITE CURB) NOT REUSED SHALL BE DISPOSED OF AS DIRECTED BY THE PORTLAND PUBLIC SERVICES DEPARTMENT AT NO EXTRA COST TO THE OWNER.
19. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
20. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR'S EXPENSE.
21. THE OWNER SHALL BE RESPONSIBLE TO COORDINATE THE PERFORMANCE OF A HAZARDOUS MATERIALS INSPECTION OF THE PROPERTY.
22. A STREET OPENING PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COMPLETED IN CONFORMANCE TO THE CITY'S RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN PUBLIC RIGHT OF WAYS.
23. CONTRACTOR MUST MAINTAIN THROUGH TRAFFIC ON ADJACENT STREETS AT ALL TIMES.
24. ALL METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS IDENTIFIED HEREIN SHALL CONFORM TO THE CITY OF PORTLAND CONSTRUCTION AND TECHNICAL STANDARDS AND SPECIFICATIONS AND/OR CURRENT MaineDOT STANDARDS AND SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
25. SITE WORK FOR BUILDING SHALL INCLUDE GRADING THE BUILDING PAD AREA (DEFINED AS THE BUILDING FOOTPRINT PLUS 5'-0" BEYOND THE EXTERIOR WALL) TO A GRADE 18" BELOW THE GROUND FLOOR FINISH ELEVATION. ALL WORK SHALL INCLUDE EXCAVATION (INCLUDING ROCK REMOVAL AND EXISTING FOUNDATION DEMOLITION) AND BACKFILL OF ALL FOOTINGS AND FOUNDATIONS, INSTALLATION OF PERIMETER FOUNDATION DRAINS, EXCAVATION AND BACKFILL OF ALL UNDERSLAB UTILITIES AND PLACEMENT OF ALL AGGREGATES BELOW THE FLOOR SLAB AND ADJACENT FOUNDATION WALLS IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. (SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR ADDITIONAL DETAILS PERTAINING TO ANY BUILDING RELATED FOUNDATION WORK).
26. RECORD DRAWINGS MUST INCLUDE ALL BURIED UTILITIES INCLUDING, BUT NOT LIMITED TO, BENDS, APPURTENANCES, AND OTHER FEATURES, TO BE LOCATED IN THE FIELD BY GIS AND RECORDED AS AN AS-BUILT PLAN BY THE CONTRACTOR AT THE END OF THE PROJECT. THIS PLAN SHALL ALSO BE PROVIDED TO THE OWNER.
27. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS PREPARED BY RYAN SENATORE ARCHITECTURE FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE POINTS.
28. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
29. CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITIES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST THREE (3) BUT NOT MORE THAN (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A.

GRADING AND DRAINAGE NOTES:

1. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF n = 0.013 OR LESS. UNLESS A SPECIFIC PIPE MATERIAL IS CALLED FOR ON THE CONTRACT DRAWINGS. PVC PIPING SHALL NOT BE USED IN AREAS OF EXPOSED SUNLIGHT.
2. SLOPE PROTECTION IS TO BE PROVIDED PER THE DESIGN PLANS AND MAY INCLUDE RIPRAP, SOD OR MULCH.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
4. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
5. ALL PAVING WITHIN THE PUBLIC R.O.W. SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF PORTLAND RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC R.O.W.
6. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
7. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
8. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES AND PHYSICAL FEATURES THAT ARE OUTSIDE THE SCOPE OF WORK. THE CONTRACTOR SHALL MAINTAIN SITE STABILITY DURING CONSTRUCTION TO AVOID EROSION AND SEDIMENT TRANSPORT. CONTRACTOR SHALL RESTORE ALL AREAS TO A FINAL STABILIZED CONDITION AS DIRECTED BY DESIGN DRAWINGS.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
10. EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.

CONSTRUCTION MANAGEMENT NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH 2009 NFPA 1 CHAPTER 16 SAFE GUARDS DURING BUILDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS.
2. ANY CUTTING AND WELDING WORK PERFORMED ONSITE SHALL REQUIRE A "HOT WORK" PERMIT FROM THE PORTLAND FIRE DEPARTMENT.
3. THE GENERAL CONTRACTOR SHALL POST EMERGENCY CONTACT INFORMATION ON THE PROJECT SITE PROPERTY DURING CONSTRUCTION IN THE EVENT OF AN AFTER HOURS EMERGENCY. THIS CONTACT INFORMATION SHALL ALSO BE PROVIDED TO THE PORTLAND FIRE DEPARTMENT.
4. IF THE SITE IS SECURED BY TEMPORARY OR PERMANENT FENCING WITH LOCKED GATES, THEN THE APPLICANT OR ASSIGNED REPRESENTATIVE SHALL PURCHASE A KNOX PADLOCK FROM THE PORTLAND FIRE DEPARTMENT TO ALLOW ACCESS BY THE PORTLAND FIRE DEPARTMENT.
5. STREETS SHALL MAINTAIN A 20' WIDTH FOR FIRE DEPARTMENT ACCESS AT ALL TIMES.
6. FIRE HYDRANTS SHALL NOT BE BLOCKED OR ENCLOSED BY FENCING. A 3' CLEARANCE SHALL BE MAINTAINED AT ALL TIMES AROUND FIRE HYDRANTS.

UTILITY NOTES:

1. ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED BETWEEN THE SITE WORK CONTRACTOR AND DIVISION 22/26 CONTRACTOR(S). THE SITE WORK CONTRACTOR SHALL BE RESPONSIBLE TO EXTEND ALL PROPOSED UTILITIES TO WITHIN FIVE (5) FEET OF THE BUILDING TO A LOCATION COORDINATED WITH THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES WITHIN FIVE (5) FEET AND INSIDE THE BUILDING OR UNDER SLAB.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH FAIRPOINT COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER. THE TELECOMMUNICATIONS SERVICE WITH FAIRPOINT COMMUNICATIONS, AND THE CABLE SERVICE WITH SPECTRUM. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS OR UTILITY COMPANY STANDARDS, WHICHEVER IS MORE STRINGENT.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
6. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL, AT NO EXTRA EXPENSE TO THE OWNER.
8. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. A 12 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
9. THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOBSITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER, AND AFFECTED BUSINESSES.
10. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ELECTRICAL SERVICES IN CONDUIT TO SITE LIGHTING, COMPLYING WITH APPLICABLE CODES. COORDINATE WITH OWNER, SITE ELECTRICAL, ARCHITECTURAL AND CMP PLANS.
11. ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT. ALL SANITARY SERVICES AND APPURTENANCES TO BE ABANDONED SHALL BE PROPERLY RECORDED WITH PORTLAND PUBLIC WORKS ENGINEERING DEPARTMENT. A DIGITAL VIDEOTAPE SHALL BE MADE OF SANITARY SEWER SYSTEMS TO BE UTILIZED PRIOR TO CONSTRUCTION; UPSTREAM PIPES INTENDED FOR ABANDONMENT SHALL BE INSPECTED TO VERIFY THAT THEY NO LONGER SERVE OTHER FACILITIES.
12. THE PORTION OF THE 6" WATER SERVICE WITHIN THE RIGHT OF WAY SHALL BE DUCTILE IRON WITH RESTRAINED JOINTS IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.
13. THE 2" WATER SERVICE SHALL BE TYPE K COPPER TUBING

PERMITTING NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

DIMENSIONAL REQUIREMENTS (R-6 ZONE)		
STANDARD	R-6 ZONE REQUIRED	PROVIDED
MIN. LOT SIZE	NONE	27,206 SF
MIN. LOT AREA PER DWELLING UNIT	725 SF	1,943 SF
MAX. LOT COVERAGE	60%	58.50%
STREET FRONTAGE	20 FT	184 FT
FRONT YARD	5 FT	7.9 FT
MIN. SIDE YARD	5 FT	5.7 FT
MIN. REAR YARD	10 FT	10.2 FT
MAX. BUILDING HEIGHT	45 FT	40.65 Ft
STEP BACK	15 FT REAR, 10 FT SIDE	15 FT REAR, 10 FT SIDE
OPEN SPACE	20%	24.10%
PARKING	1 SPACE PER UNIT, FIRST 3 UNITS EXEMPT (11 SPACES)	27
BICYCLE PARKING	2 SPACES FOR EVERY 5 UNITS (6 SPACES)	>6 SPACES

LEGEND

- EXISTING PROPERTY LINE
- PROJECT SITE BOUNDARY
- SETBACK LINE
- PROPOSED EASEMENT
- 124 EXISTING MINOR CONTOUR
- 124 EXISTING MAJOR CONTOUR
- 124 PROPOSED CONTOUR
- SD EXISTING STORMDRAIN
- SD PROPOSED STORMDRAIN
- S EXISTING SANITARY SEWER
- S PROPOSED SANITRY SEWER
- W EXISTING WATER LINE
- W PROPOSED WATER LINE
- G EXISTING GAS
- G PROPSED GAS
- OHE EXISTING OVERHEAD ELECTRIC & TELEPHONE
- UGE EXISTING UNDERGROUND ELECTRIC
- UGE PROPOSED UNDERGROUND ELECTRIC
- UGT EXISTING UNDERGROUND TELEPHONE
- UGT&C PROPOSED UNDERGROUND TELEPHONE & CABLE TV
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- PROPOSED EDGE OF GRAVEL
- EXISTING CURB
- PROPOSED CURB
- PROPOSED DECORATIVE METAL FENCE
- PROPOSED PRIVACY FENCE
- SF SILT FENCE
- TP-A TEST PIT
- EXISTING VALVE
- PROPOSED VALVE
- EXISTING HYDRANT
- EXISTING LIGHT POLE
- PROPOSED BUILDING LIGHT
- EXISTING UTILITY POLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING DRAIN MANHOLE
- PROPOSED DRAIN MANHOLE
- EXISTING SEWER MANHOLE
- 30.20 EXISTING SPOT GRADE
- 30.20 PROPOSED SPOT GRADE
- SURVEY CONTROL POINT
- EXISTING MONUMENT
- EXISTING IRON PIPE
- EXISTING SIGN
- PROPOSED SIGN
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED PAVEMENT
- PROPOSED BRICK

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13587
LICENSED PROFESSIONAL ENGINEER
Michael E Wielandt

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

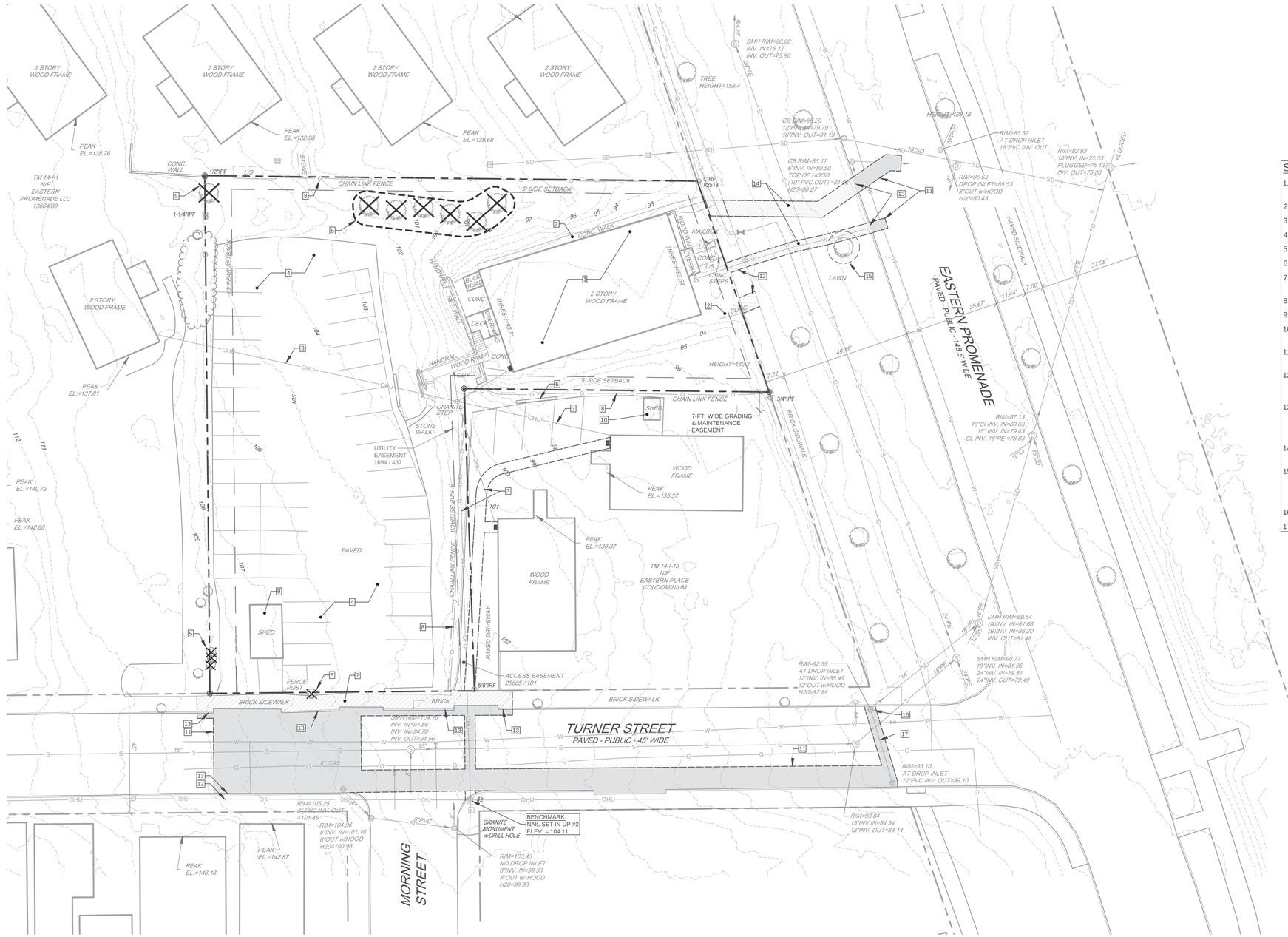
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: GENERAL NOTES AND LEGEND

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-1.1

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 C.dwg



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

SITE DEMOLITION NOTES

1. REMOVE 2-STORY, WOOD FRAME BUILDING AND ALL ASSOCIATED WALKWAYS, HANDRAILS, DECKS AND STEPS
2. REMOVE CONCRETE WALK
3. REMOVE OVERHEAD UTILITY LINE
4. REMOVE PAVED AREA
5. REMOVE TREE
6. REMOVE WALL
7. BRICK SIDEWALK AND GRANITE CURB TO BE REMOVED AND STOCKPILED FOR FUTURE USE
8. REMOVE CHAIN LINK FENCE
9. REMOVE SHED
10. COORDINATE TEMPORARY RELOCATION OF SHED, AS NEEDED, WITH ABUTTER
11. SAWCUT AND RESURFACE PUBLIC STREET TO ALLOW FOR UNDERGROUND UTILITY INSTALLATION.
12. PORTION OF BRICK WIDEWALK TO BE REMOVED FOR UNDERGROUND INSTALLATION AND STOCKPILED FOR FUTURE USE.
13. REMOVE AND RESET EXISTING GRANITE CURB. EXISTING GRANITE CURB SHALL BE FREE OF DEFECTS SUCH AS, BUT NOT LIMITED TO, CRACKS AND CHIPS. NEW GRANITE CURB IS REQUIRED IF EXISTING CURB IS DEFECTIVE.
14. STRIP LOAM AND STOCKPILE FOR REUSE OVER UTILITY TRENCH WITHIN EASTERN PROMENADE ESPLANADE.
15. PROTECT TREE, SEE TREE PROTECTION NOTES ON CONSTRUCTION MANAGEMENT PLAN (SHEET C-3.1). CONTRACTOR ADVISED TO NOT DAMAGE ROOT SYSTEM DURING REMOVAL OF EXISTING WATER LINE.
16. MODIFY CATCH BASIN.
17. REMOVE STORM DRAIN

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13861
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

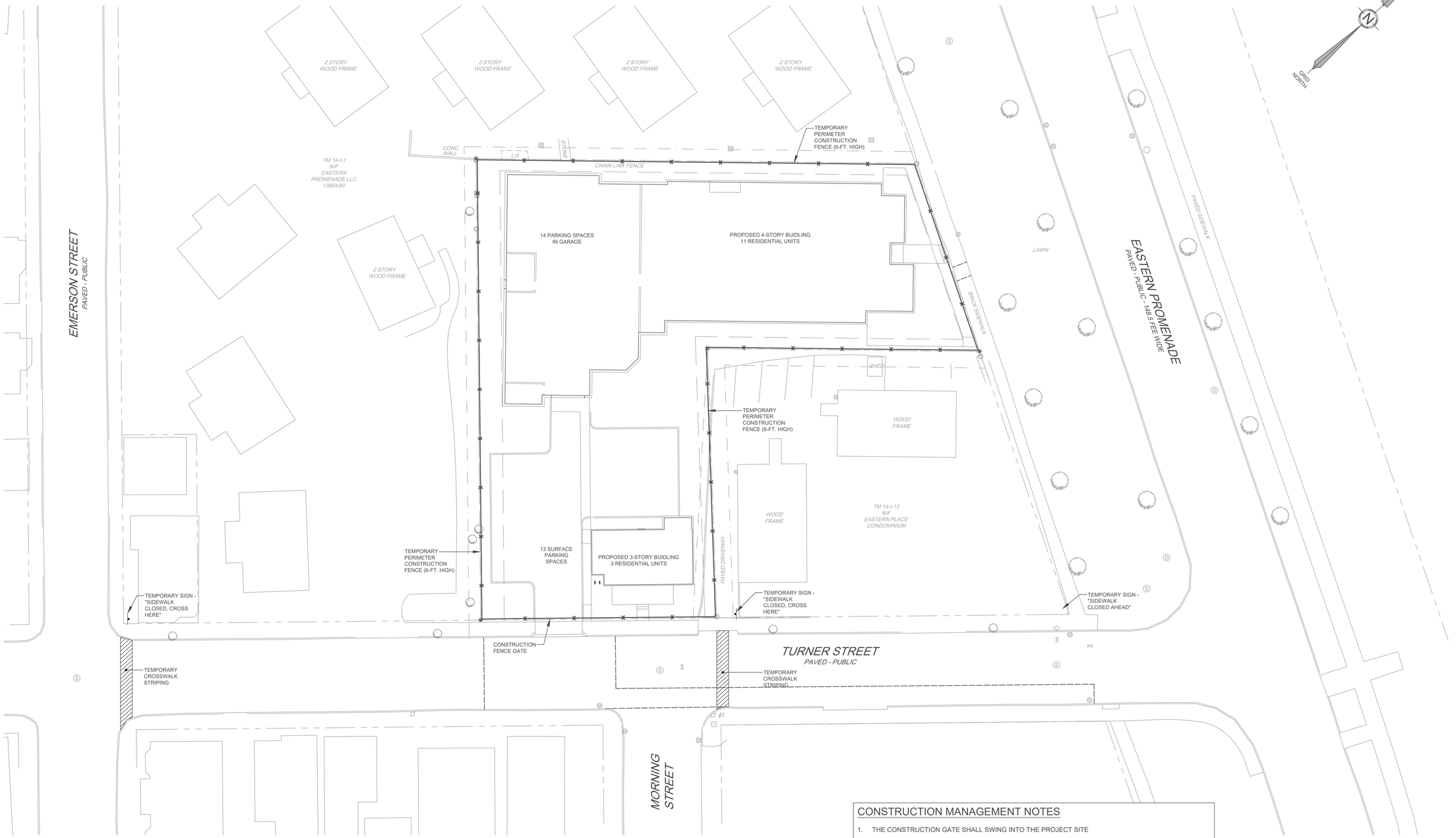
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: EXISTING CONDITIONS & DEMOLITION PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-3.0

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 EC.dwg



CONSTRUCTION MANAGEMENT NOTES

1. THE CONSTRUCTION GATE SHALL SWING INTO THE PROJECT SITE
2. FENCING AROUND THE PERIMETER OF THE CONSTRUCTION WORK ZONE WILL BE MAINTAINED THROUGHOUT BUILDING CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
3. TEMPORARY CLOSURE OF THE TURNER STREET SIDEWALK DIRECTLY IN FRONT OF THE SITE WILL BE REQUIRED FOR UTILITY INSTALLATION AND SITE CONSTRUCTION. SIGNAGE SHALL BE PROVIDED TO DIRECT PEDESTRIANS ACROSS THE STREET AT EXISTING CROSSWALK LOCATIONS DURING SIDEWALK CLOSURES, AS SHOWN. ADA ACCESSIBILITY SHALL BE MAINTAINED AT ALL TIMES.
4. PARTIAL TRAVEL LANE CLOSURES OF TURNER STREET WILL BE NECESSARY DURING UNDERGROUND UTILITY INSTALLATION. THIS WORK SHALL BE SCHEDULED AND SEQUENCED TO MINIMIZE THE DURATION OF ANY STREET OCCUPANCY. AT NO TIME CAN CONSTRUCTION ACTIVITY INCLUDING DELIVERY VEHICLES CLOSE OR BLOCK STREETS OR AFFECT PUBLIC SAFETY ACCESS WITHOUT PRIOR NOTICE AND APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13167
REGISTERED PROFESSIONAL ENGINEER
Michael E Wielandt

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

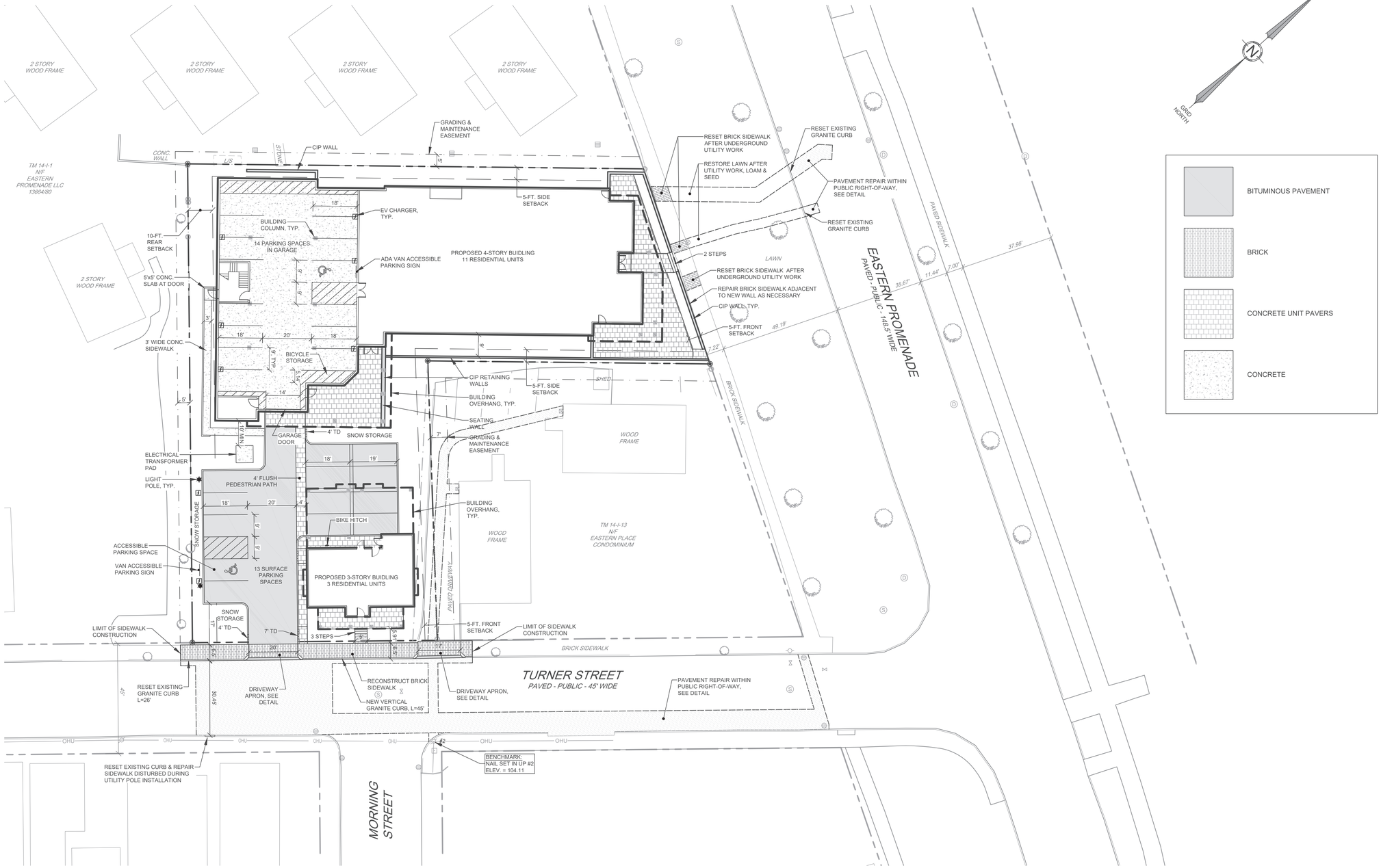
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: CONSTRUCTION MANAGEMENT PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE:	5/5/2023
SCALE:	1" = 20'
JOB NO:	22-144
SHEET:	C-3.1

C:\DD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 CM.dwg



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13861
REGISTERED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
CWI Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

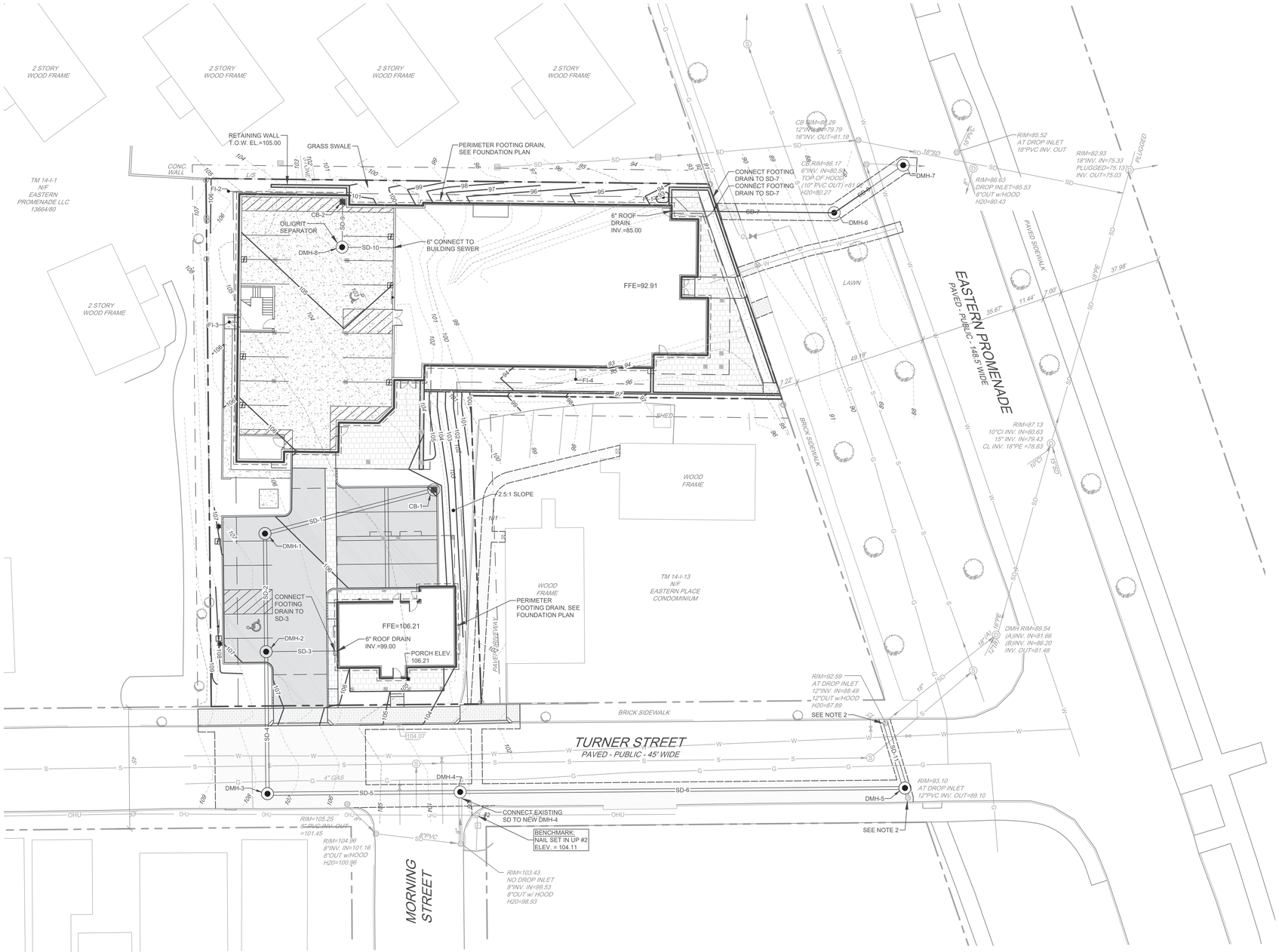
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: SITE LAYOUT PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE:	5/5/2023
SCALE:	1" = 20'
JOB NO:	22-144
SHEET:	C-4.0

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 S.dwg



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STORM DRAIN STRUCTURE DATA

STRUCTURE	RIM	INV. IN	INV. OUT:
CB-1	104.95		97.75 (SD-1)
CB-2	104.15		100.19 (SD-9)
DMH-1	106.17	97.45 (SD-1)	97.35 (SD-2)
DMH-2	106.81	97.15 (SD-2) 97.15 (SD-3)	97.05 (SD-4)
DMH-3	107.57	96.80 (SD-4)	99.26 (SD-5)
DMH-4	103.24	95.10 (SD-5) 95.10 (SD-13)	95.00 (SD-6)
DMH-5	92.00	81.67 (SD-6) 82.48 (ESD-1)	82.38 (SD-11)
DMH-6	87.75	82.85 (SD-7)	82.75 (SD-8)
DMH-7	86.25	82.17 (SD-8) 80.00 (ESD-3)	79.90 (ESD-4)
DMH-8	103.67	99.91 (SD-9)	99.81 (SD-10)
FI-1	94.00		
FI-2	94.00		
FI-3	94.00		
FI-4	188.00		

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE
SD-1	12"	61'	0.50%
SD-2	12"	40'	0.50%
SD-3	6"	25'	7.56%
SD-4	12"	49'	0.50%
SD-5	12"	67'	6.17%
SD-6	12"	161'	8.29%
SD-7	6"	58'	3.69%
SD-8	6"	27'	2.15%
SD-9	6"	14'	2.00%
SD-10	6"	17'	2.00%
SD-11	18"	23'	3.63%

NOTES:
1. SEE SHEET C-5.1 FOR DETAILED SITE GRADING INFORMATION
2. FOR CATCH BASIN STRUCTURES WITHIN TURNER STREET THAT WILL BE IMPACTED BY THE PROPOSED STORM DRAIN INSTALLATION, THE CONTRACTOR AND CITY OF PORTLAND DPW SHALL ASSESS THE CONDITION OF EXISTING CATCH BASIN STRUCTURES IN THE FIELD TO DETERMINE IF REUSE IS ACCEPTABLE.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13861
REGISTERED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE:
(207) 926-5111

WEB SITE:
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
GRADING AND DRAINAGE PLAN

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-5.0

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 GD.dwg

CONC. WALL

RETAINING WALL T.O.W. EL.=105.00

PERIMETER FOOTING DRAIN, SEE FOUNDATION PLAN

GRASS SWALE

CONNECT FOOTING DRAIN TO SD-7

CONNECT FOOTING DRAIN TO SD-7

CB RIM=86.17
6"INV. IN=80.50
TOP OF HOOD (10" PVC OUT) =81.02
H20=80.27

DMH-7

RIM=86.63
DROP INLET=85.53
8"OUT w/HOOD
H20=80.43

DMH-6

6" ROOF DRAIN INV.=85.00

OIL/GRIT SEPARATOR

DMH-8

6" CONNECT TO BUILDING SEWER

5' LANDING 2% SLOPE

FFE=92.91

4.3%

LAWN

EASTERN PROMENADE
PAVED - PUBLIC - 149.5' WIDE

BRICK SIDEWALK

T.O.W.= 94.00

95.00 T.O.W.

SHED

WOOD FRAME

25:1 SLOPE

TM 14-I-13
N/F
EASTERN PLACE CONDOMINIUM

FFE=106.21

6" ROOF DRAIN INV.=99.00

PORCH ELEV. 106.21

PERIMETER FOOTING DRAIN, SEE FOUNDATION PLAN

CONNECT FOOTING DRAIN TO SD-3

PAVED DRIVEWAY

5' TRANSITION FROM 1.5% CROSS SLOPE TO MATCH EXISTING SIDEWALK

5' TRANSITION FROM 1.5% CROSS SLOPE TO MATCH EXISTING SIDEWALK

MATCH EXIST.

MATCH EXIST. APPROX. 107.20

MATCH EXIST. APPROX. 106.47

MATCH EXIST. APPROX. 105.67

MATCH EXIST. APPROX. 105.19

MATCH EXIST. APPROX. 102.85

MATCH EXIST. APPROX. 101.66

1.5% (2% MAX.) CROSS SLOPE ON ALL SIDEWALKS

TURNER STREET
PAVED - PUBLIC - 45' WIDE

RIM=92.59
AT DROP INLET
12"INV. IN=88.49
12"OUT w/HOOD
H20=87.89

DMH RIM=89.54
(A)INV. IN=81.66
(B)INV. IN=86.20
INV. OUT=81.48

18" (A)
12" (B)
15"PE

GRID NORTH

NOTES:
SEE SHEET C-5.0 FOR OVERALL SITE GRADING AND STORM DRAIN INFORMATION

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 INCH = 10 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10067
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: DETAILED GRADING PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1"=10'
JOB NO: 22-144
SHEET: C-5.1

C:\DD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 GD.dwg

EROSION AND SEDIMENT CONTROL PLAN

PRE-CONSTRUCTION PHASE
A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEYOND THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN 38 MRSA § 480-B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN. THE SITE MUST BE MAINTAINED TO PREVENT UNREASONABLE EROSION AND SEDIMENTATION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE.

BMP CONSTRUCTION PHASE
A. SEDIMENT BARRIERS. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE EDGE OF ANY DOWNGRADIENT DISTURBED AREA AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE PROPOSED DISTURBED AREA. MAINTAIN THE SEDIMENT BARRIERS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

B. CONSTRUCTION ENTRANCE: PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE INTERSECTION WITH THE PROPOSED ACCESS DRIVE AND THE EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

C. RIPRAP: SINCE RIPRAP IS USED WHERE EROSION POTENTIAL IS HIGH, CONSTRUCTION MUST BE SEQUENCED SO THAT THE RIPRAP IS PUT IN PLACE WITH THE MINIMUM DELAY. DISTURBANCE OF AREAS WHERE RIPRAP IS TO BE PLACED SHOULD BE UNDERTAKEN ONLY WHEN FINAL PREPARATION AND PLACEMENT OF THE RIPRAP CAN FOLLOW IMMEDIATELY BEHIND THE INITIAL DISTURBANCE. WHERE RIPRAP IS USED FOR OUTLET PROTECTION, THE RIPRAP SHOULD BE PLACED BEFORE OR IN CONJUNCTION WITH THE CONSTRUCTION OF THE PIPE OR CHANNEL SO THAT IT IS IN PLACE WHEN THE PIPE OR CHANNEL BEGINS TO OPERATE. MAINTAIN TEMPORARY RIPRAP, SUCH AS TEMPORARY CHECK DAMS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

D. TEMPORARY STABILIZATION. STABILIZE WITH TEMPORARY SEEDING, MULCH, OR OTHER NON-ERODABLE COVER ANY EXPOSED SOILS THAT WILL REMAIN UNWORKED FOR MORE THAN 14 DAYS EXCEPT, STABILIZE AREAS WITHIN 100 FEET OF A WETLAND OR WATERBODY WITHIN 7 DAYS OR PRIOR TO A PREDICTED STORM EVENT, WHICHEVER COMES FIRST. IF HAY OR STRAW MULCH IS USED, THE APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SF OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. HAY MULCH MUST BE KEPT MOIST OR ANCHORED TO PREVENT WIND BLOWING. AN EROSION CONTROL BLANKET OR MAT SHALL BE USED AT THE BASE OF GRASSED WATERWAYS, STEEP SLOPES (15% OR GREATER) AND ON ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS AND WETLANDS. GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE SECOND PHASE, AND SO ON.

E. VEGETATED WATERWAY. UPON FINAL GRADING, THE DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED TO PERMANENT VEGETATION AND MULCHED AND WILL NOT BE USED AS OUTLETS UNTIL A DENSE, VIGOROUS VEGETATIVE COVER HAS BEEN OBTAINED. ONCE SOIL IS EXPOSED FOR WATERWAY CONSTRUCTION, IT SHOULD BE IMMEDIATELY SHAPED, GRADED AND STABILIZED. VEGETATED WATERWAYS NEED TO BE STABILIZED EARLY DURING THE GROWING SEASON (PRIOR TO SEPTEMBER 15). IF FINAL SEEDING OF WATERWAYS IS DELAYED PAST SEPTEMBER 15, EMERGENCY PROVISIONS SUCH AS SOD OR RIPRAP MAY BE REQUIRED TO STABILIZE THE CHANNEL. WATERWAYS SHOULD BE FULLY STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

PERMANENT STABILIZATION DEFINED
A. SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS AN 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

B. SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

C. PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

D. RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

E. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

F. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

G. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN-CUTTING OF THE CHANNEL.

GENERAL CONSTRUCTION PHASE
THE FOLLOWING EROSION CONTROL MEASURES SHALL BE FOLLOWED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION OF THIS PROJECT:

A. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3 POUNDS/1,000 SF AND MULCHED, AND REUSED AS REQUIRED. SILT FENCING SHALL BE PLACED DOWN GRADIENT FROM THE STOCKPILED LOAM. STOCKPILE TO BE LOCATED BY DESIGNATION OF THE OWNER AND INSPECTING ENGINEER.

B. THE INSPECTING ENGINEER AT HIS/HER DISCRETION, MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND/OR SUPPLEMENTAL VEGETATIVE PROVISIONS TO MAINTAIN STABILITY OF EARTHWORKS AND FINISH GRADED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY SUPPLEMENTAL MEASURES AS DIRECTED BY THE INSPECTING ENGINEER. FAILURE TO COMPLY WITH THE ENGINEER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.

C. EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISH SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.

D. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE ADEQUATELY STABILIZED.

E. ALL EROSION, AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

F. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS.

G. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL.

H. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

I. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.

J. EXCEPT FOR APPROVED LANDFILLS OR NON-STRUCTURAL FILLS, FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

K. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS.

L. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.

M. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY.

N. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

O. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

PERMANENT VEGETATION
PERMANENT VEGETATIVE COVER SHOULD BE ESTABLISHED ON DISTURBED AREAS WHERE PERMANENT, LONG LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL, TO REDUCE DAMAGES FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE ENVIRONMENT.

SEEDBED PREPARATION
A. GRADE AS FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.

B. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P2O5-K2O) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQ. FT).

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.D. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

E. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

F. PERMANENT SEEDING SHOULD BE MADE 45 DAYS PRIOR TO THE FIRST KILLING FROST OR AS A DORMANT SEEDING WITH MULCH AFTER THE FIRST KILLING FROST AND BEFORE SNOWFALL. WHEN CROWN VETCH IS SEEDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, MULCH ACCORDING TO THE TEMPORARY MULCHING BMP AND OVERWINTER STABILIZATION AND CONSTRUCTION TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

G. FOLLOWING SEED BED PREPARTATION, SWALE AREAS, FILL AREAS AND BACK SLOPES SHALL BE SEEDED AT A RATE OF 3 LBS./1,000 S.F. WITH A MIXTURE OF 35% CREEPING RED H. FESCUE, 6% RED TOP, 24% KENTUCKY BLUEGRASS, 10% PERENNIAL RYEGRASS, 20% ANNUAL RYEGRASS AND 5% WHITE DUTCH CLOVER.

I. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING.

J. AREAS WHICH CANNOT BE SEEDED WITHIN THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION AND THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE GROWING SEASON.

WINTER CONSTRUCTION PHASE
IF AN AREA IS NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES BY NOVEMBER 15, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES.

A. PERMANENT STABILIZATION CONSISTS OF AT LEAST 90% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.

B. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.

C. APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.

D. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR ALL SLOPES GREATER THAN 8 % OR OTHER AREAS EXPOSED TO DIRECT WIND.

E. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGEWAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3 %.

F. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

G. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SO THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

H. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.

I. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.

J. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THAT SAME DAY.

K. IF SNOWFALL IS GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.

L. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

M. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

MAINTENANCE AND INSPECTION PHASE
A. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE

B. A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPS THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.

DEWATERING
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.

HOUSEKEEPING

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

   NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION. 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.

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.

   NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE ENGINEER AND OWNER.

   NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

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 SECTION 3 ABOVE;

   (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 SECTION 5 ABOVE);

   (k) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND

   (l) LANDSCAPE IRRIGATION.

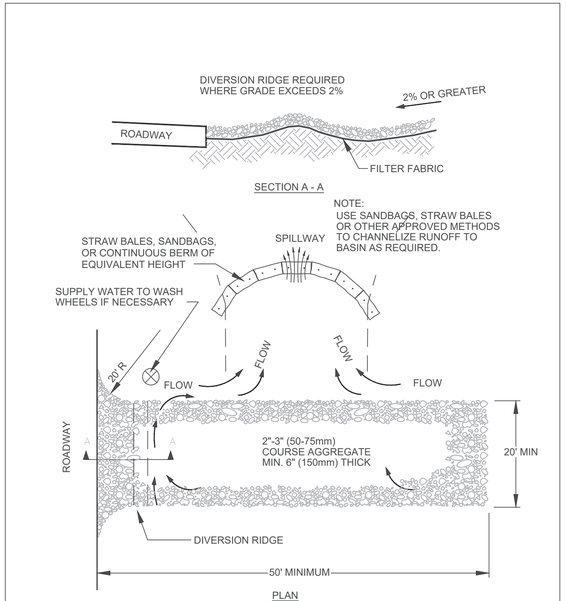
7. UNAUTHORIZED NON-STORMWATER DISCHARGES . THE FOLLOWING NON-STORMWATER DISCHARGES ARE PROHIBITED:

   (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.



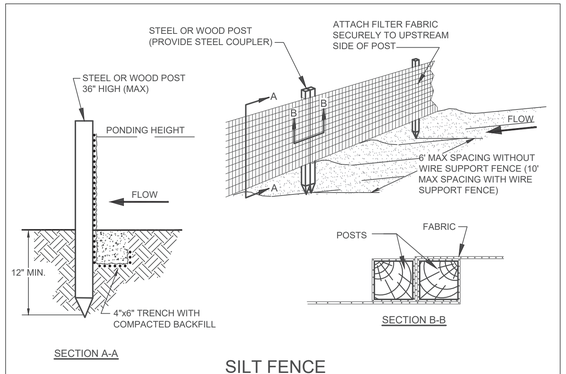
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

3. 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.

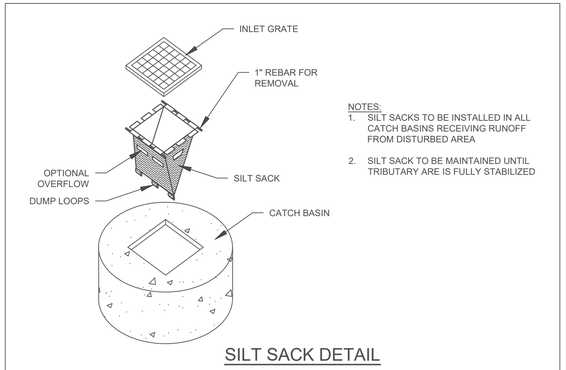
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



SILT FENCE

NOT TO SCALE



NOTES:
1. SILT SACKS TO BE INSTALLED IN ALL CATCH BASINS RECEIVING RUNOFF FROM DISTURBED AREA
2. SILT SACK TO BE MAINTAINED UNTIL TRIBUTARY ARE IS FULLY STABILIZED

SILT SACK DETAIL

NOT TO SCALE

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13581
LICENSED PROFESSIONAL ENGINEER
Michael E Wielandt

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

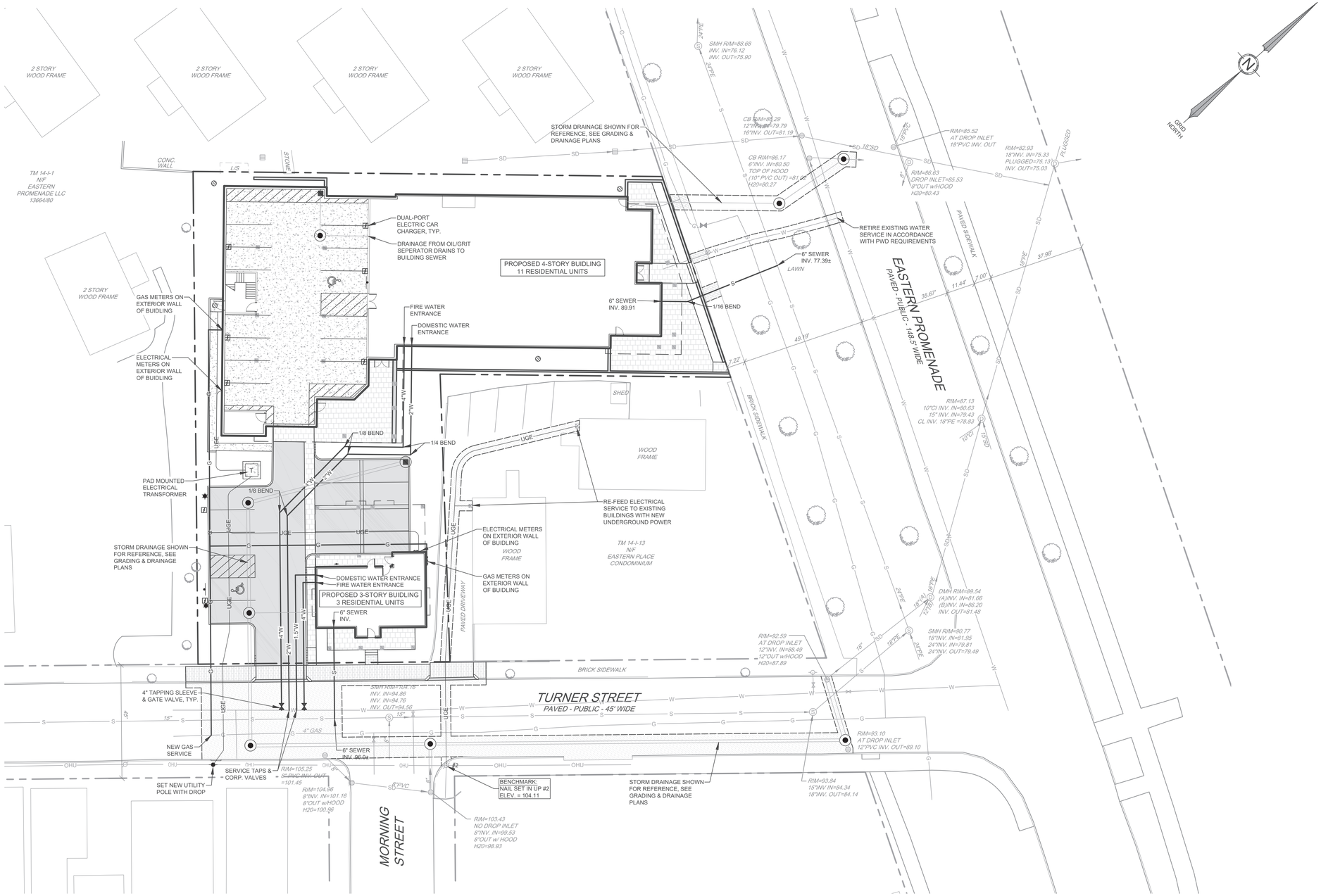
ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101
SHEET TITLE: EROSION CONTROL NOTES AND DETAILS
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-5.2

C:\DD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 D.dwg



STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13861
REGISTERED PROFESSIONAL ENGINEER
Michael E Wielandt

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

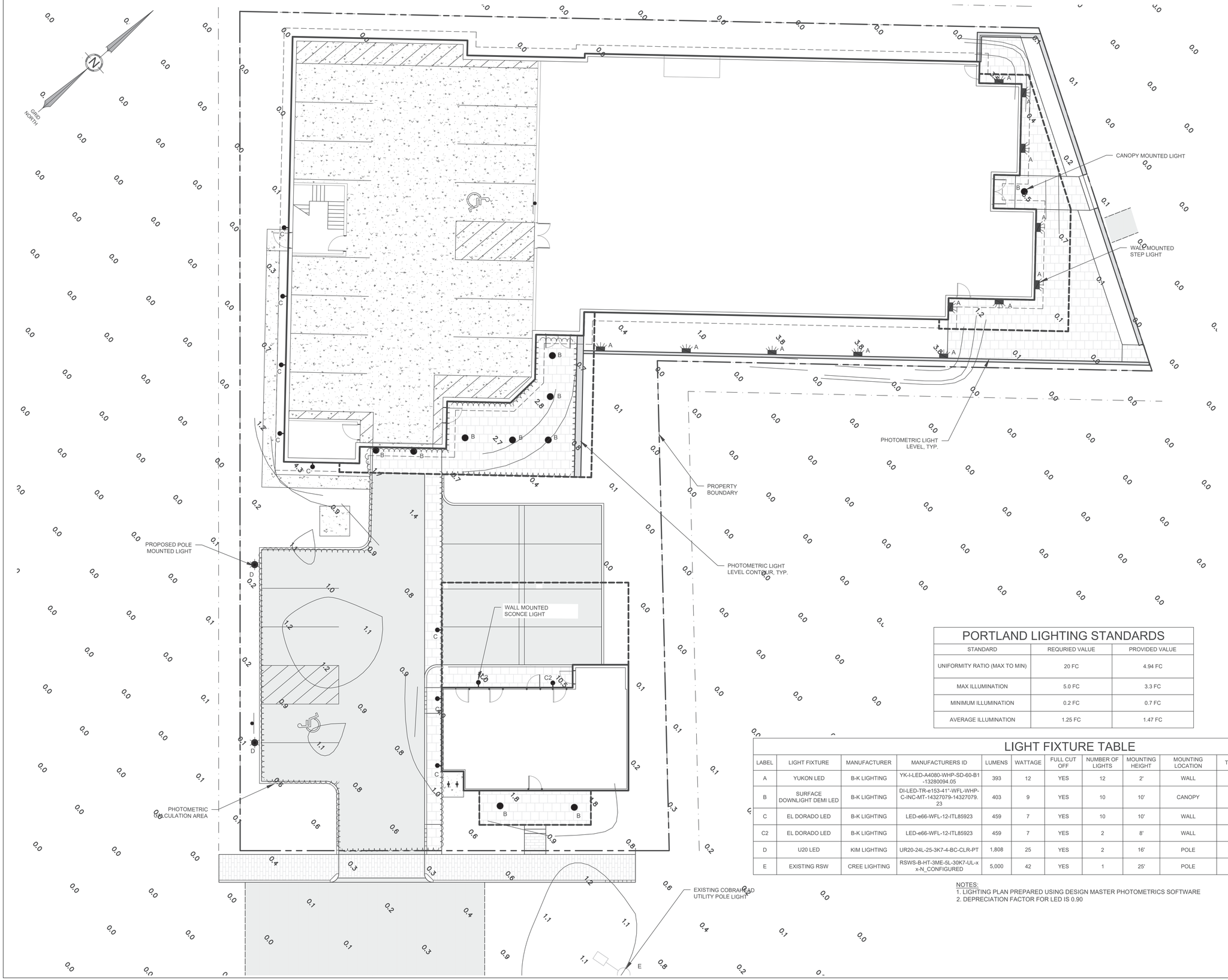
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: SITE UTILITY PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-6.0

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 U.dwg



PORTLAND LIGHTING STANDARDS

STANDARD	REQUIRED VALUE	PROVIDED VALUE
UNIFORMITY RATIO (MAX TO MIN)	20 FC	4.94 FC
MAX ILLUMINATION	5.0 FC	3.3 FC
MINIMUM ILLUMINATION	0.2 FC	0.7 FC
AVERAGE ILLUMINATION	1.25 FC	1.47 FC

LIGHT FIXTURE TABLE

LABEL	LIGHT FIXTURE	MANUFACTURER	MANUFACTURERS ID	LUMENS	WATTAGE	FULL CUT OFF	NUMBER OF LIGHTS	MOUNTING HEIGHT	MOUNTING LOCATION	TIMING DEVICE	PROPOSED HOURS	PROPERTY LINE OFFSET
A	YUKON LED	B-K LIGHTING	YK-I-LED-A4080-WHP-SD-60-B1 -13280094.05	393	12	YES	12	2'	WALL	TIMER	DUSK TO DAWN	8'
B	SURFACE DOWNLIGHT DEMI LED	B-K LIGHTING	DI-LED-TR-e153-41"-WFL-WHP-C-INC-MT-14327079-14327079.23	403	9	YES	10	10'	CANOPY	TIMER	DUSK TO DAWN	10'
C	EL DORADO LED	B-K LIGHTING	LED-e66-WFL-12-ITL85923	459	7	YES	10	10'	WALL	TIMER	DUSK TO DAWN	19'
C2	EL DORADO LED	B-K LIGHTING	LED-e66-WFL-12-ITL85923	459	7	YES	2	8'	WALL	TIMER	DUSK TO DAWN	25'
D	U20 LED	KIM LIGHTING	UR20-24L-25-3K7-4-BC-CLR-PT	1,808	25	YES	2	16'	POLE	PHOTOCELL	DUSK TO DAWN	4'
E	EXISTING RSW	CREE LIGHTING	RSWS-B-HT-3ME-5L-30K7-UL-xx-xx-N_CONFIGURED	5,000	42	YES	1	25'	POLE	N/A	N/A	N/A

NOTES:
1. LIGHTING PLAN PREPARED USING DESIGN MASTER PHOTOMETRICS SOFTWARE
2. DEPRECIATION FACTOR FOR LED IS 0.90

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 INCH = 10 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
NOTARY PUBLIC
LICENSED PROFESSIONAL ENGINEER

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: PHOTOMETRIC PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 10'
JOB NO: 22-144
SHEET: C-7.0

C:\DD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\Photometric\22-144 P.dwg

SURFACE DOWNLIGHT DEMI LED (INTEGRAL)

IP66 RATED

DATE: | PROJECT: | TYP:

CATALOG NUMBER LOGIC:



**120V only.*

CATALOG NUMBER LOGIC
Example: SM-DI - LED - TR - 6 - e150 - SP - 9 - 11 - C - INC - MT - BLP
MATERIAL
Aluminum
SERIES
SM-DI - Surface Downlight Demi
SOURCE
LED
HOUSING
TR - Integral Driver
STEM LENGTH
0"
3", 6", 12", 18", 24", 30", 36", 42", or 48" length
LED TYPE
e150 - 9W LED/2700K/80CRI e152 - 9W LED/3500K/80CRI
e151 - 9W LED/3000K/80CRI e153 - 9W LED/4000K/80CRI
OPTICS
VNSP - Very Narrow Spot (7°) NSP - Narrow Spot (10°)
SP - Spot (17.5°) NFL - Narrow Flood (30°) WFL - Wide Flood (41°)
LENS
9 - Clear (Standard) 13 - Rectilinear
SHIELDING
11 - Honeycomb Baffle
CAP STYLE
C - Flush
D - 45° Less Weep Hole
E - 90° Less Weep Hole
CONTROL
ELV - Dimming Driver (For use with Electronic Low Voltage Dimmer)*
INC - Dimming Driver (For use with Incandescent Dimmer)*
010 - Dimming Driver (For use with 0-10 Dimmer)
INPUT VOLTAGE
MT - 120-277 VAC
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes

EL DORADO LED

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:



**Requires magnetic low voltage dimmer.*

***Please see Adjust-a-Lume photometry to determine desired intensity.*

****Accommodates up to 2 lens/shielding media. Two lens/shielding prices required.*

CATALOG NUMBER LOGIC
Example: B - ED - LED - e65/e66 - NSP/MFL - A9/A9 - BLP - 12/12 - 11/11 - B
MATERIAL
(Blank) - Aluminum B - Brass S - Stainless Steel
SERIES
ED - El Dorado
SOURCE
LED - with Integral Dimming Driver (25W min. load when dimmed)*
LED TYPE
e64 - 7W LED/2700K e79 - 7W LED/2700K 90CRI
e65 - 7W LED/3000K e80 - 7W LED/3000K 90CRI
e66 - 7W LED/4000K e81 - 7W LED/3500K 80CRI
e74 - 7W LED/Amber
OPTICS
NSP - Spot (13°) MFL - Medium Flood (23°)
SP - Spot (16°) WFL - Wide Flood (31°)
ADJUST-E-LUME OUTPUT INTENSITY**
A9 (Standard), A8, A7, A6, A5, A4, A3, A2, A1
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
LENS TYPE***
12 - Soft Focus 13 - Rectilinear
SHIELDING***
11 - Honeycomb Baffle x 2
CAP STYLE
A - 45°
B - 90°
C - Flush
D - 45° Less Weephole (Interior use only)
E - 90° Less Weephole (Interior use only)
F - 90° with Flush
MOD OPTIONS
5 - 5 Ft Leads
25 - 25 Ft Leads

YUKON LED (INDIRECT)

IP66 RATED

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:



Housing may be shipped ahead upon request.

**Yields up to 60% loss in output*

***120V only*

CATALOG NUMBER LOGIC
Example: YK - I - LED - A2790 - BLP - SD - B1 - BLW - 010 - MT
MATERIAL
(Blank) - Aluminum B - Brass S - Stainless Steel
SERIES
YK - Yukon Commercial Steplight
STYLE
I - Indirect
SOURCE
LED - Linear Array
LED TYPE
A2780 - 12W/2700K/80CRI A2790 - 12W/2700K/90CRI
A3080 - 12W/3000K/80CRI A3090 - 12W/3000K/90CRI
A3580 - 12W/3500K/80CRI A3590 - 12W/3500K/90CRI
A4080 - 12W/4000K/80CRI A4090 - 12W/4000K/90CRI
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
FACEPLATE
SD - Standard LD - Louvered VR - Visor
BACKPLATE
B1 - Stepped (For use with SD and VR Faceplate)
B2 - Curved (For use with SD and LD Faceplate)
BACKPLATE FINISH
(Blank) - Backplate finish matches faceplate finish
BLW* - Black Wrinkle finish for glare reduction
CONTROL TYPE
ELV - 12W Dimming Driver (For use with Electronic Low Voltage Dimmer)**
INC - 12W Dimming Driver (For use with Incandescent Dimmer)**
010 - 12W Dimming Driver (For use with 0-10 Dimmer)
INPUT VOLTAGE
MT - 120-277 VAC

RSW Series

RSW™ LED Street Luminaire – Small, Medium, Large & Extra Large

Rev. Date: V8 09/02/2022

Product Description

The RSW Series, utilizing WaveMax® Technology, will transform the way utilities and municipalities light their residential streets, interchanges, and expressways. With the first viable LED streetlight at warm CCT, the RSW Series delivers up to 144 LPW, enhanced visual comfort with reduced glare and high color contrast leading to improved overall illumination using less energy. The RSW Series provides warm, inviting dark sky friendly lighting that makes good economic sense.
Applications: Residential roads, collector roads, multi-lane freeways, express ways, major roads, parking lots, and general area spaces

Performance Summary

WaveMax™ Technology

Assembled in the USA by Cree Lighting from US and imported parts

Initial Delivered Lumens: 3,000 - 32,000

Efficacy: Up to 144 LPW

CRI: Minimum 70 CRI (3000K, 4000K & 5000K); 80 CRI (2700K, 3000K & 4000K, 3L/5L/7L lumen packages only)

CCT: 2700K, 3000K, 4000K, 5000K

Limited Warranty[1]: 10 years on luminaire; up to 5 years for Synapse® accessories; 1 year on luminaire accessories

[1] See http://creelighting.com/warranty for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.

RSW5



Luminaire	Weight*
RSW5	9.4 lbs. (4.3kg)

* RSW-BLSS, RSW-CLSS, or RSW-FLSS Accessories: add 0.4 lbs. (0.2kg)

RSWM/RSWL/RSWX Luminaire – See page 14 for photos & dimensions

Ordering Information

Example: RSW5-B-HT-2ME-3L-27K8-UL-GY-N

Luminaire

RSW	B	HT							N	
Family Size	Series	Mounting*	Optic	Lumen Package***	CCT/CRI	Voltage	Color Options	Utility Label/Receptacle	Options
RSW **S** Small **M** Medium **L** Large **X** Extra Large	B	HT Horizontal Tenon	**2LO**** Type II Long **2ME**** Type II Medium **3ME**** Type III Medium	**Small 3L** 3,000 Lumens **5L** 5,000 Lumens. **7L** 7,000 Lumens **Medium 9L** 9,000 Lumens **Large 12L** 14,000 Lumens. **Extra Large 24L** 24,000 Lumens. **32L** 32,000 Lumens.	**27K8** 2700K, 80 CRI - Available only with 3L, 5L, or 9L lumen packages **30K7** 3000K, 70 CRI **30K8** 3000K, 80 CRI - Available only with 3L, 5L, or 9L lumen packages **40K7** 4000K, 70CRI **40K8** 4000K, 80 CRI - Available only with 3L, 5L, or 9L lumen packages **50K7** 5000K, 70CRI	**UL** Universal 120-277V **UH** Universal 347-480V - Available only with medium, large or extra large lumen packages	**BK** Black **BZ** Bronze **GY** Grey	**N Utility Label and NEMA® Lift & Lock 7-Pin Photocell Receptacle** - External utility label per ANSI C136.15-2020 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Requires photocell or shorting cap by others	**4BLT Four Bolt Mounting** - Mounts to 1.25" (32mm) IP, 1.66" (42mm) O.D. or 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon - Available only with large or extra large lumen packages **20KV 20kV/10kA Surge Suppression** - Replaces standard 10kV/5kA surge protection **PP Pallet Packaging** - Available only with small and medium luminaires - Multiple luminaires (up to 26 maximum per pallet for small, up to 22 maximum per pallet for medium **DY/DB/DT/D4/D5/D6/D2/D3/D1/D7 Field Adjustable Lumen Output** - Must select D4, D3, D2, or D1 for small lumen package - Must select D8, D7, D6, D5, D4, D3, D2, or D1 for medium lumen package - Must select D9, D8, D7, D6, D5, D4, D3, D2, or D1 for large or extra large lumen packages - Offers full range lumen adjustability - Includes wattage label for setting selected - Refer to pages 7-13 for power and lumen values - Luminaire may also be dimmed through 7-Pin receptacle with use of dimming control by others **SS Stainless Steel Bolts XB/XT/X4/X5/X6/X3/X2/X1 Locked Lumen Output** - Must select X3, X2, or X1 for small lumen packages - Must select X7, X6, X5, X4, X3, X2, or X1 for medium lumen package - Must select X8, X7, X6, X5, X4, X3, X2, or X1 for large or extra large lumen packages - Lumen output is permanently locked to the setting selected - Includes wattage label for setting selected - Refer to pages 7-13 for power and lumen values - Dimming is only available through 7-Pin receptacle with use of dimming control by others

* Reference EPA and pole configuration suitability data on page 4.
** Available with Backlight Shield when ordered with field-installed accessory (see table on page 2)
*** Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING

KIM LIGHTING

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

Ouro

FEATURES

- 20" size in single/dual arm post top, pole and wall mount
- High performance optics up to 16,874 delivered lumens
- Elegant form factor
- Diffusion lens option
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated

3000K and warmer CCTs only



Ouro Post Top.

CONTROL TECHNOLOGY

LIGHTING CONTROLS | wiSCAPE

RELATED PRODUCTS

Ouro Small Arm Mount | Ouro Large Post Top | Ouro Large Arm Mount

SPECIFICATIONS

CONSTRUCTION
- Low copper aluminum alloy die-casting is designed as one-piece.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- All external fasteners are stainless steel.
- Cover is secured to Lens frame by the latch and hinge.

OPTICS
- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.
- Optional fixture finish optical surfaces will not exceed BUG ratings of the standard white finish.

LENS
- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

INSTALLATION
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL
- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

KEY DATA	
Lumen Range	2694 – 16874
Wattage Range	25 – 150
Efficacy Range (LPW)	95 – 133
Reported Life (Hours)	L70/>60,000
Weight	35 lbs – 15.8 Kg
EPA	0.608

CONTROLS

7PR
- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:
- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.



7-Pin receptacle placement



(Specifications continued on page 3)

[1]Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08. Consult factory for details

Current

currentlighting.com/kimlighting

© 2022 HLI Solutions, Inc. All rights reserved. Information and specifications subject to change without notice. All values are design or typical values when measured under laboratory conditions.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 12967
LICENSED PROFESSIONAL ENGINEER

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

REVISIONS | DATE | NO.

ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: SITE LIGHTING FIXTURES

CLIENT: ECK REALTY, LLC
24 WILLDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

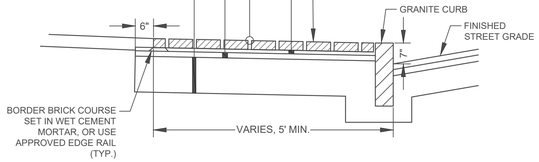
DATE: 5/5/2023
SCALE:
JOB NO: 22-144
SHEET: C-7.1

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\PermittingPhotometric\22-144 P.dwg

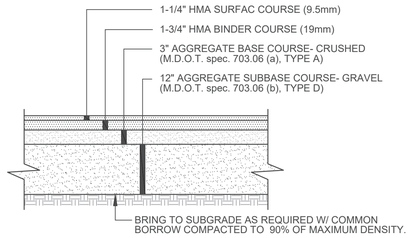
BRICKS TO BE USED:

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. "VERMONT BACKER BRICK", ITEM: VBBB

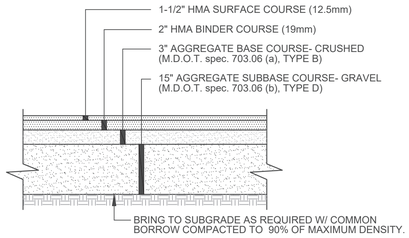


BRICK WALKWAY & GRANITE CURB
NOT TO SCALE



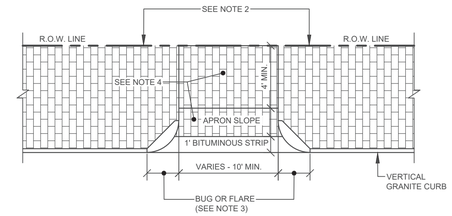
NOTES:
1. MDOT TYPE D AGGREGATE GRADATION SHALL BE MODIFIED FOR A MAXIMUM 4" STONE AND LIMIT #200 SIEVE TO 5% PASSING.

TYP. ONSITE PAVEMENT SECTION
NOT TO SCALE

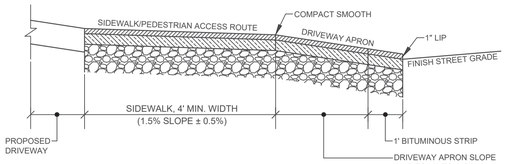


NOTES:
1. FOR USE ON LOCAL STREETS WITHIN THE CITY OF PORTLAND

TYP. SECTION - PAVEMENT REPAIR IN CITY RIGHT OF WAY
NOT TO SCALE



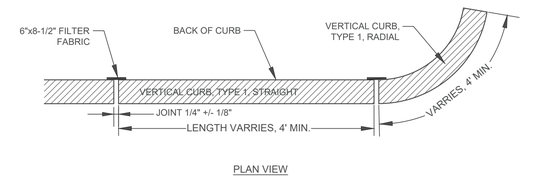
PLAN VIEW



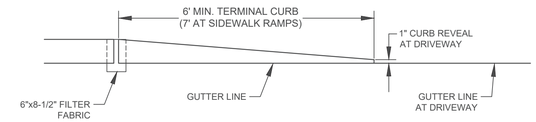
SECTION

NOTES:
1. MATCH EXISTING GRADE AT R.O.W. LINE WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS. A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. IF MATCHING THE EXISTING GRADE AT R.O.W. CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%
3. 2-FT. RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW-VOLUME DRIVEWAYS. UNLESS OTHERWISE DIRECTED BY D.P.W. AT OTHER DRIVEWAYS, STANDARD FLARE / TIPDOWN TREATMENTS SHALL BE USED.
4. ALL MATERIALS IN R.O.W. TO COMPLY WITH CITY'S SIDEWALK AND DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.
5. THIS LAYOUT MAY BE REQUIRED AT MINOR DRIVEWAYS SERVING COMMERCIAL OR INDUSTRIAL USES.

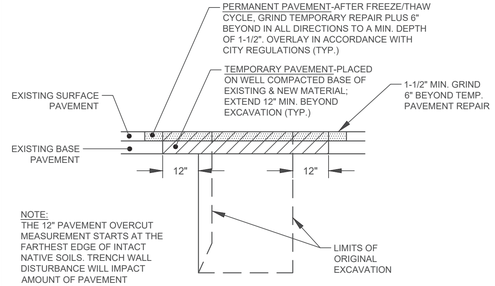
BRICK DRIVEWAY APRON
NOT TO SCALE



PLAN VIEW

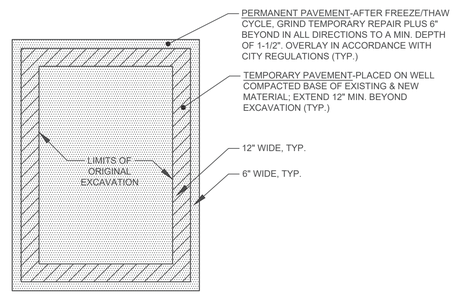


TERMINAL CURB PROFILE

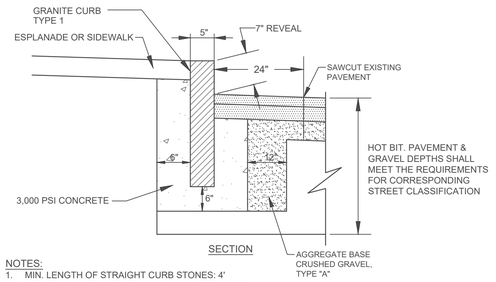


NOTE:
THE 12" PAVEMENT OVERCUT MEASUREMENT STARTS AT THE FARTHEST EDGE OF INTACT NATIVE SOILS. TRENCH WALL DISTURBANCE WILL IMPACT AMOUNT OF PAVEMENT REMOVAL REQUIRED

TYP. EXCAVATION IN CITY RIGHT OF WAY
NOT TO SCALE



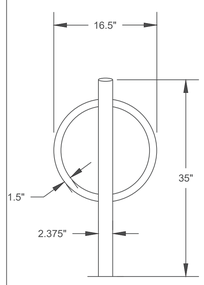
PLAN VIEW OF MINOR EXCAVATION PAVEMENT REPAIR
NOT TO SCALE



SECTION

NOTES:
1. MIN. LENGTH OF STRAIGHT CURB STONES: 4'
2. CIRCULAR CURB REQ. FOR RADIUS LESS THAN 50'
3. CURBING SHALL BE SET IN A 6" BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
4. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10" OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
5. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB
NOT TO SCALE



NOTES:

PRODUCT:
DERO BIKE HITCH AS MANUFACTURED BY DERO BIKE RACKS

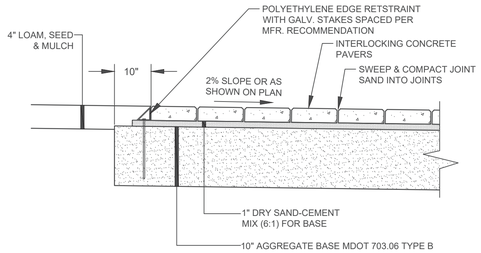
CAPACITY:
2 BIKES

MATERIALS:
CENTERBEAM 2" SCHEDULE 40 PIPE (2.375" OD)
RING 1.5" OD 11 GAUGE TUBE

INSTALLATION METHODS:
IN-GROUND MOUNT IS EMBEDDED INTO CONCRETE BASE, SURFACE MOUNT HAS ONE 5'x6" FOOT WHICH IS ANCHORED TO THE GROUND WITH FOUR ANCHORS

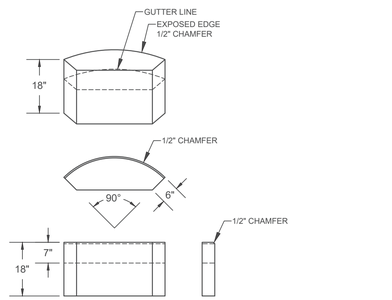
SETBACKS:
24" PARALLEL TO WALL
54" PERPENDICULAR TO WALL
36" PARALLEL TO STREET
76" PERPENDICULAR TO STREET

BIKE HITCH
NOT TO SCALE

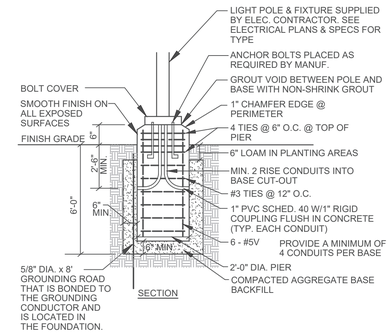


NOTES:
1. LAYING PATTERN: SEE PLAN
2. BEDDING SAND SHALL BE CONCRETE SAND CONFORMING TO ASTM C-33
3. JOINT SAND SHALL BE MASONRY SAND CONFORMING TO ASTM C-144

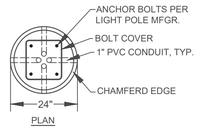
TYPICAL PAVER DETAIL
NOT TO SCALE



GRANITE RADIUS CORNER "BUG"
NOT TO SCALE



SECTION



PLAN

NOTES:
1. CONCRETE f'c=4000 psi.
2. REINF. STEEL GRADE 60 NEW BARS.
3. CONCRETE 3/4" AGG., 6 +/- 1% ENTRAINED AIR.
4. PROVIDE 2 COATS BITUMINOUS DAMPROOFING FOR ALL CONCRETE BELOW GRADE.
5. EXPOSED CONCRETE TO BE PAINTED WITH 2 COATS OF ACRYLIC PAINT. COLOR TO MATCH POLE COLOR.
6. INSTALL BASE 3'-0" ABOVE FINISH GRADE IN LOCATIONS WHERE POLES ARE IN PARKING LOT PAVEMENT.

LIGHT POLE BASE
NOT TO SCALE

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13587
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

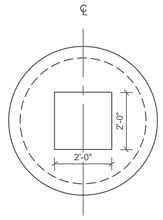
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: SITE DETAILS

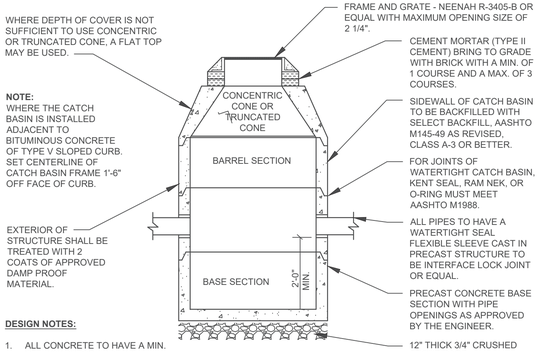
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-8.0

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 D.dwg



PLAN VIEW



NOTE:
WHERE THE CATCH BASIN IS INSTALLED ADJACENT TO BITUMINOUS CONCRETE OF TYPE V SLOPED CURB. SET CENTERLINE OF CATCH BASIN FRAME 1'-6" OFF FACE OF CURB.

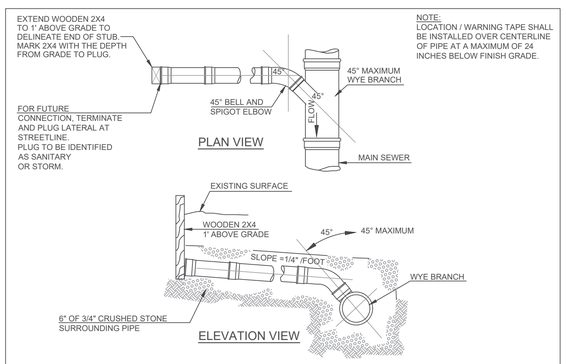
DESIGN NOTES:

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 0.12 IN SQ./LF..

SECTION VIEW

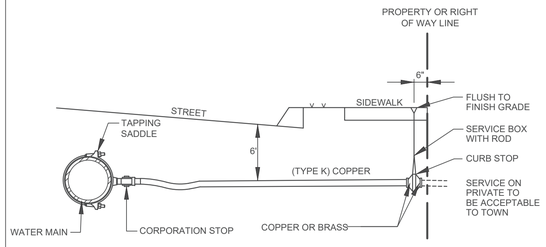
NOTE:
CASCADE GRATES SHALL BE INSTALLED ON GRADIENT OF GUTTER IF PROFILE GRADE EXCEEDS 5% GRATES SHALL BE DEPRESSED 2" BELOW NORMAL GUTTER GRADE UNLESS THIS DEPRESSION INTERFERES WITH TRAFFIC. PARALLEL BAR GRATES SHALL BE INSTALLED ON A LEVEL GRADIENT.

TYPICAL CATCH BASIN
NOT TO SCALE

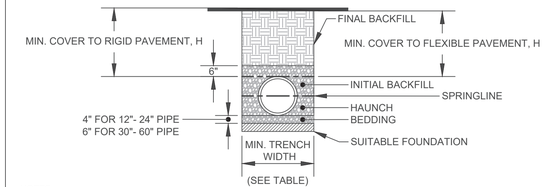


NOTE:
LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.

TYPICAL HOUSE LATERAL TEE/WYE CONNECTION
NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

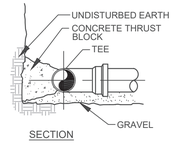
PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

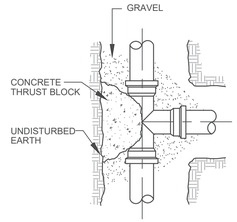
7. INSULATION: RIGID INSULATION SHALL BE PROVIDED FOR PIPES WITH LESS THAN 4' OF COVER IN ACCORDANCE WITH THE FOLLOWING TABLE:

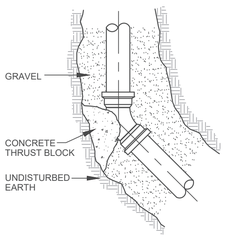
COVER OVER PIPE	INSULATION THICKNESS
12" - 24"	3"
24" - 36"	2"
36" - 48"	1"
48"+	NONE

TYPICAL TRENCH DETAIL
NOT TO SCALE

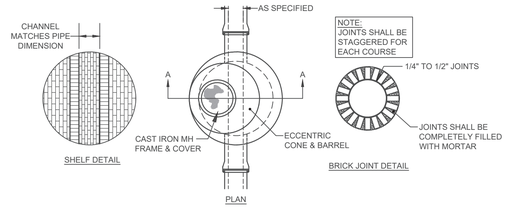


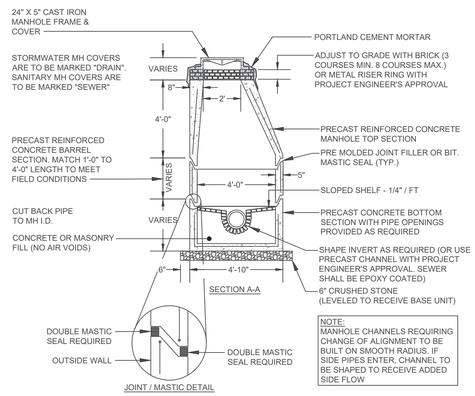
CONCRETE THRUST BLOCK SIZE REQUIREMENTS				
		SQ. FT. OF BEARING ON UNDISTURBED SOIL		
FITTINGS		90° BENDS	45° BENDS	TEES AND PLUGS
PIPE SIZE	6"	4.0	2.0	3.0
	8"	8.0	4.0	6.0
	12"	15	10	10





TEE & BEND DETAIL
NOT TO SCALE



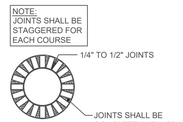


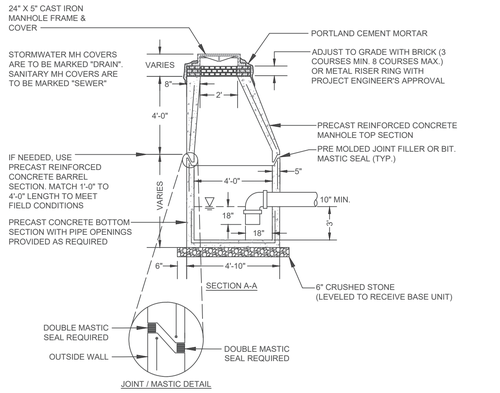
NOTE:
MANHOLE CHANNELS REQUIRING CHANGE OF ALIGNMENT TO BE BUILT ON SMOOTH RADIUS. IF SIDE PIPES ENTER, CHANNEL TO BE SHAPED TO RECEIVE ADDED SIDE FLOW

4' DIAMETER PRECAST CONCRETE MANHOLE
NOT TO SCALE

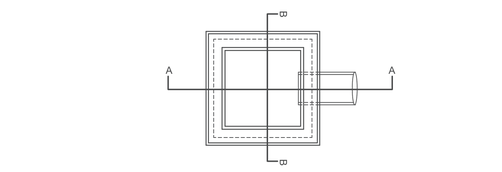
NOTES:

1. FOR USE IN PARTIALLY OR TOTALLY ENCLOSED PARKING GARAGES.
2. DISCHARGE SHALL BE TO SANITARY SEWER
3. A VENT PIPE MAY BE REQUIRED THAT HAS A VERTICAL OUTLET OFF TO THE SIDE OF THE STRUCTURE.
4. AN OIL ABSORBENT BOOM SHALL BE PLACED WITHIN THE MANHOLE ON THE WATER SURFACE AND REPLACED ANNUALLY.





OIL / GRIT SEPARATOR
NOT TO SCALE



NOTES:
1. FRAME SHALL BE FOR 24" SQUARE GRATE - LEBARON TYPE "F" SQUARE FRAME (LF 245) 4 FLANGE OR ETHERIDGE SQUARE FRAME S24G. GRATE SHALL BE 24"x24" CAST IRON.

2. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.

TYP. TYPE "F" CATCH BASIN
NOT TO SCALE

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL PIPES ENTERING MANHOLES AND CATCH BASINS SHALL HAVE FLEXIBLE PIPE CONNECTIONS WITH STAINLESS STEEL BANDS. FILL ANY ANNUAL SPACE WITH NON SHRINK GROUT.
5. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLID
6. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
8. INVERTS SHALL BE BUILT TO THE HEIGHT OF THE FOLLOWING AS DETERMINED BY THE LARGEST PIPE SIZE.
   - 8.1. FOR PIPE SIZES 4"-12" INVERTS SHALL GO TO THE TOP OF THE PIPE.
   - 8.2. FOR PIPE SIZES 15"-36" INVERTS SHALL GO TO THE SPRING LINE.
   - 8.3. FOR PIPE SIZES 42"-60" INVERTS SHALL GO TO THE 1/3 OF PIPE SIZE
9. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A HOOD / CASCO TRAP. SEE FIGURE II-09.
13. ALL MANHOLES AND CATCH BASINS REQUIRE BUOYANCY CALCULATIONS AND THE STRUCTURES SHALL BE MODIFIED AS NECESSARY BASED ON THOSE CALCULATIONS.

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13067
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	REVISIONS	DATE
1	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS	7/28/2023

ADDRESS: 41 CAMPUS DRIVE, SUITE 301, NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

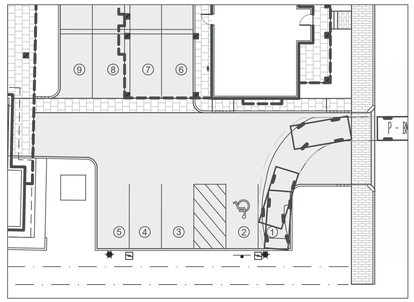
PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: UTILITY AND DRAINAGE DETAILS

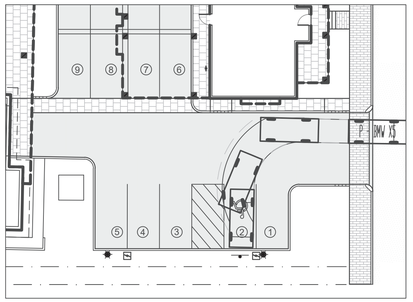
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-8.1

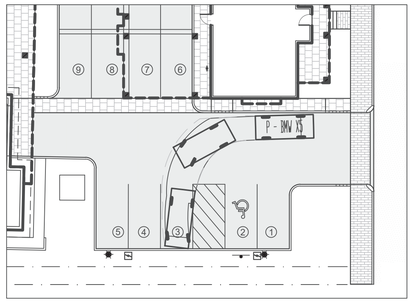
C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 D.dwg



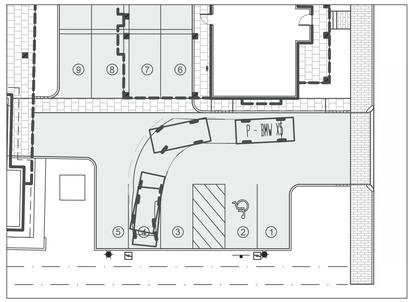
VEHICLE ENTERING SPOT 1



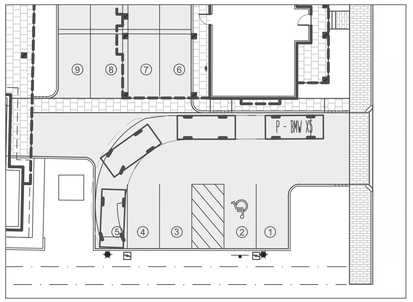
VEHICLE ENTERING SPOT 2



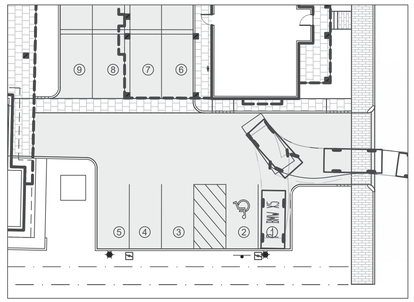
VEHICLE ENTERING SPOT 3



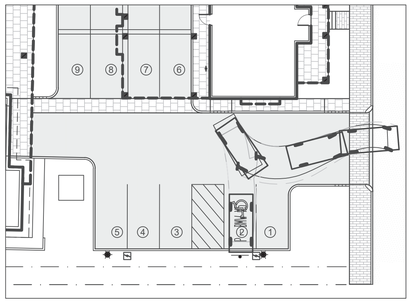
VEHICLE ENTERING SPOT 4



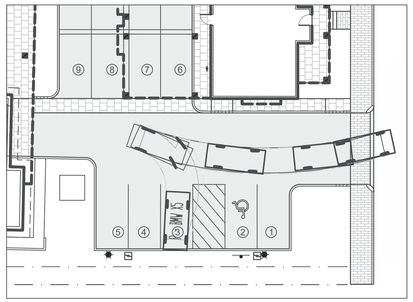
VEHICLE ENTERING SPOT 5



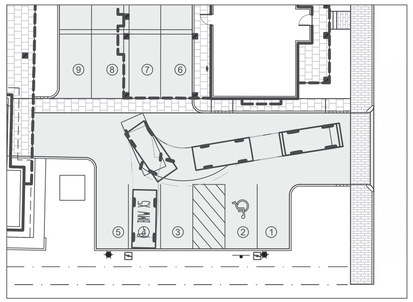
VEHICLE EXITING SPOT 1



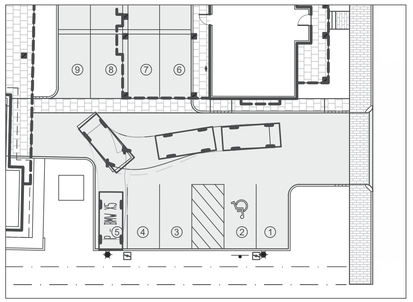
VEHICLE EXITING SPOT 2



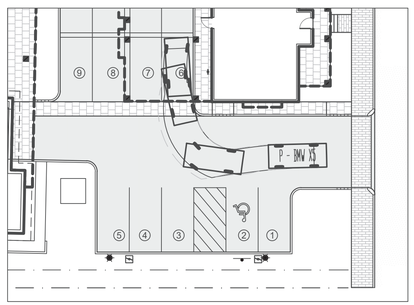
VEHICLE EXITING SPOT 3



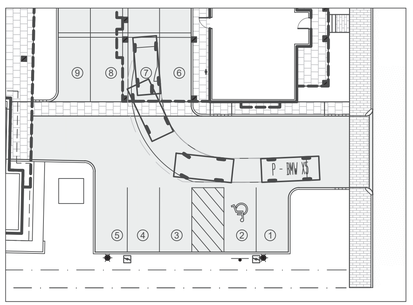
VEHICLE EXITING SPOT 4



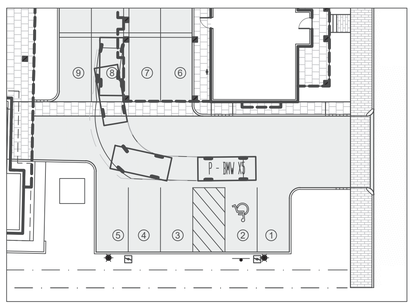
VEHICLE EXITING SPOT 5



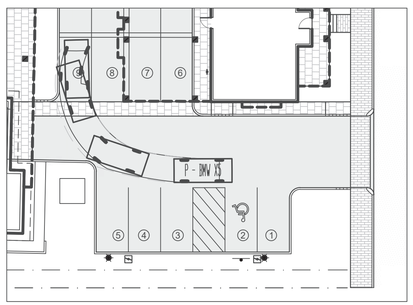
VEHICLE ENTERING SPOT 6



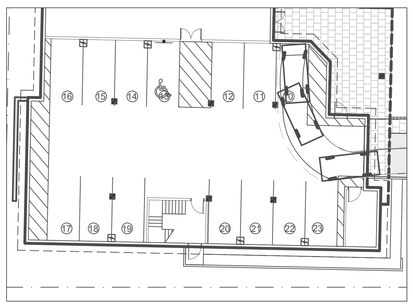
VEHICLE ENTERING SPOT 7



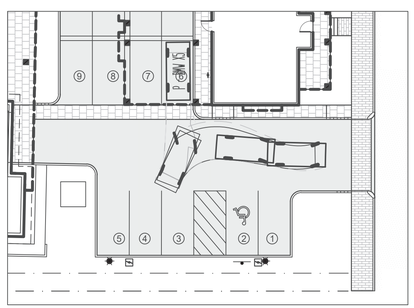
VEHICLE ENTERING SPOT 8



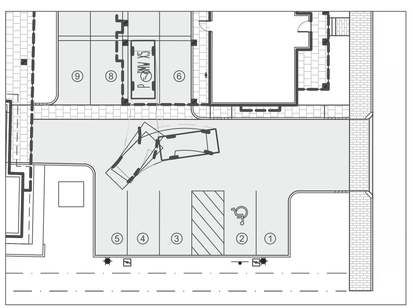
VEHICLE ENTERING SPOT 9



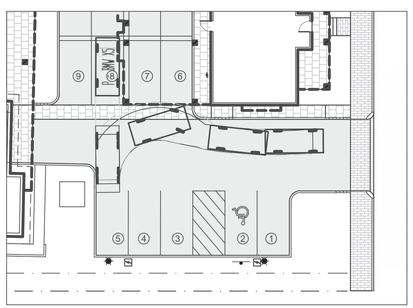
VEHICLE ENTERING SPOT 10



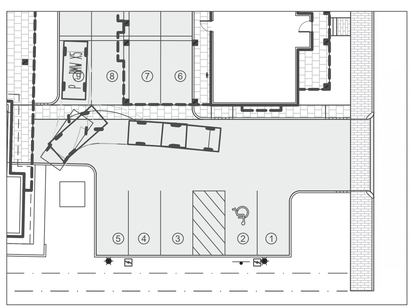
VEHICLE EXITING SPOT 6



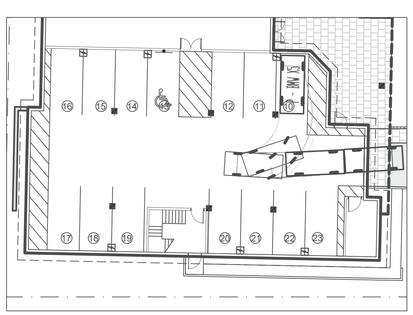
VEHICLE EXITING SPOT 7



VEHICLE EXITING SPOT 8



VEHICLE EXITING SPOT 9



VEHICLE EXITING SPOT 10

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10788
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE:
(207) 926-5111

WEB SITE:
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC

Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

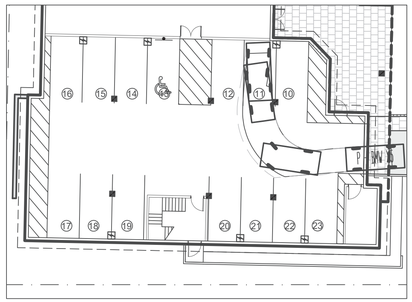
PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
PARKING TURNING ANALYSIS

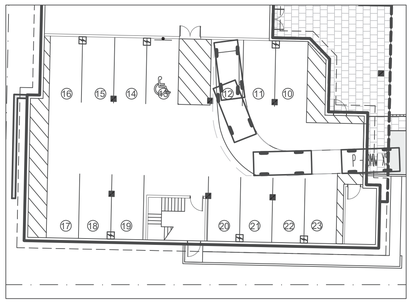
CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE:	5/5/2023
SCALE:	1" = 20'
JOB NO:	22-144
SHEET:	C-9.0

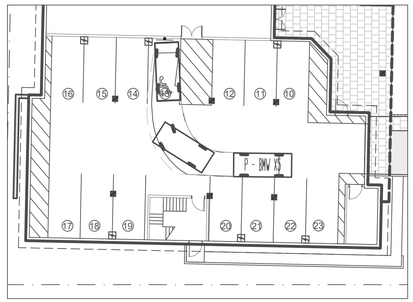
C:\DD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 TURNING.dwg



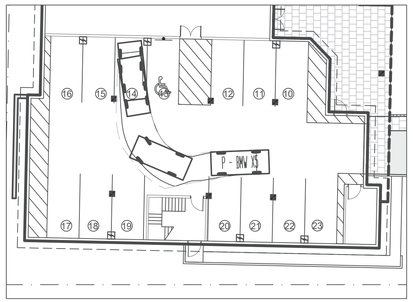
VEHICLE ENTERING SPOT 11



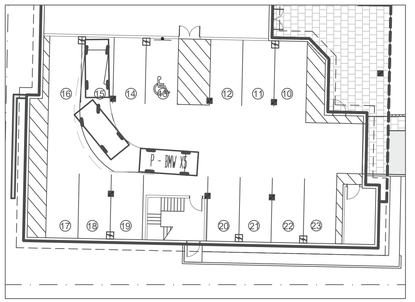
VEHICLE ENTERING SPOT 12



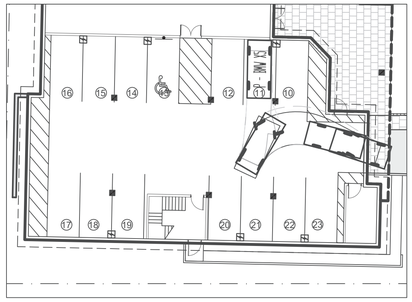
VEHICLE ENTERING SPOT 13



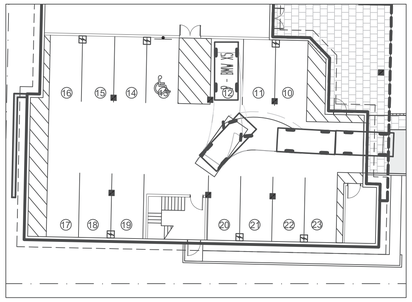
VEHICLE ENTERING SPOT 14



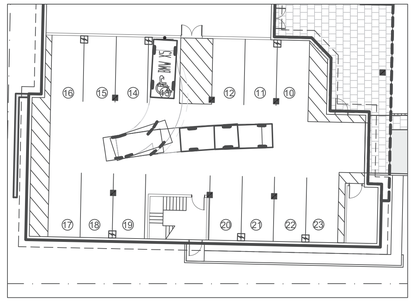
VEHICLE ENTERING SPOT 15



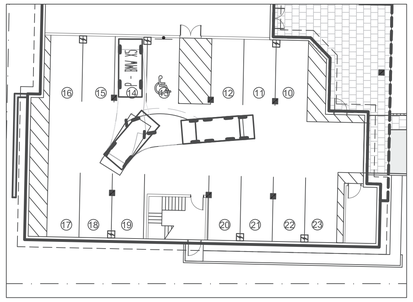
VEHICLE EXITING SPOT 11



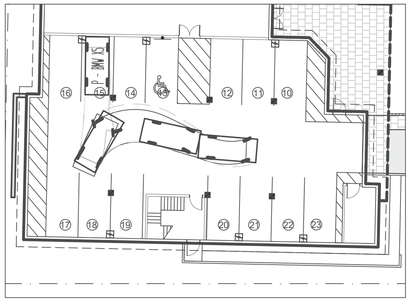
VEHICLE EXITING SPOT 12



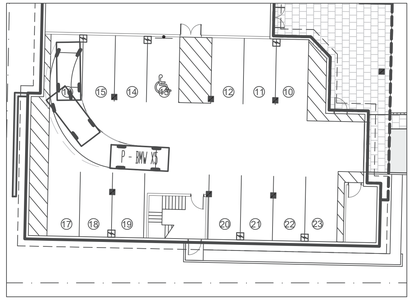
VEHICLE EXITING SPOT 13



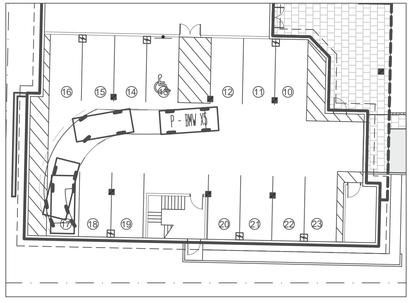
VEHICLE EXITING SPOT 14



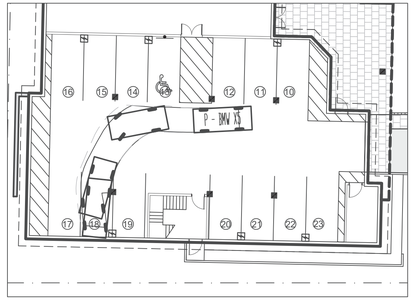
VEHICLE EXITING SPOT 15



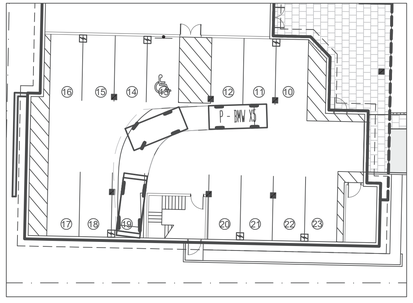
VEHICLE ENTERING SPOT 16



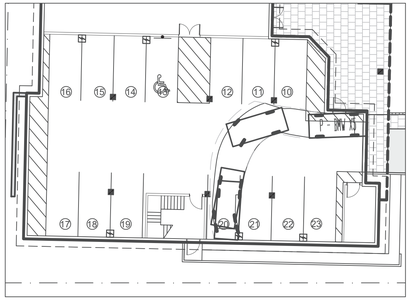
VEHICLE ENTERING SPOT 17



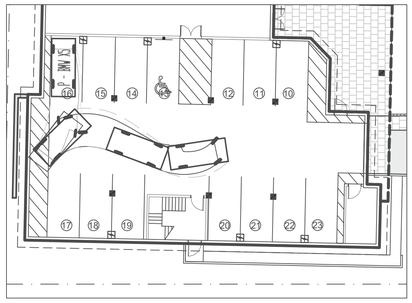
VEHICLE ENTERING SPOT 18



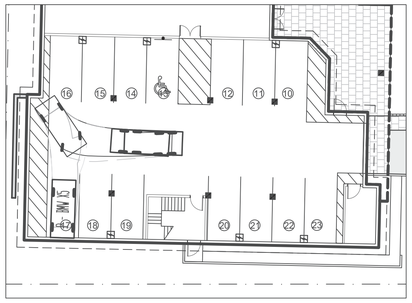
VEHICLE ENTERING SPOT 19



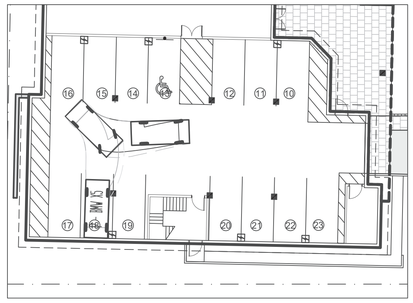
VEHICLE ENTERING SPOT 20



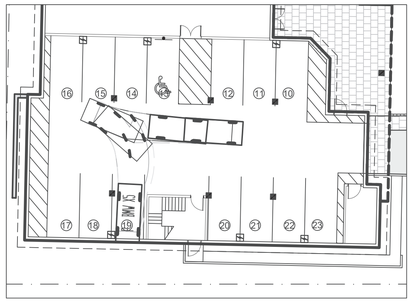
VEHICLE EXITING SPOT 16



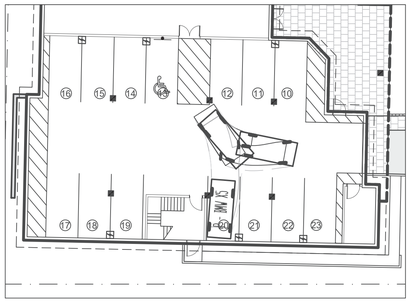
VEHICLE EXITING SPOT 17



VEHICLE EXITING SPOT 18



VEHICLE EXITING SPOT 19



VEHICLE EXITING SPOT 20

GRAPHIC SCALE

20 0 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10081
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE:
(207) 926-5111

WEB SITE:
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

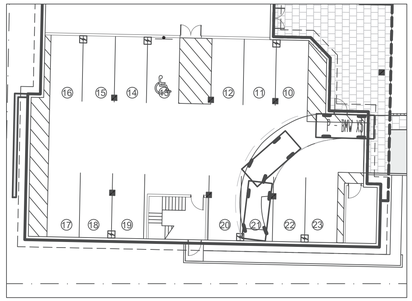
PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
PARKING TURNING ANALYSIS

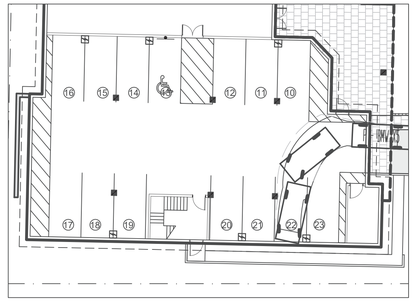
CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE:	5/5/2023
SCALE:	1" = 20'
JOB NO:	22-144
SHEET:	C-9.1

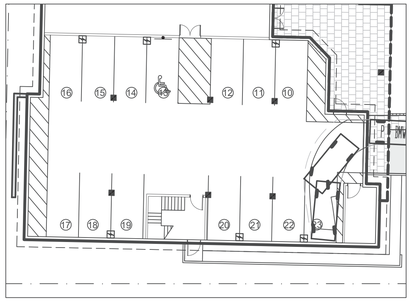
C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 TURNING.dwg



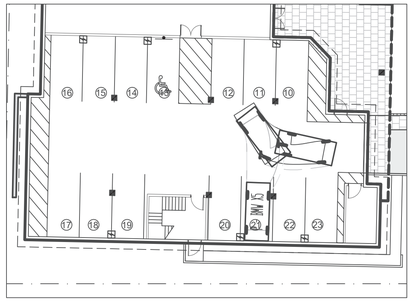
VEHICLE ENTERING SPOT 21



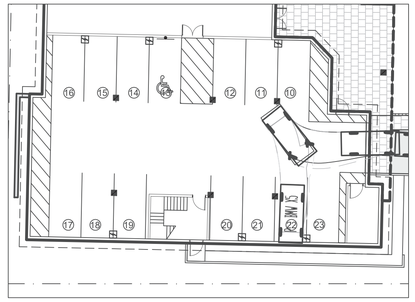
VEHICLE ENTERING SPOT 22



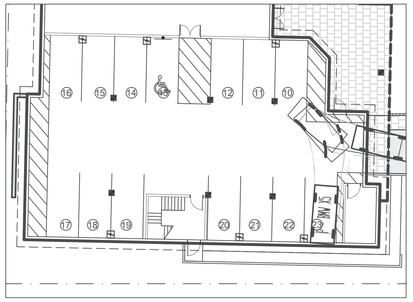
VEHICLE ENTERING SPOT 23



VEHICLE EXITING SPOT 21



VEHICLE EXITING SPOT 22



VEHICLE EXITING SPOT 23

VEHICLE MOVEMENT NOTES:

1. VEHICLE MOVEMENTS SHOW HOW A VEHICLE MAY ENTER OR EXIT PARKING SPACES.
2. VEHICLE PATHS DEVELOPED USING VEHICLE TRACKING SWEPT PATH ANALYSIS SOFTWARE BY AUTODESK.
3. VEHICLE PARAMETERS:
   - TOTAL LENGTH: 15.3'
   - TOTAL WIDTH: 6.21'
   - WHEEL BASE: 9.25'
   - TRACK: 5.3'
   - FRONT OVERHANG: 2.94'
   - REAR OVERHANG: 3.11'
   - STEERING LOCK ANGLE: 34.5°

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13067
LICENSED PROFESSIONAL ENGINEER

DATE: 7/28/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE:
(207) 926-5111

WEB SITE:
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

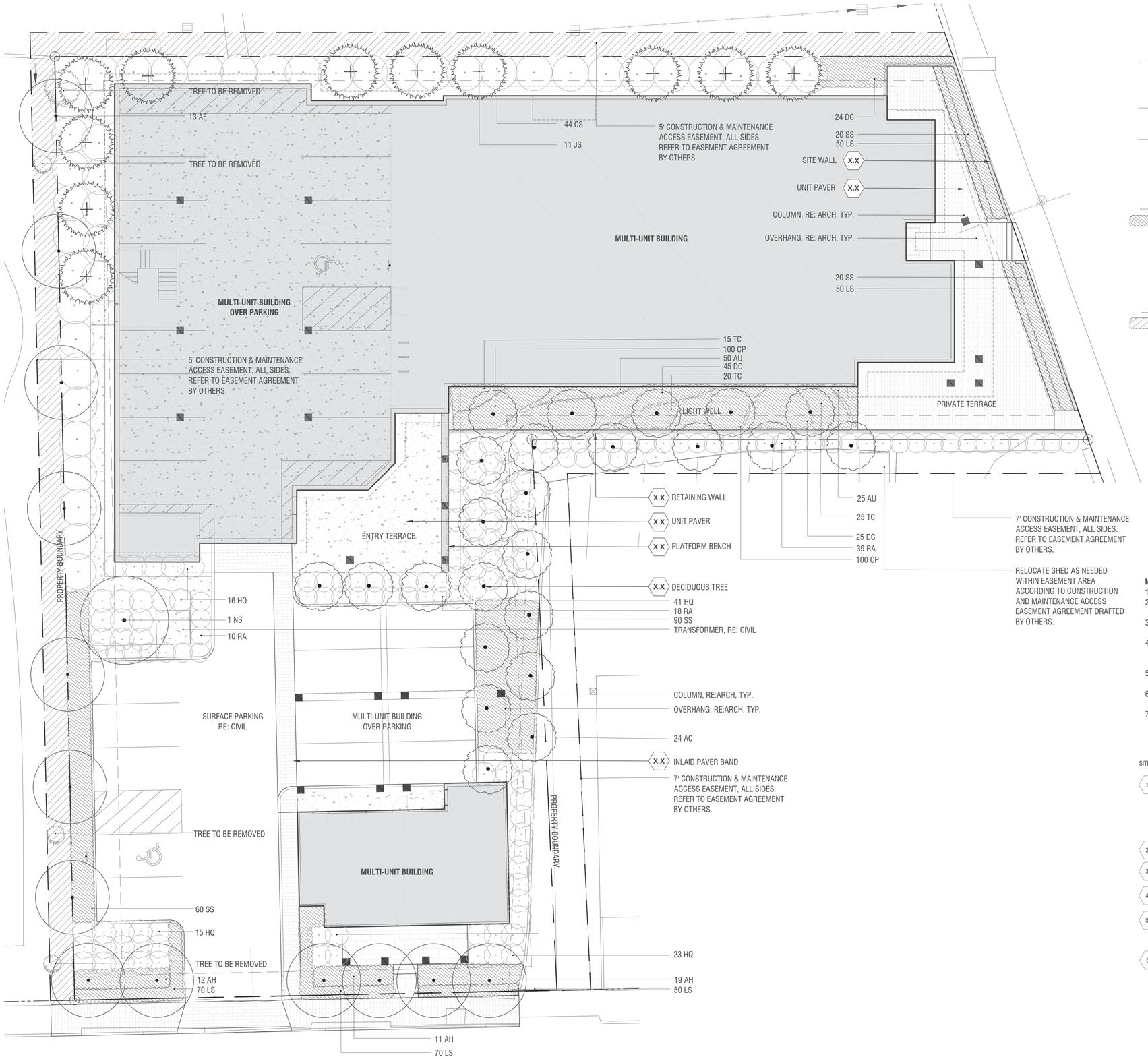
PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
PARKING TURNING ANALYSIS

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-9.2

C:\OD\Terradyn Consultants\Project Folders - Documents\2022 Jobs\22-144 Eastern Prom Condos\CAD\Permitting\22-144 TURNING.dwg



PLANT SCHEDULE

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING
TREES					
AF	ACER x FREEMANII 'ARMSTRONG'	UPRIGHT ARMSTRONG MAPLE	13	2.5" CAL. MIN.	PER PLAN
NS	NYSSA SYLVATICA	TUPELO	1	B&B	PER PLAN
AC	AMELANCHIER CANADENSIS	SERVICEBERRY (MULTI-STEM)	24	B&B	PER PLAN
TREES - EVERGREEN					
JS	JUNIPERUS SCOPULORUM 'MOONGLOW'	'MOONGLOW' JUNIPER	11	8' HT MIN.	PER PLAN
SHRUBS					
CS	CORNUS SERICEA	RED-TWIG DOGWOOD	44	#5	PER PLAN
HQ	HYDRANGEA QUERCIFOLIA	OAK-LEAF HYDRANGEA	95	#5	PER PLAN
RA	RHUS AROMATICA	LOW-GRO SUMAC	67	#2	PER PLAN
PERENNIALS AND ORNAMENTAL GRASSES					
TC	TIARELLA CORDIFOLIA	FOAM FLOWER	60	#1	18" O.C.
DC	DRYOPTERIS CYCADINA	SHAGGY SHIELD FERN	94	#1	24" O.C.
AU	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	75	#1	12" O.C.
CP	CAREX PENNSYLVANICA	PENNSYLVANIA SEDGE	200	#1	12" O.C.
AH	AMSONIA HUBRICHTII	BLUESTAR	42	#1	30" O.C.
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	190	#1	24" O.C.
LS	LIRIOPE SPICATA	LIRIOPE	290	#1	12" O.C.
LAWN & SEEDING					
	LOAM & SEED	XX SF		TURF GRASS MIX PER PLAN, SEE SEED SUPPLIER SPEC. FOR APPLICATION RATE	

NOTES:

1. ALL PLANTING AREA TO RECEIVE 3" MIN. SHREDDED BARK MULCH
2. AMEND PLANTING AREA SOIL TO A MIN. DEPTH OF 12", REMOVE ANY LARGE STONE, GRAVEL, OR DEBRIS PRIOR TO PLANTING.
3. ALL PLANTING TO RECEIVE IRRIGATION FOR A MINIMUM OF ONE YEAR OR UNTIL ESTABLISHMENT. CONTRACTOR SHALL GUARANTEE ALL PLANTINGS FOR A MINIMUM OF ONE YEAR.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY NECESSARY SUBSTITUTIONS. ANY SUBSTITUTIONS SHALL BE APPROVED OR DENIED BY LANDSCAPE ARCHITECT PRIOR TO ACCEPTANCE OF DELIVERY AND INSTALLATION.
5. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR ERRORS IN PLANS OR QUANTITIES PRIOR TO ODERING MATERIAL, DELIVERY, AND INSTALLATION.
6. CONTRACTOR SHALL CONFIRM SPOEC., LAYOUT, AND PLACEMENT OF ANY MATERIALS, INCLUDING PLANTINGS PRIOR TO INSTALLATION.
7. IMPROVEMENTS AND/OR REPAIRS WITHIN CONSTRUCTION AND MAINTENANCE ACCESS EASEMENT AREA (APPROX 3932 SQFT) SHALL BE ENTIRELY DICTATED BY AGREEMENTS DRAFTED BY OTHERS. CONTRACTOR SHALL CONFIRM CONFORMANCE TO FINAL DRAFT AGREEMENTS AND CONDITIONS. THESE PLANS ONLY FOR REFERENCE.

SITE DETAIL KEYNOTES:

		DETAIL / SHEET
1.0	PAVEMENTS, RAMPS, CURBS	
1.1	ASPHALT PAVING - PEDESTRIAN	1/L3-00
1.2	CONCRETE PAVER	2/L3-00
1.3	STONEDUST PATH	3/L3-00
1.4	GRASS PAVERS	8/L3-00
1.5	PLAY AREA SURFACE	3/L3-03
1.6	CIP CONCRETE PAVING	5/L3-00
2.0	JOINTING	
X.X	NOT USED AT THIS TIME	X/XX-XX
3.0	STEPS	
X.X	NOT USED AT THIS TIME	X/XX-XX
4.0	SITE WALLS/ EMBANKMENTS	
X.X	NOT USED AT THIS TIME	X/XX-XX
5.0	SITE FURNITURE	
5.1	BIKE RACK	6/L3-00
5.2	BENCH	1/L3-02
5.3	BENCH	2/L3-02
5.4	BENCH WITH BACKREST	3/L3-02
6.0	RAILINGS, BARRIERS, FENCING	
X.X	NOT USED AT THIS TIME	X/XX-XX
7.0	SITE LIGHTING	
7.1	LIGHT POLE BASE	7/L3-00
8.0	DRAINAGE	
X.X	NOT USED AT THIS TIME	X/XX-XX
9.0	PLANTING AND LANDSCAPE	
9.1	DECIDUOUS TREE PLANTING	1/L3-01
9.2	MULTI-STEM TREE PLANTING	2/L3-01
9.3	EVERGREEN TREE PLANTING	3/L3-01
9.4	SHRUBS PLANTING	4/L3-01
9.5	PERENNIAL PLANTING	5/L3-01
9.6	TREE PROTECTION	6/L3-01
9.7	METAL EDGING	4/L3-00
10.0	MISCELLANEOUS ELEMENTS	
10.1	CHALK WALL	4/L3-03
10.2	HAMMOCK POST	1/L3-03
10.3	TREE GRATE	2/L3-03
10.4	PLAYGROUND EQUIPMENT	4/L3-03

0 4 8 16

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE

246 E. PROM.

PREPARED FOR

ECK PROPERTIES

SHINBERG CONSULTING
181 STATE STREET
PORTLAND, ME 04101

REVISIONS DATE

ISSUE DATE

07/26/2023

SHEET TITLE

PRELIMINARY LANDSCAPE PLAN

SHEET INFORMATION

L 1-00

NOT FOR CONSTRUCTION

ECK Realty, LLC

24 Wildwood Drive
Cape Elizabeth, ME

Munjoy Hill
Portland, Maine



246 Eastern Promenade

and 15 Turner Street

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

shinberg CONSULTING

T.1

MAJOR SITE PLAN REVIEW

OWNER REVIEW: 07.28.23

246 EASTERN PROM

FIRE SEPARATION DISTANCE
MAX ALLOWED: 25%
ACTUAL: 23%

FIRE SEPARATION DISTANCE
MAX ALLOWED: 25% - ACTUAL: 19%

FIRE SEPARATION DISTANCE
MAX ALLOWED: UNLIMITED

FIRE SEPARATION DISTANCE
MAX ALLOWED: 25%
ACTUAL: 19%

FIRE SEPARATION DISTANCE
MAX ALLOWED: 45%
ACTUAL: 33%

FIRE SEPARATION DISTANCE
MAX ALLOWED: 25%
ACTUAL: 24%

FIRE SEPARATION DISTANCE
MAX ALLOWED: UNLIMITED

FIRE SEPARATION DISTANCE
MAX ALLOWED: 45%
ACTUAL: 25%

FIRE SEPARATION DISTANCE
MAX ALLOWED: 25%
ACTUAL: 22%

ADJACENT BUILDING SEPERATION

5' - 4"
7' - 11"
105' - 2"
PRIVATE TERRACE
LIGHT WELL
PROPERTY BOUNDARY
SURFACE PARKING
RE: CIVIL
MULTI-UNIT E
OVER PAR
ARCH, TYP.
8' - 0"
10'
16'
11'
5'
6' - 3"
XX CS
XX RA
X.X RETAINING WALL
X.X UNIT PAVER
X.X PLATFORM BENCH
X.X DECIDUOUS TREE
DN
UP
D
W

shinberg CONSULTING

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

MAJOR SITE PLAN REVIEW

07.28.23

246 EASTERN PROM

A0.0



BASEMENT FLOOR PLAN

1/8" = 1'-0"

BUILDING AREA CALCULATIONS

EASTERN PROMENADE

1ST FLR		6,057 SF
2ND FLR		12,341 SF
	DECK	784 SF
	GARAGE	5,255 SF
3RD FLR		11,758 SF
	DECK	1,073 SF
4TH FLR		9,460 SF
	DECK	1,123 SF
BASEMENT		6,057 SF
TOTAL		**45,673 SF**

*DECKS & GARAGE ARE INCLUDED IN TOTAL AREA CALCULATIONS.

TURNER STREET

1ST FLR		1,154 SF
		SF
2ND FLR		2,424 SF
	DECK	314 SF
BASEMENT		1,154 SF
TOTAL		**4,732 SF**

246 EASTERN PROMENADE BUILDING IS FHA COMPLIANT

15 TURNER STREET BUILDING HAS AT GRADE ACCESS AT STREET LEVEL ONLY

TOTAL PROJECT BUILDING AREA **50,405 SF**

LEGEND

1 ENTRY
2 LOBBY
3 LIVING
4 DINING
5 KITCHEN
6 BEDROOM
7 BATHROOM
8 LAUNDRY
9 PANTRY
10 STUDY
11 WALK IN CLOSET
12 SOLARIUM
13 PORCH
14 DECK
15 PATIO
16 FITNESS
17 WINDOW WELL

20 MAIL
21 UTILITY
22 ELECTRICAL
23 MECHANICAL
24 WATER / SPRINKLER
25 STORAGE
26 TRASH/ RECYCLE
27 PARKING
28 GREEN SPACE
29 CRAWL SPACE

30 DOG WASH STATION
31 BICYCLE PARKING

LIVING UNIT TABULATIONS

PROPOSED **14** **UNITS**

MARKET RATE	14		
AFFORDABLE/ WORKFORCE (25% OF MARKET RATE REQ'D)	0	0%	PROVIDED FEE IN LIEU OF

MARKET RATE **27,354 SF** *1,954 AVG SF*

UNIT 101	3 BED	2,320	SF
UNIT 102	3 BED	2,256	SF
UNIT 201	3 BED	2,307	SF
UNIT 202	3 BED	2,064	SF
UNIT 301	3 BED	2,470	SF
UNIT 302	3 BED	2,112	SF
UNIT 303	2 BED	2,040	SF
UNIT 304	3 BED	1,984	SF
UNIT 401	3 BED	2,901	SF
UNIT 402	2 BED	2,040	SF
UNIT 403	3 BED	2,006	SF
UNIT A	1 BED	884	SF
UNIT B	2 BED	985	SF
UNIT C	2 BED	985	SF

TOTALS **27,354 SF**
BEDROOMS **36**

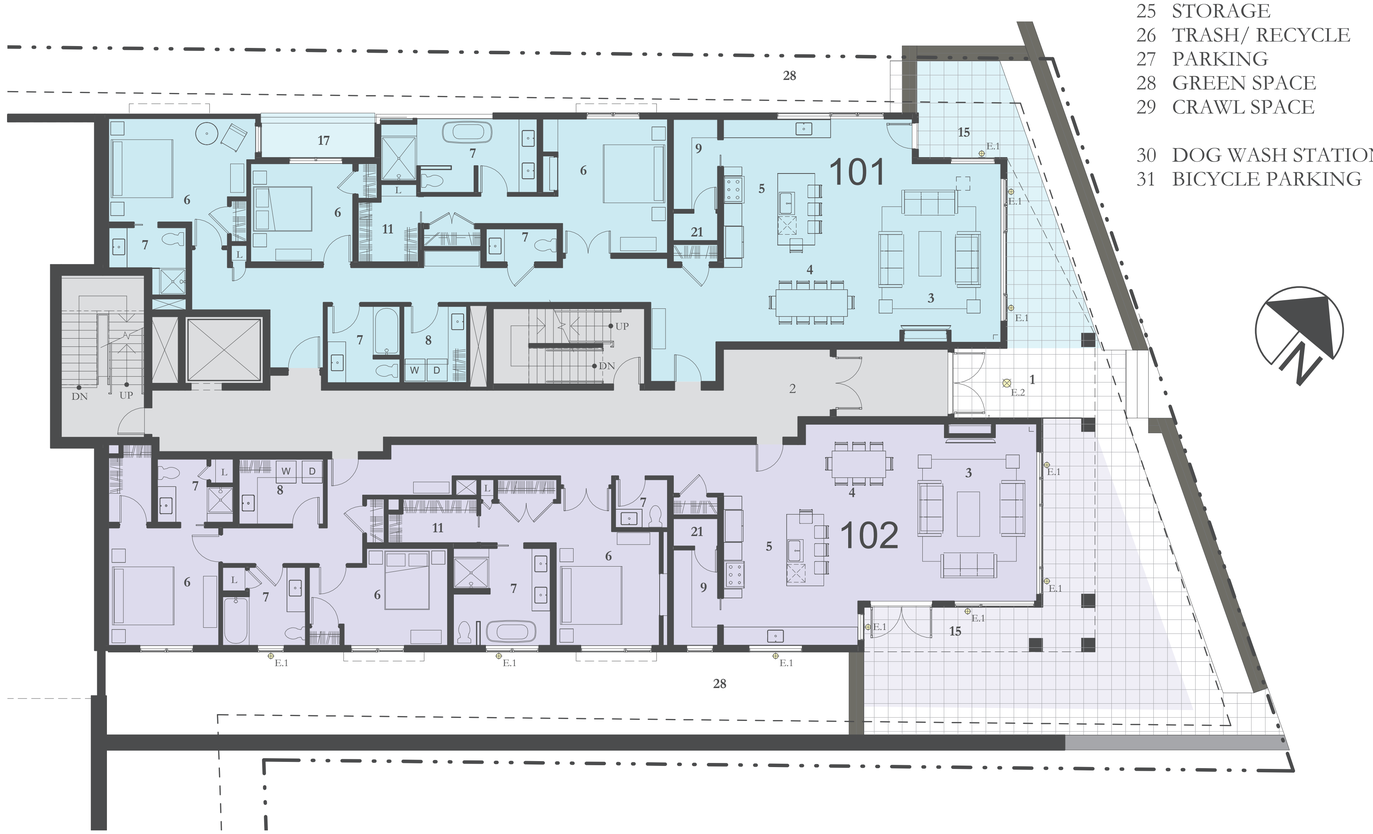
EXISTING **12** **UNITS**
(TO BE REMOVED)

MARKET RATE	12	
AFFORDABLE/ WORKFORCE	0	

MARKET RATE **4,736 SF** *395 AVG SF*

UNIT 1	1 BED	400	SF
UNIT 2	1 BED	400	SF
UNIT 3	STUDIO	368	SF
UNIT 4	STUDIO	272	SF
UNIT 5	1 BED	416	SF
UNIT 6	1 BED	512	SF
UNIT 7	1 BED	400	SF
UNIT 8	1 BED	400	SF
UNIT 9	STUDIO	368	SF
UNIT 10	STUDIO	272	SF
UNIT 11	1 BED	416	SF
UNIT 12	1 BED	512	SF

TOTALS **4,736 SF**
BEDROOMS **12**



GROUND LEVEL PLAN

1/8" = 1'-0"

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

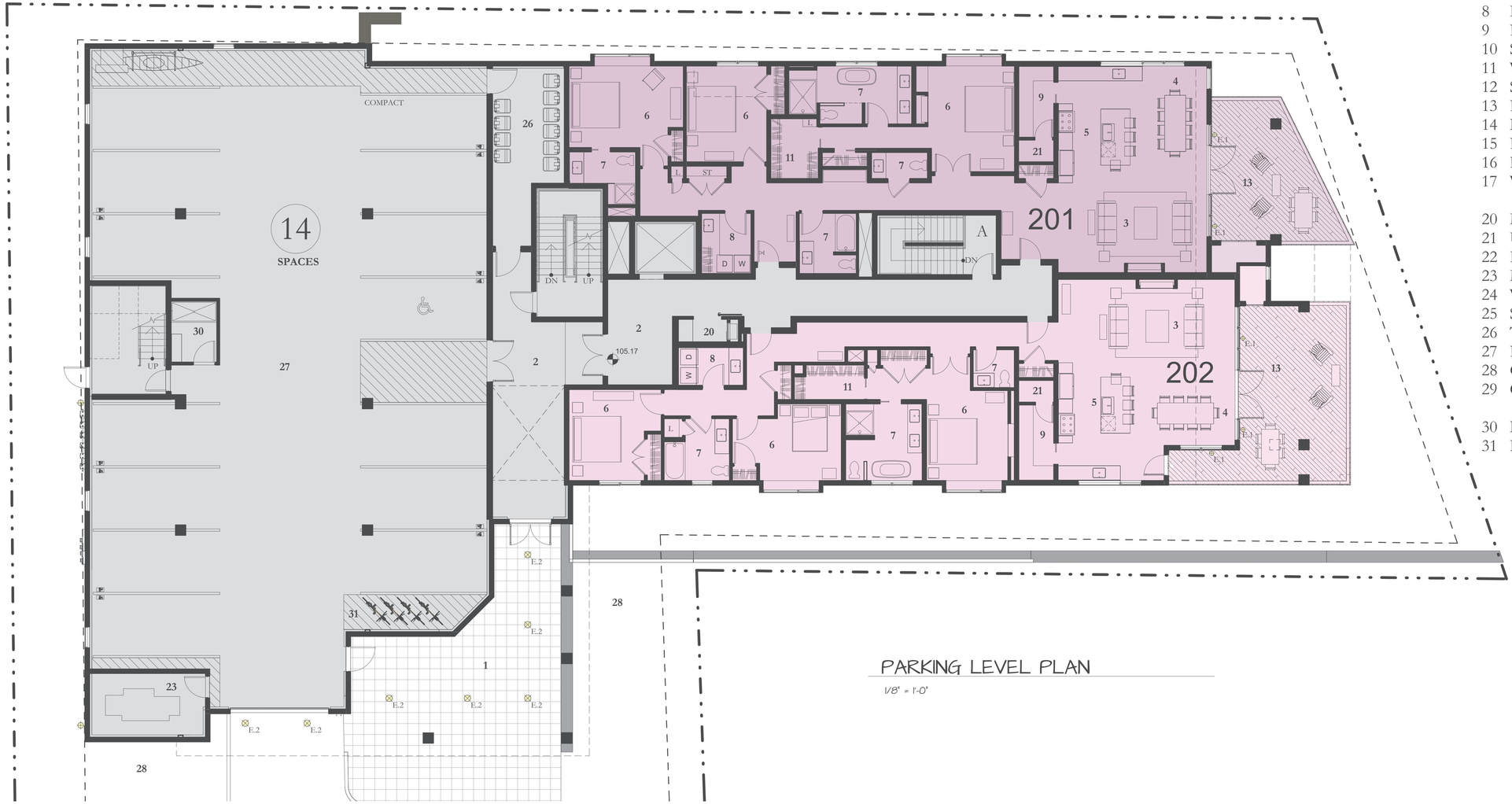
shinberg CONSULTING

MAJOR SITE PLAN REVIEW

07.28.23

246 EASTERN PROM

A1.0



PARKING LEVEL PLAN

1/8" = 1'-0"

LEGEND

1 ENTRY
2 LOBBY
3 LIVING
4 DINING
5 KITCHEN
6 BEDROOM
7 BATHROOM
8 LAUNDRY
9 PANTRY
10 STUDY
11 WALK IN CLOSET
12 SOLARIUM
13 PORCH
14 DECK
15 PATIO
16 FITNESS
17 WINDOW WELL

20 MAIL
21 UTILITY
22 ELECTRICAL
23 MECHANICAL
24 WATER / SPRINKLER
25 STORAGE
26 TRASH/ RECYCLE
27 PARKING
28 GREEN SPACE
29 CRAWL SPACE

30 DOG WASH STATION
31 BICYCLE PARKING

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

shinberg CONSULTING

A1.1

07.28.23

MAJOR SITE PLAN REVIEW

246 EASTERN PROM



THIRD FLOOR PLAN

1/8" = 1'-0"

LEGEND

1 ENTRY
2 LOBBY
3 LIVING
4 DINING
5 KITCHEN
6 BEDROOM
7 BATHROOM
8 LAUNDRY
9 PANTRY
10 STUDY
11 WALK IN CLOSET
12 SOLARIUM
13 PORCH
14 DECK
15 PATIO
16 FITNESS
17 WINDOW WELL

20 MAIL
21 UTILITY
22 ELECTRICAL
23 MECHANICAL
24 WATER / SPRINKLER
25 STORAGE
26 TRASH/ RECYCLE
27 PARKING
28 GREEN SPACE
29 CRAWL SPACE

30 DOG WASH STATION
31 BICYCLE PARKING

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

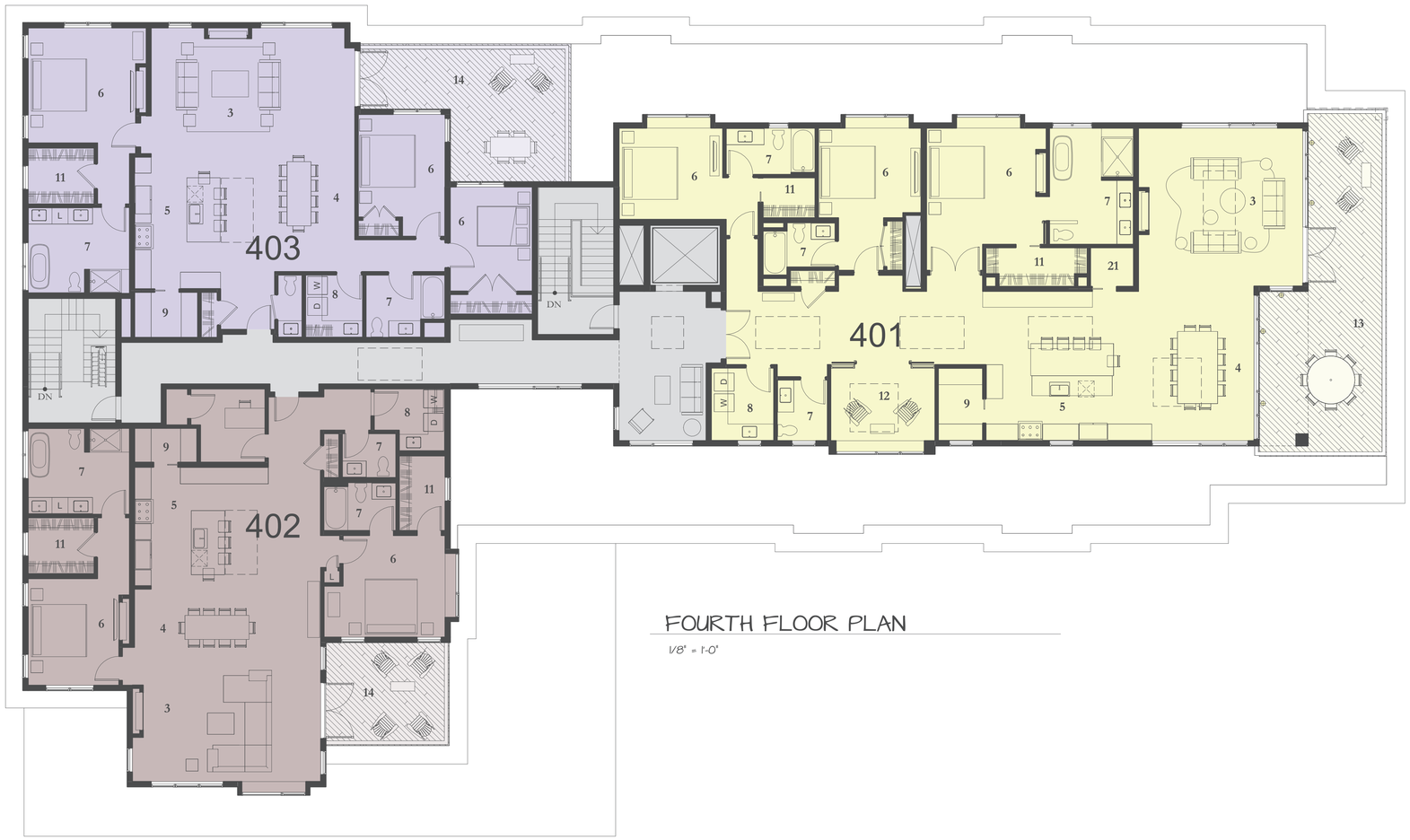
shinberg CONSULTING

A1.2

07.28.23

MAJOR SITE PLAN REVIEW

246 EASTERN PROM



FOURTH FLOOR PLAN

1/8" = 1'-0"

LEGEND

1 ENTRY
2 LOBBY
3 LIVING
4 DINING
5 KITCHEN
6 BEDROOM
7 BATHROOM
8 LAUNDRY
9 PANTRY
10 STUDY
11 WALK IN CLOSET
12 SOLARIUM
13 PORCH
14 DECK
15 PATIO
16 FITNESS
17 WINDOW WELL

20 MAIL
21 UTILITY
22 ELECTRICAL
23 MECHANICAL
24 WATER / SPRINKLER
25 STORAGE
26 TRASH/ RECYCLE
27 PARKING
28 GREEN SPACE
29 CRAWL SPACE

30 DOG WASH STATION
31 BICYCLE PARKING

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

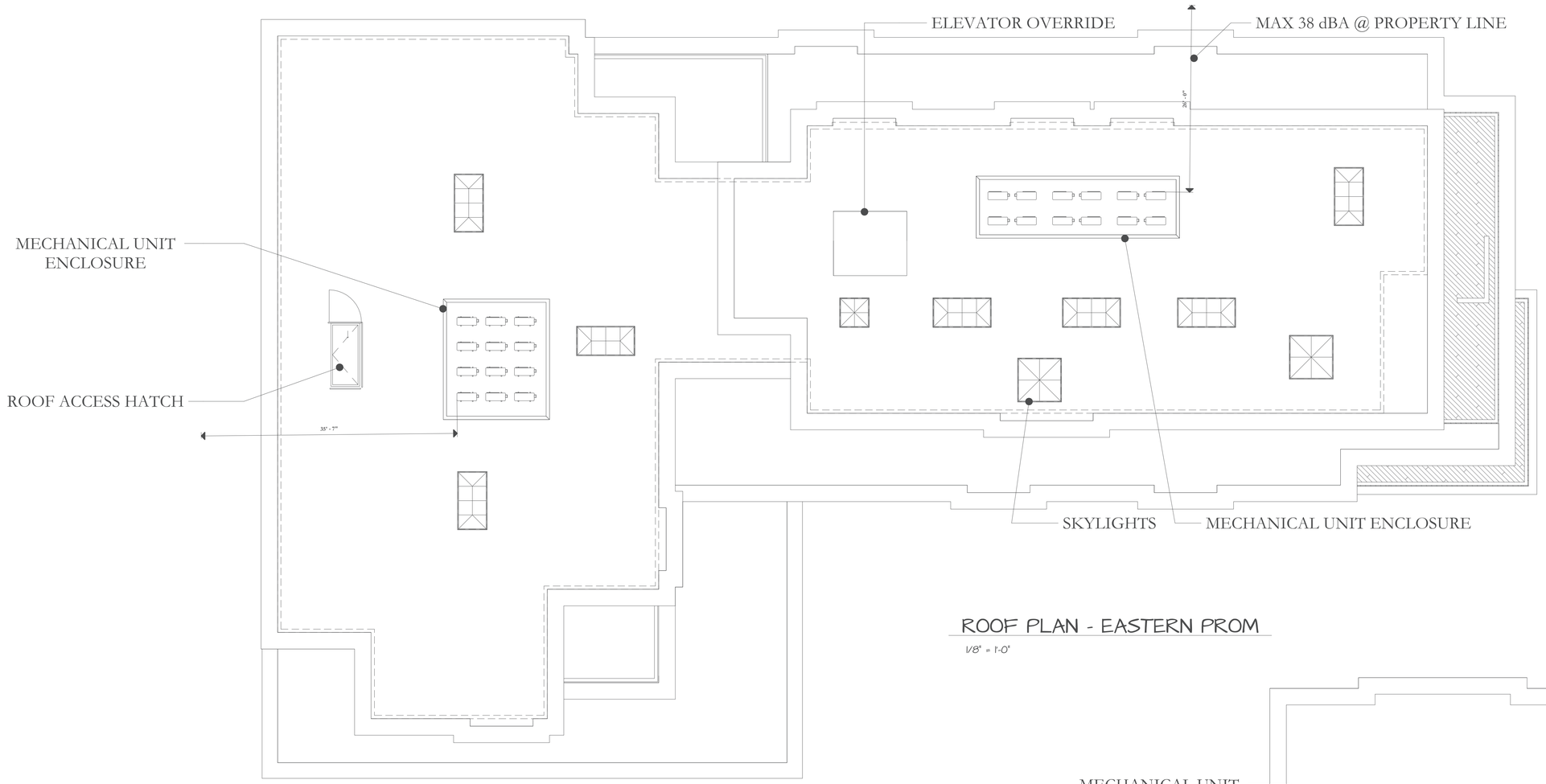
shinberg CONSULTING

A1.3

07.28.23

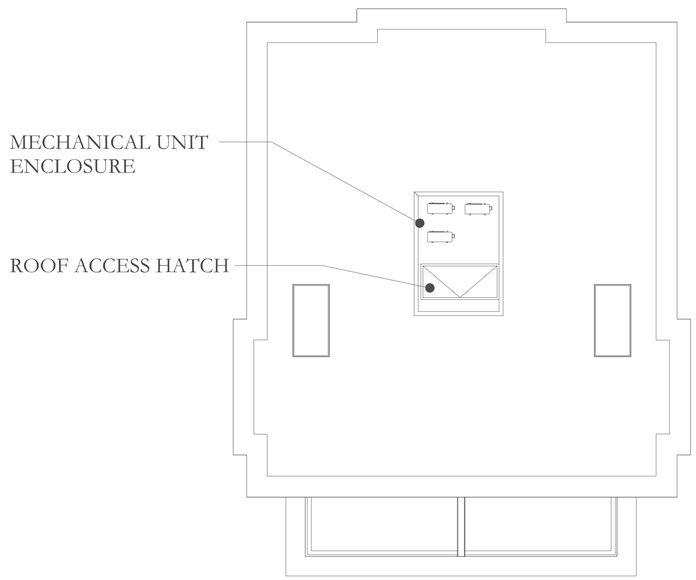
MAJOR SITE PLAN REVIEW

246 EASTERN PROM



ROOF PLAN - EASTERN PROM

1/8" = 1'-0"



ROOF PLAN - TURNER ST

1/8" = 1'-0"

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

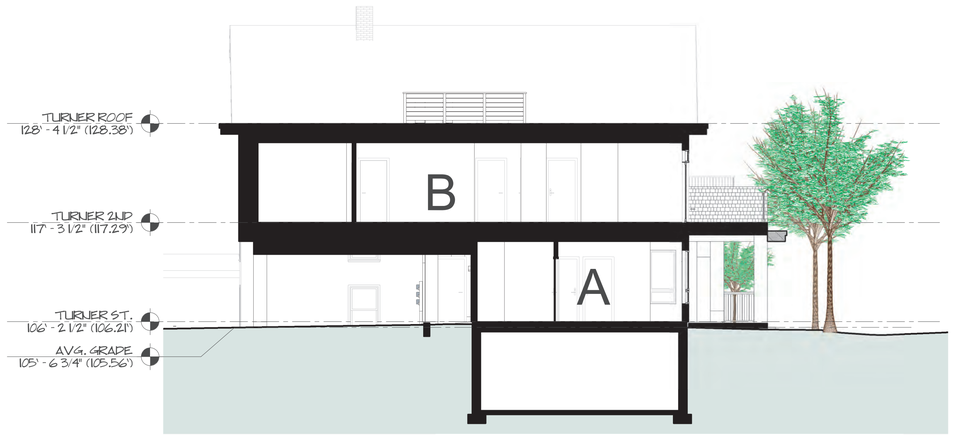
shinberg CONSULTING

MAJOR SITE PLAN REVIEW

A1.4

07.28.23

246 EASTERN PROM



BUILDING SECTION

1/8" = 1'-0"

CONSTRUCTION:
SPRINKLERED TYPE 5B
CONSTRUCTION, UN-PROTECTED
WOOD FRAME, ABOVE

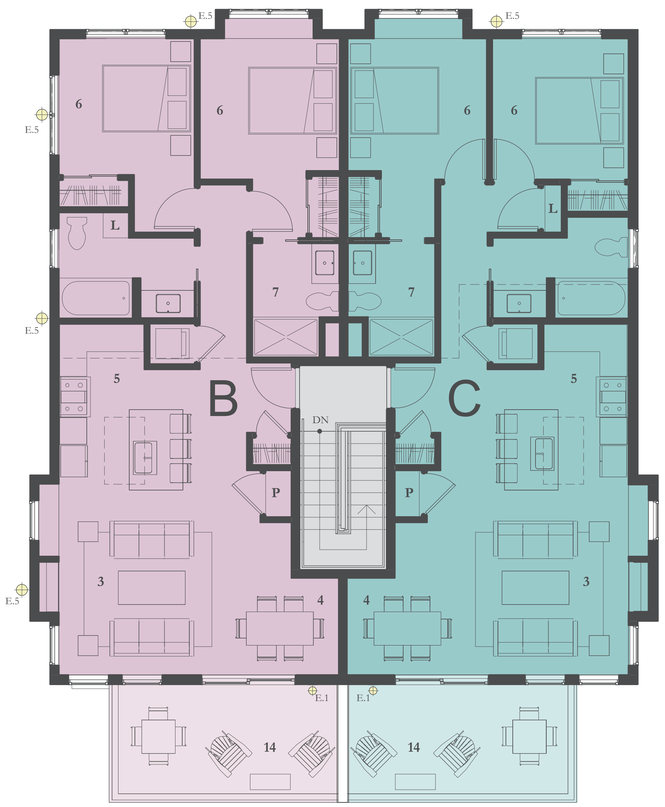
*BASEMENT NOT SHOWN

LEGEND

1 ENTRY
2 LOBBY
3 LIVING
4 DINING
5 KITCHEN
6 BEDROOM
7 BATHROOM
8 LAUNDRY
9 PANTRY
10 STUDY
11 WALK IN CLOSET
12 SOLARIUM
13 PORCH
14 DECK
15 PATIO
16 FITNESS
17 WINDOW WELL

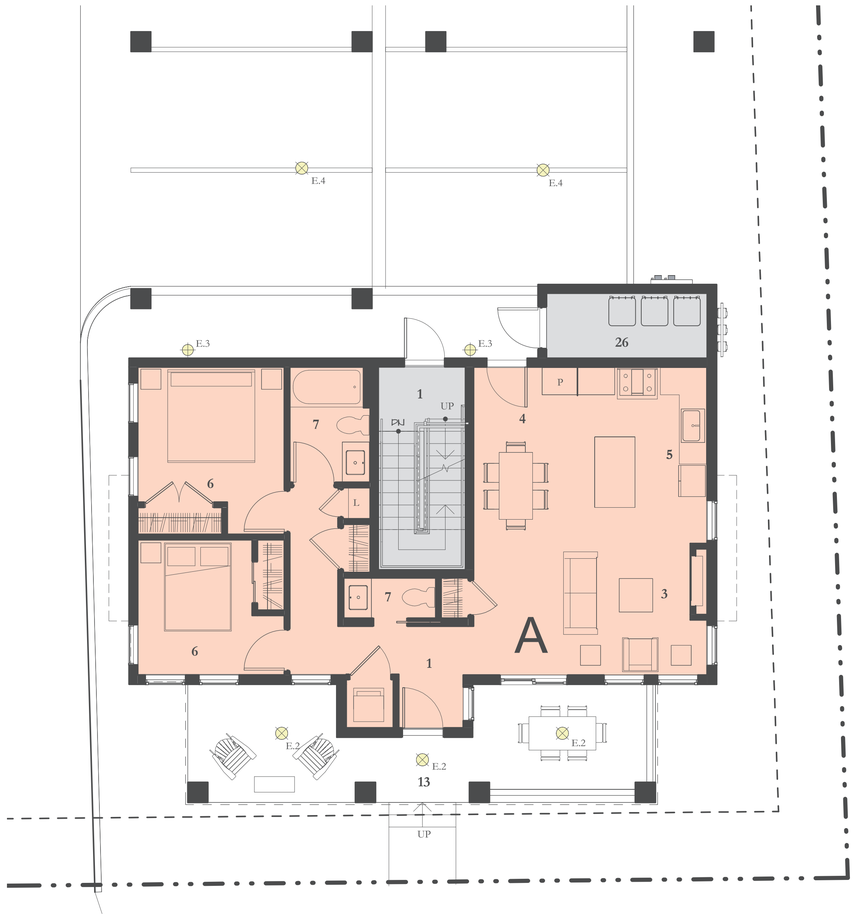
20 MAIL
21 UTILITY
22 ELECTRICAL
23 MECHANICAL
24 WATER / SPRINKLER
25 STORAGE
26 TRASH/ RECYCLE
27 PARKING
28 GREEN SPACE
29 CRAWL SPACE

30 DOG WASH STATION
31 BICYCLE PARKING



TURNER ST. SECOND FLOOR

3/16" = 1'-0"



TURNER ST. FIRST FLOOR

3/16" = 1'-0"

shinberg CONSULTING

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

A1.5

07.28.23

MAJOR SITE PLAN REVIEW

246 EASTERN PROM



LEFT ELEVATION

1/8" = 1'-0"



FRONT ELEVATION

1/8" = 1'-0"

LEGEND

- A EXTERIOR METAL CLAD WINDOWS AND DOORS
- B HORIZONTAL WOOD GUARD RAIL
- C VERTICAL STAGGERED SEAM CEMETITIOUS PANEL BASE SIDING
- D CEMENTITIOUS SHINGLE SIDING
- E VERTICAL PANEL SIDING
- F VERTICAL CABLE RAILW/ WOOD TOP RAIL
- G COVERED PEDESTRIAN ENTRANCE
- H WEATHER PROTECTED DECKS
- I SKYLIGHT
- J OVERHEAD GARAGE DOOR
- K ELEVATOR OVERRIDE
- L BOARD FORMED CONC. RETAINING WALL
- M WINDOW WELL
- N MECH. UNIT W/ SOUND ATTENTUATING SCREENING
- O ROOF ACCESS HATCH (BLACK)
- P WALL LIGHT (BRONZE)
- Q MECH. LOUVER (BLACK)
- R UTILITY METER

- SEE ELEV'S FOR COLOR/TONE & SIDING LAYOUT

PROJECT NOTES:
FINAL DESIGN MAY BE SUBJECT TO MINOR REVISIONS NOT IMPACTING THE FINAL APPROVAL OR DESIGN REVIEW & STANDARDS.

A2.0

shinberg CONSULTING

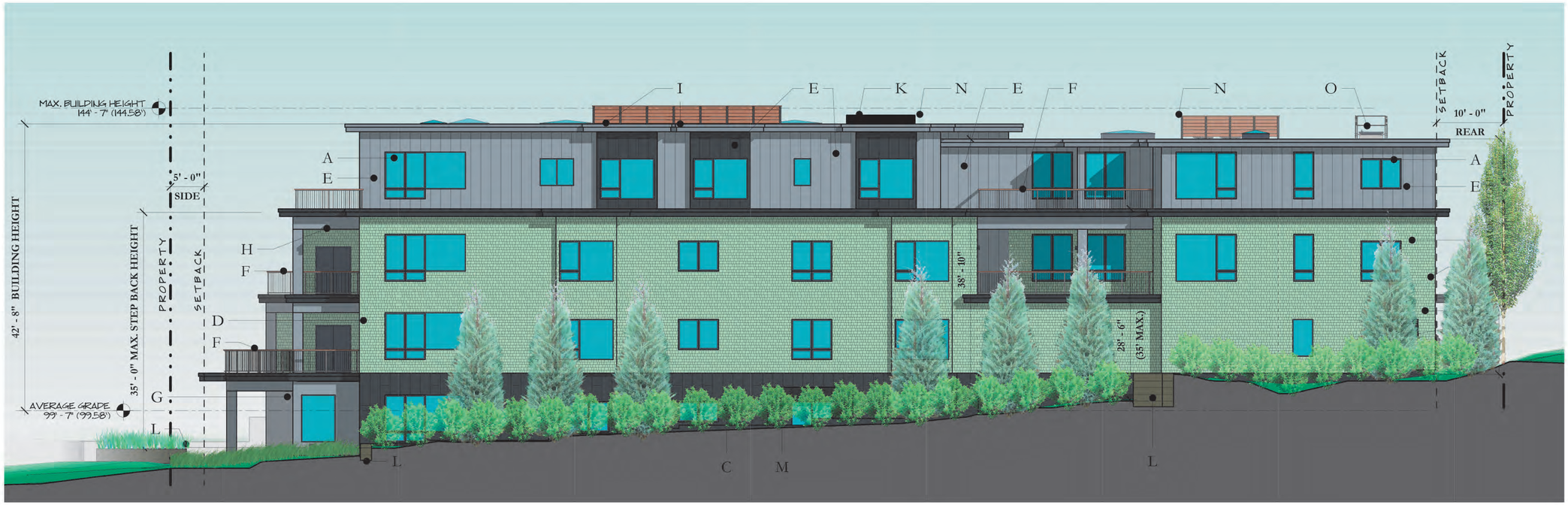
MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

DESIGN DEVELOPMENT

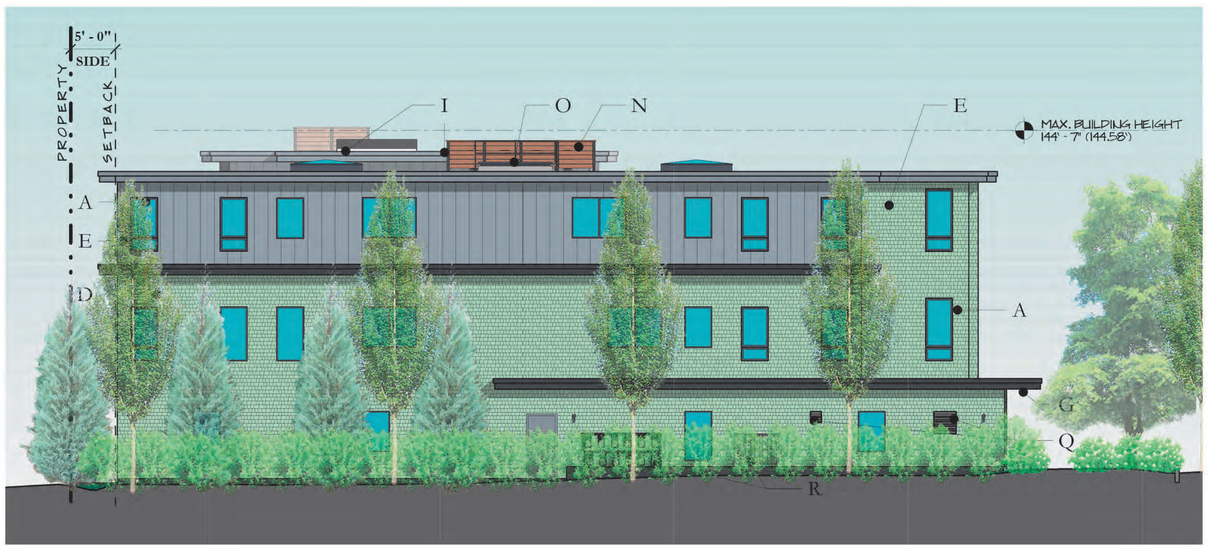
07.28.23

246 EASTERN PROM



RIGHT ELEVATION

1/8" = 1'-0"



REAR ELEVATION

1/8" = 1'-0"

LEGEND

A EXTERIOR METAL CLAD WINDOWS AND DOORS
B HORIZONTAL WOOD GUARD RAIL
C VERTICAL STAGGERED SEAM CEMETITIOUS PANEL BASE SIDING
D CEMENTITIOUS SHINGLE SIDING
E VERTICAL PANEL SIDING
F VERTICAL CABLE RAILW/ WOOD TOP RAIL
G COVERED PEDESTRIAN ENTRANCE
H WEATHER PROTECTED DECKS
I SKYLIGHT
J OVERHEAD GARAGE DOOR
K ELEVATOR OVERRIDE
L BOARD FORMED CONC. RETAINING WALL
M WINDOW WELL
N MECH. UNIT W/ SOUND ATTENTUATING SCREENING
O ROOF ACCESS HATCH (BLACK)
P WALL LIGHT (BRONZE)
Q MECH. LOUVER (BLACK)
R UTILITY METER

- SEE ELEV'S FOR COLOR/TONE & SIDING LAYOUT

PROJECT NOTES:
FINAL DESIGN MAY BE SUBJECT TO MINOR REVISIONS NOT IMPACTING THE FINAL APPROVAL OR DESIGN REVIEW & STANDARDS.

A2.1

MARK MUELLER ARCHITECTS
COPYRIGHT 2023
MARK MUELLER ARCHITECTS

shinberg CONSULTING

DESIGN DEVELOPMENT

07.28.23

246 EASTERN PROM



RIGHT ELEVATION

1/8" = 1'-0"



REAR ELEVATION

1/8" = 1'-0"



LEFT ELEVATION

1/8" = 1'-0"



FRONT ELEVATION

3/16" = 1'-0"

LEGEND

- A EXTERIOR METAL CLAD WINDOWS AND DOORS
- B HORIZONTAL WOOD GUARD RAIL
- C VERTICAL STAGGERED SEAM CEMETITIOUS PANEL BASE SIDING
- D CEMENTITIOUS SHINGLE SIDING
- E VERTICAL PANEL SIDING
- F VERTICAL CABLE RAILW/ WOOD TOP RAIL
- G COVERED PEDESTRIAN ENTRANCE
- H WEATHER PROTECTED DECKS
- I SKYLIGHT
- J OVERHEAD GARAGE DOOR
- K ELEVATOR OVERRIDE
- L BOARD FORMED CONC. RETAINING WALL
- M WINDOW WELL
- N MECH. UNIT W/ SOUND ATTENTUATING SCREENING
- O ROOF ACCESS HATCH (BLACK)
- P WALL LIGHT (BRONZE)
- Q MECH. LOUVER (BLACK)
- R UTILITY METER

- SEE ELEV'S FOR COLOR/TONE & SIDING LAYOUT

PROJECT NOTES:
FINAL DESIGN MAY BE SUBJECT TO MINOR REVISIONS NOT IMPACTING THE FINAL APPROVAL OR DESIGN REVIEW & STANDARDS.

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

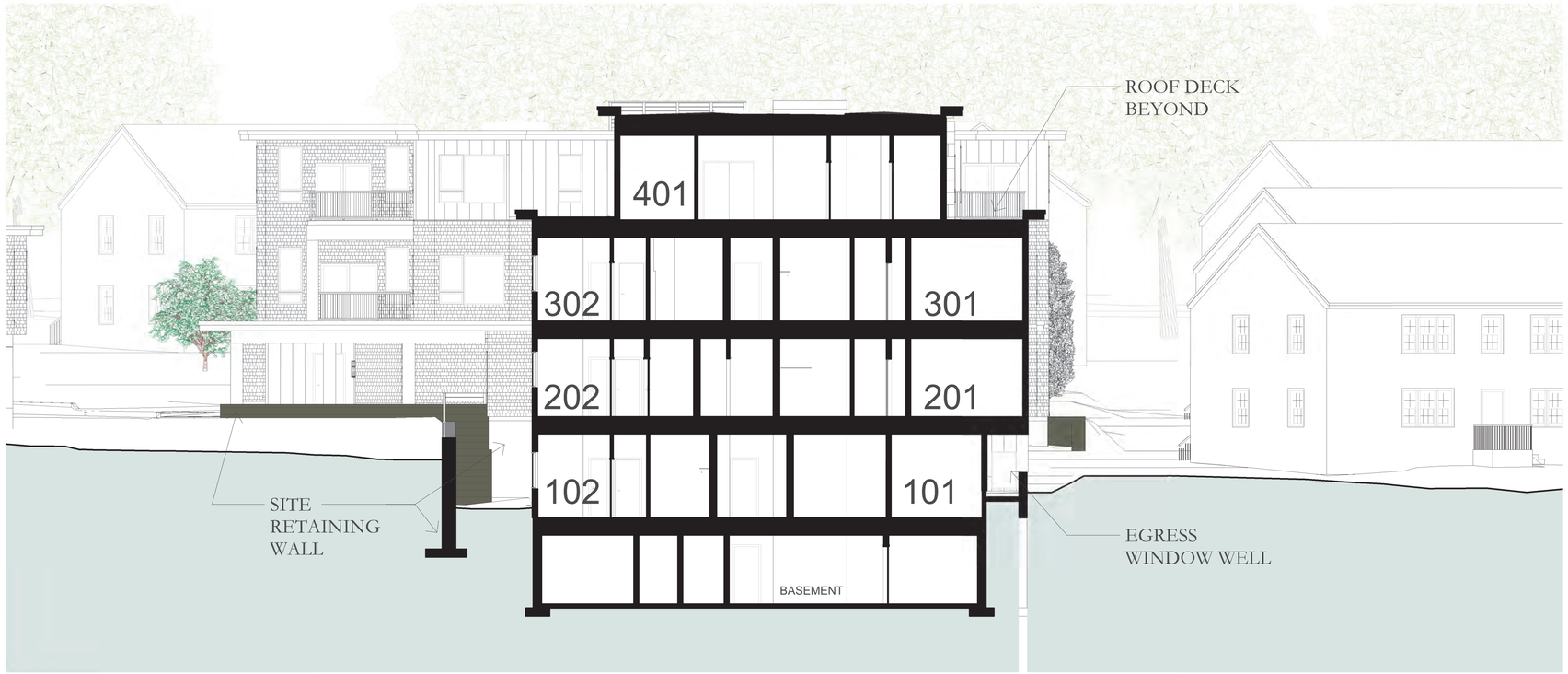
shinberg CONSULTING

DESIGN DEVELOPMENT

A2.2

07.28.23

246 EASTERN PROM



BUILDING SECTION

1/8" = 1'-0"



BUILDING SECTION

1/8" = 1'-0"

shinberg CONSULTING

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

A3.1

07.28.23

MAJOR SITE PLAN REVIEW

246 EASTERN PROM



TURNER STREET NEIGHBORHOOD

3/64" = 1'-0"



EASTERN PROMENADE NEIGHBORHOOD

3/64" = 1'-0"

MARK MUELLER ARCHITECTS

COPYRIGHT 2023
MARK MUELLER ARCHITECTS

shinberg CONSULTING

A2.3

MAJOR SITE PLAN REVIEW

07.28.23

246 EASTERN PROM






246

Memorandum
Planning and Urban Development Department

To:	Chair Mazer & Members of the Planning Board
From:	Charles Tetelman
Date:	August 11, 2023
Re:	58 Fore St. Portland Foreside Development
Project ID:	PL-002202-2022, CU-002287-2022
CBLs:	018 A003001, 018 A001001, 002 A003001
Meeting Date:	August 15, 2023

I. INTRODUCTION

Portland Foreside Development Company has submitted a Level III Site Plan and Subdivision application as well as an Inclusionary Zoning Conditional Use application to facilitate a mixed-use development at the former Portland Company property located at 58 Fore Street. In total, the proposed development would contain 966,644 square feet of floor area, 444 residential units, 52,916 square feet of retail, service, and restaurant space, and 644 off-street parking spaces. The application before the Planning Board is Phase 2 of the 58 Fore Street Master Development Plan (MDP), which received Planning Board approval on December 20, 2016 and a Traffic Movement Permit (Attachment A + B) in 2017. Portions of the proposed building located within the boundaries of the Portland Company Historic District (HBR-002380-2023) and Munjoy Hill Historic District (HPBR-002391-2023) were reviewed by the Historic Preservation Board and received Certificate of Appropriateness (COA) approval during a public hearing held on August 2, 2023.



Figure 1: Proposed 58 Fore St. Rendering

The Planning and Urban Development Department mailed 276 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the August 4, 2023 and August 5, 2023 editions of the *Portland Press Herald*.

Review of the proposed development has spanned across two workshops, with the Planning Board holding an initial workshop on January 10, 2023 and a second workshop on July 11, 2023. This third workshop will focus on the remaining critical components of the review, including:

- Transportation
- Block 5 Rooftop Appurtenance Design & Zoning Conformance
- Geotechnical Study
- Inclusionary Zoning Requirements

For a comprehensive overview of the project, please refer to the memorandums prepared for the first and second workshops.

Applicant:	Portland Foreside Development Company
Applicant Representatives:	Woodard & Curran, Inc.; Michael Boucher Landscape Architecture (MBLA); Perkins & Will; Marvel Architects; Baskervill; Turner Construction

II. REQUIRED REVIEWS + PROJECT DATA

Review	*Applicable Standards*
Level III Site Plan*	Section 14-526
Subdivision*	Section 14-497
Inclusionary Zoning*	Section 14-474, Section 14-487 Article 18.2.3
Site Location of Development	Technical Manual Section 14
Design Review	Section 14 (iii) MDP Standards of Review Eastern Waterfront Master Plan City of Portland Design Manual (g) *EWPZ Eastern Waterfront Port Zone and B-6 Eastern Waterfront Mixed Use Zone*
*Approval of Master Development Plans confer pending proceeding status upon the development with the effect of maintaining the applicability of municipal regulations in effect at the time of approval for as long as the Master Development Plan approval remains valid, including permissible extensions.	

Project Data	
Existing Zoning	B-6 Eastern Waterfront Mixed Zone R-6 Residential EWPZ Eastern Waterfront Port Zone Shoreland Zone
Historic Districts	Portland Company Historic District (Block 4) Munjoy Hill Historic District (Block 6)
Property Size	438,900 sq. ft. (~10 acres)
Existing Use	Blocks 4 and 6: Vacant Block 5: Parking Lot
Proposed Use	Residential (444 units – 471,620 sq. ft.) Retail/Service/Restaurant (98,851 sq. ft.) Parking (644 spaces – 249,594 sq. ft.)

III. PREVIOUS WORKSHOPS

January 10, 2023

At the January 10, 2023 Planning Board Workshop, City Staff provided an overview of the Portland Foreside Master Development plan, previous site plan approvals, and the proposed development associated with Blocks 4 and 6. The Planning Board discussed the scope of the MDP as it relates to the proposed site plan application. City Staff noted that MDP approval establishes general parameters to be adhered to for

redevelopment of the site while providing an overall framework plan for the proposed development to be built out in phases. City Staff confirmed that the MDP maintains the applicability of municipal regulations in effect at the time of the approval for as long as the MDP approval remains valid. City Staff provided a memo from the Director of the Planning & Urban Development Department with a determination that the current Master Development Plan for 58 Fore Street is still valid has not expired. This memo was shared with the Planning Board at the July 11, 2023 workshop.

Between the two workshops, City Staff and Third-Party Reviewers reviewed the applicant's submission while providing feedback and direction with development review comment memos (Attachments C, D, F). City Staff and Third-Party Reviewers requested clarity on the updated MDP programming, average grade calculations, maintenance of the Fore Street retaining wall, clarification on the parking plinth as a common unifying support structure, and a future Block 5 submission. In April, the applicant updated their application to include Block 5 as part of this Level III Site Plan. This addition required the applicant to hold a second neighborhood meeting and required additional review from City Staff and Third-Party reviewers.

July 11, 2023

At the July 11, 2023 Planning Board Workshop, the applicant provided a detailed overview of the site plan focusing on the design, layout, and programming for the structure spanning Blocks 4, 5, and 6. In their review of the proposed development, the Planning Board asked for clarification on a variety of topics including outstanding items noted in the Staff Memo (zoning and site plan standards), interaction with the Eastern Promenade Trail and Narrow Gauge Railroad corridor, feasibility of a bike lane along Fore Street, Block 5 rooftop appurtenance design, and the unifying elements of the proposed single structure. The Board also expressed support for on-street parking along Fore Street as opposed to a bike only lane.

Following the second workshop, City Staff and Third-Party Reviewers provided a third round of comments (Attachment F) to the applicant team based off of their June 23, 2023 resubmissions. These comments incorporated feedback received at the July 11 Planning Board workshop. The comment letter outlined five priority items essential to the review: 1) plans that demonstrate a common foundation and unified structure; 2) direction of the geotechnical review of the proposed development; 3) landscaping and transportation comments regarding the Fore Street frontage and ROW; 4) Construction Management and Phasing Plans; and 5) additional guidance related to the Block 6 storage cart.

Since that time the applicant has submitted revised materials to address the priority items and removed the storage cart area proposed within the Block 6 portion of the building.

IV. PROPOSED DEVELOPMENT

Portland Foreside Development Company is proposing to develop a 966,644-square-foot mixed-use development comprised of a building that spans across Blocks 4, 5, and 6 of the approved Portland Foreside 58 Fore Street MDP. In total, the proposed development would comprise 471,620 square feet of residential floor area including 444 residential units; 128,309 square feet of hotel floor area consisting of 128 rooms; 52,915 square feet of floor area for retail, service, and restaurant space; and 249,594 square feet to accommodate 644 parking spaces. The development includes a variety of residential units including studio, 1-bedroom, and 2-bedroom rental units as well as townhomes and condominiums. Additionally, the site will open up for public access by establishing new open spaces. The table below provides a breakdown of programming for each proposed Block.

Proposed Use	*Block 4*	*Block 5*	*Block 6*	*Total*
Residential	199 units 200,866 sq. ft.	43 units 74,094 sq. ft.	154 units 196,660 sq. ft.	444 units 471,620 sq. ft.
Retail / Service / Restaurant	1,100 sq. ft.	42,708 sq. ft.	9,108 sq. ft.	52,916 sq. ft.
Parking	443 spaces 168,374 sq. ft.	35 spaces 13,422 sq. ft.	166 spaces 67,798 sq. ft.	644 spaces 249,594 sq. ft.
Hotel	N/A	128 rooms 128,309 sq. ft.	N/A	128 rooms 128,309 sq. ft.

V. ZONING ANALYSIS

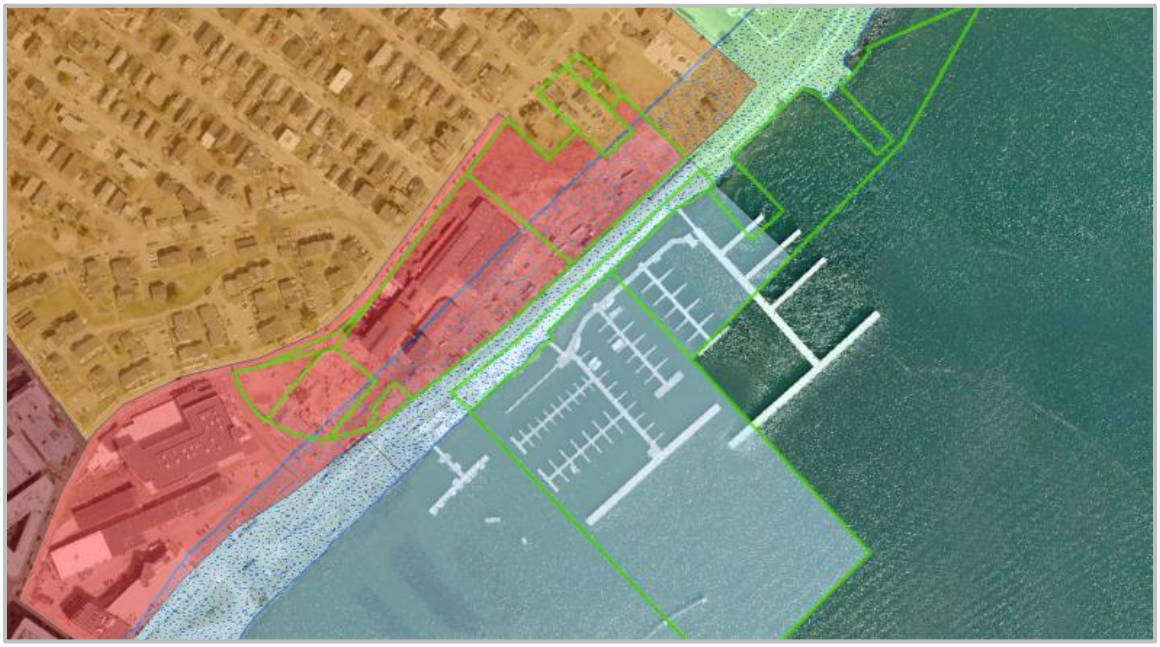


Figure 2: Zoning Context

The proposed development is located within the B-6 Eastern Waterfront zone, R-6 Residential zone, and is within the Shoreland Zone as shown in Figure 7. The B-6 Eastern Waterfront zone is a mixed-use zone that promotes a range of uses to achieve 24-hour urban vitality and shared use of parking infrastructure as recommended in the Eastern Waterfront Master Plan for redevelopment. The B-6 zone permits a wide range of uses including uses mentioned for inclusions of the Phase 2 site plan such as commercial uses, including retail, restaurants, hotels, and services and residential uses. Single-family, two-family, and multi-family dwellings are permitted and there is no lot area per dwelling unit requirement. Building height is regulated by the B-6 Height Overlay Map. A description of the B-6 dimensional requirements and a review of the proposed building's conformance is provided in the table below:

B-6 Zoning Analysis		
Dimensional Requirement	Required	Status

Maximum Front Setback from All Street Frontages	Chapter 14: *10 ft. (New structures shall build to the key building envelopes shown on the B-6 Building Height Overlay Map.)* B-6 Height Map: *...when a Building Envelope does not align with a view corridor or street extension, the boundary shall be the parcel boundary.*	Met
Maximum Structure Height	Chapter 14: *65 ft. or as otherwise governed by the B-6 Building Height Overlay Map.* B-6 Height Map: *-For buildings located East of Hancock Street... no building mass higher than 45 feet shall be wider than 70 feet measured parallel with the waterfront nor longer than 140 feet measured perpendicular with the waterfront. The 70-foot wide building extension allowed above must be at least 90 feet apart, measured parallel with the waterfront...* *-For buildings located east of [Freedom Way], no building shall exceed 35 feet in height above the adjacent Fore street grade within 100 feet of the Fore Street right-of-way, as measured perpendicular to the Fore Street right-of-way.*	Under Evaluation
View Corridors	B-6 Height Map: *-In defined View Corridors, no building allowed above the corresponding Fore Street elevation.* *-View corridor limits shall be drawn from an extension of the corresponding streets where these streets meet Fore street...*	Met
Building Break Line	B-6 Height Map: *Location of Building Break Line is approximate as shown and intended to promote a break in building mass to allow for the development of blocks and site permeability. The exact location of blocks and site permeability shall be identified defined, and reviewed under a Master Development Plan or site Plan review.*	Met

R-6 Residential Zone (Block 6)

In Block 6, a portion of the building falls within the R-6 Residential zone. Therefore, the portion of the building within the R-6 zone is being reviewed under the R-6 Residential zone use and dimensional standards. The R-6 zone is intended for areas on the peninsula for housing characterized primarily by multi-family dwellings at a high-density providing a wide range of housing for differing types of households. Single-family, two-family, and multi-family dwellings are permitted uses. The lot area per dwelling unit is 725 square feet. The maximum permitted height is 45 feet and portions of buildings above 35 feet are required to stepback 10 feet from side property lines and 15 feet from a rear property line.

R-6 Zoning Analysis			
Dimensional Requirement	Required	Proposed	Status

Minimum Lot Area	2,000 sq. ft.	20,000 sq. ft.	Met
Minimum Lot Area per Dwelling Unit	725 sq. ft. / DU	741 sq. ft. / DU	Met
Minimum Street Frontage	20 ft.	N/A	Met
Minimum Lot Width	20 ft.	100 ft.	Met
Minimum Front Setback	5 ft.	N/A	Met
Minimum Rear Setback	10 ft.	15 ft.	Met
Minimum Side Setback	5 ft.	18 ft.	Met
Minimum Stepbacks (above 35 ft. when property line abuts a residential zone)	10 ft. side 15 ft. rear	N/A	Met
Maximum Structure Height	45 ft.	45 ft.	Met
Maximum Lot Coverage	60%	55%	Met
Minimum Landscaped Open Space Ratio	20%	N/A	Met

VI. REVIEW TOPICS FOR DISCUSSION

A. Transportation

In 2017, the Planning Board approved a Traffic Movement Permit (TMP) for the entire buildout of the approved 2016 Master Development Plan. As a condition of the approved TMP each phase of the MDP, when applied for, must show that the proposed development complies with that permit.

As part of the original Phase 2 submission, the applicant submitted an updated trip generation. City Staff and the Third-Party Traffic Engineer requested updated trip generation numbers utilizing the 11th Edition of the *ITE Trip Generation Manual*. City Staff also requested that trip reduction assumptions used in prior analyses be revisited and that documentation should be provided in support of suggested trip reduction factors based upon current conditions of the surrounding area. As part of the most recent resubmission,

the applicant resubmitted the trip generation numbers utilizing the 11th Edition of the *ITE Trip Generation Manual*. The City's third-part traffic engineer continues to review that the applicant's submitted transportation materials are in conformance with the approved TMP and relevant review standards of Portland's site plan ordinance and applicable regulations.

At the July 11 Workshop, the Planning Board discussed the possibility of the applicant installing an elevated bike lane and on-street parking on the Fore Street frontage of the proposed development. At that time, the Planning Board expressed a desire to retain on street parking. Since the July 11th Workshop City Staff determined that a striped ascending bike lane and on-street parking is feasible. City Staff and the applicant are in conversations and evaluating how to coordinate the work within the Fore St. ROW. Final layouts will be provided at the Planning Board public hearing. Figure 3 below shows the Climbing Bike Lane Street configuration and cross section.

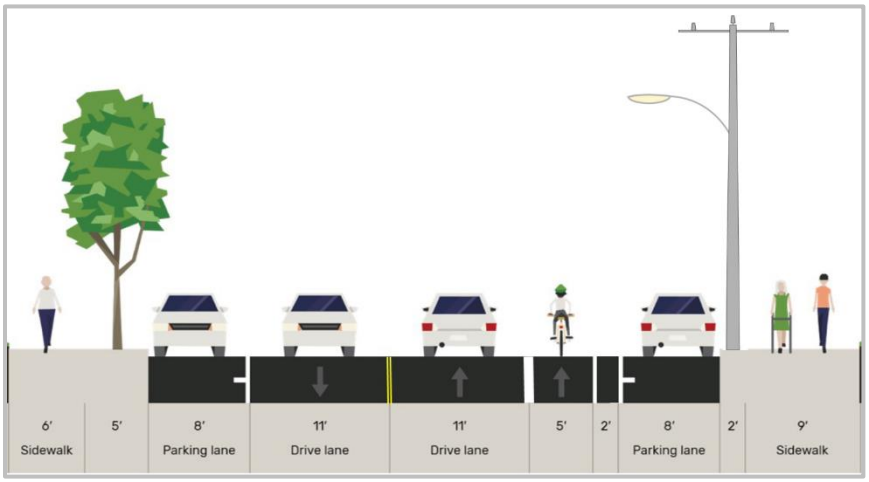


Figure 3: Recommended Fore St. Cross Section

B. Block 5 Rooftop Appurtenance Design & Zoning Conformance

City Staff provided comments noting that the proposed roof plan for Block 5 did not meet the definition of rooftop appurtenances defined in Section 14-430. Additionally, staff and the Planning Board commented on the massing of the screening and design of the Block 5 rooftop noting that the final building height,

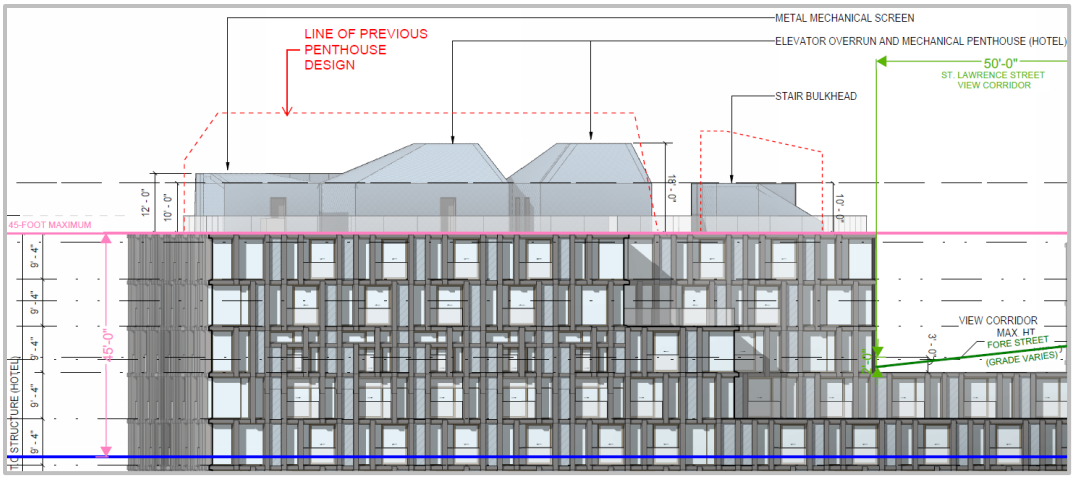


Figure 4: Updated Block 5 Elevations

inclusive of elevators, elevator overruns, lobby, mechanical rooms, stair towers, and other screening elements, was 20 feet above the maximum building height. City Staff provided design feedback asking that the applicant reduce the footprint of the rooftop appurtenances, remove additional elevators with access to the rooftop, and lower the screening of the rooftop appurtenances. In response to comments the applicant has resubmitted elevations, drawings, and renderings of Block 5. Planning Staff and the Zoning Administrator are evaluating compliance with the dimensional standards based on the recent submission. Staff are seeking input from the Planning Board on the design aspects of the Block 5 roof top appurtenances.

As part of the July 11 Workshop Memo and July 26 Staff Comments, City Staff indicated that a portion of the building within Block 4 was not meeting the B-6 Eastern Waterfront dimensional standards established in the B-6 Height Map. Specifically, Footnote 1 of the B-6 Height Map limits building extensions to 70 ft. in width as measured parallel with the waterfront with a minimum separation of 90 ft. measured parallel to the waterfront and a depth no more than 140 ft. measured perpendicular with the waterfront). The applicant has resubmitted elevations, drawings, and renderings of Block 4 in response to the City's comment.

C. Geotechnical Study

The applicant has provided documents and reports regarding geotechnical elements of the proposed development, which involves the siting of structural building elements in close proximity to an existing, more than century old retaining wall that supports Fore Street. In review of this proposal, the City has retained Simpson Gumpertz & Hegr (SGH) as a third-party reviewer to confirm that the structural approach of this project is sound, and that it will not compromise the City's infrastructure. Staff anticipate that final confirmation of the applicant's geotechnical approach may require additional time, and would recommend that the Board consider this as a condition of approval to be addressed prior to the applicant applying for a building permit. Staff will provide an update on this item and the status of SGH's review at the Planning Board public hearing.

D. Inclusionary Zoning

Prior to the public hearing, staff will need to confirm the total number of workforce housing units required for the project to comply with the City's Inclusionary Zoning requirements. Portions of the project located within the B-6 zone, which falls within the boundary of the 2016 MDP approval, are required to provide a minimum of 10% of units as workforce housing units. Any portion of any unit that is located within the R-6 zone; which falls outside of the 2016 MDP boundary, and is therefore not vested under the 2016 Land Use Code, is required to meet the current inclusionary zoning requirement, which is 25%.

VII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant is required to hold a Neighborhood Meeting as part of this application process. The applicant hosted the first neighborhood meeting on December 20, 2022 and the second neighborhood meeting was held on January 11, 2023. With the inclusion of Block 5, the Planning Department determined that the applicant would be required to host an additional neighborhood meeting to account for the inclusion of Block 5. The applicant hosted the third neighborhood meeting on May 2, 2023 (Attachments 22-24).

The Planning & Urban Development Department has received 25 Public Comments (PC1-25). Many of the public comments share concerns regarding the proposed development and the related Master Development Plan. Some of the public comment discussed the treatment of Fore Street and inquired about

a possible bike lane on the southern side of Fore Street. Other public comments shared concerns about the height and massing of the structure.

VIII. NEXT STEPS

- Applicant resubmission and response to comments from City Staff and Planning Board
- Schedule Planning Board Public Hearing

IX. ATTACHMENTS

STAFF ATTACHMENTS

A. 2017 TMP Report
B. 2017 TMP Approval
C. Comments Round I
D. Comments Round II
E. Design Review Memo 6.2.23
F. Comments Round III

APPLICANT SUBMITTAL

1. Application Checklist
2. Zoning Analysis Table
3. Project Summary and Site Plan Standards
4. Response to Comments Round I
5. Response to Design Review Memo
6. Response to Comments Round II
7. Response to Comments Round III
8. SLOD Report
9. Stormwater O&M Manual
10. Stormwater Management Report
11. Fore Street Historic Retaining Wall Drawings
12. Block 4 Geotechnical Data Report
13. Block 4 Geotechnical Design Memo
14. License Agreement with City for Footings in ROW Draft
15. Phase 2 TDM Plan
16. Traffic Study Phase 2 Block 5
17. Traffic Summary Response Memo
18. Waiver Table
19. Wastewater Ability to Serve Request
20. Water & Sewer Ability to Serve Request
21. Phase 2 CMP Capacity to Serve
22. Neighborhood Meeting 1 12.20.22
23. Neighborhood Meeting 2 1.23.23
24. Neighborhood Meeting 3 5.2.23

PLANS + DRAWINGS

Plan 1. Boundary Survey 13-23 Eastern Prom
Plan 2. Boundary Survey 58 Fore
Plan 3. Subdivision Plat

Plan 4. Civil Plans and Details
Plan 5. Foundation Plan / Unified Floor Plans / Average Grade
Plan 6. Landscape Plans and Details
Plan 7. Phase 2 Photometrics
Plan 8. Fore Street Seawall Section
Plan 9. Block 4 Renderings
Plan 10. Block 5 Renderings
Plan 11. Block 6 Renderings
Plan 12. View Corridor Renderings
Plan 13. Block 4 Elevations
Plan 14. Block 5 Elevations
Plan 16. Block 6 Elevations
Plan 17. Block 4 Floor Plans
Plan 18. Block 5 Floor Plans
Plan 19. Block 6 Floor Plans

PUBLIC COMMENT

PC 1. J2 Portland Me
PC 2. Denise Preisser
PC 3. Susan Green
PC 4. Sandra Guay 1
PC 5. Jeremy Wintersteen
PC 6. PBPAC
PC 7. Kellie Whiteston
PC 8. Paul Fuller
PC 9. Zack Barowitz
PC 10. John Clark
PC 11. Winston Lumpkis
PC 12. Nat Jordan
PC 13. Karen Snyder
PC 14. Nat Jordan
PC 15. John Russel
PC 16. Sandra Guay 2
PC 17. Kelly Walker
PC 18. Martica Douglas
PC 19. Sandra Guay 3
PC 20. Lisa Martorella
PC 21. Barbara Vestal
PC 22. Barbara Vestal
PC 23. Roger Trettel
PC 24. Roger Trettel
PC 25. Kelly Walker

PLANNING BOARD REPORT
PORTLAND, MAINE

58 Fore Street
Traffic Movement Permit
Project #: 2016-224
CPB2

Submitted to: Portland Planning Board Public Hearing Date: April 25, 2017 CBLs: 018 A001, 018 A002, 018 A003	Prepared by: Christine Grimando, Senior Planner Date: April 20, 2017

I. INTRODUCTION

CPB2 LLC submitted a Traffic Movement Permit (TMP) simultaneously with a Master Development Plan (MDP) application in September 2016, initially reviewed by the Planning Board beginning in October 2016. The MDP was approved on December 20, 2016. Over the course of the MDP review the TMP was given a separate timeline, as it necessitated additional review and analysis and was not a requirement of the MDP. The TMP is for a (+/-) 10 acre site at 58 Fore Street known as the Portland Company Complex. The proposed development includes retail, office, residential, hotel, restaurant, function space, a marina, and residential units. The site also contains a linear parcel owned by the Maine Department of Transportation that includes the Maine Rail/Trail corridor and the Eastern Promenade Trail, which will continue to traverse the site. In addition to the approximately10 acres, the property includes a 13.2 acre submerged land lease, currently containing a marina. There are currently a variety of the uses on the developed site, including storage, office, a marina, event space and the Maine Narrow Gauge Railroad Museum.

There have been two primary prongs of review of the TMP for 58 Fore Street: traffic analysis, and developing a framework for mitigation of the project's anticipated offsite traffic impacts. For a project of this scale, anticipated to be developed over several phases, with traffic impacts diffused over a relatively large study area, determining appropriate mitigation presented distinct challenges and opportunities. City staff and the applicant agreed to pursue a pilot impact fee methodology to account for the phased impacts of this particular site. The process of developing impact fee methodology for 58 Fore Street has the additional advantage of aiding the City's eventual implementation of a new impact fee system.

Key documents from the September submission are included as attachments, supplements through December, and updates to traffic analysis and mitigation since this was last before the Planning Board.

This development is being referred to the Planning Board for compliance with Traffic Movement Permit requirements. A total of 354 notices were sent to property owners within 500 feet of the site and a legal ad ran in the *Portland Press Herald* on April 17th and April 18th.

Applicant: CPB2 LLC, c/o Jim Brady

Consultants: David Senus/Mary McCrann, Woodard & Curran; Randy Dunton, Gorrill Palmer; Mary Costigan, Bernstein Shur; Owen Haskell, Surveyor; Perkins+Will, Architect

II. REQUIRED REVIEWS

Review	Applicable Standards
Traffic Movement Permit	14-527(e)(xii), 23 MRSA 704-A, Chapter 305 Rules and Regulations

III. PROJECT DATA

Existing Zoning	B-6 & Eastern Waterfront Port Zone, w/Shoreland & Floodplain overlays. Historic District on a portion of the site.		
Existing Use	Mixed use, including full service marina, parking, warehouses, boat storage, office, event space, blacksmithing.		
Proposed Use	Mixed use (including commercial, residential, office, marina)		
Proposed Development Program	958,679 sf of mixed residential and commercial uses, 435,200 sf parking (736 spaces), and 638 residential units.		
Property Size	+/- 10 acres		
	Existing	*Proposed*	*Net Change*
Building Footprint	111,822 sf	215,306 sf	103,484
Building Floor Area	167,500 sf	958,679 sf	791,179
Impervious Surface Area	335,000 sf	409,000 sf	74,000
Parking Spaces (on site)	+/-105	736	631
Bicycle Parking Spaces	0	38 racks/78 spaces	78
Estimated Cost of Project	TBD		

IV. EXISTING CONDITIONS & SITE CONTEXT

The project is adjacent to Portland Harbor to the southeast and Fore Street to the northwest. The Eastern Promenade is adjacent to the east; bounded by the harbor and by Fore Street. The property is contiguous with active waterfront uses, bordered by the Ocean Gateway Terminal and near the Maine State Pier, both serving deep water dependent large vessels, including cruise ships. The neighborhood to the immediate north is residential, with Waterville, St. Lawrence and Atlantic Streets perpendicular to the Fore Street-side boundary of the property, and abutted by Munjoy South apartments. Also to the north but immediately west of this residential area is the India Street neighborhood, which contains residential uses and a diverse mix of commercial uses – Shipyard Brewery, parking garages, the shops and restaurants of India Street, hotels, and the Eastern Cemetery.

The majority of the site is located within the B-6 Eastern Waterfront Mixed Zone. The Eastern Waterfront Port Zone (EWPZ) has a depth of 75 feet, and encompasses approximately 1,000 feet of waterfront frontage. In addition to the two base zones, there are multiple other overlays on the property - a portion of the site is in the Shoreland Zone; a small area is partially in the A2 flood zone; and the B-6 portion of the site is included in the Building Height Overlay & Building Envelopes map. The property is a local historic district (as shown on Attachment P39). The immediately adjacent zones to 58 Fore Street are the R-6 residential zone to the east and north, ROS (Recreation and Open Space) to the east, B-6 to the west, and EWPZ to the west and south. A portion of the property is a local historic district.

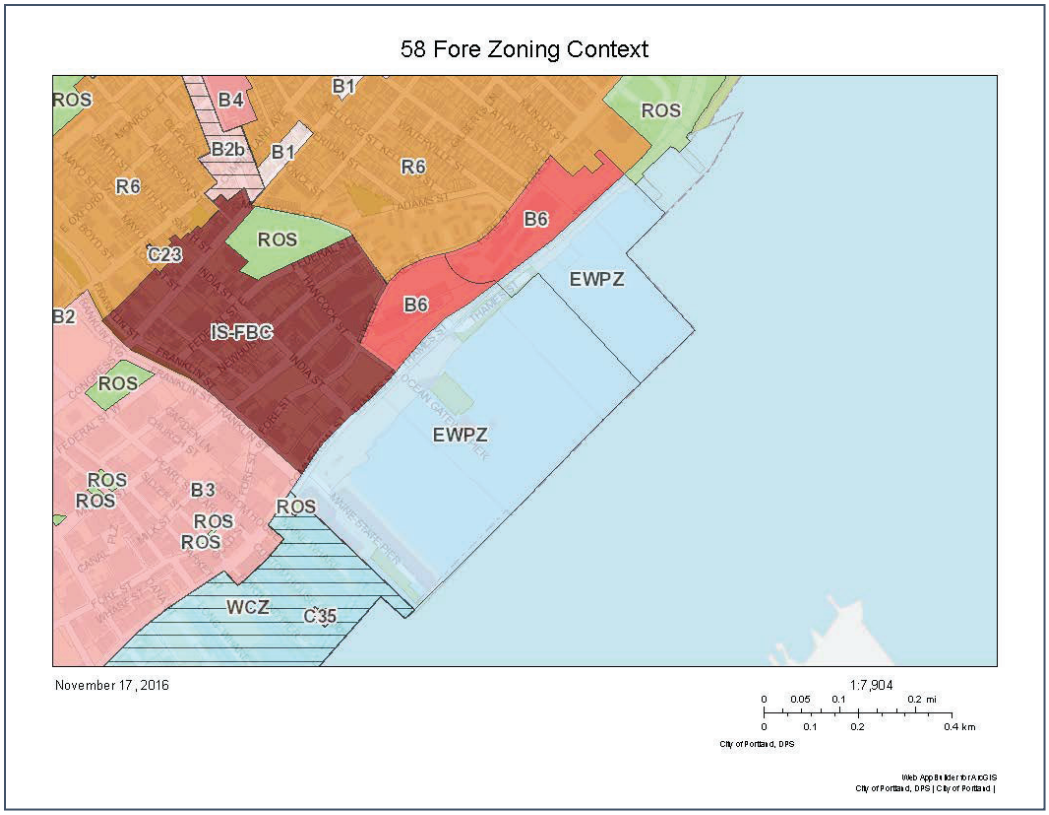


Figure 1, Zoning Context

58 Fore Street had been in continuous use since 1846, when it was established as the Portland Company for the manufacture of railroad equipment. An industrial site at its inception, it continued as one well into the 20th century, continuing to manufacture steel until 1978. It's now occupied by multiple tenants and uses, including a marina with associated parking and laydown areas, the Narrow Gauge Railroad, office, and storage. A 50' wide strip of Maine Department of Transportation (MDOT) land that encompasses both the Maine Narrow Gauge Railway and a public, shared use pathway that is an extension of the Eastern Promenade, maintained by Portland Trails and the City of Portland, bisect the site. Two easements run with the MDOT land.

V. PREVIOUS REVIEWS

A Master Development Plan was approved for the site on December 20, 2016, following three workshops and site walk. The MDP application included the initial TMP and traffic review. The MDP review process incorporated recommendations of the Historic Preservation Board.

This MDP application was preceded in the previous three years by three significant review processes, involving the Planning Board, the Historic Preservation Board and the City Council. In February 2016, following an extensive designation process by the Historic Preservation Board and Planning Board, the Portland City Council voted to designate a portion of the 58 Fore Street property as a local historic district subject to the provisions of Portland's historic preservation ordinance. The Portland Company Historic District as approved by the Council ensured the preservation of seven of the sixteen Portland Company structures on site. Figure 4 is a visual of the historic core of the site and the current historic district in the context of the overall site master plan.

An application for zoning map and text amendments for this site was submitted in August 2014, with the final changes adopted by the City Council on June 1, 2015. The application included a map amendment to rezone the property from the Waterfront Special Use Zone to B-6 and Eastern Waterfront Port Zone, with accompanying text

amendments and amendments to the existing Building Height Overlay & Building Envelopes overlay (Figure 6). There was an extensive, detailed review of the application in 2014 and 2015 leading to a Planning Board recommendation to the City Council on February 24, 2015, and the approval of the application in June 2015.

Below is a chronology of the map and text amendments:

- August 22, 2014. Application submitted to Department of Planning & Urban Development
- September 17, 2014. Applicant's Neighborhood Meeting
- October 21, 2014. Planning Board Workshop
- November 18, 2014. Planning Board Workshop and Site Walk
- January 8, 2015. Staff-Lead Neighborhood Meeting
- February 10, 201.5 Planning Board Workshop
- February 24, 2015. Planning Board Public Hearing
- February 9, 2015, City Council Workshop
- March 30, 2015, City Council Workshop/1st Reading
- June 1, 2015, City Council Public Hearing

The property was rezoned from the now non-existent WSUZ to a combination of B-6 and EWPZ in June 2015. The rezoning application included text, map, and B-6 height overlay amendments. All three of these zoning elements were created to serve the specific needs of the Eastern Waterfront and were a direct result of the recommendations of the Eastern Waterfront Masterplan. The 2015 rezoning extended the existing height overlay, B-6 and EWPZ zones eastward to encompass 58 Fore Street. Previous to the rezoning of 58 Fore Street, these zones were in place on the land immediately adjacent to the southwest, of 58 Fore Street, and in 2015 were extended eastward to encompass the property. The WSUZ was eliminated altogether.

VI. PUBLIC COMMENT

Attached is public comment regarding particular concerns with traffic conditions and impacts at the India Street and Middle Street intersection. Additional public comment regarding traffic impacts arose during the course of the MDP review. Only new comments have been included as attachments but all comments regarding traffic that were submitted when the Traffic Movement Permit was originally submitted can be viewed with the MDP Report here: http://portlandmaine.gov/AgendaCenter/ViewFile/Agenda/_12202016-1888?html=true

VII. TRAFFIC MOVEMENT PERMIT SUBMISSION REQUIREMENTS

The applicant has made submissions regarding traffic analysis and mitigation according to the requirements of 23 MRSA 704-A and Chapter 305 Rules and Regulations. Attached are pertinent items submitted in the course of the MDP review, and items submitted since the MDP approval.

a. Traffic Movement Permit (TMP) Application with Master Development Plan (MDP) – September 16, 2016. (**Attachment A**)
b. Traffic Impact Study (TIS), and Parking Study – September 16, 2016. (**Attachment B**)
c. Bay House Trip Generation and Parking Demands Memo – October 5, 2016. This was requested to help evaluate the appropriateness of the parking ratios used for the project, at the City's request. (**Attachment C**)
d. Revised TIS and Transportation Demand Management (TDM) Plan – October 31, 2016; This includes analysis updates, including revisiting the PACTS model data, trip assignment, expanding trip assignment to include additional intersections, and comparing 58 Fore trip generation with Franklin Street trip generation**. (Attachment D)**
e. Traffic Analysis and Recommendations Memo – December 6, 2016. This addresses point by point the traffic requirements of the Master Development Plan. This information was requested when the TMP

application was moved to a different timeline, so that the MDP application would include sufficient traffic analysis to meet the requirements of the Land Use Code under 14-527(e)(xii), until the TMP could be concluded. **(Attachment E)**

f. Impact Fee/Mitigation Memo – April 20, 2017. This summarizes a methodology and associated results of an impact fee calculation completed for the project. An impact fee methodology was requested by the City to identify a potential contribution as mitigation for the proposed impacts in the study area, with particular attention to short term improvements on Franklin. **(Attachment F)**

g. Supplemental Traffic Analysis Memo – April 20, 2017; This memo addresses comments to the applicant by the City in January. The key items of this memo included revised study area, revised capacity analysis, and a discussion on the Transportation Demand Management (TDM) plan. It also identifies and responds to the mitigation as required by the City. **(Attachment G)**

VIII. REVIEW OF TRAFFIC MOVEMENT PERMIT

Off-Site Mitigation

City staff has communicated extensively with the applicant over recent months to advance the traffic analysis for the project, as well as approaches to TMP-related mitigation of anticipated off-site traffic impacts. The application proposes a new model for mitigation for the City in the form of a pilot impact fee system. The fee system brought forward with this application (see Attachment F, 4-20-2017 summary memo from Gorrill Palmer) is a PM Peak Hour cost per-trip end fee ($650), for each of 585 total PM Peak Hour trip ends (approximately $380,000), to be paid as phases of the project are brought forward for consideration. This approach allows mitigation for short term improvements to proportionally and accurately track the development as it unfolds rather than a lump sum payment based on anticipated buildout and anticipated impacts. It also keeps impact fees predictable for the applicant and the City. Anticipated improvements to the Franklin Street corridor, based on Preliminary Design Report data, formed the basis of the analysis, as financial contributions to this corridor would produce significant traffic benefits for the study area. Though the analysis focused on Franklin Street, the City would have the discretion to apply impact fee contributions to other critical locations in the study area, depending on needs and priorities at the time of each phase of construction. In addition to offering an acceptable system for mitigation of traffic impacts for this particular, phased project, it also creates a helpful template as the City explores implementation of impact fee systems city-wide.

The impact fee system described in Attachment F would account for the project's off-site mitigation for the purpose of fulfilling the requirements of the Traffic Movement Permit. There may be other, related impacts the applicant would be obligated to over the course of site plan review related to sidewalk improvements, access and circulation, and associated site plan standards that are not encompassed by the TMP. TMP mitigation also does not include any costs that may be associated with the design and construction of the Fore Street Connector, as depicted in the 58 Fore Street Master Development Plan.

Transportation Demand Management

This TMP assumes robust trip reductions based on various factors, one of which is an aggressive and successful Transportation Demand Management plan for each phase. This applicant has included comments on the future TDM plan in Attachment F, and had previously supplied a narrative on TDM in October 2016. They have asked to bring forward specific TDM actions as part of each Level III Site Plan applicant, in the context of the overall framework outlined.

The proposal to develop the details of the TDM plan at such time as actual development proposals comes forward is reasonable. However, it's important that the Planning Board, applicant, and others understand what is likely to be expected in each TDM phase:

- Each Level III Site Plan will need to include a specific and realistic TDM plan that builds on the plans of earlier phases.
- The first Level III Site Plan will need to have the most details, and explain how the TDM plan is scalable to future phases.
- It is likely that financial, in-kind, and/or other contributions to METRO and other trip reduction activities will be required to achieve the anticipated trip reduction levels. Applicant will consult with METRO as part of each TDM effort.
- The proposed TDM plan for each phase will be evaluated by City staff and/or third parties with specialized experience in TDM implementation as part of the Level III Site Plan review process.
- If it does not appear that the TDM plan will achieve the anticipated trip reductions, the applicant will make adjustments to that TDM plan to improve its planned effectiveness, or the applicant will pay a per-trip impact fee based on the higher trip generation expected.
- Conversely, if the applicant's TDM plan is expected to achieve trip reductions higher than anticipated, the applicant will be eligible for a reduction in the expected trips for that phase and the resultant impact fee cost. However, it should be noted that the current trip reduction levels are already very optimistic and it may be difficult to achieve higher reductions.
- The TDM effort will include annual monitoring at the applicant's expense to determine effectiveness and inform TDM plans for subsequent phases.

Consulting Traffic Engineer Review
Thomas Errico, P.E., consulting Traffic Engineer for the City, has submitted the following comments (included as Attachment 1), based on his initial review of the September submission materials. Each item is now followed by his determination, based on the applicant's subsequent analysis and updated submittals, of resolution in the **Status** section, finding that the application meets TMP requirements.

- *The proposed project is expected to generate 424 new AM peak hour trips and 474 new PM Peak hour trips during a weekday. This level of trip generation requires a Traffic Movement Permit. The applicant submitted a Traffic Movement Permit Application and a Scoping Meeting was held on October 17, 2016. Given that the proposed project is expected to be phased over many years (market driven) and that the eastern waterfront area is experiencing significant growth, I would suggest that the Traffic Movement Permit be structured for an initial development phase. At the October 17th scoping meeting it was requested that a development phasing plan be provided and that information has not been provided. The applicant should provide details on a phasing plan with an initial phase for Traffic Movement Permit considerations.*
  Status: The applicant has provided a likely phasing plan for the project. The Traffic Movement Permit is being issued for the full build project with mitigation/monetary contributions tied to build-out phasing. The trip generation noted above has been updated to reflect staff comments. I have no further comment.

- *I have reviewed the existing base line traffic volumes and I find it to be reasonable.*
  Status: I have no further comment.

- *Based upon information provided by the Planning Department, the applicant has estimated background traffic volumes from other approved and unbuilt developments and I find the estimate to be reasonable.*
  Status: I have no further comment.

- *The applicant estimated trip generation volumes for the project according to trip generation rates from the Institute of Transportation Engineers (ITE). I find the methods used to be reasonable.*
  Status: I have no further comment.

- *The applicant incorporated adjustments to ITE traffic volumes according to inter-captured or shared trip usage and that given the location of the project, mode share adjustment is warranted. According to national research methods, the project can expect a reduction in trips levels – due shared use – of between 12 and 18% entering and exiting the site during the AM and PM peak hours. I find this estimate to be reasonable. For Mode Share adjustment (walk/bike/transit), the applicant is estimating a reduction of 35.8% for most project uses (the hotel reduction was assumed to be 10%). When considered in combination with the fact that the project is not taking credit for existing site traffic, I find the modal reduction assumption to be reasonable.*
  Status: As noted I find the adjustments to be reasonable, but would note that the reductions will be directly related to the effectiveness of the TDM plan. Accordingly, the details, monitoring and adjustment of TDM strategies will be an important part of ensuring the assumed mode share percentages are realized.

- *At the TMP Scoping meeting the applicant was requested to review information from the PACTS regional travel demand model in estimating the assignment of project traffic to the roadway network. The applicant has provided revised assignment percentages based upon conversations with the staff person managing the PACTS model. No backup information or explanation is provided and thus approval of the assumptions is outstanding. I would note the following:*
  - *No traffic is being assigned to Fore Street to the east and along Eastern Promenade. I do expect some traffic to travel in this direction.*
  - *It appears that 24% of the PM peak hour site traffic is destined to I295 southbound. Of this amount 8% appears to be via Franklin Street and 16% via Veterans Memorial Bridge. My knowledge of local traffic patterns does not support this assignment assumption.*
  - *It is not clear regarding the assumptions used to assigning I295 northbound traffic to Washington Avenue and Franklin Street.*
  - *A significant amount of traffic (17%) is destined to Preble Street during the PM peak hour. It is unclear of the routing to Preble Street Extension.*

  Status: The applicant has provided additional supporting information and based upon guidance from City staff the applicant has revised the trip generation assignment. Final capacity analyses of conditions account for these revisions and accordingly I have no further comment.

- *The general study area for assessing traffic impacts seems reasonable. I would note that at the TMP Scoping meeting, it was requested that the assignment continue to I-295 on Franklin Street and Washington Avenue. This is outstanding.*
  Status: As noted in the previous comment, the applicant has addressed this comment and I have no further comment.

- *The applicant has conducted a traffic analysis using the Synchro/SimTraffic model and I do not find the results to be acceptable. The applicant shall update the model according to the following:*
  - *The results of the capacity analysis indicate intersections currently operate at excellent levels of service. My field observations do not support this conclusion. The applicant shall create a base existing model that is calibrated to existing conditions from a delay and vehicle queue perspective.*
  - *The study area includes some of the most active pedestrian areas of the City and pedestrian movements directly impact traffic operations. The model shall be revised to include pedestrian movements and specific pedestrian signal phasing and timing.*
  - *The study shall document proposed vehicle queue lengths and the adequacy of existing turn lanes to provide adequate storage.*

  Status: The applicant has conducted a refinement of the SimTraffic model and I generally find the results to be reasonable and acceptable.

- *The applicant conducted a safety analysis and the results indicated that two locations within the study area are classified as a High Crash Location, the Franklin Street/Middle Street intersection and Fore Street between India Street and Montfort Street. The applicant has reviewed crash data and has noted winter maintenance enhancements at the Franklin Street/Middle Street intersection is suggested. In general, crash experience is somewhat low in the study area (outside of Franklin Street intersections). There are other non-High Crash Locations that I continue to review with City staff. I will continue to review crash information and suggested mitigation improvement strategies.*
  Status: The applicant has conducted a detailed review of crash reports and their analyses concluded that patterns did not warrant mitigation improvements. I find their conclusions to be reasonable and I have no further comment.

- *The traffic study* (dated October 6, 2016) *does not identify the need for off-site transportation mitigation strategies to address system infrastructure deficiencies and project impacts. I will continue to review information but would note the following:*
  - *As noted previously, the analysis needs to be updated and accordingly conclusions on transportation system adequacy may change.*
  - *The applicant should note any deficiencies in existing traffic control, including traffic signal equipment, coordination, phasing and timing adjustments.*
  - *Given that the applicant is assuming a significant portion of project trips are non-auto trips, inventory and identification of pedestrian, bicycle and transit infrastructure should be provided and discussion on system needs is suggested.*
  - *The study conducts analyses with and without future Franklin Street improvements. Given the uncertainty of implementation, an interim improvement plan may be warranted. For longer-term needs, financial contributions towards the implementation of adopted Franklin Street improvements may be a consideration.*

  Status: At the request of the City, the applicant developed a cost-sharing method associated with implementation of improvements along Franklin Street between Commercial Street and I-295. From that method a monetary contribution amount has been identified and I find this contribution to reflect project mitigation responsibilities associated with the Traffic Movement Permit.

IX. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board approve the proposed Traffic Movement Permit for 58 Fore Street.

X. PROPOSED MOTIONS – TRAFFIC MOVEMENT PERMIT

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 April 25, 2017 for application #2016-224 relevant to the Traffic Movement Permit; and the testimony presented at the Planning Board hearing, the Planning Board finds that the proposed plan **is/is not** in conformance with 23 MRSA 704-A and Chapter 305 Rules and Regulations pertaining to Traffic Movement Permits, subject to the following condition of approval, which must be met prior to the issuance of a building permit:

1. The applicant shall provide Traffic Movement Permit-related off-site mitigation in the form of per PM peak hour trip impact fees for each phase of development, as detailed in the April 20, 2017 Gorrill Palmer memo, *Impact Fee Calculation – 58 Fore Street Mixed Use Development*.

XI. ATTACHMENTS

Planning Board Report Attachments

1. Traffic Engineer Review (memo from Thomas Errico, 4/21/2017)

Public Comment

PC1. Shafer 4_15

Applicant's Submittal

A. Cover letter, Application Form 9-16-2016
B. Traffic Impact Study 9-16-2016
C. Trip Generation – Bay House Supplement 10-5-2016
D. Revised TIS 10-31-2016
E. MDP Traffic Analysis 12-6-2016
F. Impact Fee/Mitigation Memo 4-20-2017
G. Revised Traffic Analysis 4-20-2017

Portland, Maine Yes. Life's good here.

Jeff Levine, AICP
Director, Planning & Urban Development Department

Applicant:	CPB2 LLC c/o Jim Brady PO Box 7987 Portland, ME 04112
Project Location:	58 Fore Street, Portland, ME 04101 CBLs: 018 A001, 018 A002, 018 A003
Project:	58 Fore Street Master Development Plan Traffic Movement Permit
Identification #:	2016-224
Permit Category:	200 Plus PCE
Traffic Engineer:	Gorrill-Palmer Consulting Engineers, Inc. Attn: Randy Dunton, P.E., P.T.O.E. 707 Sable Oaks Drive, #30 South Portland, ME 04106

Pursuant to the provision 23 M.R.S.A Section 704-A and Chapter 305 of the MaineDOT's Regulations, the City of Portland (through its delegated review authority from the MaineDOT) has considered the application of CPB2, LLC, with supportive data, agency review and other related materials on file.

PROJECT DESCRIPTION

The project consists of a (+/-) 10 acre site at 58 Fore Street known as the Portland Company Complex. The proposed development includes retail, office, residential, hotel, restaurant, function space, a marina, and residential units. The site also contains a linear parcel owned by the Maine Department of Transportation that includes the Maine Rail/Trail corridor and the Eastern Promenade Trail/shared use pathway, which will continue to traverse and provide bicyclist and pedestrian access to the site.

Primary access is provided to the site via Thames Street, which will be extended to the project site, and via Fore Street. In addition, a new connector road between Fore Street and Thames Street may be built as a part of a future development phase, but is not required as part of this Traffic Movement Permit. The project is expected to generate 506 trip ends during the typical AM peak hour period and 585 trip ends during the typical PM

peak hour at full build-out. The project is anticipated to be phased and take up to 10 years to achieve full build-out.

The trip generation is based upon the following full build-out development program: 958,679 sf of mixed residential and commercial uses; 435,200 sf parking (736 spaces); and 638 residential units. To achieve these trip end permitted targets, the analysis makes use of trip reductions based upon Shared Use/Internal Capture and Other Modes trip reduction factors. The achievement of these permitted trip levels will rely on a Transportation Demand Management (TDM) Plan to be developed, implemented and monitored as each phase of the development program progresses to meet Site Plan Review Standards though that process.

In the event the development program results in trip levels that exceed the estimated trip generation by 100 trips, a modified Traffic Movement Permit shall be required.

FINDINGS

Based on a review of the files and related information, the City of Portland approves the Traffic Movement Permit Application of CPB2, LLC subject to the following conditions:

MITIGATION

The off-site mitigation attributable to the requested Traffic Movement Permit is intended to ascribe a 'fair share' traffic impact fee to the 58 Fore Street Master Development Plan as detailed in the April 20, 2017 Gorrill-Palmer memo, Impact Fee Calculation – 58 Fore Street Mixed Use Development.

A per PM peak hour trip impact fee of $650 per trip is assigned which must be met prior to the issuance of a building permit based upon each phase's approved traffic analysis and approved TDM plan as part of Site Plan Review by the Planning Board. The fee may be used by the City of Portland for any transportation mitigation or improvement related to addressing the transportation impacts of the project.

By:

Jeff Levine
Planning & Urban Development Director

Date: 5/26/17

City Staff Comments | sent 02.08.23 | PL-002202-2022 | 58 Fore Street
Planner: Charles Tetelman (ctetelman@portlandmaine.gov)

Please provide a comment response document detailing the applicant's response to the City Staff comments provided below. Please be sure to upload the response document and new/updated documents and drawings to the project folder (PL-002202-2022) on ProjectDox (aka ePlan).

Review Criteria:

- *Reviewed under pending proceeding conferred alongside the approval of the Master Development Plan in December 2016 (Level III Site Plan)*
- *Portions of the Block 6 building will be reviewed against the current R-6 Residential site plan and design standards (Major Site Plan)*
- *Historic Preservation Certificate of Appropriateness (Munjoy Hill Historic District + Portland Company Historic District), Historic Preservation Advisory Review*
- *State Delegated Review Traffic Movement Permits*
- *State Delegated Review Site Location of Development*

GENERAL

- The applicant states that state or federal permits can be provided to the City. Please submit copies of the permits.
- A preliminary shadow analysis is required for Major Site Plan applications outside B-3, B-5, B-6, and B-7 zones. Please submit a shadow analysis as portions of the site extend into the R-6 zone.
- Please provide a description of measures taken to prevent snow and ice from falling on adjacent properties, internal streets, and accessible public areas. Include design measures taken to prevent snow and ice from loading or falling onto adjacent areas or public ways.
- Block 6 outdoor areas deviate from approved MDP. Please clarify how Block 6 and outdoor areas will interface with the rail corridor. Will the site be separated from the railroad right of way with a railing / fence?
- Overall Site Plan – Please show the limit of work as part of Phase II development and what structures are associated with other approvals (Phase 1 / Marina structures).
- Overall Site Plan – Please provide a secondary overall site plan that removes notes and references and depicts building footprints overlaid with historic district boundaries, view corridors, and other similar elements.
- Interim Conditions Plan – Will the Block 5 parking lot be operating as a pay-to-park lot?
- Subdivision Plat – Lot "Remaining Land By Developer" still needs to be a numbered lot even with Note 8 explaining intention.
- Elevations – Separate elevations for Block 4 building, and Block 6 building are required. Additionally, if Block 4 and Block 6 building are considered one building per the MDP an elevation including both buildings is required.
- If Block 4, Block 5 (currently not under review or submitted), and Block 6 are going to be considered one building, please provide City Staff with a narrative explaining the design, construction, and function of the building and three structures.
- Floor Plans – City Staff would like to work with applicant to develop a Floor Plan labeling scheme that is consistent between Block 4 and Block 6. Ideally this system would reflect the elevation of each floor rather than the floor specific to each building.

- Construction Management and Phasing Plan – Please submit a Phasing Plan that shows the extent of work completed associated with the 58 Fore Master Development Plan (including Phase 1 and the Marina), work to be completed as part of Block 4 and work to be completed as part of Block 6, work to be completed as part of other applications currently under review or recently approved, and future work on site (ex: Block 5). Please include anticipated timelines and expected length of construction (estimates are fine).

ZONING

- Please provide how height will be calculated as part of this phase of development. Height calculations and average grade points shall be provided.
- The portion of the Block 6 building within the R-6 zoned area is required to meet R-6 dimensional standards. Maximum height in the R-6 zone is 45 feet, with stepback requirements. Height calculations and average grade points taking within the R-6 portion of the building are required to be provided.

TRANSPORTATION

- Maine Department of Transportation and Third-Party Traffic Consultant noted that the applicant has until May of 2024 to complete the project associated with the previously approved Traffic Movement Permit.

  "Automatic Permit Expiration" *A permit will be considered automatically expired if construction of the project has not begun within a 5-year period or completed within a 7-year period of the date of issuance. The applicant must reapply for and receive approval prior to continuing construction or opening a facility.*

  If the construction schedule does not meet the May 2024 deadline the applicant will need to apply and receive approval for a new Traffic Movement Permit.

- The Trip Generation estimate included in the Traffic Assessment shall be based on the 11th Edition of the ITE Trip Generation publication. This was discussed and confirmed with MaineDOT's State Traffic Engineer.
- Trip reduction assumptions used in prior analysis should be revisited and documentation should be provided in support of suggested trip reduction factors given current conditions.
- The applicant must submit a snow removal plan or show snow storage areas on the site plan. Applicant noted that a third-party will be contracted to manage snow removal and storage.
- Please confirm that proposed compact parking spaces for the entire site will consist of no more than 20% of the total spaces.
- Section 1 Summary notes that the Block 4 parking structure has been reduced 198 spaces (652 to 454). Please provide additional information on how the development of Block 4 and Block 6 will maintain overall parking requirements as laid out in the MDP.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- If construction is anticipated to occur between November 1 to April 15 for this phase of the project, consider adding winter construction guidelines to the Stormwater Management Plan for disturbed areas as required in Appendix A Section 7 of Maine DEP Chapter 500.
- Section 5.4 of the Major Site Plan Application notes that the site will have "adequate sanitary disposal of sewage as further described in Section 5 of this Report." The Applicant should provide an Ability to Serve Letter from Portland Water District or note previous arrangements in the narrative.
- Per Section 3 of the City of Portland's Technical Standards, elevators must be designed to fit an 84-inch x 24-inch stretcher inside. City Staff recommend verifying and noting elevator dimensions in the Life Safety Plan to conform to the City of Portland's Technical Standards.
- Per Section 3 of the City of Portland's Technical Standards, hydrants must have 6 feet of clearance around the circumference. Please verify this clear space is met for all hydrants shown on Sheet C-102 for Block 4.
- On Sheet C-100 there is a callout for an SOE retaining wall with reference to geotechnical plans. However, geotechnical plans were not submitted as part of this application. Please submit geotechnical plans for review.
- On Sheet C-102 for Block 4 and Block 6, there is a callout for conduits for electrical and communications with reference to MEP plans. However, MEP plans were not submitted as part of this application. Please submit MEP plans for review.
- Sheet L-1.1 for Block 4 references an architectural plan. However, architectural plans were not submitted as part of this application. Please submit architectural plans for review.
- For Block 4, the civil plans (Sheet C-100) directs the reviewer to the geotechnical plans for retaining wall details, whereas the landscape plans (Sheet L-1.1) directs reviewer to the structural plans for retaining wall details. Additionally, a Segmented Retaining Wall Detail is provided on the civil plans (Sheet C-202). Please keep the location of detail consistent and revising other references as applicable.
- Please provide Landscape Details that are referenced on Landscape Plans for Block 4.
- Sheet C-100 for Block 4 notes a detail for safety railing can be found on the Landscaping Plans, which then notes a detail for the safety railing can be found on the Architectural Plans. City Staff recommend adding a safety railing detail to the Landscaping Plans or changing the note on Sheet C-100 to direct the viewer to the Architectural Plans.
- On Block 6 Landscaping Plans, many detail callouts are missing reference numbers. Please provide callout reference numbers on the plan set.
- Overhead utilities exist on the south side of Fore Street, will those remain? The Applicant should verify that there is at least 10 feet between the proposed buildings and existing utilities.
- Coordinate location of water meters with Portland Water District (PWD).
- Show anticipated pavement restoration areas within Fore Street due to utility connections, sidewalk reconstruction and construction damage.
- Will the SOE retaining wall on the east side of Block 4 remain permanently?
- Permanent elements within the Fore Street right of way may require approval of a license with the City.
- Plans need to show and label existing and proposed curb.

- Will the applicant be reusing the existing granite curb or installing new granite curb? The applicant shall verify the condition of the existing granite curb and the plans need to be labeled to indicate what will be installed.
- The sidewalk, driveway, curb and street need to be dimensioned on the plans.
- There are existing utilities that conflict with the proposed driveway off Fore Street across from Waterville Street. None of the plan sheets show how or where they will be relocated or adjusted.
- Grading Sheets: Spot grades and slopes shall be added to plans at proposed driveways, egress locations, pedestrian ramps, accessible crossings, sidewalks and steps. The finish floor elevation for all buildings shall be shown on the plans (along Fore Street).
- Profile: Label where City ROW ends and Private property begins. Show the centerline elevation of the road. The profile (notes and labels) needs to be updated to reflect the portion of the road that has been constructed so far.
- Profile: A portion of the proposed street has a 0% slope. Any proposed street shall be designed to have a minimum grade for the centerline of the street that shall not be less than 0.5 percent.
- The block 4 grading and drainage plan indicates that Jellyfish-2 will be "as-built" prior to this project commencing. It's unclear what phase the Jellyfish unit will be installed in. The concurrent waterfront and utility enabling work phase (PL-00253-2022) calls out a future location of Jellyfish Filter, but does not indicate it will be installed as part of that project. Please clarify when Jellyfish 2 will be installed.
- The applicant should clarify how sanitary facilities associated with the Marina property will be permanently connected to the new sewer system being constructed as part of the block 4 and 6 development. The applicant should clarify the time frame for the removal of temporary sewer holding tanks on marina site. The Interim Marina Site Plan (PL-00289-2022) shows sanitary facilities connecting to an existing Eone pump station on the southside of the railroad tracks. The plan indicates that a force main routes northerly underneath the railroad tracks. It's unclear how this system will be permanently connected to the new sanitary facilities being installed as part of the block 4 and 6 development. Any temporary above ground sewage holding tanks should be eliminated as part of this next phase of development.
- An Erosion and Sedimentation Control (ESC) plan shall be added to the plan set, specific to this project, depicting compliance with all City and State ESC regulations.
- The applicant shall submit a wastewater capacity application for review and approval to the Water Resources division of DPW for this next phase of development.
- The intent of the utility extensions along the limit of block 6 work is unclear.
- The applicant is not showing any external grease traps for any of the proposed development in blocks 4 and 6. The applicant shall confirm that external grease traps are not required for any of the proposed development in these phases. If grease traps are required per City of Portland sewer use regulations, then the plans should be updated to show the configuration and location of each unit. Will grease traps be required for any of the proposed future connections associated with building 3 and 6B? If so, the applicant should show the proposed locations and configurations on the utility plans.
- DPW continues to note that Fore Street will be surface paved, curb to curb, in the early summer months of 2023 as part of final work associated with the Fore Street/Eastern Promenade Sewer Separation project.

- The stormwater management report indicates that 2 Filterra units will be installed to provide treatment for an interim parking lot as required during this phase of development. These Filterra units appear to have been factored into the required treatment for the entire redevelopment project. DPW assumes there is a plan in place to provide permanent stormwater treatment for block 5, and subsequent development to replace the Filterra units when they are removed during future phases of development. Please clarify.
- As part of the recent sewer separation project in Fore Street, the City of Portland completed a curb extension at the NE corner of the Waterville Street/Fore Street intersection. The City installed flush curbing at this location in anticipation of a crosswalk being installed as part of the next phase of the 58 Fore Street project. The City did not complete the ramp work due to safety concerns of implementing a crosswalk ramp without the receiving ramp being in place on the southerly side of the street. The developer should include the work to finish the sidewalk ramp at the NE corner of Waterville and Fore Street in order to establish a new crosswalk at this location as shown on the proposed plans.

City Staff Comments | June 2, 2023 | PL-002202-2022 | 58 Fore Street
Planner: Charles Tetelman (ctetelman@portlandmaine.gov)

The Planning & Urban Development Department and peer reviewers have completed the latest review of the 58 Fore Street Blocks 4, 5, and 6 Major Site Plan application, which was received on April 19, 2023 with revised and new documents submitted on May 26, 2023. Our comments are provided below.

Once all revisions are made please submit a written response to the comments below and upload the response, revised submissions, and new material to Project Dox (make sure all submissions maintain the same file naming format to allow for versioning). Once uploaded, please send an email to ctetelman@portlandmaine.gov notifying the planner of the resubmission. Please ensure that all submitted materials are submitted in a complete and consistent manner. If revised materials are received in an incorrect and inaccurate format they will be determined fatally flawed and you will be asked to resubmit before staff begins to review.

Be advised that additional comments may be forthcoming and other changes may still be required if the comments are not addressed adequately. If you have any questions, please do not hesitate to ask.

Updated 6.6.23 to include Landscaping and Preservation Comments

CRITICAL PATH ITEMS:

- ***Phase 2 Average Grade Calculation***: Point D and Point E are not acceptable for determining the average grade as currently shown. As currently proposed, the applicant is not measuring the grade from the post development grade but instead from elevated patios/walkways, sidewalks, and other artificial features, projecting from the building facades and to be constructed on top of a retaining wall, with no fill between the building and the retaining wall, leaving a void, and bearing no relation to the structural functionality of the building in these locations. As previously stated, points can be taken at regular intervals or at prominent building corners. Measurement is required to be taken where the building foundation meets the post development earth grade.
- ***Fore Street Retaining Wall + Maintenance*:** The applicant shall assess the current condition of the Fore Street retaining wall and confirm whether footings or other structural elements being proposed pose a risk to the structural integrity of this retaining wall. This study is required to be completed by a qualified professional and will need to address the following questions: *1) Can the applicant provide past and current elevation data of the Fore Street Retaining Wall for comparison; 2) Who will ultimately be responsible for maintenance once the structure is occupied; 3) How will the wall be accessed for maintenance and/or replacement once the structure/building is erected; and 4) What is the estimated lifespan of the wall?*
- ***Townhome Height (35 ft.)*:** Dimensional Standards require that buildings along Fore Street do not exceed the grade of Fore Street by more than 35 feet within 100 feet of the Fore Street ROW. This height restriction is required to be met. The applicant needs to provide updated elevations demonstrating consistency with this dimensional standard.
- ***Geotechnical Study*:** The applicant needs to provide a Geotechnical Study from a qualified professional demonstrating the proposed development is structurally sound and must demonstrate that all structures (pins, retaining walls, etc.) provide adequate support for the proposed development. From the MDP: *"Preliminary geotechnical exploration will occur to inform the future design details related to the B2 and B4 development blocks, specifically how these foundation systems will interface with the retaining wall system."*

- ***Fore Street Public Right-of-Way:*** The applicant is currently proposing a sidewalk, retaining wall, and footings associated with Block 4 and the townhomes encroaching into the City ROW along Fore Street. In order to encroach into the City ROW, a license agreement is required, which the City has not granted to the applicant at this time. The City reiterates that all privatized developed areas, including any necessary retaining walls, pathways, and patios, fronting Fore Street should be shifted outside of the public ROW and onto the property of the applicant. Any building components, except footings, that extend into the ROW are not supported by the City. The City will continue to coordinate with the applicant team to explore the possibility of entering into a license agreement to allow Block 4's footings to encroach into the City ROW, below grade, that is supported by a geotechnical study.

GENERAL

- Please provide snow storage areas on site or provide a management plan for removing snow from site.

ZONING

- Zoning will review building height and other dimensional requirements once a revised average grade based on the above comments is submitted.

TRANSPORTATION

- DPW and Planning provided a suggested cross-section for Fore Street along the proposed project frontage. City Staff understand that the final design of both the private and public elements of the project's Fore Street frontage are contingent upon the outcome of ongoing conversations between the applicant and City around the Fore Street retaining wall and required structural elements of Block 4. While the City notes that the siting of certain structural elements of Block 4 within the public ROW may be unavoidable, the City reiterates its previous comment that all privatized developed areas, including any necessary retaining walls, should be shifted outside of the public ROW and onto the applicant's property. Impacts to the right-of-way should be minimized to the greatest extent possible to allow for robust inclusion of active transportation space in order to maximize street activation and human safety.
- City staff will provide a final determination on the need for a modified or new MaineDOT Traffic Movement Permit.
- The Trip Generation estimate included in the Traffic Assessment shall be based on the 11th Edition of the ITE Trip Generation publication. This was discussed and confirmed with MaineDOT's State Traffic Engineer. Please provide updated Trip Generation estimates accordingly.
- The reduction assumptions used in prior analysis should be revisited and documentation should be provided in support of suggested trip reduction factors given current conditions. Please provide revised documentation accordingly.
- All submitted plans depicting parking shall provide dimensions according to the City of Portland Technical Manual.

- The applicant shall provide the EXCEL spreadsheet for the parking demand analysis for review and approval. Adjustments to mode share and internal capture may be necessary following the changes to methods used in the traffic study noted above.
- The proposed details are not compliant with City's standards (for example VERTICAL GRANITE CURB, BRICK SIDEWALK and CAST IRON MANHOLE COVER AND FRAME). City Staff recommends that the applicant review and revise all the proposed Site, Sewer, Storm Drain and Landscape details to meet the requirements of the technical manual. They should also state the location of the details in the installation note.
- A Driveway Apron detail was not included in the submitted plan set and should be added. The proposed driveway apron is required to be designed per the City's Technical Manual Section 1 and the City's Sidewalk and Driveway Apron Material Policy.
- According to DPW there is an existing utility valve that appears to be within the limits of the proposed driveway.



- The applicant has noted that the existing Granite Curb will be reset. The applicant will be responsible for ensuring that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation / during construction.
- DPW understands that the applicant is coordinating the relocation of the overhead utilities and poles with Central Maine Power. The applicant is responsible for ensuring that the design / location of the proposed building maintains the required offset from existing overhead utilities if the building is constructed prior to the utility relocation. Be aware that the curb line shall not be extended into the existing pavement to accommodate future utility pole relocations if the coordination is not completed before the building is constructed. Additionally, DPW is requesting all overhead utilities and related infrastructure to be shown on all plans and elevations.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- DPW's project manager for the Fore/Eastern Promenade Sewer Separation project is available to meet onsite to discuss coordination of the two projects including the proposed crosswalk at Waterville and Fore.
- The applicant shall clarify how the marina sanitary sewer force main will connect to the new sewage pump station being installed as part of the Phase 2 (block 4-6) work. This may require final approval for the minor site plan amendment PL-002252-2022. Applicant shall finalize plans associated with PL-002252-2022 before receiving approval for this site plan.
- The applicant shall update the project's wastewater capacity application, previously sent to DPW water resources engineering to include projected flows from block 5. The application on file does not include this information.
- The applicant had previously noted that placement of grease traps associated with block 6 were still being determined and they would appear on subsequent utility plans. This updated plan set still does not include any grease traps. Similarly, if any grease traps are required for the recently added block 5 work they should be added to the utility plan. All sizing and configurations of grease traps shall be in accordance with section 2 of the technical manual.
- An oil water separator has been designed to treat flows coming from an internal parking garage as part of the block 4 work. The applicant shall confirm oil water separators are not required for any internal parking areas associated with blocks 5 and 6.
- Several sewer service pipes are shown with a slope less than 1/8 in/ft. Based on the City of Portland Technical Manual it is stated that, "All building sewer laterals shall have a minimum diameter of four inch (4") and a minimum slope of one eight inch per foot (1/8 in/ft) installed." We recommend the slopes for sewer service pipes be revised to meet City standards or a waiver is requested if this is not achievable due to existing infrastructure grades.
- Phase 2 Civil Plans and Details Sheet C-102: There are catch basins with a rim elevation at the same elevation as adjacent spot grades provided (AD11, CB7, CB8). We would recommend additional spot grading or adjustment of adjacent grades or rim elevations to promote positive drainage towards the catch basins.
- Phase 2 Civil Plans and Details Sheet C-102: AD12 has a rim elevation of 14.80' based on Sheet C107 – Civil Pipe & Structure Tables. The linework for SMH-14 is covering the adjacent spot grade, but it appears that the adjacent spot grade is 14.7'. If this is in fact the case, we would recommend grading be revised in this area to promote positive drainage to AD12.
- Phase 2 Civil Plans and Details Sheet C-102: It is unclear how the podium area on the east side of Block 4 will drain. The provided spot grades around the podium are 23.89' with adjacent spot grades all being higher than these points making this area a low point. We would recommend considering the need for drainage infrastructure or revising proposed spot grades to drain to proposed storm drainage infrastructure.
- Phase 2 Civil Plans and Details Sheet C-104: Pipes S16, S14, S15, and S33, are assumed to be sewer service laterals for future construction. Per the City of Portland's Technical Manual, sewer service pipes which are 4" or 6" in diameter shall not be connected into a sanitary manhole and only into a sanitary sewer main. Please confirm the intent of these sewer pipes and revise as appropriate.
- Phase 2 Civil Plans and Details Sheet C-104: the label for SMH 14 is covering the label for the sewer pipe. It is unclear which sewer pipe in the pipe table (Sheet C-107) is between SMH 14 and SMH 6.

- Phase 2 Civil Plans and Details Sheet C-107: Several storm drain pipes are shown as having slopes less than 0.005 ft/ft with some drain pipes shown as being placed flat. We would recommend providing a minimum of 0.005 ft/ft slope for all storm drain pipe to ensure positive drainage. Phase 2 Civil Plans and Details Sheet C-203: There are several area drains on sheet C-107 that are proposed to be 1' diameter. We would recommend a detail be provided for the type of grate to be used for these structures.
- Phase 2 Civil Plans and Details Sheet C-204: The applicant is proposing to install a tree over the top of proposed subsurface R-Tank #2. Based on available literature of R-Tank systems, it is not recommended to place large trees over these systems. We would recommend the applicant confirm that this is acceptable with the manufacturer or remove the proposed tree.
- CB 27, SD123, CB28, SD124, CB21, and SD57 on Sheet C-102 are not seen on the Pipe & Structure Table (Sheet C-107).
- CB13 has a rim elevation of 14.40 based Sheet C-107 – Civil Pipe & Structure Tables. Sheet C-102 shows a spot elevation of 14.55 on CB13. Please confirm the correct elevation and revise as necessary.
- The Major Site Plan PFDC Phase 2 Checklist notes that "directional flows of all proposed sewer and stormwater infrastructure" are required on utility plans. Please provide flow direction arrows for all proposed sewer and stormwater infrastructure in accordance with this requirement.
- Please provide a detail showing storm drain pipe connections. For instance, SD39 is shown to connect into SD40 on Sheet C-102, with no catch basin or drain manhole.
- Several area drains on Sheet C-107 are listed with a diameter of 1' and a pipe of 10". The applicant has also provided a detail of the area drains on Sheet C-203. There is a note on the proposed detail which states that the diameter of the hole should be 3" larger than the inside diameter of flexible pipe or the outside diameter of rigid pipe. Based on the detail provided, and the proposed sizes of the area drain and storm drain pipe, it is unclear how there will be sufficient room to accommodate the pipe within these structures.
- SW Management Plan Comments:
    - Section 1.3 – Proposed Development: The Applicant indicates that Jellyfish Filter 2 will be relocated and invert elevations adjusted as part of this project. However, it is not clear on the plans where the filter will be relocated or what the adjusted elevations of the inverts are. We would recommend the Applicant clearly show where the filter is to be relocated and provide updated invert information for the filter.
    - Section 1.4 – General & Redevelopment Standards (Stormwater Quality): The Applicant indicates that they will continue to coordinate with MaineDEP to obtain approval for reduced water quality volume. It is recommended that the applicant provide documentation stating that a reduction in required water quality volume is accepted by MaineDEP prior to final approval.
    - Section 1.4 – General & Redevelopment Standards (Stormwater Quality): The Applicant states that the Jellyfish Filters are sized to meet flow from 1-inch of runoff. It is recommended that the applicant include a 1-inch storm in the HydroCAD model to ensure the Jellyfish sizing meets the flow requirements outlined in the MaineDEP proprietary BMP approval letter.

- Section 1.4 – General & Redevelopment Standards (Stormwater Quality): The Applicant indicates they are coordinating with the manufacturer on approval of the Jellyfish Filter design and can provide a manufacturer letter of approval. Please provide approval letter once received.
- HydroCAD – Pond 12P – Jellyfish 2: It appears that the applicant is modeling the bypass weir as device #3. If this is the case, the invert elevation used in HydroCAD does not match the elevation shown for the Peak Diversion Jellyfish Filter #2 Detail on Sheet C-206. Please confirm which elevation is correct and revise the other as appropriate.

LANDSCAPING & ENVIRONMENTAL QUALITY (*updated 6.6.23*)

- Ensure that a safe, ADA compliant alternative trail route is available during construction
- Existing conditions and demolition 1&2 - Show tree protection extents around existing vegetation being preserved on site, include note directing contractors to comply with section 4.3 of the technical manual for vegetation preservation and figure IV in chapter 4 of the technical manual standards for Landscaping and Landscape preservation.
- Existing conditions and demolition 1 - please ensure locations of all fuel lines, water lines and other buried utilities that are noted to be confirmed in field by contractor have their final verified locations documented in As-Built plans for city records. (Thank you)
- Existing conditions and demolition 2 - Please show existing esc protection around existing soil stockpile area, or update drawing with note to indicate MDEP compliant stockpile coverage / protection measures exist in place (and are to be maintained / not disturbed when possible)
- Existing conditions and demolition 1 - Show existing bollards in trail on existing conditions / demo plans. Clarify removals of any old, preexisting trail bollards within the project area with notes / call outs in plans.
- L.10 Sheet notes: Note 4 and other notes should be revised to reflect Maine certified arborists or other professionals involved in site construction / landscape approvals / acceptance. Note refers to California certified arborist.
- L1.0 Planting area - provide planting information on species types and locations. All proposed species should meet section 4.5.1 site landscaping design standards from chapter 4 of City technical manual. Plants with proven salt tolerance for any locations along streets, shore areas or heavily used walkways that will receive deicing salts in winter should be prioritized.
- L1.0 Planting areas - Do not plant any species with unkempt habit, or that would create site line issues for trail users between pathway types, including rail edges at any intersections in high traffic areas. Certain species that have spreading and naturalizing tendencies, such as Rhus aromatic 'gro-low' can over reach beds and require more maintenance if in pedestrian environments. Consider alternate species, like myrica gale or aronia melanocarpa ,comptonia, Gaylussacia baccata, Vacciniums or other similar species that are more contained in beds where pedestrian activity is anticipated. Other species for consideration could include. Rhus aromatica is appropriate for massing or naturalized conditions where less containment and maintenance is required.
- L 1.0 Eastern Trail Shade tree concern - The allocation of space from the trail and rail realignment with various fuel lines /other utilities along the marina edge do not create any opportunities for shade trees along the trail. This would be unfortunate for trail users and future residents alike. Would any possibility for some shade tree locations exist within the Marina enclosure, further away

from underground utilities? Assuming this is possible, shade tree locations at a consistent interval would be ideal. With overhead lines removed, larger canopy species might be a possibility. There could include swamp white oak,red oak, pitch pine, white cedar, which are some example species for coastal maine natives that could be appropriate for this application.

- L 1.0 Eastern Trail - No detail is provided for seawall in this submission. Landscape plan references "civil plan" for additional detail on wall / edge condition between proposed stonedust pathway and marina property line. Civil plans in this submission then references a note 3 as seawall plans submitted under separate cover in a different amendment submission. Include any detail or plan references on any sheet within same submittal set and ensure all discipline drawings are accurate and cross referenced appropriately.
- L1.0 Sea Wall - Ensure any walls and fences comply with 4.5.7 of chapter 4 in technical manual. Provide section and detail drawing information on bollard and chain, sea wall, and other seawall related elements.

Design Review
Planning and Urban Development Department

Subject:	58 Fore Street
Zone:	B6, R6
Date of Review:	Friday, June 2, 2023
Reviewer(s):	Sean King (Urban Designer), Charles Tetelman (Planner), Evan Schueckler (Historic Preservation Program Manager)
Project ID:	PL-002202-2022

I. DESIGN REVIEW CRITERIA

The development project at 58 Fore Street is subject to the site design standards, Land Use Code section 14.6.4.I Design standards, master development plan review standards, Land Use Code section 14.7.5 Design and eastern waterfront master plan. The site plan application is subject to the policies and design standards listed below:

A. Land Use Code section 14.7.5 – *Master Development Plan for 58 Fore Street*

B. Eastern Waterfront Master Plan - *Design Guidelines for Portland's Eastern Waterfront*

C. City of Portland Design Manual –
- (*g*) *EWPZ Eastern Waterfront Port Zone and B6 Eastern Waterfront Mixed Use Zone*
- (*i*) *Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.*

II. REQUEST FOR ADDITIONAL APPLICANT MATERIALS

Staff is requesting additional materials to assist with the design review to include:

1. Block 5 3-dimensional and/or perspective renderings to illustrate the proposed building design with views from the water, view corridor and internal street network in context with the overall development site.
2. Block 5 building material palette with images of proposed products
3. Block 4 renderings to show existing overhead electrical lines along Fore Street.

III. HISTORIC PRESERVATION ADVISORY REVIEW

Historic resources, under Article 14.6.4.E, require when developments affect designated landmarks or lie within designated historic districts, such development shall be required to obtain a Certificate of Appropriateness under Article 17. A portion of the Block 4 development is within the Portland Company historic district and a portion of the Block 6 development is within the Munjoy Hill historic district, both are subject to Historic Preservation Board review and applicable design standards.

As the entire development is within 100 feet of a historic district, those portions not within a historic district shall be generally compatible with the major character-defining elements of the portions of the historic districts in the immediate vicinity of the proposed development. Character-defining elements of landmarks and historic districts are identified in the historic resources inventory and respective historic

district designation reports. For the purposes of this provision, "compatible" design shall be defined as design which respects the established building patterns and visual characteristics that exist in a given setting and, at the same time, is a distinct product of its own time. Historic Preservation staff has provided a written analysis of the proposed development's immediate context, identifying the major character-defining elements and any established building patterns that characterize the context.

Munjoy Hill and the Block 4 Townhouses & Block 6:

Munjoy Hill has a long history of development and features highly varied architectural expressions across buildings. Many buildings also feature historical alterations, creating varied and dynamic layers of history. Regardless, there are several unifying features within the district. Construction is primarily of wood frame over masonry foundations, with only a handful of primarily brick structures. Buildings are typically independent, but constructed densely, with tight driveways and side yards. Front yards are typically shallow. Projecting bay windows or entry porches are often used to create variety along the sidewalk. Windows are predominantly vertically oriented with regular placement on front facades and more variation on sides. The immediate vicinity of the proposed development is eclectic, reflecting the overall diversity of the district's architecture, including examples of high-style grand houses, Queen Anne multi-family buildings typical of those found throughout the district, and a few Greek Revival structures, one of which (at the corner of Atlantic and Fore Streets) is among the rare brick houses in the district.



A typical street showing examples of triple-deckers and Italianate duplexes in the Munjoy Hill Historic District (82, 84, 86, & 88 Beckett).

The proposed Block 4 will be a large multi-unit building, but the town houses fronting onto Fore Street are being studied for compatibility with a much smaller scale residential district. Most buildings are two to three stories in height, with narrow facades on tight urban lots. The proposed townhouses will be a very compatible three-stories at the north elevation, but the continuous street wall does not have a precedent in the historic context. The applicant is proposing to break-up that width by introducing the townhouse as a unit for dividing the mass; however, it is a very flat façade, with the only depth and relief being proposed at the required viewsheds at Atlantic, St. Lawrence, and Waterville Streets. Staff would encourage the Board to discuss whether there are opportunities to break-up the solid street wall by introducing shifts in wall

plane. Recessing some of the townhouses, creating breaks between townhouses, or introducing projecting bays or front porches could all provide a stronger reference to the context of Munjoy Hill.

The proposed design character of the Block 4 Townhouses is very traditionally, utilizing brick veneer construction with traditional architectural elements such as masonry sills and headers, strong cornices, and mansard roofs. Though traditional, the proposed character of these townhouses is not in keeping with the predominantly frame-construction character of the Historic District. Additionally, the traditional approach does not contribute to the building being a distinct product of its own time in the way that the rest of Block 4 does. This also results in a discordance between the townhouses and the rest of Block 4. Staff would encourage discussion of whether a change in material and a more contemporary design approach might produce a more compatible design.

Given the great architectural variety found in the Munjoy Hill Historic District, one of the challenges in producing a compatible design for the Block 4 Townhouses is striking a balance between that architectural variety and the consistency needed for the proposed development to be a comprehensive project. In earlier iterations the townhouses were proposed as a repeated design. In the current version, the applicant has introduced two forms which are alternated to introduce some variety. Staff would encourage the Board to discuss whether the current proposal is successful or whether this balance should be further studied. For instance, utilizing a consistent form with variety in cladding textures and colors could be one approach. Staff would caution against introducing too much variety in the form of the townhouses as if the townhouses become too much a pastiche of the historic district, then it may again dilute the nature of the development as a distinct product of its own time.

Block 6 should also be compatible with the Munjoy Hill Historic District; however, the north elevation is located in the district and subject to Historic Preservation review. The other three elevations will have minimal visibility from and impact on the Munjoy Hill Historic District given the location of the block primarily below Fore Street and behind a number of contributing buildings. Staff would encourage discussion about how the overall massing of the building could be simplified and made more compatible with other portions of the development; and whether there are opportunities to simplify the material palette. The proposed stone cladding material also seems generally out of scale with the mass of the building and staff would recommend consideration of a different material or larger form of stonework that might make reference to the more monumental stone materials found in the nearby context.

<u>The Portland Company Historic District and Blocks 4 & 5</u>

The visual character of the Historic District is that of a rambling industrial complex containing a variety of structures fulfilling specific programmatic needs. These ranged from foundries and boilers, to drafting rooms, machine shops, blacksmiths, and halls for the assembly of machinery. While all unique, the contributing buildings generally share a visual language typical of late nineteenth- or early twentieth-century industrial architecture. The structures are predominantly low-lying with long, horizontal elevations of brick on stone foundations, with only two vertically oriented structures punctuating the campus (the drawing vault at Building 24 and the stair tower at Building 6a). Roof forms include flat, gabled, and shed forms. Wood is used in a limited capacity, and metal is concentrated around structural elements at roofs or openings, and in some lean-to additions. Exteriors have little to no ornament. Building 2 is the most ornate with granite window headers and sills, and a substantial classically-inspired brick cornice and pediment. Windows and doors are typically regularly spaced with a vertical orientation and multi-light glazing.

The site is also characterized by the arrangement of buildings. The structures were located close to one another, speaking to their interrelated functions. However, spaces were left between many structures creating a modest internal network of streets and alleys that allowed for movement of staff, materials, and products. In a few locations, second-story bridges or walkways create connections between buildings and over that network of streets. In several instances, important structures such as the pattern warehouse (Building 12) were located away from the working portions of the site to protect them from the potential for fire within the complex.



2022 view of the Buildings 2 & 24. Block 1, at left, was nearing completion with sitework being completed in the foreground.

Blocks 4 and 5 are located closest to the Portland Company Historic District and therefore have the strongest visual relationship. Generally, the two blocks appear to be meeting the standard of being distinctly contemporary in their design. Block 4 incorporates two long brick facades along the Thames Street frontage, forming the base of the whole block. At four stories, this base will be somewhat taller than the adjacent one- to three-story heights of the historic structures, but is expected to have good visual compatibility. Block 5 is proposed to have a two-story base of granite cladding, with primarily GFRC and glazing above, creating a similar character to the Sun Life Building at 110 Thames Street. There may be opportunities to introduce a set-back above the base of Block 5, which also help with the compatibility of the building in relation to the Portland Company Historic District.

IV. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, red text denotes standards not met to require resubmission.

A. Land Use Code section 14.7.5 – *Master Development Plan for 58 Fore Street*

b. Developed in a comprehensive, design-integrated manner, according to an overall master development plan,

Staff comment: Staff finds the site plan application to be generally consistent with the overall master plan development.

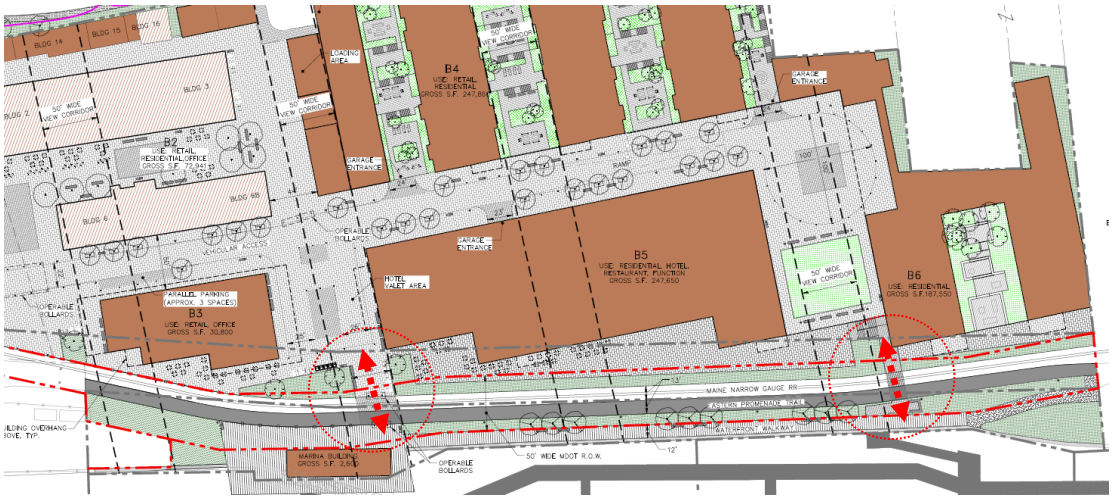
h. An efficient use of land demonstrating full coordination of its own site development and surrounding context including, but not limited to, the land uses and functions contemplated, architecture, open space and pedestrian networks, . . .

Staff comment: Staff finds the site plan application to be generally consistent with the overall master plan development.

l. Designed as to create a cohesive identity through building scale, massing, and articulation; use of quality exterior materials, architectural detailing at pedestrian scale; consistency of design and materials for streetscape and pedestrian amenities; framing of outdoor open space and linkages; a clear conveyance of the function and significance of various buildings, entrances, and features; . . .

Staff comment: The site plan application for Block 4,5 & 6 is generally consistent with the overall master plan development with the exception of the additional property located at the eastern portion where Block 6 extends into the R-6 zone and Munjoy Hill historic district. The applicant shall relate to the context of the surrounding residential neighborhood through building scale, massing and articulation. Staff is requesting the applicant provide additional material for Block 4 north outdoor open space and pedestrian linkages proposed for the new property boundary in relationship to the existing adjacent residential structures at Fore Street.

Staff finds several inconsistencies from the approved Master Development Plan regarding protection mechanism (shown as a landscape buffer) along the railroad right of way to restrict public points of access into the development.



*approved master plan development overall site plan

B. Eastern Waterfront Master Plan - *Design Guidelines for Portland's Eastern Waterfront*

Introduction: *Development will serve to integrate the working waterfront, commercial business areas, and the Munjoy Hill neighborhood. For integration to be successful, thoughtful, high quality design for all aspects of construction is imperative. With care and attention paid to details and*

quality, the design of streets, buildings, open space, parking, and changes to the water's edge will contribute to the value of public and private property and the quality of life for Portland residents. . . . that the Eastern Waterfront become a benefit to City residents. The Master Plan, along with these Guidelines, promotes development that will be an asset, not a liability, to the surrounding neighborhoods and community at large.

Streets: *The retention and expansion of pedestrian scaled street grid...*

1. **Public Streets:** The applicant proposes to maintain vehicular and pedestrian access along Fore Street, staff recommends additional crosswalks and curb ramps at St. Lawrence, Atlantic and Munjoy Street to connect the existing neighborhood across Fore Street.

2. **Appropriate Street Design:** Fore Street is a primary street that accommodates vehicles and pedestrians, the applicant continues to provide on-street parking as a buffer between pedestrians and moving traffic. The new private street through the site parallels the water and expands the street network outlined in the Eastern Waterfront master plan for internal alleys that relate to or continue the historic Portland Company pattern established through the site. The new private, shared street functions as a pedestrian-oriented streetscape with basalt pavers with pattern variation bordered by stone curbing, street trees and scaled exterior lighting that staff finds appropriate.

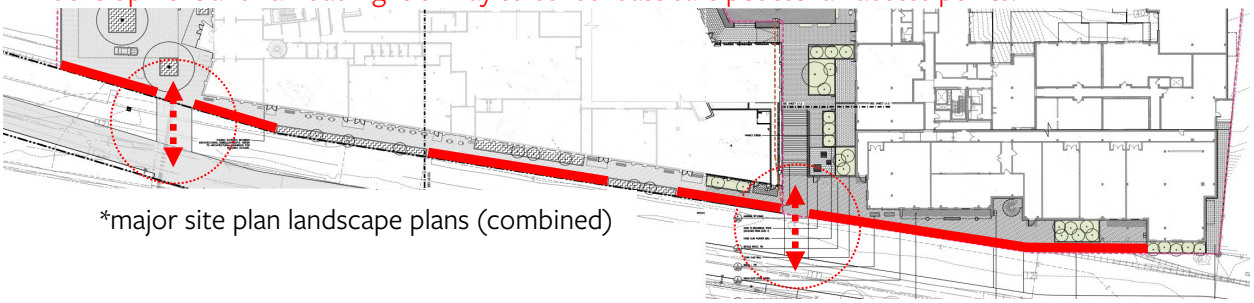
3. **Sidewalks**: The applicant proposes brick sidewalks per city standards along Fore Street. Staff observes the applicant's intent to comply with accessibility requirements and continues to support building entries of the Block 4 Townhouses at Fore Street, however, staff finds the new retaining wall encroachment to be in conflict with this standard *to accommodate visiting and residential pedestrians comfortably and safely*. In particular, staff finds that the proposed retaining wall creates several vertical elevations above 30 inches to require a guardrail that would not contribute to the value of the pedestrian experience along Fore Street. Staff recommends the applicant replace the retaining wall for stairs to transition the grade difference between the Fore Street sidewalk and paved access to new building entries. The applicant should consider additional landscape opportunities, such as planters, sloped planting areas or other that would consider the existing wall, to mitigate the grade changes between Fore Street sidewalk and new building entries.



Precedent image (courtesy of Christian Phillips Photography, KMDG, landscape architect) to illustrate grade transition along sloped sidewalk condition

4. View corridors: Staff finds the development to preserve defined view corridors at Waterville Street, St. Lawrence Street and Atlantic Street where no building is allowed above the corresponding Fore Street elevation.

5. Railroad Right of way: Staff requests the applicant provide additional detailing, including selection of materials and signage to allow for safe pedestrian access routes at key locations (shown by red arrows) across the railroad right of way. The applicant shall provide additional landscape buffering (e.g. planting areas or low transparent fencing) between the proposed development and railroad right of way to consolidate safe pedestrian access points.



*major site plan landscape plans (combined)

6. Underground Utilities: Staff supports the underground utilities proposed within the development and observes the existing overhead electrical lines and utility poles to remain along Fore Street. Staff acknowledges the existing cobrahead municipal lights fixed to existing utility poles and shall review exterior lighting during a future submission as the applicant has not provided an exterior lighting replacement.

7. Marine Passenger Terminal Circulation: Not applicable, development is not serving the proposed marine passenger terminal.

Buildings and Architecture: *Architecture that enhances the development of a mixed-use and marine inter-modal transportation center, and is compatible with the surrounding neighborhood...*

1. Contextual Design: Staff recognizes, as does the *Eastern Waterfront Master Plan*, that the 58 Fore Street site is anomalous in its location, topography, former uses, and past development pattern compared with its surrounding context. The site mediates between the residential Munjoy Hill neighborhood defined by single family, two-family, and multi-family residential buildings, and a small, pedestrian-scale street grid creates a neighborhood scale block pattern. The Eastern Waterfront context includes a mix of transportation, industrial, tourism uses and building typologies. Staff finds the proposed Block 4,5 & 6 buildings recognize the existing development pattern and characteristics with a strong organization that parallels the waterfront and Fore Street and allows for site permeability with the defined view corridors. Notable hierarchy of building typologies include the Block 4 Townhouses to reflect the height of residential buildings in the Munjoy Hill neighborhood; a cohesive building design along the Thames Street extension that identifies a strong architectural masonry base and contemporary arrangement of fenestrations and building materials; and arrangement of building elements that correspond to the primary retail uses and façade elements along the waterfront.

2. Building Composition:

a. **Placement:** Block 4,5 & 6 buildings include primary entrances oriented towards the street and continue a strong street wall.

b. **Height:** The building heights for the Block 4 Townhouses on Fore Street are compatible with the residential building of 3-4 stories located within a two-block radius. The development observes the building break line between Block 4 and Block 5 to divide the building mass into separate distinct buildings of various heights. Block 6 is located at the eastern most portion of the development with the tallest building heights. Staff finds the Block 5, 6 building heights exceed the B-6 building height overlay map with the established average grade (50'). Staff finds the increase in Block 5 heights above Block 4 does not correspond to the B-6 building overlay map's intent to stepdown the building heights towards the waterfront and will continue to review the Block 5 heights related to the City's average grade interpretation.

c. **Massing:** The buildings on the western half of the Foreside development site have a long and low massing consistent with the historic industrial complex and working waterfront building typologies. The building massing of the Block 4 West Wrapper provides height transitions that step-up towards the west of the development to create a strong relationship with Building 3 and 6B. Staff recommends Block 5 provide building height transitions by incorporating stepbacks at the southwest elevation. Block 6 is sculpted by many volumetric planes highlighted with changes in the material that staff finds to reduce the building massing.

d. **Proportion:** The Block 4,5 & 6 buildings share a similar horizontal orientation with ample window openings unique to each building. The facades along the Thames Street extension include storefront windows to create pedestrian-scaled proportions. The waterfront facades shall be pedestrian scaled and respond more to the intended retail use, staff requests additional articulation or an increased fenestration pattern to reduce the Block 6 ground-level blank facades. In addition, Staff recommends the applicant relocate the Block 6 wharf vehicle storage to promote a stronger pedestrian-activated façade facing the waterfront and discourage marine vehicles within the pedestrian plaza.

e. **Articulation:** The Block 4,5 & 6 buildings relate with similar proportions with a clear masonry base that varies in materiality for each building that staff finds is appropriate. The organization of horizontal patterns throughout the middle portion is complementary at each building. Building tops terminate with a simple parapet, while Block 5 encapsulates the elevator overrun and mechanical penthouse with a metal screen with numerous angles.

f. **Materials:** Materials shall reflect the historic character of Portland's waterfront. Each building employs a variety of exterior materials and rhythms to complement a contemporary architectural style. Staff will continue to review materials based on future historic preservation board meetings for consistency throughout the development.

- Block 4 Townhouses along Fore Street: The exterior material context of the surrounding neighborhood includes the use of brick, natural stone, and clapboard siding. Based on the architectural renderings, the brick façade, framed windows and roofline articulation separates the Block 4 Townhouse from the internal Block

4 building design. The applicant shall provide exterior material selection on elevations for staff review.

- Block 5: Staff requests exterior finish material palette imagery for Block 5. Staff is concerned with the reflective infill panel due to glare at the northwest elevation and requests the applicant provide additional narrative and materials for review.
- Block 6: Staff recommends consideration of a larger format stone to respond to a larger building scale, in addition to historic preservation staff reference to the more monumental stone material found in the nearby context. The proposed stone cladding at the west elevation seems generally out of scale with the mass of the building, staff recommends the applicant consider a horizontal rainscreen panel material above a stone cladded base.



3. <u>Pedestrian Environment:</u> Staff finds the Block 4,5 & 6 development generally fosters a walkable pedestrian environment through a unified streetscape at the Thames Street extension with unique surface paving, street trees and lighting. Staff finds the Block 4 Fore Street pedestrian environment to be insufficient and suggests the applicant minimize any encroachments into public right of way to allow for ample sidewalk widths, plantings and pedestrian amenities where possible. Staff recommends a greater concentration of street trees, the applicant should consider a street tree alternative for new trees within the view corridors of St. Lawrence Street and Atlantic Street or allow for street trees within the private property along Fore Street that would require building recessions at the street-facing Block 4 Townhouse facades.

4. <u>Primary Entrances and Service Entrances:</u> Staff supports the clearly articulated primary entrances expressed with distinct materiality at each building as a unifying building component throughout the development. Service entrances appear to be internal to the site with shared infrastructure. Staff finds the service garage doors at the shared street-facing facades reduce the pedestrian experience and recommends the Block 5 loading dock adjust away from spa and fitness entrance, if possible, to consolidate the rooftop bar entrance (see image below).



Staff finds the building entry south of the garage parking entry at the west elevation is not clearly articulated (see image below), the applicant shall provide additional architectural elements such as a canopy or additional fenestrations that correspond to the Block 4 West Wrapper.



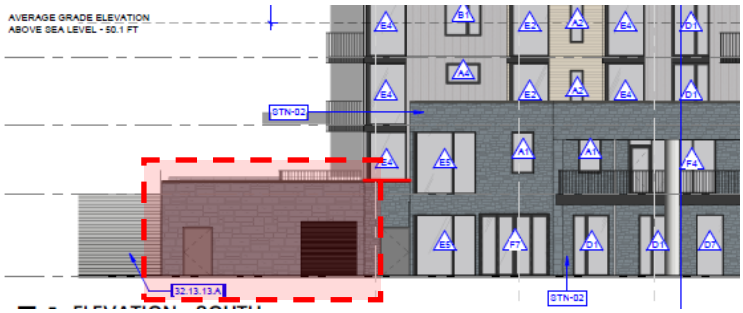
5. <u>Parking Structures:</u> The proposed parking structures are mostly concealed in the developed with minimal vehicular access points that staff supports.

6. Infill and Small Scale Development: The development along Fore Street of Block 4 creates a new street wall that is compatible with the existing residential scale of the surrounding neighborhood, along with observing view corridors.

7. Historic Structures: A portion of the Block 4 development is within the Portland Company historic district and a portion of the Block 6 development is within the Munjoy Hill historic district, both are subject to Historic Preservation Board review and applicable design standards. The applicant shall incorporate Historic Preservation board reviews that impact the design of the overall development.

8. Civic Structures: Not applicable

9. Marine Development: Staff observes the Block 6 marine support loading area, service entry and garage door located adjacent to the lower plaza between Block 5 and Block 6. Staff finds the activation of the Block 6 pedestrian-oriented plaza and associated retail uses adjacent to the railroad right of way conflicts with the location of the marine support loading area. Staff recommends the applicant relocate to avoid potential conflicts with vehicles and pedestrians. Staff will review additional railroad right of way crossings as needed as shown in the minor site plan amendment PL-002252-2022.



Open Space and the Public Realm: *The character of public streets and sidewalks is the primary determinant of the quality of the public realm...is further defined and enhanced by the incorporation of quality open spaces...*

1. Public Open Space and Plazas: Public open spaces are oriented toward the water and accessible from adjacent streets, sidewalks and the Eastern Promenade trail. Plazas within the development include durable materials and scaled outdoor amenities such as trees, plantings and furnishings. Staff supports the pedestrian access points from Fore Street at the St. Lawrence view corridor to allow pedestrians to transition the topographic changes by way of expansive exterior staircases and a publicly accessible courtyard with pedestrian amenities at Block 4.

2. Private Open Space and Plazas: Private open spaces are adjacent to Block 4,5 & 6 retail uses to allow for seating and entries. Internal private open spaces are unique to each building through shared courtyards, rooftop terraces and private balconies for residents. The applicant shall confirm if any shared private open space (e.g. balconies, terraces, etc.) is proposed for Block 5.

3. Historic Sites: The applicant shall observe the Portland Company historic district previous interpretive historic program for Block 2 to inform potential opportunities to engage signage, artwork, and/or industrial heritage of the historic site.

4. Public Art: Staff observes mural artwork in Block 4 to enhance the vitality of the development, the applicant shall investigate additional opportunities to incorporate public art into the development with an emphasis on key focal points (e.g. view corridors, streets and plazas).

5. View Protection: The Block 4,5 &6 development protects defined view corridors through the site and identifies focal point areas where plazas are proposed.

Surface Parking and Vehicle Queuing: *The areas devoted to surface parking and vehicle queuing should be minimized as much as possible and visual impact of such areas should be mitigated through buffering and landscaping…*

1. Limit impact: The project predominantly uses structured parking and does not include vehicle queuing. A small number of surface parallel parking spaces are proposed at Thames Street extension with lighting and bollards.

2. Shared Use and Partnerships: Not applicable.

Water's Edge: *The interaction of land activities with harbor activities creates the essential value and character of the Eastern Waterfront district…The successful accommodation of a diverse mixture of people and activity through quality design will best maximize the value of the water's edge.*

1. Intermodal Transportation: Not applicable.

2. Berthing and Upland Development: Not applicable.

3. Public Access to Water: The applicant shall incorporate railroad crossings appropriate to the intended use, staff finds that the conflicts between pedestrians and marine service vehicles shall be minimized to the greatest extent possible.

4. Non-Automotive Travel Opportunities: Not applicable.

5. Recreation and Excursion Integration: Not applicable.

6. Amenity Design: The development provides appropriate site amenities with relationship to the water's edge.

7. Lighting: The development provides exterior lighting appropriate at view corridors. Staff requests additional lighting plans and fixture information associated with the Block 5 & 6 buildings to include façade mounted fixtures.

8. Visual Access: Not applicable.

9. View Protection: Staff finds the development preserves views towards the water sufficiently with building massing, organization of public open space and public access points from the Eastern Promenade Trail.

10. Parking: Not applicable.

C. City of Portland Design Manual

(g) EWPZ Eastern Waterfront Port Zone and B6 Eastern Waterfront Mixed Use Zone: *Eastern Waterfront design standards: All major and minor development viewed under the provisions of the eastern waterfront zones shall be designed to support the development of this urban neighborhood as a dense, mixed-use, pedestrian friendly neighborhood.*

Staff comment: Staff finds the development generally supports a dense mixed-use development that creates a pedestrian friendly neighborhood through design elements employed with the internal streetscape design, relationship of buildings to each other and integration of publicly accessible pedestrian plazas.

(i) Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.

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

1. *The exterior design of the proposed structure, shall be designed to complement and enhance the nearest residential neighborhood.*

Staff comment: The development relates to the existing residential character along Fore Street and establishes a new architectural character with relationship to the Portland Company site and the waterfront.

2. *The proposed development shall respect the existing relationship of buildings to public streets.*

Staff comment: The development creates a strong relationship of buildings to public and private streets.

3. *Open space on the site for all multiple-family development shall be integrated into the development site.*

Staff comment: The development of Block 4 & 5 integrates open space within the building through shared courtyards, balconies and roof terraces. Staff observes a green roof in the view corridor of Block 5 along with rooftop amenities specific to the upper condo units. Staff finds that Block 5 does not address open space for each residential unit and requests the applicant provide additional open space (e.g. balconies, shared roof terrace or other outdoor space) and an architectural narrative to meet this design standard.

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

Staff comment: Staff observes ample windows at each residential unit for Block 4,5 & 6 buildings to meet this standard.

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

Staff comment: Not applicable, no surface parking proposed adjacent to buildings.

6. *Multiple-family dwellings shall not be converted to lodging houses unless all units in building have been vacant for at least one (1) year.*

Staff comment: Not applicable.

City Staff Comments | July 26, 2023 | PL-002202-2022 | 58 Fore Street
Planner: Charles Tetelman (ctetelman@portlandmaine.gov)

The Planning & Urban Development Department and peer reviewers have completed the latest review of the 58 Fore Street Blocks 4, 5, and 6 Major Site Plan application based on revised documents and drawings submitted June 23, 2023.

Once all revisions are made please submit a written response to the comments below and upload the response, revised submissions, and new material to Project Dox (make sure all submissions maintain the same file naming format to allow for versioning). Once uploaded, please send an email to ctetelman@portlandmaine.gov notifying the planner of the resubmission. Please ensure that all submitted materials are submitted in a complete and consistent manner.

Be advised that additional comments may be forthcoming and other changes may still be required if the comments are not addressed adequately. If you have any questions, please do not hesitate to ask.

PRIORITY ITEMS:

- ***Foundation Plan, Overall Site Plans, and Unified Floor Plans***: The following drawings and supporting documents are still needed:
    - Full Foundation Plan. This plan should clearly demonstrate that the project consists of one building with a common foundation and three separate towers. Additional information has been submitted since the initial application showing the location of the plinth, but the full extent of the foundation, and how it relates to/differs from the common base is still not discernable in the materials.
    - Overall Site Plan that includes the extent of work being proposed as part of the Phase 2 Development on a single sheet. This has been previously requested and still is outstanding.
    - Unified and Complete Floor Plans that include Block 4, Block 5, and Block 6 structures. The application treats these blocks separately while requesting they be reviewed as one building, but the application materials will need to consistently show how the blocks physically relate to each other in order for the review to be completed.
- ***Geotechnical Study***: The applicant has provided documents and reports regarding Geotechnical elements of the proposed development. City Staff and Third-Party reviewers will provide review comments at a later date. City Staff and Corporation Counsel continue to review the existing easements and proposed easements associated with maintenance of the retaining wall.
- ***Fore Street Public Right-of-Way:*** The most recent submission addresses encroachment concerns into the City ROW along Fore Street. The City will continue to coordinate with the applicant team regarding a license agreement to allow Block 4's footings (proposed to be located above the Fore Street retaining wall) to encroach into the City ROW.
- ***Construction Management and Phasing Plan***: Please submit an updated Site Development Phasing Plan and a supporting Phased Construction Management Plan. The Construction Management Plan will need to be consistent with the submitted drawings and documents and include all work proposed on site including PL-002252-2023, PL-002253-2023, and PL-002202-2022.
- ***Block 6 Storage Cart***: City Staff have determined that the storage cart room is a Warehousing and Storage use, which is a conditional use in the B-6 Zone. Section 6.4.11(A) states in the B-6 Zone that Marine Uses should include marine products, wholesaling, and retailing, harbor, and marine supplies and services. Marine supplies and services are associated directly with the operation of the vessel; the storage and golf cart room cannot be considered accessory to the marina because it is not located on the marina lot.

- L1.1 - Sheet appears to show a vehicle parking area by stairs in building six under "Level 1" label. Please clarify vehicle storage and provide vehicular use path diagram and brief management narrative for how vehicle and its function to the property operation will work. Eastern Trail and narrow-gauge circulation patterns take priority and all pedestrian and passenger safety must be ensured. Any vehicle's use of trail must be more detailed and closer coordinated with the Parks Department. Keeping vehicles off of Eastern Promenade trail and high pedestrian use areas is a priority, and mitigation of impacts to the trail will be a critical element of the review.

GENERAL

- Inclusionary Zoning calculations will be completed following applicant's next resubmittal.
- Please be sure to update any of the programming changes in the cover letter as the proposed programming relates to the original proposed programming at the time of MDP approval.
- The applicant should provide additional information regarding the use, proposed means of access, and legal rights to access the small paved parking area at the rear of 21 Eastern Promenade.
- City Staff are still reviewing the proposed Subdivision Plat amendment and may require additional draft easements or edits.
- The applicant will be required to provide all final documentation regarding the land swap between Portland Foreside, MaineDOT, and the City of Portland once the land swaps have been finalized. The applicant will need to provide any final easements or agreements at that time.
- The applicant should submit all existing easements located on site including easements with or from Central Maine Power and Portland Water District.
- The applicant should provide draft Condo Association documents and clarification regarding which units are rental, which are ownership units.

ZONING

- City Staff continue to review the submitted Average Grade Plan. The full foundation plan (see above) will help clarify whether any additional points are needed or any need to be adjusted before a final determination on this key zoning compliance issue can be made.
- In the July 7, 2023 Planning Board Workshop Memo, City Staff identified elements of the proposed development that are not zoning compliant. City Staff have met with the applicant team and provided further guidance. City Staff have requested updated drawings with relevant zoning dimensional requirements included and properly dimension on the plans:
  - Block 4 related to the B-6 Eastern Waterfront zone dimensional requirements;
  - Block 5 City Staff have determined that certain elements of the proposed roof plan for Block 5 do not serve as appurtenances (e.g. Telecom and Electrical rooms). Additionally, City Staff have determined that an elevator can service the rooftop amenity deck but the elevator will be required to open out directly to the rooftop. Elevator overrun and supporting screening should be minimized to the fullest extent possible. The Design Review memo includes language and guidance to the screening on Block 5. City Staff have also requested that the applicant reduce the total number of elevators accessing the top floor.
  - Block 6 Please provide updated drawings that show relevant R-6 zoning dimensional requirements.

- City Staff require additional information regarding the operation and use of the proposed cart storage area located along the waterfront-side of Block 6, particularly in regard to trail impacts and site circulation.

TRANSPORTATION

- The trip generation estimate was updated to reflect data contained in the 11th Edition of the Trip Generation Manual. All back-up calculations will need to be provided (similar to what was provided for the 7th Edition).
- The number of vehicle trips estimated under the full build-out of the site as compared to the estimate utilized in the original TMP is summarized as follows:
    - Unadjusted Trips
        - AM Peak Hour
            - 2017 TMP: 769 trips
            - 2023: 609 trips
        - PM Peak Hour
            - 2017 TMP: 921 trips
            - 2023: 1074 trips
    - Adjusted Trips (with Internal Capture Only)
        - AM Peak Hour
            - 2017 TMP: 667 trips
            - 2023: 463 trips
        - PM Peak Hour
            - 2017 TMP: 771 trips
            - 2023: 724 trips
    - Adjusted Trips (with Internal Capture and Mode Share)
        - AM Peak Hour
            - 2017 TMP: 506 trips
            - 2023: 370 trips
        - PM Peak Hour
            - 2017 TMP: 585 trips
            - 2023: 579 trips

  The trip generation estimates, when adjusted, are in compliance with the approved TMP. City Staff and Third-Party Reviewers are seeking clarification from MaineDOT to determine whether unadjusted estimates need to be part of the comparison for TMP compliance.
- The Traffic Assessment only includes an assessment of trip and parking generation. Given that the Master Development Plan approval included a requirement that a phased Traffic Movement Permit be required, please provide a traffic study that assesses traffic mobility and safety as part of this site plan application.
- City Staff and Third-Party Reviewers reviewed the parking demand estimate and are requesting additional information as noted below:
    - Multi-Family 1.21 spaces per unit – The applicant should provide back-up information for time-of-day and parking generation assumptions.

    - Specialty Retail 1.95 spaces per 1,000SF – The applicant should provide back-up information.
    - Hotel 1.1 spaces per room – The applicant should provide back-up data for the parking generation rate.
    - Spa 4.3 spaces per 1,000SF - The applicant should provide back-up data for the parking generation rate.
    - The applicant should confirm that the trip generation and parking generation assumptions for ITE land use codes are the same or different.
- The applicant should create a 20-scale plan (on 24" x 36" Sheet) depicting and labeling all improvements and existing conditions within the ROW (Fore Street).
- Improvements and existing conditions (such as the Fore Street ROW, lanes, sidewalk, esplanade, and driveways) should be clearly dimensioned on the plan view sheets at various locations, and should include both typical widths and any pinch points.
- The applicant should provide a detail in the plan set that depicts how the existing Fore St. retaining wall, the proposed sidewalk and the proposed building landings will interface.
- The plans need to clearly identify areas of both existing and proposed curb, and should identify, if applicable, whether any curbing will be reset during construction. The applicant has noted in the past that the existing Granite Curb will be reset along Fore Street. This work should be noted on the plans and reference where the details to be followed can be found. The applicant should ensure (at the time of construction) that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation / during construction.
- The finish floor elevation in relation to the sidewalk along Fore Street for all buildings should be shown on the plans.
- The existing retaining wall along Fore Street should be clearly identified and labeled on the plans when relevant.
- Grading Sheets: Spot grades and slopes should be added to plans (within the ROW) at proposed driveways, pedestrian ramps, accessible crossings, sidewalks, egress locations and steps.
- The applicant should design the proposed driveway off of Fore Street using the current City standard Residential Driveway Apron I-9A eliminating the proposed tipdowns.
- The proposed accessible ramp adjacent to the driveway should be redesigned and constructed separate from the driveway apron using the sidewalk as the landing. See example below.



- Profile: Label where City ROW ends and Private property begins. Show the centerline elevation of the road. The profile (notes and labels) needs to be updated to reflect the portion of the road that has been constructed so far.
- City staff and the City's consulting traffic engineer have confirmed that both on-street parking and a bike travel lane can comfortably fit on Fore, and therefore a bike lane can be included and shown striped between the travel lane and the parking lane, on the ascending side of Fore Street.
- TDM Comments:
    - Page 7: Please describe the types of racks per the COP Technical Manual bike rack inventory types and the capacity of each rack and total capacity outside.
    - Page 8: Update City Bike Share information to include Monthly '*and Annual*' Memberships.
    - Page 10: Please see the expanded transit access plan from GP Metro. Changes will impact Husky Line, Routes 2 +4.
    - Page 11: Clarify if SunLife Parking (68 spaces) is employee or SunLife paid parking?
    - Page 11: What will be the parking policy for the hotel operation?
    - Page 12: Please describe the ownership/management structure of the various properties to identify who will be responsible for the annual monitoring and reporting. For example, would this be the responsibility of each individual tenant or Portland Foreside?
    - Page 15: The November 2022 Technical Manual updates eliminated the TDM requirements for parking and trip reduction monitoring unless otherwise required by some other mechanism such as the TMP and/or other conditions of approval by the Planning Board. The new single metric City Staff requires establishes mode share targets and reporting on progress toward achieving set targets. The tenant mix may be conducive to establishing and surveying for multiple targets (for instance residential all travel; office commute mode share; etc.). SunLife could be governed by the prior TDM Plan until 1 year following the Certificate of Occupancy for Phase II of development.
    - Page 17: Please fix formatting for charts
    - Page 17, Short-Term Box: Provide more definitive numbers on memberships.
    - Page 17: User/Group Residents: How and by what means?
    - Page 19: Please provide information on employee parking out of pocket costs in narrative.
    - Page 19: Are the employee counts for all tenants and Portland Foreside, who specifically?

- Page 22: Once Phase II development is active (or sooner at applicant discretion), the parking and trip monitoring may be useful for establishing and report on mode share targets and actual mode share but are not otherwise required (unless by a TMP or other condition of approval).

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- Previous Comment: *The applicant had previously noted that placement of grease traps associated with block 6 were still being determined and they would appear on subsequent utility plans. This updated plan set still does not include any grease traps. Similarly, if any grease traps are required for the recently added block 5 work, they should be added to the utility plan. All sizing and configurations of grease traps should be in accordance with section 2 of the technical manual.*
  - *Response: The proposed retail spaces are core and shell only, and the use of the space is to be determined as it is contingent on future tenants. Internal grease traps will be provided for restaurant/kitchen uses. We anticipate internal grease trap applicability, configuration, and sizing will be addressed as part future building permit processes for individual space fit-outs as tenants are identified.*
  - Updated Comment: A condition of approval should be added to the project to ensure the applicant's utility plan is ultimately updated to depict the sizing, location and configuration for any required external grease traps to ensure compliance with City of Portland technical standards. This updated plan should be sent to DPW for review and approval prior to the issuance of a building permit.
- Previous Comment: *An oil water separator has been designed to treat flows coming from an internal parking garage as part of the block 4 work. The applicant should confirm O/W separators are not required for any internal parking areas associated with blocks 5 and 6.*
  - Response: *An oil/water separator will be provided in the Block 6 building and will be plumbed to sewer. We anticipate this will be reviewed as part of the building permit process.*
  - Updated Comment: At a minimum, a condition of approval should be added to the project to ensure the applicant's utility plan is ultimately updated to depict the location and configuration for any required oil/water separators to ensure compliance with City of Portland technical standards. This updated plan should be sent to DPW for review and approval prior to the insurance of a building permit. The project oil/water separator detail should be updated to match the detail found in section # 2 of the technical manual.
- DPW Water Resources has determined that the service laterals outside of the City ROW are not exempt from the City Technical Manual:
  - All building sewer laterals should have a minimum diameter of four inch (4") and a minimum slope of one eight inch per foot (1/8 in/ft) installed. According to international plumbing code, 4" and 6" building sewer laterals should have a minimum slope of 1/8" per foot.
  - Phase 2 Civil Plans and Details Sheet C-104: Pipes S16, S14, S15, and S33, are assumed to be sewer service laterals for future construction. Per the City of Portland's Technical Manual, sewer service pipes which are 4" or 6" in diameter should not be connected into a sanitary

manhole and only into a sanitary sewer main. Please confirm the intent of these sewer pipes and revise as appropriate.

- The applicant should provide documentation of approval from both manufacturers of the Structural Root Containment System proposed for additional protection against root penetration.
- The applicant will need to provide final confirmation from utility providers that they have adequate capacity to service the proposed development.
- The directional flow arrows are not shown on following pipes or flow arrow is covered by a different layer: SD47, SD40, SD116, and SD 113.
- The applicant responded to details showing storm drain pipe connections (SD39 to SD40 on C-102) with no catch basin or drain manhole. The applicant responded, "Our intent is to use our standard wye connection, which is represented in a detail on sheet C-201. The title of the detail has been revised so that it is not specific for sewer." The plan view of the Typical Later WYE Connection Detail provided on Sheet C-201 calls out "Main Sewer." It is recommended to revise this callout to include storm drain.
- Phase 2 Civil Plans and Details Sheet C-203: The Field Inlet Grate detail is shaded out. It is recommended to include the detail in the plans.
- Section 2.9.10 of the City of Portland Technical Manual states, "Field inlets or Type-F catch basins may be used when outside of city street right of ways within lawn areas, with Department of Public Works approval." Although the three field inlets (FI11, FI12, and FI13) appear to be located within the Paver Plaza Area, DPW will need to approve the prove the field inlets.
- Phase 2 Civil Plans and Details Sheet C-102: Grades for CB-27 and CB-28 are provided on Sheet C-107. There is a spot grade to the west of the R-Tank but due to the site being relatively flat, it's recommended to provide additional spot grading to promote positive drainage towards the catch basins and drainage infrastructure.
- Stormwater Management Plan:
    - Section 1.4: General & Redevelopment Standards (Stormwater Quality): Based on requirements outlined in the Maine DEP proprietary BMP approval letter, it does not appear that Jellyfish 2 can handle the inflow from the 1-inch storm. Please confirm that the proposed Jellyfish 2 meets the requirements of Maine DEP or revise as appropriate.
    - The applicant has provided manufacturer inspection and maintenance guides for the Jellyfish Filters. The inspection frequency states a minimum of quarterly inspections during the first year of operations but that a minimum inspection frequency of yearly in subsequent years. We would recommend the applicant provide a narrative to have the filter inspected a minimum of every six months and the filters maintained yearly per the Maine DEP approval letter dated January 21, 2015.

LANDSCAPING & ENVIRONMENTAL QUALITY

- All layout plan sheets - in plans with project area adjacent to existing narrow-gauge railroad and / or eastern trail, show rail and trail infrastructure edge, R.O.W and label accordingly.
- Phase 2 Civil Plans - C201 and Phase 2 Landscape Plans and Details LD 1.0 - Civil details and Landscape details (curbing) do not correspond to one another. Ensure appropriate detail selected is consistent between documents. Include note or call outs in civil layout plans for paving, curbing and other hardscape or street furnishing details that are being managed by other disciplines.

Ensure hatching on civil plans for hardscape material layouts correctly correspond with hardscape discipline lead documents (assuming this is the landscape architectural layout set as leading material layout document)

- C103 - Include general note or callout on plans referring reader to landscape plans for spaces with signature planting or typical planting condition elements or furnishings.
- Landscape plans - please provide section and details on edge condition / transition condition between Narrow Gauge R.O.W, tracks and project work areas. If condition character or typology changes along the boundary of property and Narrow-Gauge R.O.W (e.g. pedestrian hardscape condition, vs vegetation bed.) Ensure that some discernible boundary element, even if something as simple as a raised curb, is utilized to prevent uncontrolled crossings into narrow gauge tracks.
- Street Trees:
    - Street Tree Calculation:
        - Residential Requirement: 1 tree per unit planted in ROW and/or along private roadways unless otherwise approved and spaced 25' to 35' apart.
          Based on the current proposed development, the applicant would be responsible for 444 street trees. Section 14.6.2 of the Land Use Code covers street tree alternatives that will be applicable to this site. Final street tree calculations will be included as part of the final planning board report.
        - City Staff will need to update the Phase 1 approval and potentially account for any required street trees. A partial CoO was granted for the SunLife building and focused on the street tree requirement.
    - Street Tree Guidance:
        - City Staff support establishing a robust and long-lived urban forest canopy to the extent possible. Applicants and design team should strongly consider working with city departments to establish street tree infrastructure that exceeds city standards and ensures a healthy /lasting urban canopy in the project areas with regard for incorporating stormwater management infiltration capacity to a linked street tree corridor or other street tree / stormwater infiltration design approach.
        - The applicant is encouraged to find opportunities to create, continuous / connected, unified soil volumes along linear blocks of street tree plantings where possible, or individual tree planting conditions that support a mature and healthy street tree.
        - Street tree well design is encouraged to create a continuous, connected series of tree wells along blocks / or corridors. Street tree and street tree support infrastructure should provide consideration and accommodation for:
            - Sufficient soil volume
            - Trunk flare and adequate space / capacity for trunk and trunk flare growth over time
            - Water into soil (very important part of success)
            - Water out of soil
            - Sufficient room for canopy growth of tree
            - Specifications to ensure quality of nursery stock

- Fore Street Trees: As part of the updated streetscape, City Staff would like the applicant to consider adding small street trees along Fore Street if the underlying utility infrastructure will allow for tree roots.
- LD 401 - Detail 4 - Tree grate openings, if grates are selected to be used, should be a minimum of 48" in diameter. Square cobbles around trunk and trunk flare zones are encouraged in lieu of restrictive metal grating in pedestrian circumstances. Stone dust between joints for better uniformity to the walking surface is preferred. Root balls of trees should be set directly undergraduate, not below grate.
- LD 401 - Detail 4 - Tree well systems are strongly encouraged to have integrated infiltration capacity to accommodate stormwater to the extent possible. A passive irrigation system with first flush capabilities for tree well systems / interconnected infrastructure is encouraged to help mitigate seasonal salt impacts and distribute salts to dilute their effect on soil and root systems. For additional passive water inflow and outflow design, consideration of allocation of impact fees into cost sharing of street tree elements that would accommodate these combined plantain / stormwater recommendations will be possible in coordination with city planning and parks department.
- LD 401 - Detail 4 - provide more information on typical soil profile proposed for tree well systems. Street tree wells or other tree planting areas should provide a minimum volume of 600 cubic feet of soil material per tree. Preferred volumes are as follows:
  - Large Trees: 1,500 cubic feet of soil within a 27-foot radius.
  - Medium Trees: 1,000 cubic feet of soil within a 22-foot radius.
  - Small Trees: 600 cubic feet of soil within a 16-foot radius.
  - Where soil volumes within the maximum allowable radii for adjacent trees overlap, up to 25% of the required soil volume per tree may be shared.
  - For trees that are designed to have a covered soil volume which connects to an open area (for example behind the sidewalk), the open area can be considered as part of the required soil volume.
  - For existing trees to remain, the root structure of existing tree should be protected to the extent feasible and provided with additional soil volumes to meet the above requirements.
  - Soil Volume Calculation should be calculated as:
    - Area of Open Soil x Depth of Soil) plus (Area of Covered Soil x Depth of Soil)
    - All soil types are calculated at full volume.
    - There may be multiple soil volume areas included in the calculation depending on design.
- LD 401 Detail 4 - provide minimum dimensions for tree cell to ensure adequate soil volumes are achieved per tree. Consider inclusion of a typical plan enlargement drawing to provide confirmation of a typical dimensional area of tree soil spaces for street trees.
- L100 - Indicate approximate size of tree species proposed for street tree locations, if proposed trees are to be uniformly sized, indicate whether that tree type is to be a large, medium or small tree species. Large and Medium street trees should have between 30' to 40' spacing at minimum between trunks, if overhead utilities or other complications are

present that will impact tree type and mature height, spacings between 20-25' will be considered with Parks Department approval. For street tree plantings proposing larger tree species along streets that are narrower than 30', recommend applicant stagger tree locations to provide less canopy growth competition from plantings across street.
    - LG 201, LG 202 - Indicate species of street tree at locations of trees in plan.
- L1.4 - label for "area to be designed in future phase of work". This area, if accessible in or with proposed phasing elements (buildings 4,5,6) should be detailed and included in this phase of site plan review before approvals can be given or the project can proceed.

CITY OF PORTLAND
Planning & Urban Development Department

MAJOR SITE PLAN
GENERAL DOCUMENT AND DRAWINGS CHECKLIST
Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

**** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ****

At the time of application submission, please contact the Department of Public Works regarding E-911 addressing for your project.

GENERAL APPLICATION DOCUMENTS	
Yes NA	**Project Description** ● Cover letter with detailed project description
Yes NA	**Completed Checklist** (this document)
Yes NA	**Evidence of 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** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes NA	**Site Plan Standards Assessment** (see Section 14.6 of the land use code) • Summary of project compliance with site plan standards of the land use code
Yes NA	**Summary of Existing and/or Proposed Easements or Covenants, applicable.** ● Evidence of existing easements and any proposed easements, covenants, public or private rights-of-way
Yes NA	**Waiver Requests** (see Waiver Table) ● Written request for waiver describing request and compliance with applicable waiver standards
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

MAJOR 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	**Impact on Surrounding Street Systems (14-14.6.1(A))** ● Describe incremental volume of traffic impacts and mitigation measures. If needed
Yes NA	**Access and Circulation (14-14.6.1(B))** Identify and describe the following: ● Site access and internal circulation, including ADA access ● Drive-up features, if applicable ● Loading and servicing needs, routes, and geometry, providing turning templates for delivery vehicles, if applicable ● Sidewalks and condition along street frontages and internal walkways ● Engineered details for ADA ramps and public sidewalks, meeting sidewalk material policy and construction requirements (Technical Manual, Section 1)
Yes NA	**Public Transit (14-14.6.1(C)), if applicable** Identify and describe the following: ● Existing available transit service and proposed transit improvements, including design details, such as easement, pad base, and shelter
Yes NA	**Off-Street Parking (14-14.6.1(D)), if applicable** Identify and describe the following: ● Proposed vehicular and bicycle parking supply (including ADA-compliant parking) in relation to applicable parking requirements in Article 19 of the land use code ● Curb cut separation and parking layout (Technical Manual, Section 1) ● Construction details for bicycle racks ● Management plan for snow storage and removal
Yes NA	**Transportation Demand Management (TDM) (14-14.6.1(E)), if applicable** ● Provide TDM plan drafted in accordance with Technical Manual Section 1 requirements

ENVIRONMENTAL	
Yes NA	**Preservation of Significant Natural Features (14-14.6.2(A)), if applicable** Identify and describe the following: ● High and moderate value waterfowl and wading habitat ● Aquifers (for Casco Bay Islands) ● Waterbodies (including wetlands, watercourses, significant vernal pools and floodplains) ● Proposed preservation areas and protection measures ● Documentation from environmental compliance consultants and determinations from applicable state and federal agencies
Yes NA	**Landscape Preservation (14-14.6.2(B))** Identify and describe the following: ● Measures to preserve trees, including within required zoning setbacks (Technical Manual, Section 4) ● Measures to protect existing vegetation during construction
Yes NA	**Site Landscaping and Buffers (14-14.6.2(C))** Identify and describe the following: ● Overall landscaping approach and consistency with standards ● The use of screening and buffering of service areas and between non-residential and residential uses ● Existing Heritage or Feature Trees on site and measures to preserve ● Compliance with street tree requirements
Yes NA	**Water Quality, Stormwater Management, and Erosion Control (14-14.6.2(D))** Identify and describe the following: ● Erosion and sedimentation control plan and measures ● Evidence of compliance with Urban Impaired Stream Standards pursuant to DEP Chapter 500 stormwater law, as applicable ● Subsurface sanitary sewage disposal and groundwater protection measures

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY		
Yes	NA	**Consistency with City Master Plans (14-14.6.3(A))** ● Describe proposed easements, rights and improvements to connect or continue off-premises public infrastructure, as applicable
Yes	NA	**Public Safety and Fire Prevention (14-14.6.3(B))** Identify and describe the following: ● Compliance with Crime Prevention through Environmental Design (CPTED) requirements (Technical Manual, Section 3) ● Emergency vehicle access ● Consistency with public safety standards (Technical Manual, Section 3)
Yes	NA	**Availability and Adequacy of Public Utilities (14-14.6.3(C)) (Technical Manual, Sections 2 & 9)** Identify and describe the following: ● Electrical services, including providing underground services ● Existing and proposed connections for public utilities and required public utility upgrades ● Sewer line connections
SITE DESIGN		
Yes	NA	**Massing, Ventilations and Wind Impact (14-14.6.4(A))** Identify and describe the following: ● Wind and ventilation impacts on adjoining structures and/or adjacent public spaces, including wind study, if applicable ● Bulk, location, or height impacts on adjoining structures
Yes	NA	**Shadows (14-14.6.4(B)), if applicable** ● Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes	NA	**Snow and Ice Loading (14-14.6.4(C))** ● Describe building design measures to prevent snow and ice from loading or falling onto adjacent properties or public ways
Yes	NA	**View Corridors (14-14.6.4(D)), if applicable** ● Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
Yes	NA	**Historic Resources (14-14.6.4(E)), if applicable** Identify and describe the following: ● The site's status as a designated landmark, within a historic district or historic landscape district, or within 100 feet of any designated landmark, historic district, or historic landscape district ● Compliance with standards for preservation and documentation of archaeological resources

Yes	NA	**Exterior Lighting (14-14.6.4(F))** ● Describe how the proposed site lighting will adhere to photometrics requirements as it relates to light trespass and full cutoff fixture design, pursuant to Technical Manual Section 12
Yes	NA	**Noise and Vibration (14-14.6.4(G))** ● Provide data on noise levels for HVAC and other mechanical equipment, such as design specifications, to demonstrate consistency with state and federal noise emissions requirements as well as City code
Yes	NA	**Signage and Wayfinding (14-14.6.4(H)), if applicable** ● Provide signage plan showing the location, dimensions, height and setback of all existing and proposed signs ● Provide drawings of all commercial and directional signage on site
Yes	NA	**Zone-Related Design Standards (14-14.6.4(I))** ● Address any applicable design review standards by zone, including compliance with Design Manual

MAJOR SITE PLAN
DRAWINGS CHECKLIST

Please upload the following DRAWINGS with the listed details into e-Plan as separate pdfs.

All drawings must be submitted in a 24 x 36 sheet size.

BOUNDARY SURVEY (stamped by a Maine Licensed Surveyor and drawn as per Technical Manual Sec. 13)

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

All sheets – Include a title block with project title and the following information:

- Project street address
- Name and address of property owner & applicant
- Licensed design professional, incl firm that produced plans
- North arrow
- Date of preparation and revision history block
- Tax parcel (chart, block, and lot) number

Existing Conditions Plan with the following:

- Existing structures, with distance from primary building façade(s) to the property line
- Approximate location of structures on abutting properties
- All streets and intersections adjacent to the site
- Existing driveways, pedestrian ways, and bicycle infrastructure, including dimensions and materials
- Existing public transit infrastructure
- Existing vehicle & bicycle parking areas
- Existing utilities on site and within adjacent rights-of-way
- Existing grades (two-foot contours preferred)
- Location of water courses, wetlands, and vegetation, or other significant natural features
- Existing soil conditions and location of test pits and borings
- Zoning boundary lines, including overlays
- Location of all existing easements and rights-of-way

Proposed Site Plan with the following:

- Proposed structures, including distance from primary building façade(s) to property lines
- Ground floor area, and finished floor elevations for all buildings
- Any proposed geometric modifications to streets and intersections adjacent to site
- Location, dimensions and materials of all 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, including turning templates
- Proposed transit infrastructure with dimensions/ engineering specifications
- Location of vehicle and bicycle parking with dimensions and engineering specifications
- Location of all snow storage areas
- Exterior lighting (please see Technical Manual Sec. 12 for photometrics requirements)

- Location of fire hydrants
- Location of solid waste management receptacles
- Location of all proposed HVAC and mechanical equipment, including proposed screening, where applicable
- Location of proposed easements and rights-of-way, including dimensions
- Please utilize color-coding and/or hatches and shading to delineate changes between the pre and post development condition as needed

UTILITY PLAN including:

- Proposed electrical infrastructure
- Location, sizing and directional flows of all proposed sewer and stormwater infrastructure
- Location and dimensions of off-premises public or publicly accessible infrastructure adjacent to site
- Electric utility infrastructure

GRADING AND DRAINAGE PLAN including:

- Proposed grades
- Proposed stormwater management measures meeting Technical Manual (Section 5) standards
- Any proposed alteration of a watercourse or wetlands
- Any groundwater protection measures
- Proposed buffers and preservation measures for wetlands or significant natural features

LANDSCAPE PLAN including:

- Existing vegetation to be preserved and preservation measures
- Proposed landscaping, screening, and street trees, including caliper widths for trees
- Planting schedule, including street trees

ARCHITECTURAL PLANS AND RENDERINGS including:

- Exterior building elevations, color renderings, illustrations of all sides
- Axonometric and street-level views for structures greater than three stories in height
- Provide context drawings, if applicable (Design Manual, page 1)
- Floor plans

CONSTRUCTION MANAGEMENT PLAN including:

- Specifics on traffic control, sidewalk sheds, and pedestrian rerouting
- Include a drawing and written narrative

OTHER

- Details and cross-sections, as necessary

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B6 - Blocks 4, 5 and 6

All Projects:

	Required	Proposed
Lot Size	10,000 SF	438,900 SF
Area Per Dwelling Unit	N/A	N/A
Minimum Street Frontage	N/A	N/A
Front Yard Minimum (Setback)	N/A	N/A
Front Yard Maximum (Setback)	10'	10'
Rear Yard (Setback)	N/A	N/A
Yard Right (Setback)	N/A	N/A
Yard Left (Setback)	N/A	N/A
Side Street Setback	N/A	N/A
Step Back	N/A	N/A
Maximum Lot Coverage	N/A	N/A
Minimum Lot Coverage	N/A	N/A
Maximum Height	45/55/65/Fore St	Varied
Open Space	N/A	N/A
Maximum Impervious Area	N/A	N/A
Pavement Setback	N/A	N/A
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces	See parking study	See parking study
Loading Bays	1	3
Other 1 Length of building wall at maximum setback (min)	N/A	N/A
Other 2		
Other 3		

See Average Grade Figure for more detail on locations of varied height requirements and Building Elevations for corresponding heights.

For 5,000-40,000 SF retail; loading area provided for each, Blocks 4, 5 and 6 The project is located east of the Fore Street Connector.

ZONING ANALYSIS Relevant Zone(s) R6 - Block 6

All Projects:

	Required	Proposed
Lot Size	2000 SF	20,000 SF
Area Per Dwelling Unit	725 SF	741 SF
Minimum Street Frontage	20'	N/A
Front Yard Minimum (Setback)	5'	N/A
Front Yard Maximum (Setback)	N/A	N/A
Rear Yard (Setback)	10'	15'
Yard Right (Setback)	None	18'-6"
Yard Left (Setback)	None	N/A
Side Street Setback	None	N/A
Step Back	10' side/15' rear	> min
Maximum Lot Coverage	60%	55%
Minimum Lot Coverage	N/A	55%
Maximum Height	45'	45'
Open Space	20%	45%
Maximum Impervious Area	N/A	N/A
Pavement Setback	N/A	N/A
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces	See parking study	See parking study
Loading Bays	N/A	N/A
Other 1 Lot Width	20'	100'
Other 2		
Other 3		

A total of 27 units fall in part or in whole within the R6 portion of the property.

The portion of the lot in the R6 zone does not front on a public street

The portion of the structure in the R6 zone does not have a front yard, or a yard left (west) as it is is integral with the remainder of the building that extends into the B6 zone.

The portion of the building in the R6 zone will be located such that it will exceed minimum setbacks and in turn minimum step backs as required.

ZONING ANALYSIS Relevant Zone(s) R6 -Remaining Fore St Property

Note, no new building construction is proposed; two buildings will be demolished; only dimensional items that have changed are noted.

All Projects:

	Required	Proposed
Lot Size	2000 SF	14,260 SF
Area Per Dwelling Unit	725 SF	1,100 SF
Minimum Street Frontage	20'	No change
Front Yard Minimum	5'	No change
Front Yard Maximum	N/A	N/A
Rear Yard	10'	10'
Yard Right	5'	No change
Yard Left	5'	No change
Side Street Setback	None	N/A
Step Back	10' side/15' rear	No change
Maximum Lot Coverage	60%	43%
Minimum Lot Coverage	N/A	N/A
Maximum Height	45'	No change
Open Space	20%	20%
Maximum Impervious Area	N/A	N/A
Pavement Setback	N/A	N/A
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces	13	13
Loading Bays	N/A	N/A
Other 1		
Other 2		
Other 3		

13 dwelling units remaining; parking spaces to be provided within the Block 4/6 parking garage

Not Applicable

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):			

1. PROJECT SUMMARY

On behalf of Portland Foreside Development Company (Applicant), Woodard & Curran is pleased to submit this Major Site Plan Application to develop Blocks 4, 5 and 6 of the Portland Foreside Master Development Plan ("Phase 2"). A letter authorizing Woodard & Curran to act as the agent on behalf of the Applicant is attached to this Section.

Woodard & Curran previously submitted materials for this Major Site Plan Application that included only Block 4 and Block 6. We have updated the Major Site Plan Application to now also include Block 5.

The transformation of the former 58 Fore Street Portland Company Complex property is underway as it emerges into a new urban neighborhood that is a welcoming place to live, work and visit, while staying connected to its authentic and important past. The development is known as Portland Foreside, and this next phase of implementing the Master Development Plan will continue the redevelopment of this 10.7-acre property into an accessible, connected, public neighborhood along the City's eastern waterfront.

The continued redevelopment of the 58 Fore Street property into a resilient, mixed-used waterfront neighborhood will be a tremendous benefit to the City. This next phase of development is arranged around the following framework:

- Support the City in its goal for housing production by providing 440+ housing units which will help meet critical demand in the market;
- Support the City's goal of providing a variety of housing types by introducing rental apartments, townhouses and condominiums to the market that are located along the waterfront in a densely developed area of the City with access to a variety of transportation options;
- Improve public connections from the eastern waterfront to the rest of the City through meaningful open spaces, plaza spaces and pedestrian/bicycle connections;
- Reinforce the eastern waterfront as key to the City's overall health and vibrancy;
- Consider resiliency and sustainability measures that are important to the City such as redevelopment and reuse, provisioning for EV charging stations and renewed focus on pedestrians and bicycles;
- Introduce additional housing, retail, office, hotel, and restaurant spaces that all contribute to the City's tax and employment bases; and
- Continue utility and infrastructure improvements that will serve the development and provide added benefits to the surrounding area such as improved drainage and stormwater quality.

As one of the largest redevelopment projects in the City, this next phase of the Portland Foreside redevelopment work will continue to turn this underutilized waterfront area into a space for residents, employees, and visitors to enjoy. With thoughtful connections to existing and new open space, the new housing and economic opportunities will bring to life many of the ideas that were envisioned by the Eastern Waterfront Master Plan and Portland's Plan 2030.

1.1 Completed Development Phases

The redevelopment planning for the former Portland Company Complex Site began with a Master Development Plan that was approved by the City of Portland Planning Board in 2016. The Master Development Plan includes seven development "blocks" consisting of new buildings, renovated historic buildings, open space plazas, public access easements, view corridors to the waterfront, a marina, and a private roadway that provides shared access for both vehicular and pedestrian traffic through the Site. Figure 1-1 below shows the block layout as it was approved as part of the Master Development Plan.

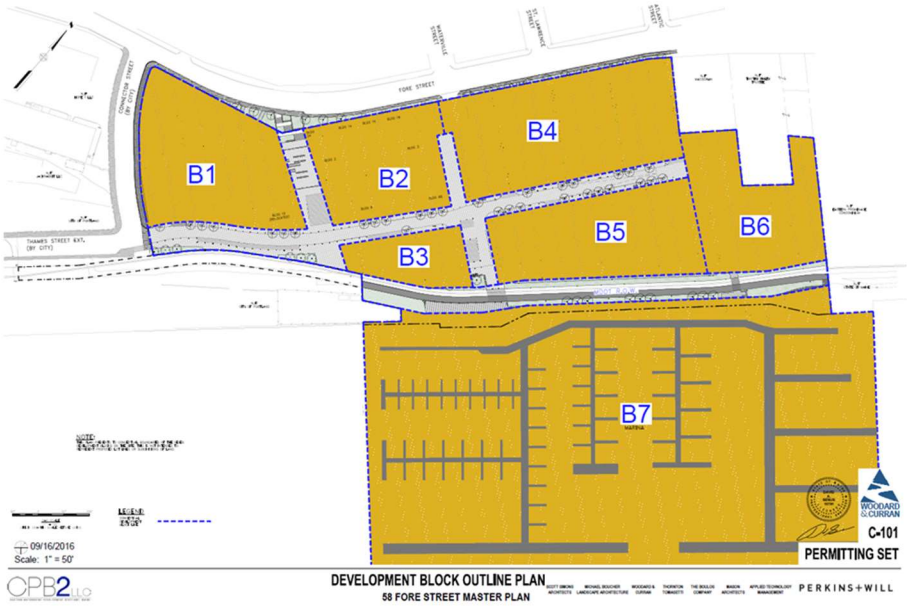


Figure 1-1 Master Development Plan Blocks B1-B7

The site has previously received a number of permits from the City of Portland, as described later in this report. The work that has been completed to date includes the construction of the Fore Points Marina on Block 7, Buildings 1A and 12 on Block 1, the extension of utility infrastructure within the site to support both the constructed and future blocks, the extension of Thames Street as a private roadway into the site, and site and landscaping improvements supporting the site. These site improvements include the construction of the Grand Stair and pedestrian plaza space between Blocks 1 and 2 that provides access from Fore Street within the public access easement on the site.

1.2 Proposed Project Description – Phase 2

The proposed development continues the implementation of the overall vision for the site which is to create a mixed-use neighborhood. The three development blocks in Phase 2 (Block 4, Block 5, and Block 6) include residential, hotel, parking, retail, restaurant, and public open space uses. The proposed uses are consistent with the original Master Development Plan.

For this Major Site Plan application, we have broken all proposed development areas for Block 4, Block 5, and Block 6 into four categories – residential, hotel, retail/service/restaurant, and parking. These categories are consistent with other blocks of development on the site.

Block 4

Development of a portion of Block 4 was previously submitted and approved as part of a Phase 1 Level III Site Plan Application that was approved by the Planning Board in January 2020 (PL-000924-2019). Block 4 previously included a structured parking garage that would allow for future buildout of residential (above), ground-floor retail (south elevation) and expansion of the parking garage into other development blocks during a future phase. A small number of residential units, storage and retail were proposed on the west elevation. After the project received Planning Board approval for the Level III Site Plan, construction advanced on a portion of Phase 1; however, Block 4 construction was not completed. A Level III Site Plan amendment will be submitted under separate cover to remove Block 4 from the Phase 1 Site Plan.

The current proposed development work now includes the full build-out of Block 4, with some revisions to what was previously planned during Phase 1. This work will include the construction of a four-level structured parking garage with overlying rental apartment units and plaza space, three-story townhouses along Fore Street, and ground-level retail on the north and south elevations. Table 1-1 summarizes the uses and square footage amounts associated with Block 4 and provides a comparison to the previously approved Phase 1 version of the block.

Table 1-1 Block 4 Building Use Breakdown

Use	Previously Approved Phase 1 Block 4 (January 2020)	Proposed Phase 2 Block 4 (Current Application)
	Area (SF)	*Area (SF)*
Residential	12,900 (12 units)	200,866 (247 units)
Hotel	N/A	N/A
Retail/Service/Restaurant	1,100	47,035
Parking	221,800 (652 spaces)	168,374 (443 spaces)
Total	**234,700 SF**	**416,275 SF**

The parking garage within Block 4 has been reduced in size from what was previously approved. The garage will connect below-grade to Blocks 5 and 6, providing a continuous parking area that will serve all blocks. Below-grade parking on Blocks 4, 5 and 6 will be accessed using the Block 4 garage entrances on Fore Street and Thames Street.

Block 5

Block 5 includes development of an eight-story building comprised of a hotel, residential condominiums ground-level retail and restaurant, and below-grade parking. Building amenities include function space, a fitness center and spa, pools, social club space, and rooftop garden. The table below summarizes the uses and square footage amounts associated with Block 5. These categories are consistent with other blocks of development on the site.

Table 1-2: Block 5 Building Use Breakdown

Use	Proposed

	Area (SF)
Residential	74,094 (43 units)
Hotel	128,309 (128 units)
Retail/Service/Restaurant	42,708
Parking	13,422 (35 spaces)
Total	**258,533 SF**

Block 6

Block 6 includes development of residential condominiums, an interior courtyard area, ground-level retail, and below-grade parking. The residential condominiums will be built throughout with amenities that include a café/library, coworking space, fitness center and spa, pool, community room, and rooftop garden. The table below summarizes the uses and square footage amounts associated with Block 6.

Table 1-3: Block 6 Building Use Breakdown

Use	**Proposed**
	Area (SF)
Residential	196,660 (154 units)
Hotel	N/A
Retail/Service/Restaurant	9,108
Parking	67,798 (166 spaces)
Total	**291,836 SF**

Infrastructure, Utilities & Access Improvements

Shared street infrastructure and utilities will be installed throughout the site in the common spaces between the development parcels with reciprocal easements granted throughout. The private roadway into the site is an extension of Thames Street and carries the primary utilities to serve the buildings of Blocks 4, 5 and 6. This is a continuation of infrastructure installation that began with Phase 1 of the project.

Interim Conditions

In order to create a complete, functional site following construction of Phase 2, interim conditions are proposed in Block 2, which will not see its finished condition as part of this project. Minor surface improvements, grading, and utility work are required within Parcel 2B and 2C to enable the surrounding work for Phase 2.

2. PERMITTING & ZONING

For the proposed Phase 2 development work, a Major Site Plan Application is required along with a number of associated permit applications and updates. This section documents prior permits, proposed permits, and a number of conditions required for the project's permits.

2.1 Prior Permitting

The Portland Foreside redevelopment project has received a number of prior permit approvals from the City of Portland for the overall project and for work that has been completed to date on the site.

Master Development Plan

The 58 Fore Street Master Development Plan was unanimously approved by the Portland Planning Board (Project ID: 2016-224) on December 22, 2016, to redevelop and revitalize the 10.7-acre former Portland Company Complex into a mixed-use development. The 2016 Master Development Plan approval established the general parameters for the overall development including development program, massing, open space, and infrastructure. The proposed development of Blocks 4, 5 and 6 is consistent with the Master Development Plan.

Traffic Movement Permit

The project received a Traffic Movement Permit (TMP) from the City of Portland under its delegated review authority on May 26, 2017. This permit was approved in association with the Master Development Plan, and the site's phased projects have, and will continue to address the requirements of this permit. No updates to this permit have been required, and the current proposed development work will continue to fall within the thresholds established by the TMP.

Phase 1 Level III Site Plan (PL-000924-2019)

On January 28, 2020, the project received approval of a Level III Site Plan, Site Location of Development Permit (under delegated review authority) and Subdivision from the Portland Planning Board for Phase I of the development. Phase I included portions of Block 1 (office building on Parcel 1A and reconstruction of Building 12 on Parcel 1C), Block 2 (renovation of historic core buildings on Parcels 2A, 2B and 2C), a portion of Block 4 (parking garage on Parcel 4), construction of site infrastructure around these buildings, and improvements along the waterfront. This approved waterfront work included the relocation of the MaineDOT-owned corridor that includes the Maine Narrow Gauge Railroad and the Eastern Promenade Trail closer to the water. The first part of the work approved as part of the Level III Site Plan, including construction of Building 1A, Building 12, and associated site and utility infrastructure is largely complete.

Waterfront Level II Site Plan (PL-00906-2019)

On April 17, 2020, Level II Site Plan approval was granted by the Planning Authority for work associated with Fore Points Marina, which included modifications to the seawall and site utilities, as well as two stormwater outfalls to convey runoff from the upgradient Portland Foreside Development. Shortly after receiving approval for the project, a short section of the seawall failed adjacent to the eastern outfall. As a result, the work associated with this approval was only partially constructed in 2020. The western stormwater outfall and some of the proposed utility work has been completed. This Level II Site Plan approval also

permitted up to 13 temporary buildings totaling no more than 3,200 square feet within the Marina Operations Area.

Minor Site Plan (PL-001656-2021) and Master Development Interim Conditions (PL-001654-2021)

As the planned final condition for Fore Points Marina is dependent on the completion of other work on the site, it was identified that there is a varying interim condition in the marina space. On November 23, 2021, the Planning Board approved an amendment to the Master Development Plan approval to add an interim condition plan for Fore Points Marina. This MDP Interim Conditions plan permitted up to 13 temporary buildings totaling no more than 3,200 square feet within the Marina Operations Area. Subsequently, on January 13, 2022, the Planning Authority approved a Minor Site Plan amendment application for interim conditions on the Fore Points Marina property.

Minor Site Plan Amendment (PL-001656-2021): This amendment application included relocation of the Fore Points Marina temporary buildings within current property boundaries. This application was approved by City Staff on January 30, 2023.

Waterfront Enablement Site Plan Amendments

On July 29, 2022, an amendment application was initially submitted for waterfront and utility enablement work. Per discussions with City Planning staff, we have separated the review materials and resubmitted them as part of three separate application packages to distinguish the different amendments. The applications include the following:

- *Phase I Level III Site Plan Amendment (PL-000924-2019):* Submitted to the City on October 25, 2022. This amendment application included modification to the Maine DOT corridor, relocation of the Maine Narrow Gauge Railroad rail lines, relocation and widening of the Eastern Promenade Trail, modifications to waterfront improvements and modifications to utility infrastructure within the land swap boundaries shown on the approved Level III site plan application. This application will be revised to include removal of Block 4 from the Site Plans.

- *Waterfront Level II Site Plan Amendment (PL-00906-2019)*: Submitted to the City on October 25, 2022. This amendment application included relocation of a stormwater outfall and modification to seawall reconstruction.

We are working with the City on these applications, and they will be reviewed and approved separately.

2.2 New Permits Required

The proposed Phase 2 development work will require approval by the Planning Board for multiple permit applications.

Major Site Plan

The project's size and scale qualify it for a Major Site Plan that will require review and approval by the Planning Board.

Site Location of Development (SLOD) Amendment

The project is subject to the Maine Department of Environmental Protection (DEP) regulations for a Site Location of Development Act (SLOD) or Site Law Permit. It is our understanding that the project will be reviewed as an amendment to the prior approved SLOD by the City of Portland under their Delegated Review Authority. A separate SLOD permit application has been provided with this Site Plan Application, and 3 paper copies will be provided for the City to give to the Maine DEP.

Subdivision Plan Amendment

This application requires modifications to the previously approved 58 Fore Street Subdivision Plan, which divides property into ten development parcels with utility and access space held in common with reciprocal easements granted to the proposed parcels. Specifically, the plan is being amended to subdivide Parcel 5 into Parcels 5 and 6, and to include adjacent land area acquired by the Applicant since the last subdivision plan was approved.

A draft of the revised subdivision plan prepared by Owen Haskell, Inc. is included with the project drawings.

2.3 Master Development Plan Consistency

The 2016 Master Development Plan for 58 Fore Street approved a proposed mixed-use neighborhood that intertwines a historic core with new development along the eastern waterfront. The total development square footage of 1,393,879 that was approved was broken down into the following categories:

- 958,679 SF of mixed residential and commercial uses
    - Including 638 residential units
- 435,200 SF of parking
    - Including 736 spaces

The proposed Phase 2 development is consistent with the Master Development Plan. The design intent of each phase of development is to remain true to the Master Development Plan, providing for the planned uses generally within the planned footprints. As noted, Phase 1 included Buildings 1A and 12 of Block 1, the historic core of Block 2, and a portion of Block 4. Buildings 1A and 12 have been constructed. Phase 2 includes Block 4 in its entirety, Block 5, and Block 6.

2.3.1 Residential Unit Comparison

The table below compares the number of residential units proposed during the 2016 Master Development Plan process with Phase 1 of the project that has been constructed and the currently proposed Phase 2. The total number of residential units proposed in the MDP was 638 dwelling units (D.U.). With the application for Blocks 4, 5, and 6, 444 dwelling units are proposed. Together with an anticipated future phase 1B residential building of 89 units, a total of 533 D.U. on the site is estimated, or a decrease of 105 units from the MDP. The decrease is primarily a result of refinement of the design beyond master plan level. In other words, gross square footage estimates are made during master planning based on an assumed floor area efficiency, and these can be on the conservative side. As design has advanced and adjustments are made to comply with zoning and building constraints, the total number of dwelling units has decreased.

Table 2-1 Residential Unit Comparison

Development Block	Residential Units Proposed During Master Development Plan	Residential Units Constructed to Date	Residential Units Proposed (Not Constructed Yet)	Notes
Block 1	91 units	2 units	89 units	The remainder of these units would be associated with Block 1B when it is developed if it includes a residential component.
Block 2	19 units	0	None	Residential units will not be constructed as part of Block 2.
Block 3	0	0	0	
Block 4	275 units	0	247 units	Reduction of 28 units on this block.
Block 5 – Residential Units	108 units	0	43 units	Reduction of 65 units on this block.
Block 6 - Condos	131 units	0	154 units	Increase of 23 residential units
Block 6 – Apartments	14 units	0	0	No apartment units are being proposed for this block.
Block 7	0	0	0	
TOTAL	638	2	533	This is a reduction of 105 units from the MDP phase.

2.3.2 Hotel Unit Comparison

The development program for Block 5 is a mix of hotel rooms and residential housing units. The residential housing units have been accounted above. For hotel use, the MDP originally proposed 132 rooms, while the proposed Block 5 hotel will include 128 rooms. This represents a slight reduction of 4 rooms but remains within the original intent for hotel scale.

2.3.3 Parking Comparison

The table below compares the parking totals proposed in the MDP, with the total parking constructed to date and planned for Blocks 4, 5 and 6. The MDP contemplated 736 parking spaces, and the current proposals together with the 68 spaces that have been constructed (in Phase 1) will provide 712 spaces, or 24 less spaces more than estimated at MDP.

Table 2-2 Parking Totals By Block

Block	Proposed in Master Development Plan	Actual (Constructed to Date)	Proposed (Yet to be Constructed)
B1		68 spaces	N/A
B2		N/A	N/A
B3		N/A	N/A
B4		N/A	443 spaces
B5		N/A	35 spaces
B6		N/A	166 spaces
B7		N/A	N/A
Totals	**736 Spaces**	**68 Spaces**	**644 Spaces**
		712 spaces	

2.3.4 Overall Master Development Plan Area Comparison

The following table outlines the square footage of each of the proposed Blocks to date showing progress towards the total areas defined in the Master Development Plan. In addition to the information below, the proposed development of Blocks 4, 5 and 6 is consistent with the general layout of the site on the Master Development Plan. There have been some adjustments made, as necessary. For example, with the addition of new property, the Block 6 footprint has changed. In addition, we are planning to use "stackers" for some of the structured parking areas, which allows for more efficient use of space for parking. As noted in the table, with the proposed development work in Phase 2, the site will be brought to approximately 83% of the original planned square footage for the Master Development Plan.

Table 2-3 Master Development Plan Area Comparison

Development Phase	Block/Building	Use	Area	% of Total Master Development Plan Area
Overall Master Development Plan		Mixed Residential & Commercial	958,679 SF (includes 638 residential units)	68.8%
		Parking	435,200 SF (includes 736 spaces)	31.2%
TOTAL	1,393,879 SF Total			100%
Phase 1	Block 1 - Building 1A	Office, retail	104,400 SF	7.5%
		Parking	26,500 SF (includes 68 spaces)	1.9%
Phase 1	Block 1 - Building 12	Restaurant, office, residential	9,600 SF (includes 2 residential units)	0.7%
Phase 1	Block 2	Retail, restaurant	66,200 SF	4.7%
Phase 2	Block 4	Residential, retail, restaurant	247,901 SF (includes 247 residential units)	17.8%
		Parking	168,374 SF (includes 443 spaces)	12.1%
	Block 5	Residential, retail, restaurant	97,105 SF (includes 43 residential units)	7.0%
		Hotel	148,006 SF (includes 128 rooms)	10.6%
		Parking	13,422 SF (includes 35 spaces)	1.0%
Phase 2	Block 6	Residential, retail	205,768 SF (includes 154 residential units)	14.8%
		Parking	67,798 SF (includes 166 spaces)	4.9%
TOTAL	1,155,074 SF Total 730,974 SF Mixed Residential & Commercial (446 residential units) 148,006 Hotel (128 Rooms) 276,094 SF Parking (712 parking spaces)			82.9%

2.4 Zoning

The second phase of development is associated with multiple Zoning Districts including:

- B-6 Eastern Waterfront Mixed Zone (B6),
- R-6 Residential Zone (R6), and
- Eastern Waterfront Port Zone (EWPZ).

Portions of the work will also be within the Shoreland Overlay Zone, the Portland Company Historic District, and the Munjoy Hill Historic District.

Since the time of the Master Development Plan approval, Portland Foreside has acquired the property located at 21 Eastern Promenade. The addresses associated within this property are 13, 17, 19, 21A and 21-23 Eastern Promenade. 21 Eastern Promenade is located in the R6 Zoning District. The Table below summarizes the Zoning Districts associated with Block 4, Block 5, Block 6 and the Infrastructure, Utility and Access Improvements that are being proposed.

Table 2-4 Project Zones

Development Block	Zone
Block 4	B6
Block 5	B6, EWPZ, Shoreland Overlay Zone
Block 6	B6, R6, Shoreland Overlay Zone, Munjoy Hill Historic District
Infrastructure, Utilities & Access Improvements	B6, EWPZ, and Shoreland Overlay Zone

2.4.1 B6 Zone

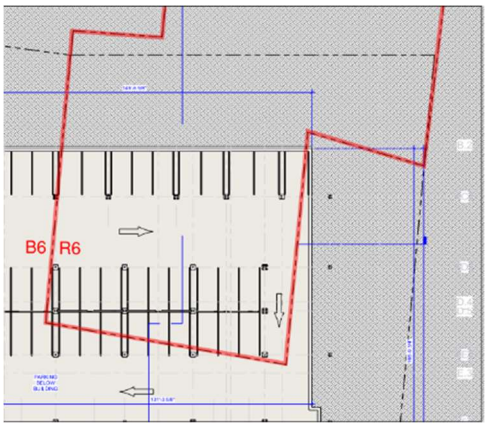
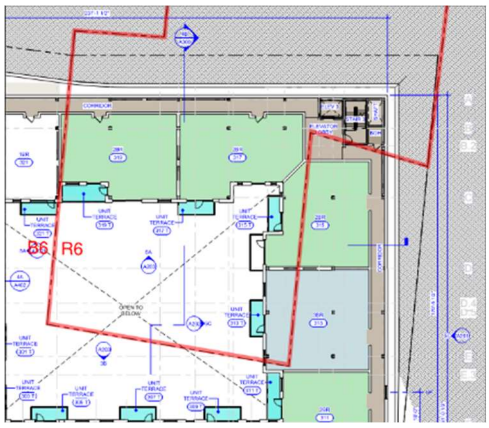
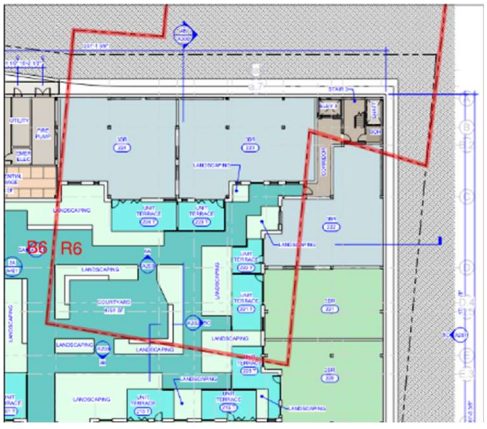
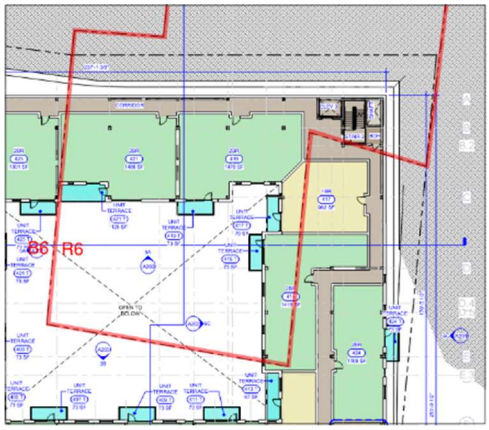
Uses associated with Blocks 4, 5 and 6 within the B6 Zone include residential, hotel, parking, and retail. Residential, hotel, and retail are permitted uses in the B6 zone. Structured parking is a permitted conditional use in B6, given that first floor retail space is provided on the street frontages. The proposed parking structure includes a first-floor retail wrap along the frontage of the new private roadway.

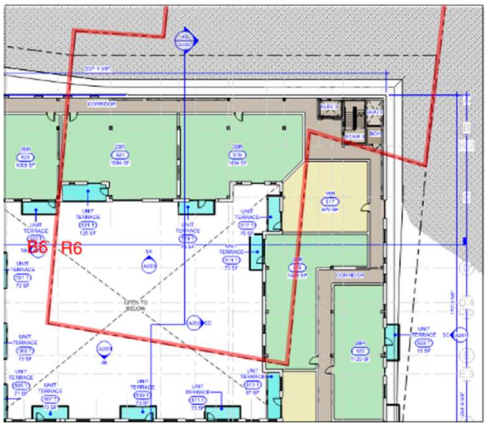
The attached Zoning Assessment Table shows that the project complies with dimensional requirements specified in the City's Land Use Ordinance. For the B6 zone, most standard zoning analysis values are not applicable. The property exceeds the required lot size. The Block 4 building has been designed to meet the maximum front yard setback and building wall length requirements. Height is addressed later in this report.

2.4.2 R6 Zone

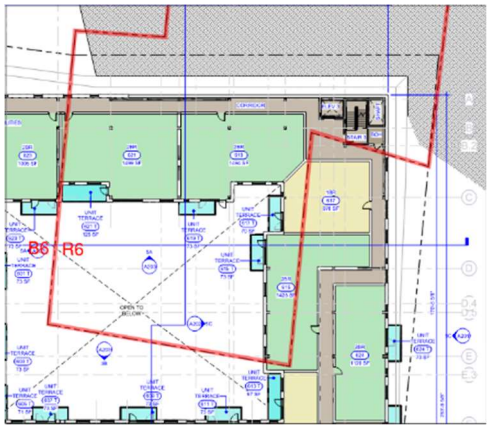
A portion of Block 6 will be located within the R6 Zone. The zone boundary crosses through the building, passing through parking on the first floor and residential units on the second through eighth floors. Screenshots of the R6 area on each of the floors are provided in the following table just for general reference and with notes on the specific uses within each floor. The zone boundary line is shown on the civil drawings as well as on the architectural floor plans where more detail can be viewed. In total, the R6 zone area includes 4 complete residential units, and 23 partial units that are split in some way by the zone boundary.

Table 2-5 R6 Zone Boundary for B6 Floors

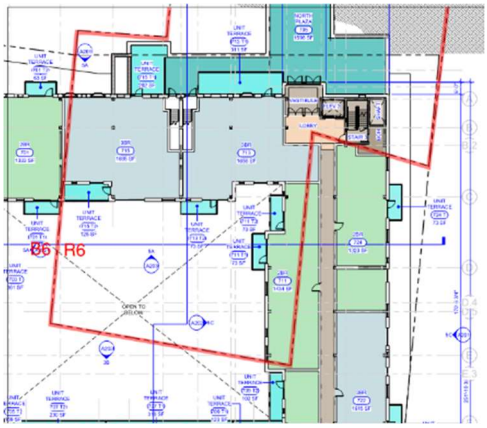
 Floor 1 – Structured Parking	 Floor 2 – 5 Partial Residential Units
 Floor 3 – 1 Complete, and 3 Partial Residential Units	 Floor 4 – 1 Complete, and 3 Partial Residential Units



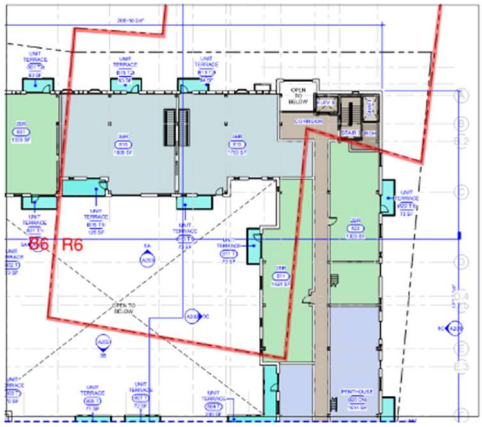
Floor 5 – 1 Complete and 3 Partial Residential Units



Floor 6 – 1 Complete and 3 Partial Residential Units



Floor 7 – 3 Partial Residential Units



Floor 8 – 3 Partial Residential Units

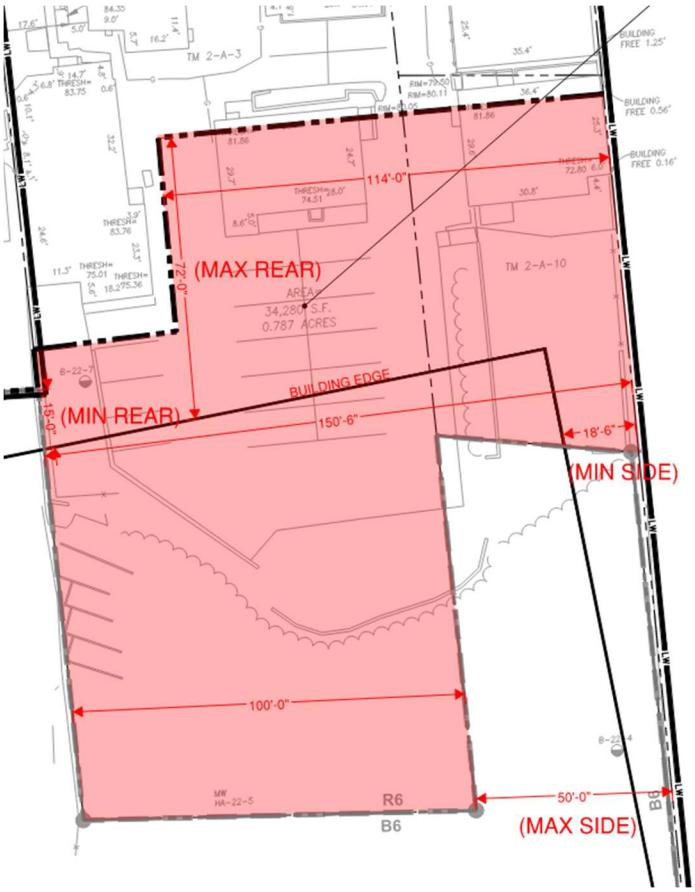


Figure 2-1 R6 Zone portion of Block 6 Development Work

The Zoning Assessment Table submitted with the application shows that this portion of the project complies with dimensional requirements specified in the City's Land Use Ordinance for the R6 zone. The size of the lot located within the R6 zone exceeds the minimum required and considering the 27 residential units located at least partially within the zone, the minimum land area per dwelling unit is accomplished. This portion of the project does not include any street frontage but is attached to the remainder of Blocks 4 and 6 that include frontage in the B6 zone. This portion of the site meets the lot dimension and coverage requirements associated with the R6 zone, and the figure above shows some general dimensional values for the portion of the site. Building height is addressed later in this section of the report.

2.4.3 Eastern Waterfront Port Zone

The portion of the site that falls within the Eastern Waterfront Port Zone is primarily not planned for direct impact due to this project. The only planned work within this zone is utility connection. Disturbance in this zone due to work on the marina and on the Eastern Promenade Trail and Narrow Gauge Railroad is covered under separate permits.

2.4.4 Building Height Evaluation

The Phase 2 buildings have been designed in compliance with the B6 Height Overlay Map and the Master Development Plan. In addition, the portion of the site that is located in the R6 Zone will comply with the height requirements of that zone.

Per the City of Portland's Land Use Code, allowable heights are calculated from average finished grade. The Master Development Plan considered the proposed parking podium structure that spans Block 4, Block 5, and Block 6 as one single structure, with an average grade measured at 50.1'. This average grade was calculated by evaluating the grade at each corner of the overall building structure. The Master Development Plan identified that Blocks 4, 5, and 6 may be constructed in phases, and noted that at each phase conformance with average grade/height regulations should be confirmed. With the inclusion of all three blocks in this revised site plan application, we have evaluated the entire building for average grade, and the included height figure shows that the average grade is calculated as 50.

The building designs take into consideration the height requirements of the B6 Height Overlay Map and the R6 Zone where applicable. The B6 map identifies areas with different height restrictions within the B6 Zone, including a number of view corridors that are defined by the streets that intersect with Fore Street. Buildings may be located within the view corridors, but the height of structures within the view corridors must be lower than the grade of Fore Street. Block 4 is located entirely within the B6 Zone in an area with a maximum height of 45', with sections that allow for 55' and 65' height extensions. The Waterville Street and St. Lawrence Street view corridors both cross the Block 4 building. Block 6 is located partially within the B6 Zone in an area with a maximum height of 45' and an allowance for 55' height extensions, and partially in the R6 zone which allows a maximum height of 45'. The Atlantic Street view corridor is located along the western edge of Block 6.

2.4.5 Housing Preservation & Replacement

During Block 6 construction, two buildings on the acquired Eastern Promenade property will be demolished. The five units in these two buildings are four, 2 bedroom/1 bath units and one, 1 bedroom/1 bath units. These buildings are non-contributing to the Munjoy Hill Historic District (see February 17, 2022 email from Deb Andrews). There are 154 condominiums that will be built as a part of the condominium project on this development block resulting in a net increase of 149 units for Block 6.

2.4.6 Inclusionary Zoning

The project is required to comply with the City of Portland's Inclusionary Zoning requirements that were in effect at the time the site received its Master Development Plan in December 2016. These Inclusionary Zoning requirements will apply to each phase of development. The Planning and Housing and Economic Development departments confirmed in September and October 2022 that these are the appropriate thresholds to consider. The project plans to meet the inclusionary zoning requirements for each block as follows:

- Block 4: This development block will include a total of 247 housing units. A total of 25 units, 10%, will be provided as market rate apartments at 100% Area Median Income (AMI).
- Block 5: This development block will include a total of 43 condominium units and 128 hotel rooms. The Applicant will be paying the fee-in-lieu for these housing units. The Applicant does not have

to comply with the hotel inclusionary zoning requirements – these were put into place after the Master Development Plan was approved in 2016.

- Block 6: This development block will include a total of 154 condominium units. The Applicant will be paying the fee-in-lieu for these units.

We have reached out to the Housing and Economic Development department to confirm what the current adjusted fee will be.

2.5 Floodplain

Portland Foreside has submitted and received approval of two Letters of Map Amendment (LOMA), removing the site's developed area from the floodplain. As a result, a Flood Hazard Permit is not required as part of this project's permit review. A copy of the LOMA documentation is attached.

2.6 Waiver Requests

We are requesting the following waivers as a part of the Site Plan process.

- Driveway Apron Grading – The steepness of the existing Fore Street slope does not allow for the creation of a continuously graded driveway apron without pedestrian ramps, per the current requirements of the Department of Public Works. We are requesting a waiver of this requirement.
- Electric Vehicle Charging – Section 1.17 Electric Vehicle Infrastructure within Section 1 – Transportation Systems of the City of Portland Technical Manual requires new structured parking facilities of five or more spaces to include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces (rounded down to the nearest whole number). Applying that formula to the Phase 2 parking garage would require a total of 129 charging stations. The applicant is currently proposing sixty nine (69) electric vehicle charging station parking spaces within the garage, as follows:

Table 2-6 Phase 2 Electric Vehicle Charging Quantities

Charger Level	EV Charging Spaces	
	Proposed	Future (Additional)
Level 2	61	62
Level 3	8	4
TOTALS	69	66

These stations will meet the projected demand for the residents and visitors to the site. The proposed 69 parking spaces represent 10% of the proposed Phase 2 parking spaces. The applicant is committed to meeting EV charging demand as it grows and will increase the number of EV charging stations within the garage, over time, up to 20%. Given the pace of change in EV charging technology and equipment, it is not advisable to install EV charging stations or other infrastructure beyond the 69 charging station spaces as described above, as the excess will largely go unused until more electrical vehicles are on the road, at which time the technology will have advanced and underutilized charging stations will need to be replaced. The current electrical infrastructure will be sized to accommodate growth (i.e., providing additional space for panels within electrical rooms

and sizing transformers to account for future electrical load). By monitoring and installing in response to demand, the applicant will remain up to date with the rapidly improving technology.

The applicant requests a Waiver from paragraph 1.17 Electric Vehicle Infrastructure within Section 1 – Transportation Systems outlined in the City of Portland Technical Manual.

- Stormwater Flooding Standard – The project site received a waiver of the Flooding Standard as part of the Master Development Plan. This waiver will continue to remain in place for the current phase of work. As described in our Stormwater Management report, our site discharges directly to Casco Bay, part of a tidal body of water, via the outfall discharge.

2.7 Evidence of State and/or Federal Approvals

The following state and federal permits will be required for the proposed work:

- MaineDEP Site Location of Development Act Permit (reviewed by City of Portland under Delegated Review Authority);
- Maine Construction General Permit Notice of Intent; and
- FAA Notice of Proposed Construction.

Copies of these permit approvals can be provided to the City of Portland.

2.8 Evidence of Financial Capability

We have included copies of two letters verifying the Applicant's financial capacity to undertake the project.

2.9 Evidence of Technical Capacity

The project team includes the following partners completing various engineering, landscape architecture, and architecture components of the project work. The project team is also supported by a number of other professional firms providing support with survey, structural design, geotechnical design, mechanical/electrical/plumbing design, and other disciplines. Copies of resumes and information on other members of the project team can be provided upon request.

- **Woodard & Curran (W&C)**, an over 1,000-person Portland-based firm, has provided engineering services to the public and private sector for over 40 years, including permitting, civil/site engineering, stormwater, and construction management services. W&C has completed projects for colleges, universities, and healthcare institutions that build strong, sustainable infrastructure and environmental programs serving both their business needs and the communities that make them so vibrant. With extensive experience in design and permitting for site development projects, W&C has completed many projects within the City of Portland and for the University of Maine System.

- **MBLA** is a professional design firm located in Freeport, Maine. MBLA practices nationally and internationally, and over the past twenty-eight years, the office has collaborated on diverse and notable projects, located in a wide range of settings and climates and across the state of Maine. MBLA projects range in scale and complexity including plazas, courtyards, university building projects, private school facilities, master plans, museums, churches, resorts, parks, and residential

landscape projects. Many of MBLA's design projects have focused on creating places for people to gather while addressing issues of circulation, security, and programming.

- **Perkins+Will** architects is a firm consisting of twenty-four domestic and international offices with a depth of technical and management skill employed to execute projects of great complexity. Perkins+Will maintains a full-time QA/QC leader in each office to provide ongoing quality assurance for projects. These experts are guided by a national project delivery system that has resulted from the best practices from around the firm.

- **MARVEL** is a design firm with over 20 years of experience working at the intersection of public and private space, creating intentionally timeless design solutions that integrate nature and context. Their portfolio spans affordable housing, commercial, cultural institutions, schools and higher education, civic and public works, hospitality, high-end residential, recreational projects, workspaces, and parks and public spaces.

- **Baskervill**, founded in 1897, is one of the nation's oldest continually operating architectural firms. With five offices along the east coast of the United States, and internationally, Baskervill is a multi-disciplinary design firms with a mix of services from architecture and interior design to MEP engineering and sustainable design.

2.10 Attachments

- Agent Letter
- Location Map
- Tax Map
- FEMA Map and LOMA Documentation
- Financial Capacity Letter

2.11 Construction Management Plan (uploaded to Construction Management Plan folder in Eplan)

A draft Construction Management Plan has been prepared for the proposed development. The Contractor will be required to provide adequate safety fencing and signage directing pedestrians safely around the construction area. It should be noted that the constructability of future phases of development has been considered. The proposed development has been designed such that it will not prevent the construction of future phases of the site's Master Development Plan.

2.12 Forms (uploaded separately to Documents folder in Eplan)

- Application Checklist
- Zoning Assessment Table
- Waiver Table

2.13 Drawings (uploaded separately to Drawings folder in Eplan)

- Boundary & Topographic Surveys, prepared by Owen Haskell, Inc.
- Civil, Landscape, & Architecture Design Plans
- Subdivision Plan

FORESIDE
PORTLAND, MAINE
254 Commercial Street, Suite 118, Portland, Maine 04101

July 21, 2022

RE: Agent Authorization

To Whom It May Concern:

Woodard & Curran will be acting as the agent on behalf of PF Marina LLC and PF Land LLC for all local, state, and federal permitting associated with the projects located on or adjacent to the properties at 58 Fore Street / 110 Thames Street / 115 Thames Street / 1 Marina Way in Portland, Maine.

Please contact me if you have any questions, 207.517.1102.

Sincerely,



David Senus

Director of Planning and Design

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

PORTLAND EAST QUADRANGLE
MAINE - CUMBERLAND COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 19T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2015 - November 2015
Roads.....U.S. Census Bureau, 2017
Names.....GNIS, 1980 - 2017
Hydrography.....National Hydrography Dataset, 2003 - 2016
Contours.....National Elevation Dataset, 2005 - 2012
Boundaries.....Multiple sources; see metadata file 2014 - 2016

Wetlands.....FWS National Wetlands Inventory 2001 - 2004

MN
GN
15°23'
273 MILS
0°49'
15 MILS
UTM GRID AND 2017 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
00
CJ
DJ
Grid Zone Designation
19T

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18



QUADRANGLE LOCATION

1	2	3
4		5
6	7	

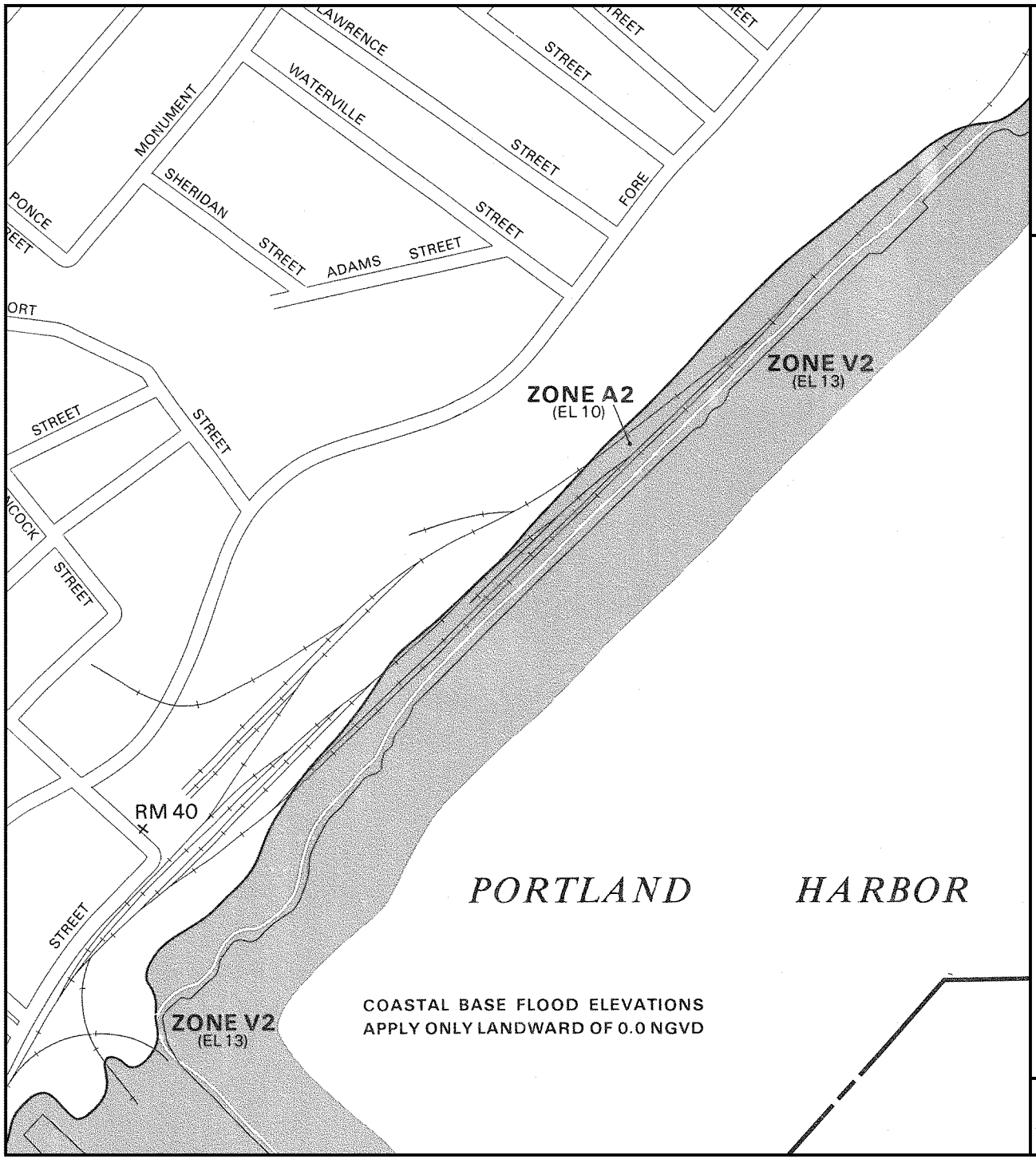
ADJOINING QUADRANGLES
1 Cumberland Center
2 Yarmouth
3 Freeport
4 Portland West
5 South Harpswell
6 Prouts Neck
7 Cape Elizabeth

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

PORTLAND EAST, ME
2018

76430163704O9
NSN.
NGA REF NO. USGSX24K36119


018 A003
125,017 Sq. Ft
018 A001
269,182 Sq. Ft
018 A007
19,068 Sq. Ft
018 A004
46,597 Sq. Ft
018 A002
52,376 Sq. Ft
41,374 Sq. Ft
018 A005
6,668 Sq. Ft
002 A007
113,006 Sq. Ft
002 A004
2,375 Sq. Ft
002 A010
4,508 Sq. Ft
002 A003
23,559 Sq. Ft
002 A002
16,309 Sq. Ft
002 A014
82,604 Sq. Ft
002 A016
46,567 Sq. Ft
002 A017
8,830 Sq. Ft
002 A020
9,370 Sq. Ft
002 A022
2,575 Sq. Ft
002 A019
11,440 Sq. Ft
002 X001
276,003 Sq. Ft
002 A016
20,608 Sq. Ft
001 C002
27,091 Sq. Ft
001 C003
89,779 Sq. Ft
001 C005
68,445 Sq. Ft
001 C004
129,630 Sq.
446 A003
18,699 Sq. Ft
446 A001
40,432 Sq. Ft
446 A004
304,290 Sq. Ft
446 A002
374,692 Sq. Ft
445 A001
233,010 Sq. Ft
445 A002
1,084,465 Sq. Ft
019 A010
127,033 Sq. Ft
019 A016
019 A017
019 A003
019 A013
2,612 Sq. Ft
019 A002
51,055 Sq. Ft
019 A015
019 A008
64,226 Sq. Ft
4,800 Sq. Ft
019 A014
2,953 Sq. Ft
017 G007
379 Sq. Ft
017 G008
1,898 Sq. Ft
017 G032
3,102 Sq. Ft
017 G034
2,780 Sq. Ft
017 G033
4,057 Sq. Ft
017 G016
2,800 Sq. Ft
017 G015
2,958 Sq. Ft
017 E017
43,528 Sq. Ft
017 E001
3,856 Sq. Ft
017 E002
5,800 Sq. Ft
017 E003
4,970 Sq. Ft
017 E004
2,350 Sq. Ft
017 E005
6,400 Sq. Ft
017 E006
2,594 Sq. Ft
017 E023
3,224 Sq. Ft
017 E024
2,480 Sq. Ft
017 E025
2,400 Sq. Ft
017 E026
4,000 Sq. Ft
017 E028
1,600 Sq. Ft
017 E029
5,405 Sq. Ft
017 E030
4,273 Sq. Ft
017 E031
3,422 Sq. Ft
017 E032
2,471 Sq. Ft
017 E033
3,419 Sq. Ft
017 E041
1,435 Sq. Ft
017 E042
967 Sq. Ft
017 E034
2,952 Sq. Ft
017 E036
5,406 Sq. Ft
017 E038
3,322 Sq. Ft
017 E037
1,590 Sq. Ft
017 E035
4,216 Sq. Ft
017 E027
3,422 Sq. Ft
017 E015
3,204 Sq. Ft
017 E016
3,505 Sq. Ft
017 E012
4,000 Sq. Ft
017 E013
2,400 Sq. Ft
017 E014
2,480 Sq. Ft
017 E009
3,224 Sq. Ft
017 E010
2,594 Sq. Ft
017 E011
6,400 Sq. Ft
017 E006
5,800 Sq. Ft
017 E002
3,960 Sq. Ft
017 E001
3,856 Sq. Ft
017 F028
1,376 Sq. Ft
017 F001
3,380 Sq. Ft
017 F002
7,310 Sq. Ft
017 F003
27 Sq. Ft
017 F017
017 F018
017 F019
017 F020
017 F021
017 F022
017 F023
017 F024
017 F025
017 F026
017 F027
017 F015
017 F016
017 F013
2,952 Sq. Ft
017 F014
3,419 Sq. Ft
017 F029
4,273 Sq. Ft
017 F005
016 H003
016 H005
016 H007
016 H006
016 H012
016 H013
016 H009
016 H010
016 I001
016 I002
016 I003
1,991 Sq. Ft
016 I006
016 I004
4,246 Sq. Ft
016 I007
3,320 Sq. Ft
016 I008
5,083 Sq. Ft
016 J001
5,048 Sq. Ft
016 J002
3,573 Sq. Ft
016 J014
3,307 Sq. Ft
016 J015
4,790 Sq. Ft
016 J033
4,815 Sq. Ft
016 J016
9,096 Sq. Ft
016 J065
4,055 Sq. Ft
016 J017
3,204 Sq. Ft
016 J006
4,770 Sq. Ft
016 J020
3,505 Sq. Ft
016 J007
5,890 Sq. Ft
016 J008
016 J021
016 J022
016 J009
016 J023
016 J010
2,956 Sq. Ft
016 J011
016 J024
4,216 Sq. Ft
016 J012
016 J013
016 J025
1,590 Sq. Ft
016 J026
4,180 Sq. Ft
016 E019
4,039 Sq. Ft
016 E020
016 E021
016 E022
016 F001
10,017 Sq. Ft
016 F002
3,905 Sq. Ft
016 F026
016 F025
016 F003
5,298 Sq. Ft
016 F004
3,859 Sq. Ft
016 F005
3,475 Sq. Ft
016 F006
016 F007
016 F008
4,500 Sq. Ft
016 F009
5,000 Sq. Ft
016 F010
016 F011
3,276 Sq. Ft
016 F022
2,580 Sq. Ft
016 F023
3,444 Sq. Ft
016 F024
016 F012
016 F013
016 F014
016 F015
016 F016
016 F017
016 C017
016 C018
016 C019
016 C020
016 C021
1,948 Sq. Ft
016 C022
3,960 Sq. Ft
016 C023
8,697 Sq. Ft
016 C009
016 C010
016 C012
016 C013
003 O013
003 O012
003 O014
8,000 Sq. Ft
003 O007
6,720 Sq. Ft
Munjoy Overlook
Fort Allen Park
Amethyst Park
MUNJOY SOUTH
ADAMS ST
KELLER ST
SHERBROOKE ST
ST LAWRENCE ST
WATERVILLE ST
FORE ST
MUNJOY ST
EASTERN PROM
EASTERN PROM TRAIL
JOHN POOR XING
THAMES ST
RAIL YARD PLZ
BRASS KEY
BOILER PSGE
FREEDOM WAY
COUNTFORT ST
MONUMENT ST



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY

PANEL 14 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230051 0014 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



CASCO BAY / FORE RIVER

Area to be Removed from Flood Zone AE

A CERTAIN LOT OR PARCEL OF LAND ON THE SOUTHERLY SIDE OF, BUT NOT ADJACENT TO FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PORTLAND HOUSE CONDOMINIUM AS SHOWN ON PLAN BOOK 142, PAGE 50;

THENCE, S 47°33'49" W ALONG THE NORTHELRY LINE OF SAID STATE OF MAINE 685.00 FEET;

THENCE, S 52°46'49" W CONTINUING ALONG THE NORTHELRY LINE OF STATE OF MAINE 272.75 FEET TO THE NORTHERLY LIMIT OF FLOOD ZONE A2 (EL 10) AS SCALED FROM FEMA FLOOD INSURANCE RATE MAP NO. 230051-0014B;

THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG THE NORTHERLY LIMIT OF SAID FLOOD ZONE A2:

N 18°22'51" E A DISTANCE OF 26.60 FEET;
N 48°05'42" E A DISTANCE OF 204.67 FEET;
N 50°41'38" E A DISTANCE OF 184.50 FEET;
N 45°09'56" E A DISTANCE OF 136.93 FEET;
N 47°53'09" E A DISTANCE OF 144.17 FEET;
N 39°47'45" E A DISTANCE OF 121.02 FEET;
N 60°27'17" E A DISTANCE OF 116.02 FEET;
N 44°32'44" E A DISTANCE OF 28.73 FEET TO THE WESTERLY LINE OF LAND OF SAID PORTLAND HOUSE CONDOMINIUM;

THENCE, S 47°03'07" E ALONG PORTLAND HOUSE CONDOMINIUM 22.78 FEET TO THE POINT OF BEGINNING, CONTAINING 28,157 S.F. OR 0.65 ACRES, MORE OR LESS.

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.

Plan References

1. *LAND TITLE SURVEY & SUBDIVISION PLAN IN PORTLAND, MAINE U.S.A. MADE FOR THE TRUST FOR PUBLIC LAND, THE CITY OF PORTLAND, THE MAINE DEPARTMENT OF TRANSPORTATION, THE CANADIAN NATIONAL RAILWAY COMPANY DATED FEB. 19, 1993, REV. 9 11/04/96 BY OWEN HASKELL, INC. AND RECORDED IN PLAN BOOK 193, PAGE 187.*

2. *RECORDING PLAT OCEAN GATEWAY MADE FOR THE CITY OF PORTLAND AND STATE OF MAINE, BY OWEN HASKELL, INC, DATED AUGUST 4, 2004, RECORDED IN PLAN BOOK 204, PAGE 622-624*

3. *BOUNDARY & TOPOGRAPHY SURVEY AT 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN BY OWEN HASKELL, INC. AUGUST 29, 2016, REVISED THROUGH FEB. 2019.*

4. *EXHIBIT PLAN PARCELS TO BE CONVEYED 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN BY OWEN HASKELL, INC. DATED MARCH 21, 2018.*

5. *TOPOGRAPHIC SURVEY 100 FORE STREET MADE FOR JONATHAN COHEN BY OWEN HASKELL, INC DATED DECEMBER 4, 2017 REVISED THROUGH 12/17/18.*

6. *AMENDED SUBDIVISION PLAN, OCEAN GATEWAY, COMMERCIAL STREET, THAMES STREET & FORE STREET, PORTLAND, MAINE MADE FOR OWNER OF RECORD CITY OF PORTLAND JULY 17, 2019 BY OWEN HASKELL.*

7. *SUBDIVISION PLAT PORTLAND FORESIDE THAMES STREET & FORE STREET PORTLAND, MAINE MADE FOR OWNER OF RECORD CPB2 I LLC, BY OWEN HASKELL, INC. DATED FEB. 13, 2020, RECORDED IN PLAN BOOK 220, PAGE 65.*

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE C, AREAS OF MINIMUM FLOODING, ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986. THE FEMA FIRM ZONE A2 FLOOD LINE IS DEMARKED ON THE PLAN BY THE ELEVATION 10 CONTOUR. ALL POINTS NORTH OF THIS CONTOUR ON THE SUBJECT PROPERTY EXCEEDS THIS ELEVATION AND THEREFORE FALL OUTSIDE OF THE A2 ZONE.

General Notes

1. OWNER OF RECORD: CPB2 I LLC, C.C.R.D. BOOK 31425 PAGE 267, BOOK 30879 PAGE 75, BOOK 35264, PAGE 286. SEE AFFIDAVIT RECORDED IN BOOK 34737 PAGE 327 FOR NAME CHANGE & CPB2 I LLC BOOK 35576 PAGE 153

2. PARCEL IS MADE UP OF LOTS A3, A1, PART OF A2 & PART OF A13 ON TAX MAP 18 AND LOT A3 & A16 ON TAX MAP 19 AS SHOWN ON THE OFFICIAL CITY OF PORTLAND TAX ASSESSORS MAPS.

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83. CITY POINTS: T-113-80-206 N:302687.77 E:2932345.31
T-113-12-111 N:302722.13 E:2933029.45

4. BENCH MARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) - TIDAL BENCHMARK. BENCH MARK STAMPING: NO. 3 1971 ELEVATION 11.02 FEET NGVD 29 DATUM.

EXISTING CONDITIONS SURVEY

58 Fore Street
Portland, Cumberland County, Maine
Made For
PF One Devco LLC & PF Land LLC

Surveyor's Certification

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.

STATE OF MAINE
RANDY R. LOUBIER
2407
PROFESSIONAL LAND SURVEYOR

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: NOVEMBER 5, 2020
REVISED THROUGH: NOVEMBER 17, 2020

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105
Tel. (207) 774-0424 www.owenhaskell.com rloubier@owenhaskell.com

DRAWN BY: RRL / JLW	FIELD BOOK: FILE	JOB NO.	2019-013 P
CHECKED BY: RRL/SDG	SCALE: 1" = 50'	DRWG. #	LOMA

Federal Emergency Management Agency
Washington, D.C. 20472

MR. RANDY LOUBIER
OWEN HASKELL
390 U.S. ROUTE 1 UNIT 10
FALMOUTH, ME 04105

CASE NO.: 21-01-0177A
COMMUNITY: CITY OF PORTLAND,
CUMBERLAND COUNTY, MAINE
COMMUNITY NO.: 230051

DEAR MR. LOUBIER:

This is in reference to a request that the Federal Emergency Management Agency (FEMA) determine if the property described in the enclosed document is located within an identified Special Flood Hazard Area, the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood), on the effective National Flood Insurance Program (NFIP) map. Using the information submitted and the effective NFIP map, our determination is shown on the attached Letter of Map Amendment (LOMA) Determination Document. This determination document provides additional information regarding the effective NFIP map, the legal description of the property and our determination.

Additional documents are enclosed which provide information regarding the subject property and LOMAs. Please see the List of Enclosures below to determine which documents are enclosed. Other attachments specific to this request may be included as referenced in the Determination/Comment document. If you have any questions about this letter or any of the enclosures, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415.

Sincerely,

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

LIST OF ENCLOSURES:
LOMA DETERMINATION DOCUMENT (REMOVAL)

cc: State/Commonwealth NFIP Coordinator
Community Map Repository
Region

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE	A parcel of land, as described in the Quitclaim Deed with Covenant recorded as Document No. 13675 in Book 31425, Pages 267, 268, and 269; and in the Trustee's Deed recorded as Document No. 45157 in Book 30879, Pages 75 through 79; both deeds in the Office of the Register of Deeds, Cumberland County, Maine
	COMMUNITY NO: 230051	
AFFECTED MAP PANEL	NUMBER: 2300510014B	The portion of property is more particularly described by the following metes and bounds:
	DATE: 7/17/1986	
FLOODING SOURCE: PORTLAND HARBOR; CASCO BAY		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY: 43.662943, -70.242677 SOURCE OF LAT & LONG: GPS DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
--	--	--	58 Fore Street	Portion of Property	C	--	--	12.0 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
PORTIONS REMAIN IN THE SFHA/FLOODWAY
eLOMA DETERMINATION

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. If there are any errors on this eLOMA Determination Letter that cause FEMA to rescind and/or nullify the determination the property owner should consult the Licensed Professional that submitted this eLOMA. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, 3601 Eisenhower Avenue, Alexandria, VA 22304-4605, Fax: 703-751-7415.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

eLOMA

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

BEGINNING ON THE NORTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PORTLAND HOUSE CONDOMINIUM AS SHOWN ON PLAN BOOK 142, PAGE 50; THENCE S47°33'49"W, ALONG THE NORTHERLY LINE OF SAID STATE OF MAINE 685.00 FEET; THENCE S52°46'49"W, CONTINUING ALONG THE NORTHERLY LINE OF STATE OF MAINE 272.75 FEET; THENCE N18°22'51"E, A DISTANCE OF 26.60 FEET; THENCE N48°05'42"E, A DISTANCE OF 204.67 FEET; THENCE N50°41'38"E, A DISTANCE OF 184.50 FEET; THENCE N45°09'56"E, A DISTANCE OF 136.93 FEET; THENCE N47°53'09"E, A DISTANCE OF 144.17 FEET; THENCE N39°47'45"E, A DISTANCE OF 121.02 FEET; THENCE N60°27'17"E, A DISTANCE OF 116.02 FEET; THENCE N44°32'44"E, A DISTANCE OF 28.73 FEET TO THE WESTERLY LINE OF LAND OF SAID PORTLAND HOUSE CONDOMINIUM; THENCE S47°03'07"E, ALONG PORTLAND HOUSE CONDOMINIUM 22.78 FEET TO THE POINT OF BEGINNING.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

eLOMA

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

Portion of Property Removal:

The following considerations may or may not apply to the determination for your Portion of Property:

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA and/or FLOODWAY - Portions of this property, but not the subject of the Determination document, may remain in the Special Flood Hazard Area (SFHA) and/or the regulatory floodway for the flooding source indicated on the Determination Document. The NFIP regulatory floodway is the area that must remain unobstructed in order to prevent unacceptable increases in base flood elevations. Therefore, no construction may take place in an NFIP regulatory floodway that may cause an increase in the base flood elevation. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management. The NFIP regulatory floodway is provided to the community as a tool to regulate floodplain development. Modifications to the NFIP regulatory floodway must be accepted by both the Federal Emergency Management Agency (FEMA) and the community involved. Appropriate community actions are defined in Paragraph 60.3(d) of the NFIP regulations. Any proposed revision to the NFIP regulatory floodway must be submitted to FEMA by community officials. The community should contact either the Regional Director (for those communities in Regions I-IV, and VI-X), or the Regional Engineer (for those communities in Region V) for guidance on the data which must be submitted for a revision to the NFIP regulatory floodway. Contact information for each regional office can be obtained by calling the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or from our web site at https://www.fema.gov/regional-contact-information

STUDY UNDERWAY - This determination is based on the flood data presently available. However, the Federal Emergency Management Agency may be currently revising the National Flood Insurance Program (NFIP) map for the community. New flood data could be generated that may affect this property. If a new NFIP map is issued it will supersede this determination. The Federal requirement for the purchase of flood insurance will then be based on the newly revised NFIP map.

EXTRATERRITORIAL JURISDICTION - The subject of the determination is shown on the National Flood Insurance Program map and may be located in an Extraterritorial Jurisdiction area for the community indicated on the Determination Document.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

GREAT LAKES - The Federal Emergency Management Agency (FEMA) has based this determination on elevation data which is published in the current Flood Insurance Study for the community. However, the elevations established in the U.S. Army Corps of Engineers (USACE) reports on the Great Lakes are the best available data known to us. If in the future there are any subsequent map revisions to the National Flood Insurance Program map and the USACE reports remain the best available data known, FEMA will use those elevations for any such revisions. Further, be advised that the elevations on the Flood Insurance Rate Map (FIRM) may only reflect the Stillwater elevation for the lake and may not account for the effects of wind driven waves or wave run-up. On-site conditions such as wind speed, wind direction, fetch distance, water depth and the slope of the beach or bluff may result in significant increases to the base flood elevation. Therefore, it is strongly recommended that the requestor be aware of these circumstances and, if warranted, evaluate the effects of wind driven waves along the shoreline of the property.

STATE AND LOCAL CONSIDERATIONS - Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

COASTAL BARRIER RESOURCE SYSTEM - Based upon information provided to FEMA by the U.S. Fish and Wildlife Service (USFWS), the subject property may be within a System Unit or an Otherwise Protected Area (OPA) of the John H. Chafee Coastal Barrier Resource System (CBRS). Federal flood insurance is generally not available within the CBRS for new construction or substantial improvements occurring after the flood insurance prohibition date (which is generally tied to the date that the area was first established as either a System Unit or OPA, but may differ in some cases). Other federal expenditures and financial assistance (including certain types of disaster assistance) are also restricted within System Units of the CBRS. The USFWS is the authoritative source for information regarding the CBRS. Additional information, including the CBRS Mapper, can be found on the USFWS website at: https://www.fws.gov/cbra.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

eLOMA

Federal Emergency Management Agency

Washington, D.C. 20472

ADDITIONAL INFORMATION REGARDING LETTERS OF MAP AMENDMENT

When making determinations on requests for Letters of Map Amendment (LOMAs), the Department of Homeland Security's Federal Emergency Management Agency (FEMA) bases its determination on the flood hazard information available at the time of the determination. Requesters should be aware that flood conditions may change or new information may be generated that would supersede FEMA's determination. In such cases, the community will be informed by letter.

Requesters also should be aware that removal of a property (parcel of land or structure) from the Special Flood Hazard Area (SFHA) means FEMA has determined the property is not subject to inundation by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This does not mean the property is not subject to other flood hazards. The property could be inundated by a flood with a magnitude greater than the base flood or by localized flooding not shown on the effective National Flood Insurance Program (NFIP) map.

The effect of a LOMA is it removes the Federal requirement for the lender to require flood insurance coverage for the property described. The LOMA *is not* a waiver of the condition that the property owner maintain flood insurance coverage for the property. *Only* the lender can waive the flood insurance purchase requirement because the lender imposed the requirement. *The property owner must request and receive a written waiver from the lender before canceling the policy*. The lender may determine, on its own as a business decision that it wishes to continue the flood insurance requirement to protect its financial risk on the loan.

The LOMA provides FEMA's comment on the mandatory flood insurance requirements of the NFIP as they apply to a particular property. A LOMA is not a building permit, nor should it be construed as such. Any development, new construction, or substantial improvement of a property impacted by a LOMA must comply with all applicable State and local criteria and other Federal criteria.

If a lender releases a property owner from the flood insurance requirement, and the property owner decides to cancel the policy and seek a refund, the NFIP will refund the premium paid for the current policy year, provided that no claim is pending or has been paid on the policy during the current policy year. The property owner must provide a written waiver of the insurance requirement from the lender to the property insurance agent or company servicing his or her policy. The agent or company will then process the refund request.

Even though structures are not located in an SFHA, as mentioned above, they could be flooded by a flooding event with a greater magnitude than the base flood. In fact, more than 25 percent of all claims paid by the NFIP are for policies for structures located outside the SFHA in Zones B, C, X (shaded), or X (unshaded). More than one-fourth of all policies purchased under the NFIP protect structures located in these zones. The risk to structures located outside SFHAs is just not as great as the risk to structures located in SFHAs. Finally, approximately 90 percent of all federally declared disasters are caused by flooding, and homeowners insurance does not provide financial protection from this flooding. Therefore, FEMA encourages the widest possible coverage under the NFIP.

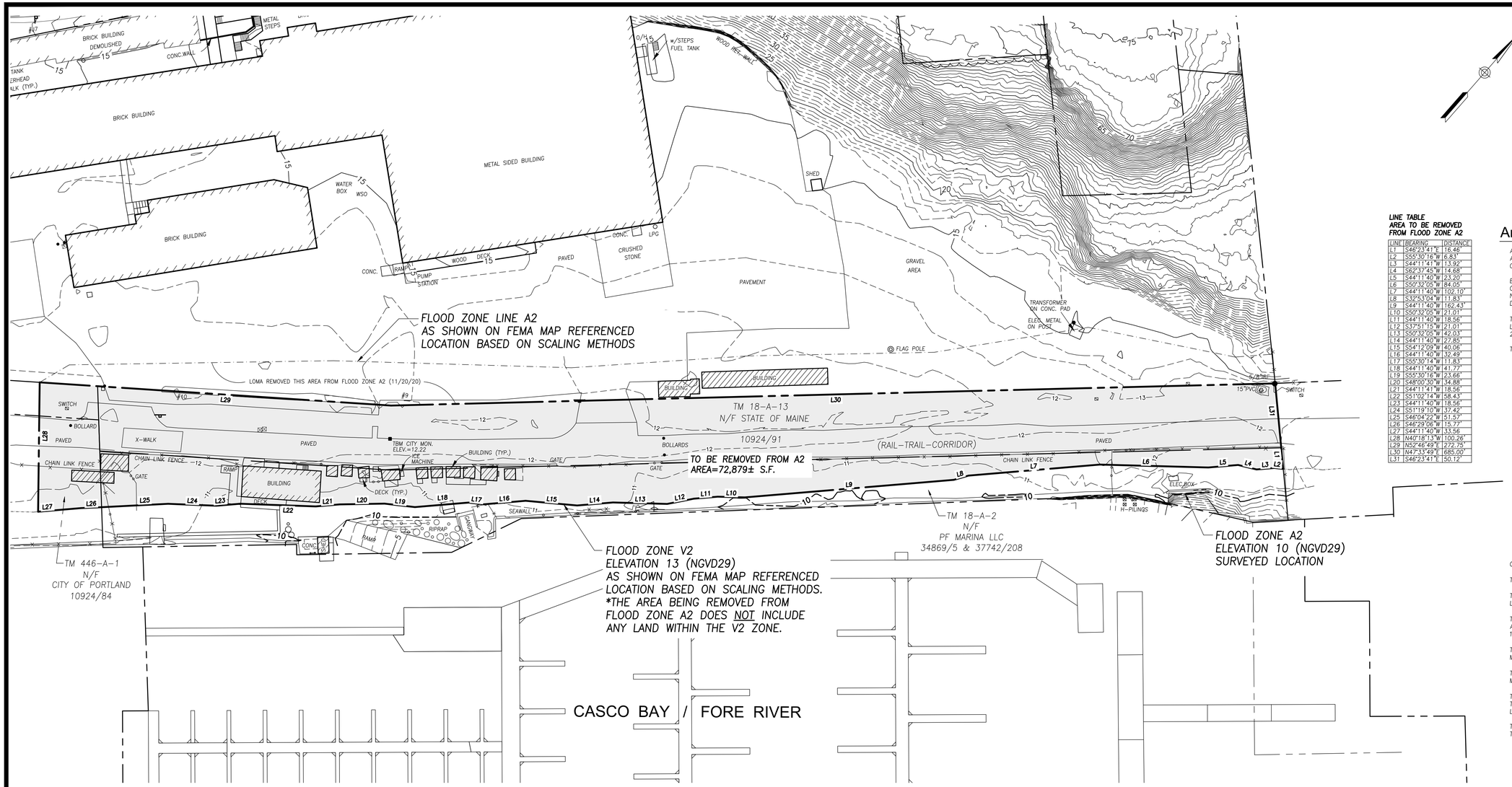
The NFIP offers two types of flood insurance policies to property owners: the low-cost Preferred Risk Policy (PRP) and the Standard Flood Insurance Policy (SFIP). The PRP is available for 1- to 4-family residential structures located outside the SFHA with little or no loss history. The PRP is available for townhouse/rowhouse-type structures, but is not available for other types of condominium units. The SFIP is available for all other structures. Additional information on the PRP and how a property owner can quality for this type of policy may be obtained by calling the Flood Insurance Information Hotline, toll free, at 1-800-427-4661. Before making a final decision about flood insurance coverage, FEMA strongly encourages property owners to discuss their individual flood risk situations and insurance needs with an insurance agent or company.

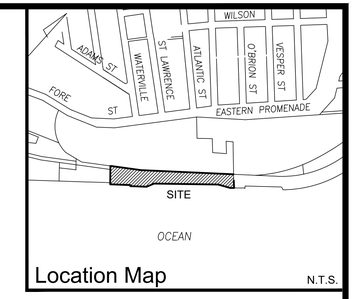
FEMA has established "Grandfather" rules to benefit flood insurance policyholders who have maintained continuous coverage. Property owners may wish to note also that, if they live outside but on the fringe of the SFHA shown on an effective NFIP map and the map is revised to expand the SFHA to include their structure(s), their flood insurance policy rates will not increase as long as the coverage for the affected structure(s) has been continuous. Property owners would continue to receive the lower insurance policy rates.

LOMAs are based on minimum criteria established by the NFIP. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If a State, county, or community has adopted more restrictive and comprehensive floodplain management criteria, these criteria take precedence over the minimum Federal criteria.

In accordance with regulations adopted by the community when it made application to join the NFIP, letters issued to amend an NFIP map must be attached to the community's official record copy of the map. That map is available for public inspection at the community's official map repository. Therefore, FEMA sends copies of all such letters to the affected community's official map repository.

When a restudy is undertaken, or when a sufficient number of revisions or amendments occur on particular map panels, FEMA initiates the printing and distribution process for the affected panels. FEMA notifies community officials in writing when affected map panels are being physically revised and distributed. In such cases, FEMA attempts to reflect the results of the LOMA on the new map panel. If the results of particular LOMAs cannot be reflected on the new map panel because of scale limitations, FEMA notifies the community in writing and revalidates the LOMAs in that letter. LOMAs revalidated in this way usually will become effective 1 day after the effective date of the revised map.





LINE TABLE
AREA TO BE REMOVED FROM FLOOD ZONE A2

LINE	BEARING	DISTANCE
L1	S46°23'41"E	16.46'
L2	S55°30'16"W	6.83'
L3	S44°11'41"W	13.92'
L4	S62°37'45"W	14.68'
L5	S44°11'40"W	23.20'
L6	S50°32'05"W	84.05'
L7	S44°11'40"W	102.10'
L8	S32°53'04"W	11.83'
L9	S44°11'40"W	162.43'
L10	S50°32'05"W	21.01'
L11	S44°11'40"W	18.56'
L12	S37°51'15"W	21.01'
L13	S50°32'05"W	42.03'
L14	S44°11'40"W	27.85'
L15	S54°12'09"W	40.06'
L16	S44°11'40"W	32.49'
L17	S55°30'14"W	11.83'
L18	S44°11'40"W	41.77'
L19	S55°30'16"W	23.66'
L20	S48°00'30"W	34.88'
L21	S44°11'41"W	18.56'
L22	S51°02'14"W	58.43'
L23	S44°11'40"W	18.56'
L24	S51°19'10"W	37.42'
L25	S46°04'22"W	51.57'
L26	S46°29'06"W	15.77'
L27	S44°11'40"W	33.56'
L28	N40°18'13"W	100.26'
L29	N52°46'49"E	272.75'
L30	N47°33'49"E	685.00'
L31	S46°23'41"E	50.12'

Area to be Removed from Flood Zone A2

A CERTAIN LOT OR PARCEL OF LAND ON THE SOUTHERLY SIDE OF, BUT NOT ADJACENT TO FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PF MARINA, LLC AS DESCRIBED IN DEED BOOK 37742, PAGE 208;

THENCE, S 46°23'41" E A DISTANCE OF 16.46 FEET TO THE V2 FLOOD ZONE LINE AS SHOWN ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B;

THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG SAID V2 ZONE:

S 55°30'16" W A DISTANCE OF 6.83 FEET;
S 44°11'41" W A DISTANCE OF 13.92 FEET;
S 62°37'45" W A DISTANCE OF 14.68 FEET;
S 44°11'40" W A DISTANCE OF 23.20 FEET;
S 50°32'05" W A DISTANCE OF 84.05 FEET;
S 44°11'40" W A DISTANCE OF 102.10 FEET;
S 32°53'04" W A DISTANCE OF 11.83 FEET;
S 44°11'40" W A DISTANCE OF 162.43 FEET;
S 50°32'05" W A DISTANCE OF 21.01 FEET;
S 44°11'40" W A DISTANCE OF 18.56 FEET;
S 37°51'15" W A DISTANCE OF 21.01 FEET;
S 50°32'05" W A DISTANCE OF 42.03 FEET;
S 44°11'40" W A DISTANCE OF 27.85 FEET;
S 54°12'09" W A DISTANCE OF 40.06 FEET;
S 44°11'40" W A DISTANCE OF 32.49 FEET;
S 55°30'14" W A DISTANCE OF 11.83 FEET;
S 44°11'40" W A DISTANCE OF 41.77 FEET;
S 55°30'16" W A DISTANCE OF 23.66 FEET;
S 48°00'30" W A DISTANCE OF 34.88 FEET;
S 44°11'41" W A DISTANCE OF 18.56 FEET;
S 51°02'14" W A DISTANCE OF 58.43 FEET;
S 44°11'40" W A DISTANCE OF 18.56 FEET;
S 51°19'10" W A DISTANCE OF 37.42 FEET;
S 46°04'22" W A DISTANCE OF 51.57 FEET TO LAND NOW OR FORMERLY OF CITY OF PORTLAND AS DESCRIBED IN DEED BOOK 10924, PAGE 84;
THENCE, S 46°29'06" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OF SAID CITY OF PORTLAND A DISTANCE OF 15.77 FEET;

THENCE, S 44°11'40" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OF CITY OF PORTLAND A DISTANCE OF 33.56 FEET;

THENCE, N 40°18'13" W CONTINUING THROUGH LAND OF CITY OF PORTLAND AND LAND NOW OR FORMERLY OF SAID STATE OF MAINE A DISTANCE OF 100.26 FEET TO THE NORTHERLY LINE OF LAND OF SAID STATE OF MAINE;

THENCE, N 52°46'49" E ALONG THE NORTHERLY LINE OF STATE OF MAINE 272.75 FEET;

THENCE, N 47°33'49" E CONTINUING ALONG THE NORTHERLY LINE OF STATE OF MAINE 685.00 FEET;

THENCE, S 46°23'41" E THROUGH LAND OF STATE OF MAINE 50.12 FEET TO THE POINT OF BEGINNING, CONTAINING 72,879 S.F. OR 1.67 ACRES MORE OR LESS.

THE LAND DESCRIBED ABOVE DOES NOT INTEND TO INCLUDE ANY LAND WITHIN THE V2 ZONE.

SCALE : 1" = 50'
0' 25' 50' 100'

General Notes

1. OWNERS OF RECORD: PF MARINA LLC
C.C.R.D. BOOK 34869 PAGE 50
BOOK 37742, PAGE 208

2. PARCEL IS SHOWN AS LOT 2 BLOCK A ON THE CITY OF PORTLAND'S ASSESSORS MAP 18.

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83.

4. BENCH MARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) – TIDAL BENCHMARK. BENCH MARK STAMPING: NO. 3 1971 ELEVATION 11.02 FEET NGVD 29 DATUM.

Plan References

1. "ALTA/NSPS LAND TITLE SURVEY, 1 MARINA WAY, PORTLAND, MAINE MADE FOR PF MARINA, LLC" BY OWEN HASKELL, INC. DATED JANUARY 26, 2021 REVISED THROUGH MARCH 18, 2021.

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS PARTIALLY LOCATED IN FLOOD ZONE A2 ELEV. 10, AREAS OF 100-YEAR FLOOD AND PARTIALLY LOCATED IN FLOOD ZONE V2 ELEV. 13, AREAS OF 100-YEAR COASTAL FLOOD WITH VELOCITY ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986. THE FEMA FIRM ZONE A2 FLOOD LINE IS DEMARKED ON THE PLAN BY THE ELEVATION 10 CONTOUR. ALL POINTS NORTH OF THIS CONTOUR ON THE SUBJECT PROPERTY EXCEEDS THIS ELEVATION AND THEREFORE FALL OUTSIDE OF THE A2 ZONE.

Existing Conditions Survey

1 Marina Way
Portland, Cumberland County, Maine
Made For
PF MARINA, LLC
1 Marina Way, Portland, Maine

Surveyor's Certification

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: JULY 19, 2021

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: RRL / JLW	FIELD BOOK: FILE	JOB NO.	2019-031 P
CHECKED BY: RRL/SDG	SCALE: 1" = 50'	DRWG. #	MARINA-ALTA

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE	A parcel of land, as described in the Deeds recorded as Document Nos. 23925 and 55154, both in the Office of the Register of Deeds, Cumberland County, Maine The portion of property is more particularly described by the following metes and bounds:
	COMMUNITY NO.: 230051	
AFFECTED MAP PANEL	NUMBER: 2300510014B	
	DATE: 7/17/1986	
FLOODING SOURCE: PORTLAND HARBOR; CASCO BAY		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:43.662774, -70.242547 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
--	--	--	1 Marina Way	Portion of Property	C	--	--	10.5 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
ZONE V
PORTIONS REMAIN IN THE SFHA
SUPERSEDES PREVIOUS DETERMINATION
STATE LOCAL CONSIDERATIONS

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

BEGINNING ON THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PF MARINA, LLC AS DESCRIBED IN DEED BOOK 37742, PAGE 208; THENCE, S 46°23'41" E A DISTANCE OF 16.46 FEET TO THE V2 FLOOD ZONE LINE AS SHOWN ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B; THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG SAID V2 ZONE: S 55°30'16" W A DISTANCE OF 6.83 FEET; S 44°11'41" W A DISTANCE OF 13.92 FEET; S 62°37'45" W A DISTANCE OF 14.68 FEET; S 44°11'40" W A DISTANCE OF 23.20 FEET; S 50°32'05" W A DISTANCE OF 84.05 FEET; S 44°11'40" W A DISTANCE OF 102.10 FEET; S 32°53'04" W A DISTANCE OF 11.83 FEET; S 44°11'40" W A DISTANCE OF 162.43 FEET; S 50°32'05" W A DISTANCE OF 21.01 FEET; S 44°11'40" W A DISTANCE OF 18.56 FEET; S 37°51'15" W A DISTANCE OF 21.01 FEET; S 50°32'05" W A DISTANCE OF 42.03 FEET; S 44°11'40" W A DISTANCE OF 27.85 FEET; S 54°12'09" W A DISTANCE OF 40.06 FEET; S 44°11'40" W A DISTANCE OF 32.49 FEET; S 55°30'14" W A DISTANCE OF 11.83 FEET; S 44°11'40" W A DISTANCE OF 41.77 FEET; S 55°30'16" W A DISTANCE OF 23.66 FEET; S 48°00'30" W A DISTANCE OF 34.88 FEET; S 44°11'41" W A DISTANCE OF 18.56 FEET; S 51°02'14" W A DISTANCE OF 58.43 FEET; S 44°11'40" W A DISTANCE OF 18.56 FEET; S 51°19'10" W A DISTANCE OF 37.42 FEET; S 46°04'22" W A DISTANCE OF 51.57 FEET TO LAND NOW OR FORMELRY OF CITY OF PORTLAND AS DESCRIBED IN DEED BOOK 10924, PAGE 84; THENCE, S 46°29'06" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OF SAID CITY OF PORTLAND A DISTANCE OF 15.77 FEET; THENCE, S 44°11'40" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OFCITY OF PORTLAND A DISTANCE OF 33.56 FEET; THENCE, N 40°18'13" W CONTINUING THROUGH LAND OF CITY OF PORTLAND AND LAND NOW OR FORMERLY OF SAID STATE OF MAINE A DISTANCE OF 100.26 FEET TO THE NORTHERLY LINE OF LAND OF SAID STATE OF MAINE; THENCE, N 52°46'49" E ALONG THE NORTHERLY LINE OF STATE OF MAINE 272.75 FEET; THENCE, N 47°33'49" E CONTINUING ALONG THE NORTHERLY LINE OF STATE OF MAINE 685.00 FEET; THENCE, S 46°23'41" E THROUGH LAND OF STATE OF MAINE 50.12 FEET TO THE POINT OF BEGINNING

ZONE V (This Additional Consideration applies to the preceding 1 Property.)

A portion of this property, but not the subject of the Determination/Comment Document, is located within a Coastal High Hazard Area (Zone V, VE or V1-30). Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management. No construction using fill for structural support or that may increase flood damage to other property may take place in these areas.

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

SUPERSEDES OUR PREVIOUS DETERMINATION (This Additional Consideration applies to all properties in the LOMA DETERMINATION DOCUMENT (REMOVAL))

This Determination Document supersedes our previous determination dated 7/16/2021, for the subject property.

STATE AND LOCAL CONSIDERATIONS (This Additional Consideration applies to all properties in the LOMA DETERMINATION DOCUMENT (REMOVAL))

Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

ADDITIONAL INFORMATION REGARDING LETTERS OF MAP AMENDMENT

When making determinations on requests for Letters of Map Amendment (LOMAs), the Department of Homeland Security's Federal Emergency Management Agency (FEMA) bases its determination on the flood hazard information available at the time of the determination. Requesters should be aware that flood conditions may change or new information may be generated that would supersede FEMA's determination. In such cases, the community will be informed by letter.

Requesters also should be aware that removal of a property (parcel of land or structure) from the Special Flood Hazard Area (SFHA) means FEMA has determined the property is not subject to inundation by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This does not mean the property is not subject to other flood hazards. The property could be inundated by a flood with a magnitude greater than the base flood or by localized flooding not shown on the effective National Flood Insurance Program (NFIP) map.

The effect of a LOMA is it removes the Federal requirement for the lender to require flood insurance coverage for the property described. The LOMA *is not* a waiver of the condition that the property owner maintain flood insurance coverage for the property. *Only* the lender can waive the flood insurance purchase requirement because the lender imposed the requirement. *The property owner must request and receive a written waiver from the lender before canceling the policy*. The lender may determine, on its own as a business decision, that it wishes to continue the flood insurance requirement to protect its financial risk on the loan.

The LOMA provides FEMA's comment on the mandatory flood insurance requirements of the NFIP as they apply to a particular property. A LOMA is not a building permit, nor should it be construed as such. Any development, new construction, or substantial improvement of a property impacted by a LOMA must comply with all applicable State and local criteria and other Federal criteria.

If a lender releases a property owner from the flood insurance requirement, and the property owner decides to cancel the policy and seek a refund, the NFIP will refund the premium paid for the current policy year, provided that no claim is pending or has been paid on the policy during the current policy year. The property owner must provide a written waiver of the insurance requirement from the lender to the property insurance agent or company servicing his or her policy. The agent or company will then process the refund request.

Even though structures are not located in an SFHA, as mentioned above, they could be flooded by a flooding event with a greater magnitude than the base flood. In fact, more than 25 percent of all claims paid by the NFIP are for policies for structures located outside the SFHA in Zones B, C, X (shaded), or X (unshaded). More than one-fourth of all policies purchased under the NFIP protect structures located in these zones. The risk to structures located outside SFHAs is just not as great as the risk to structures located in SFHAs. Finally, approximately 90 percent of all federally declared disasters are caused by flooding, and homeowners insurance does not provide financial protection from this flooding. Therefore, FEMA encourages the widest possible coverage under the NFIP.

The NFIP offers two types of flood insurance policies to property owners: the low-cost Preferred Risk Policy (PRP) and the Standard Flood Insurance Policy (SFIP). The PRP is available for 1- to 4-family residential structures located outside the SFHA with little or no loss history. The PRP is available for townhouse/rowhouse-type structures, but is not available for other types of condominium units. The SFIP is available for all other structures. Additional information on the PRP and how a property owner can quality for this type of policy may be obtained by calling the Flood Insurance Information Hotline, toll free, at 1-800-427-4661. Before making a final decision about flood insurance coverage, FEMA strongly encourages property owners to discuss their individual flood risk situations and insurance needs with an insurance agent or company.

FEMA has established "Grandfather" rules to benefit flood insurance policyholders who have maintained continuous coverage. Property owners may wish to note also that, if they live outside but on the fringe of the SFHA shown on an effective NFIP map and the map is revised to expand the SFHA to include their structure(s), their flood insurance policy rates will not increase as long as the coverage for the affected structure(s) has been continuous. Property owners would continue to receive the lower insurance policy rates.

LOMAs are based on minimum criteria established by the NFIP. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If a State, county, or community has adopted more restrictive and comprehensive floodplain management criteria, these criteria take precedence over the minimum Federal criteria.

In accordance with regulations adopted by the community when it made application to join the NFIP, letters issued to amend an NFIP map must be attached to the community's official record copy of the map. That map is available for public inspection at the community's official map repository. Therefore, FEMA sends copies of all such letters to the affected community's official map repository.

When a restudy is undertaken, or when a sufficient number of revisions or amendments occur on particular map panels, FEMA initiates the printing and distribution process for the affected panels. FEMA notifies community officials in writing when affected map panels are being physically revised and distributed. In such cases, FEMA attempts to reflect the results of the LOMA on the new map panel. If the results of particular LOMAs cannot be reflected on the new map panel because of scale limitations, FEMA notifies the community in writing and revalidates the LOMAs in that letter. LOMAs revalidated in this way usually will become effective 1 day after the effective date of the revised map.

Your property has been reclassified as moderate-to-low flood risk. Your flood risk has been reduced but not removed.

You may now qualify for a Preferred Risk Flood Insurance Policy with annual rates starting as low as $325. Keep your home—and everything inside of it—covered for less money. Contact your insurance agent to secure a lower-cost policy today.

Protect the life you've built.

Call **800-427-4661** or visit www.FloodSmart.gov



FEMA

NATIONAL FLOOD INSURANCE PROGRAM

Flooding 101: Did you know?

- Flooding is the most common and costly disaster in the United States. Just 1 inch of flood water can cause $25,000 of damage to your home.
- People outside of high-risk flood areas file more than 20% of NFIP claims and receive one-third of disaster assistance for flooding.
- Most homeowners and renters insurance doesn't cover flood damage. Only flood insurance provides financial protection from costly flooding.

Stay covered. Save money. Talk to an agent today.
For more information visit FloodSmart.gov.

September 14, 2022

PF One Devco, LLC
Portland Foreside Development Company
Casey Prentice
Kevin Costello
254 Commercial Street,
Portland, ME 02101

To: City of Portland

From: Rose M. Buckley, Senior Vice President
Rockland Trust Company

Rockland Trust Company has and will provide funding for the construction at 58 Fore Street, Portland ME. Rockland Trust is funding the construction of the Sun Life Building and has provided funding for Building 12 occupied by Twelve Restaurant.

Rockland Trust looks forward to working with Portland Foreside Development Company in the future.

Please contact me at 781-982-6165 with any questions.

Best regards,
ROCKLAND TRUST COMPANY

By: Rose M. Buckley
Rose M. Buckley, Senior Vice President

Member FDIC

EQUAL HOUSING LENDER

Mary Ann Devlin
Director & Senior Vice President
Commercial Real Estate
Middlesex Savings Bank
301 Edgewater Place
Wakefield, MA 01880

Robert F. Millerick
Senior Vice President
Commercial Real Estate
Middlesex Savings Bank
301 Edgewater Place
Wakefield, MA 01880

September 16, 2022

Ms. Christine Grimando, AICP
Planning Director
Planning & Urban Development
Department
389 Congress Street 4th Floor
Portland, ME 04101

RE: 58 Fore Street Development, Portland, ME

Dear Ms. Grimando,

It is with pleasure that we provide this letter confirming our association with Portland Foreside Development Company (PFDC) and its managing partners Casey Prentice and Kevin Costello. My colleague and I have worked directly with the principals for the past three years having provided a $65.0 million construction loan facility in 2020 to finance the first of several phases of an approved Master Development Plan located at 58 Fore Street in downtown Portland, ME.

Loan proceeds were used to conduct Phase I site work, relocate and renovate a historical building and conduct vertical construction of an approximately 144,000 SF office/retail building including underground parking that will when complete be the home to the consolidated Maine offices of Sun Life of Canada. Additionally some preliminary earthwork was performed on the remaining adjacent phases. Phase I of the project is now nearing completion. It has been our experience that all stages of the Phase I development from the planning, to the design, engineering and implementation were carried out as represented, on time and on budget.

We value our affiliation with PFDC and its principals, Casey and Kevin. Their vision for 58 Fore Street continues to impress as they help to transform the waterfront along the Eastern Promenade into a uniquely beautiful destination for all to enjoy. The principals have continuously demonstrated their determination, resilience, maneuverability and resourcefulness in making Fore Street a reality. It is our hope that we will continue our association with Casey and Kevin and their vision, and take an active financing role in the next phase or phases of development at Fore Street.

Very truly yours,

Mary Ann Devlin
Director, Senior Vice President

Robert F. Millerick
Senior Vice President

3. EVIDENCE OF RIGHT, TITLE & INTEREST

3.1 Right, Title & Interest

The Project will occur on a parcel of land identified by the City as Lot 18-A-01 and owned by PF Land LLC. The deed for PF Land is attached. PF Land LLC subsequently conveyed approximately 482 square feet to PF One Devco LLC. The deed from PF Land LLC to PF One Devco LLC is also attached, modifying the original parcel into PF Land.

The Project area also includes a portion of an adjacent lot purchased by 21 Eastern Prom LLC, which is an entity affiliated with PF Land LLC. That lot is identified by the City as Lot 2-A-4 and is located at 21 Eastern Promenade. 21 Eastern Prom will convey said portion of Lot 2-A-4 to PF Land LLC prior to obtaining a building permit for the work occurring on that portion of the property.

3.2 Easements & Other Burdens

Depending on which method of support for excavation is utilized, project construction could require installation of tiebacks into property on adjacent land, including City land. This would be similar to the tiebacks into the City's Fore Street right-of-way for the Block 4 garage as previously approved in the Phase 1 Site Plan. In addition to the potential need for tiebacks, there will be encroachments into the City right-of-way with structural elements that will span over the top of the existing seawall, creating a connection from the Block 4 Townhouses to the Fore Street sidewalk. The Phase 1 Site Plan approval contained the following condition to address the situation: "Prior to application for building permits, the applicant shall finalize any agreement required by the City of Portland authorizing the replacement and maintenance of the retaining wall along Fore Street and any license agreements required to permit encroachments into the City's right of way. All necessary agreements shall be finalized to the satisfaction of the Planning Authority, Department of Public Works, and Corporation Counsel."

The Applicant requests a similar condition to address possible encroachments onto the City right-of-way for Phase 2. In addition, to the extent the project design results in encroachments onto adjacent private property, the Applicant requests the following condition: "Prior to application for building permits, the applicant shall provide written agreements with adjacent landowners necessary to permit encroachments onto adjacent property."

The attached memo from the project's geotechnical engineer, Haley & Aldrich, documents two options for support of excavation – one that will require tiebacks, and one that will not. Both options were deemed technically feasible by the engineers. The Applicant will make a determination on construction type prior to application for a building permit and will provide all easement documentation if necessary.

Small portions of the Project located along the Maine DOT corridor are subject to the Land Exchange Agreement between the City, Maine DOT, and PF Land. The land swap will occur prior to obtaining building permits for work occurring on that southern edge of the property.

3.3 Attachments

- Property Deeds
- Geotechnical Design Memo

TRUSTEE'S DEED
(Maine Statutory Short Form)

KNOW ALL PERSONS BY THESE PRESENTS, that **TIMOTHY HALEY, of Stuart, Florida, SOLE TRUSTEE OF THE TIMOTHY HALEY LIVING TRUST, dated June 3, 2005** ("Grantor"), for consideration paid, grants to **21 EASTERN PROM LLC**, a Maine limited liability company with a mailing address of 254 Commercial Street, Portland, Maine 04101 ("Grantee"), the following described real estate situated at 13-23 Eastern Promenade, in the City of Portland, Cumberland County, State of Maine as more particularly described in Exhibit A attached hereto and made a part hereof

See Attached Exhibit A

MAINE REAL ESTATE TAX PAID

Meaning and intending to convey the premises conveyed by virtue of Quitclaim Deed without Covenant from Katherine C. Haley and Timothy J. Haley, Trustees, under the Daniel T. Haley Sr. Family Trust dated January 21, 2006, dated January 11, 2007, and recorded in the Cumberland County Registry of Deeds in Book 24759, Page 67, by Quitclaim Deed without Covenants from Katherine C. Haley and Timothy J. Haley, Trustees, under the Daniel T. Haley Sr. Family Trust dated January 21, 2006, dated January 11, 2007 and recorded at Cumberland County Registry of Deeds in Book 24759, Page 069 and by Quitclaim Deed without Covenants from Timothy J. Haley and Julia A. Haley, successor Trustees, under the Haley Family Living Trust dated February 6, 1997, dated December 4, 2008 and recorded at Cumberland County Registry of Deeds in Book 26503, Page 224 to Timothy Haley, sole Trustee or his successors in trust, under the Timothy Haley Living Trust, dated June 3, 2005.

I hereby covenant that I am Trustee pursuant to said Trust; that said Trust is still in full force and effect; that I have the power thereunder to convey as aforesaid; and that, in the making this conveyance, I have, in all respects, acted pursuant to the authority vested in and granted to me there.

WITNESS my hand and seal, this 08 day of December, 2021.

WITNESS:

Cecilia Meraldo

Timothy Haley, Sole Trustee of The Timothy Haley Living Trust, dated June 3, 2005

STATE OF FLORIDA
COUNTY OF MARTIN, ss.

December 28, 2021

Then personally appeared the above-named Timothy Haley, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

LANA ELAINE BAILEY
Commission # GG 329959
Expires August 31, 2023
Bonded Thru Troy Fain Insurance 800-385-7019

Before me,

Attorney at Law/Notary Public
Print Name: Elaine Bailey
My Commission Expires: 8-31-23

Exhibit A

Certain lots or parcels of land, together with any building and improvement thereon, situated on the southeasterly side of Eastern Promenade, in the City of Portland, Cumberland County, State of Maine, bounded and described as follows:

PARCEL ONE:

A certain lot or parcel of land, with the buildings thereon, situated on the southeasterly side of the Eastern Promenade in said Portland, and bounded and described as follows, viz: Beginning on said side of said Eastern Promenade at the northeasterly corner of land now or formerly of Henry F. Merrill, and running thence southeasterly by said Merrill land and land of Portland Company two hundred fifty-five (255) feet, more or less, to land conveyed by John G. Munroe and others to the Portland Company by deed dated January 5, 1904, and recorded in Cumberland County Registry of Deeds, Book 765, Page 307; thence northeasterly by said land conveyed to said Portland Company as aforesaid one hundred (100) feet to other land now or formerly of Henry F. Merrill; thence northwesterly on a line parallel with the first described course two hundred fifty-five (255) feet, more or less, to said Eastern Promenade; thence southwesterly by said Eastern Promenade one hundred (100) feet to the place of beginning.

PARCEL TWO:

Beginning at a point on the southeasterly side of said Eastern Promenade at the northwesterly corner of land of Walter W. Duffett and thirty-six (36) feet southwesterly from the dividing line between the land now or formerly of Walter W. Duffett and the land now or formerly of William Curtis; thence southwesterly by said Eastern Promenade, forty-nine (49) feet, more or less, to land formerly belonging to one Monroe; thence southeasterly by said Monroe's land seventy (70) feet, more or less, to land now or formerly of Cyrus Cole; thence northeasterly by said Cole's land, forty-nine (49) feet, more or less, to said Duffett's land; thence northwesterly by said Duffett's land, seventy (70) feet, more or less, to the point begun at.

PARCEL THREE:

Beginning at a point in a southeasterly direction from the Eastern Promenade in the northeasterly side line of land now or formerly owned by heirs of J. Monroe, and distant one hundred and sixty-two (162) feet from the point of intersection of said side line of the Monroe land with the southeasterly side line of said Eastern Promenade, and from this point extending in a northeasterly direction about fifty (50) feet along the northwesterly side line of land sold to Henry Merrill et als. by deed dated June 29, 1898, recorded in Cumberland Registry of Deeds in Book 661, Page 176, and to the southwesterly side of land sold to Walter W. Duffett by deed dated June 29, 1898, recorded in said Registry of Deeds in Book 661, Page 175; thence by said southwesterly side line of the land so conveyed to Walter W. Duffett and by land now or

formerly of Mary Duffett to the southeasterly side line of land now or formerly of one Clark: thence by the said southeasterly side line of land now or formerly of said Clark, and by said line extended, to the said northeasterly side line of said Monroe land; thence by said Monroe land, in a southeasterly direction to the point of beginning.

Received
Recorded Register of Deeds
Dec 30,2021 03:33:48P
Cumberland County
Jessica M. Spaulding

SHORT FORM QUITCLAIM DEED WITH COVENANT
DLN: 1002040119134

CPB2 I LLC (formerly known as **CPB2 LLC**), a Delaware limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantor"), FOR CONSIDERATION PAID, grants to **PF LAND LLC**, a Maine limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantee"), with QUITCLAIM COVENANT, certain real property, together with any improvements thereon, situated southerly of Fore Street, in the City of Portland, County of Cumberland and State of Maine, more particularly described on **Exhibit A** attached hereto and made a part hereof (the "Property").

Being a portion of the property described in the following deeds: (i) Quitclaim Deed with Covenant from 100 Fore Street, LLC dated April 10, 2019 and recorded in the Cumberland County Registry of Deeds in Book 35576, Page 153; (ii) Quitclaim Deed with Covenant from the City of Portland to CPB2 I LLC dated November 2, 2018 and recorded in the Cumberland County Registry of Deeds in Book 35264, Page 286; (iii) Quitclaim Deed with Covenant from The Portland Company to CPB2 LLC dated April 1, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31425, Page 267; and (iv) Trustee's Deed from Elizabeth M. Sprague, Eric Thomas Sprague and Phineas M. Sprague, Trustees of the Buena Vista Trust, to CPB2 LLC dated July 19, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30879, Page 75.

IN WITNESS WHEREOF, CPB2 I LLC has caused this instrument to be executed by Casey W. Prentice, Manager of CPB2 Management LLC, Manager of CPB2 I LLC, thereunto duly authorized, as of this 4th day of November 2020.

WITNESS:

Richard D Prentice

Name: Richard D Prentice

CPB2 I LLC
By: CPB2 Management LLC, Manager

By: _____
Casey W. Prentice, Manager

13531538.3
12481681.4.4.3.3.2

State of Maine
County of Cumberland, ss. November 3, 2020

PERSONALLY APPEARED the above-named Casey W. Prentice, Manager of CPB2 Management LLC, Manager of CPB2 I LLC, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability companies.

Before me,

Notary ~~Public~~/Attorney at Law
Print Name: Tom S. Hanson
Commission Expires: N/A

13531538.3
12481681.4.4.3.3.2

EXHIBIT A

A CERTAIN LOT OR PARCEL OF LAND WITH THE BUILDING THEREON SITUATED ON THE SOUTHERLY SIDE OF FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF LAND NOW OR FORMERLY OF 100 FORE STREET LLC AS DESCRIBED IN DEED BOOK 33748, PAGE 1 ON THE SOUTHEASTERLY SIDELINE OF FORE STREET AT AN IRON ROD FOUND;

THENCE, N 76°17'54"E ALONG THE SOUTHEASTERLY SIDELINE OF SAID FORE STREET 287.55 FEET;

THENCE, N 37°34'49"E CONTINUING ALONG THE SOUTHEASTERLY SIDELINE OF FORE STREET 734.45 FEET;

THENCE, N 45°16'49"E CONTINUING ALONG THE SOUTHEASTERLY SIDELINE OF FORE STREET 43.36 FEET TO THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF KENNETH & CAROLL MACGOWAN AS DESCRIBED IN DEED BOOK 15773, PAGE 153;

THENCE, S 47°03'11"E ALONG THE SOUTHERLY LINE OF SAID MACGOWEN 150.00 FEET;

THENCE, N 45°16'49"E ALONG THE EASTERLY LINE OF LAND OF MACGOWEN 112.00 FEET TO THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF TIMOTHY HALEY, TRUSTEE AS DESCRIBED IN DEED BOOK 24759, PAGE 67 & 69;

THENCE, ALONG THE LAND OF SAID HALEY THE FOLLOWING COURSES AND DISTANCES:

S 47°03'11"E A DISTANCE OF 110.28 FEET;

N 47°33'49"E A DISTANCE OF 100.00 FEET;

N 47°03'11"W A DISTANCE OF 95.88 FEET;

N 53°46'39"E A DISTANCE OF 49.73 FEET TO THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF PORTLAND HOUSE CONDOMINIUM AS SHOWN ON PLAN BOOK 142, PAGE 50;

THENCE, S 47°03'07"E ALONG THE SOUTHERLY LINE OF LAND OF SAID PORTLAND HOUSE CONDOMINIUM 240.48 FEET TO THE NORTHWESTERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE KNOWN AS THE RAIL-TRAIL CORRIDOR AT AN IRON ROD FOUND;

13531538.3
12481681.4.4.3.3.2

THENCE, S 47°33'49"W ALONG THE NORTHWESTERLY LINE OF LAND OF SAID STATE OF MAINE 685.00 FEET;

THENCE, S 52°46'49"W CONTINUING ALONG THE NORTHWESTERLY LINE OF LAND OF STATE OF MAINE 442.91 FEET TO THE LAND NOW OR FORMERLY OF CITY OF PORTLAND AS DESCRIBED IN DEED BOOK 10924, PAGE 84;

THENCE, S 57°47'32" W ALONG LAND OF SAID CITY OF PORTLAND 11.22 FEET TO A POINT OF CURVATURE;

THENCE, SOUTHWESTERLY CONTINUING ALONG LAND OF SAID CITY OF PORTLAND ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 466.50 FEET, AN ARC LENGTH OF 133.12 FEET, CHORD BEARING OF S 49°37'02" W AND CHORD LENGTH OF 132.67 FEET;

THENCE, S 41°26'32" W CONTINUING ALONG LAND OF THE CITY OF PORTLAND 17.92 FEET TO THE LAND NOW OR FORMERLY OF SAID STATE OF MAINE;

THENCE, S 46°01'18" W ALONG LAND OF STATE OF MAINE 31.95 FEET TO THE LAND OF CITY OF PORTLAND;

THENCE, N 52°05'24" W ALONG LAND OF CITY OF PORTLAND 97.53 FEET TO A POINT OF CURVATURE;

THENCE, NORTHWESTERLY ALONG LAND OF CITY OF PORTLAND ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 370.00 FEET, AN ARC LENGTH OF 47.73 FEET, CHORD BEARING OF N 48°23'40" W AND CHORD LENGTH OF 47.70 FEET TO THE SOUTHERLY LINE OF LAND OF SAID 100 FORE STREET LLC;

THENCE, NORTHWESTERLY ALONG THE EASTERLY LINE OF SAID 100 FORE STREET, LLC ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 370.00 FEET, AN ARC LENGTH OF 13.77 FEET, CHORD BEARING OF N 43°37'59" W AND CHORD LENGTH OF 13.77 FEET;

THENCE, N 42°34'01" W CONTINUING ALONG THE EASTERLY LINE OF 100 FORE STREET LLC 68.76 FEET;

THENCE, NORTHWESTERLY CONTINUING ALONG THE EASTERLY LINE OF 100 FORE STREET, LLC ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 370.24 FEET, AN ARC LENGTH OF 134.07 FEET, CHORD BEARING OF N 32°11'34" W AND CHORD LENGTH OF 133.34 FEET;

THENCE, NORTHWESTERLY CONTINUING ALONG THE EASTERLY LINE OF 100 FORE STREET, LLC ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 274.33 FEET, AN ARC LENGTH OF 13.01 FEET, CHORD BEARING OF N 20°51'48" W AND CHORD LENGTH OF 13.01 FEET TO THE SOUTHERLY SIDELINE OF SAID FORE STREET AT THE POINT OF BEGINNING.

13531538.3
12481681.4.4.3.3.2

BEARING ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 83.

EXCEPTING FROM THE ABOVE DESCRIBED PARCEL, THE LAND CONVEYED BY CBP2 1 LLC TO PF ONE DEVCO LLC BY DEED OF EVEN DATE TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS CONTEMPORANEOUSLY WITH THIS DEED

REFERENCE IS MADE TO THAT CERTAIN PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 58 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR PF ONE DEVCO LLC & PF LAND LLC", DATED MARCH 4, 2020 AND REVISED THOUGH NOVEMBER 2, 2020, PREPARED BY OWEN HASKELL, INC., JOB NO. 2019-013P.

THE PROPERTY IS CONVEYED SUBJECT TO AND WITH THE BENEFIT OF CERTAIN INTERESTS, RIGHTS, EASEMENTS, CONDITIONS, COVENANTS, RESTRICTIONS AND ENCUMBRANCES AS MORE FULLY SET FORTH IN THAT CERTAIN DECLARATION OF RESTRICTIONS, EASEMENTS AND AGREEMENTS BY CPB2 I LLC OF NEAR OR EVEN DATE HEREWITH, AND TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BEFORE THE RECORDING OF THIS DEED.

THE PROPERTY IS CONVEYED TOGETHER WITH THAT CERTAINREVOCABLE ACCESS LICENSE BY AND BETWEEN THE CITY OF PORTLAND, PF ONE DEVCO LLC, PF LAND LLC AND PF MARINA LLC OF NEAR OR EVEN DATE HEREWITH, TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS AT OR NEAR THE DATE OF THIS DEED.

THIS CONVEYANCE IS ALSO MADE SUBJECT TO ALL OTHER EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS OF RECORD.

MAINE REAL ESTATE TAX-Paid

QUITCLAIM DEED WITHOUT COVENANT
DLN: 1002140132239

PF LAND LLC, a Delaware limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantor"), FOR CONSIDERATION PAID, grants to **PF ONE DEVCO LLC**, a Delaware limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantee"), certain real property, together with any improvements thereon, situated southerly of Fore Street, in the City of Portland, County of Cumberland and State of Maine, more particularly described on **Exhibit A** attached hereto and made a part hereof.

Being a portion of the property conveyed to Grantor by deed from CPB2 I LLC dated November 4, 2020 and recorded in the Cumberland County Registry of Deeds in Book 37397, Page 78.

IN WITNESS WHEREOF, PF Land LLC has caused this instrument to be executed by Casey W. Prentice, Manager, thereunto duly authorized, this 11th day of February, 2021, as of

WITNESS:

Name:

PF LAND LLC

By:
Casey W. Prentice, Manager

State of Maine
County of Cumberland, ss.

February 9, 2021

PERSONALLY APPEARED the above-named Casey W. Prentice, Manager of PF Land LLC, and acknowledged that the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability company.

Before me,

~~Notary Public~~/Attorney at Law
Print Name: William M. Welch
Commission Expires:

13531538.3
12722943.2

DOC :11203 BK:37821 PG:161
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
02/17/2021, 10:57:49A
Register of Deeds Nancy A. Lane E-RECORDED

EXHIBIT A

A CERTAIN LOT OR PARCEL OF LAND SITUATED ON THE SOUTHERLY SIDE OF, BUT NOT ADJACENT TO FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHERLY CORNER OF LAND OF PARCEL 1C AS SHOWN ON PLAN TITLED "SUBDIVISION PLAT PORTLAND FORESIDE THAMES STREET & FORE STREET PORTLAND, MAINE MADE FOR OWNER OF RECORD CPB2 I LLC" BY OWEN HASKELL, INC. DATED FEB. 13, 2020, RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 220, PAGE 65;

THENCE, S 57°47'32" W A DISTANCE OF 10.19 FEET;

THENCE, ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 466.50 FEET, AN ARC LENGTH OF 1.10 FEET, A CHORD BEARING OF S 57°43'29" W AND CHORD DISTANCE OF 1.10 FEET;

THENCE, N 49°28'50" W THROUGH REMAINING LAND BY DEVELOPER A DISTANCE OF 19.41 FEET;

THENCE, N 40°31'10" E CONTINUING THROUGH REMAINING LAND BY DEVELOPER A DISTANCE OF 38.71 FEET TO SAID PARCEL 1C;

THENCE, S 53°28'50" E ALONG PARCEL 1C A DISTANCE OF 9.05 FEET;

THENCE, S 40°31'10" W ALONG PARCEL 1C A DISTANCE OF 28.56 FEET;

THENCE, S 49°28'50" E ALONG PARCEL 1C A DISTANCE OF 13.73 FEET TO THE POINT OF BEGINNING, CONTAINING 482 S.F. MORE OR LESS.

BEARING ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 83.

HALEY & ALDRICH, INC.
75 Washington Avenue
Suite 1A
Portland, ME 04101
207.482.4600

MEMORANDUM

6 March 2023
File No. 39486-881/882

TO: Portland Foreside Development Company
David A. Senus, P.E.
Director of Planning and Design

C: Woodard & Curran
Darrin B. Stairs, P.E.
Project Manager/Associate Principal

FROM: Haley & Aldrich, Inc.
Wayne A. Chadbourne, P.E.
Principal/Geotechnical Engineer

SUBJECT: Support of Excavation System Options
Proposed Block Four and Block Six Buildings
PFDC Harbor Hill/Foreside Development
Fore Street, Portland, Maine

Per your request and our recent discussions, this memorandum summarizes permanent support of excavation (SOE) system options that would be needed to allow construction of the proposed buildings for the Block Four and Block Six projects. The project team has evaluated two SOE system options for the projects. Both options are presented below, and we consider both to be technically feasible based on the soil and rock conditions present at the site.

The first option is an "externally braced" system which includes installation of below grade soil nails and tieback anchors into the retained soil. These elements are needed to provide lateral support for the system. This option will require easements on adjacent properties to allow installation of the soil nails and tieback anchors, some of which would extend over the property line. Please refer to Figure 1 for a typical cross section of the externally braced SOE system option.

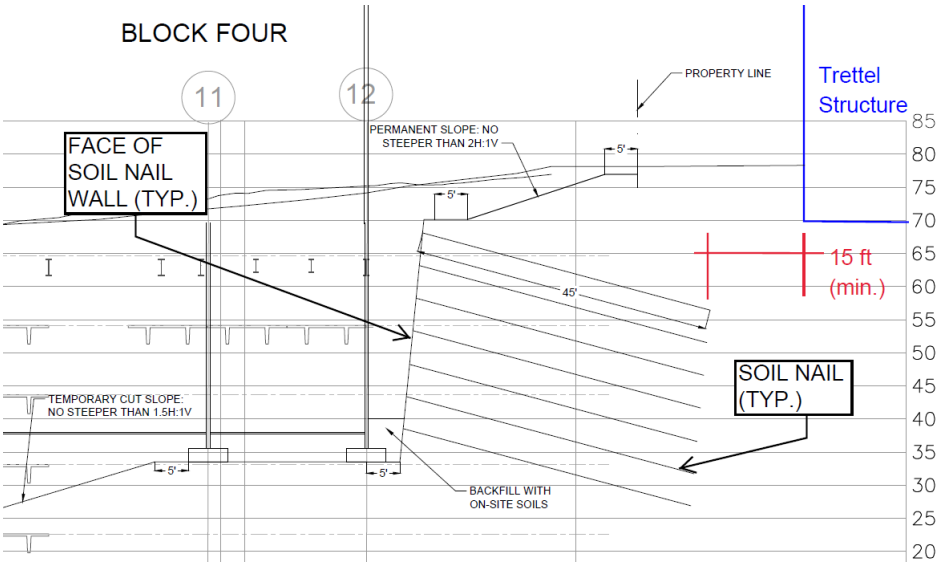


Figure 1 – Typical cross section, externally braced SOE system; easements would be required.

The second SOE system option is an "internally braced" system which uses steel walers and steel raker bracing located inside the limits of the excavation to provide lateral support for the system. This option will not require easements on adjacent properties as the entire system can be constructed within the limits of the site. Please refer to Figure 2 for a typical cross section of the internally braced SOE system option.

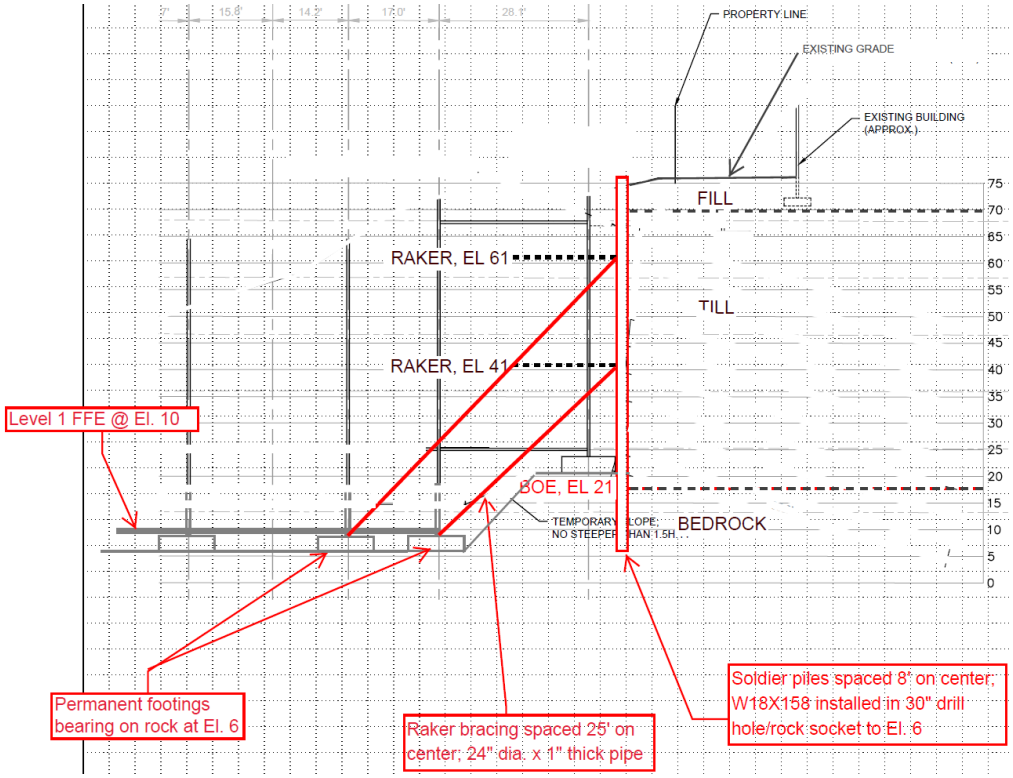


Figure 2 – Typical cross section, internally braced SOE system; easements not required.

We appreciate the opportunity to provide support to the team on this aspect of the project. We would be happy to meet with you or the City of Portland to discuss the information provided in this memorandum. Please do not hesitate to contact us if you have any questions or comments.

\\haleyaldrich.com\share\CF\Projects\39486\881 - Block 4 Schematic Design\SOE adjust for no nails on Trettle\2022-0306-HAI-no easement SOE memo-f3.docx

4. CONSISTENCY WITH CITY OF PORTLAND TRANSPORTATION STANDARDS (14.6.1)

A Traffic Movement Permit (TMP #2016-224) was issued by the City of Portland on May 26, 2017, as part of the 58 Fore Street Master Development Plan review process. The TMP conditions of approval require that updated traffic analyses and a Transportation Demand Management (TDM) Plan be approved for each phase of development. Traffic Assessments have been prepared by Gorrill Palmer for each development Block (assuming Block 4 will be constructed first, followed by Block 6, then Block 5). A TDM Plan was developed by VHB for all three development blocks. These reports will be uploaded separately to the Documents folder in Eplan.

Compliance with the City of Portland's Land Use Code Section 14.6.1 Transportation Standards is described in the following sections.

4.1 Impact on Surrounding Street Systems

The project's Traffic Assessments were prepared by Gorrill Palmer for the proposed development. They evaluate the entire site as approved to date with previously approved and constructed Block 1A and Building 12, and the approved, but not yet rehabilitated Block 2 development. The first assessment adds in just the Block 4 development, the second memo includes both Block 4 and Block 6, and the third memo includes Blocks 4, 5, and 6. A trip generation summary is provided in the traffic assessment, as well as a comparison to trip generation previously approved in the Traffic Movement Permit as part of the 58 Fore Street Master Development Plan process. The proposed development will remain within the level of traffic that was previously approved for the Traffic Movement Permit.

4.2 Access and Circulation

General

The primary vehicular and pedestrian entrances to the site are via Thames Street Extension and Fore Street. Pedestrians will also be able to access the site from the Eastern Promenade trail and Fore Street by using the new staircase that was installed as part of Phase 1.

Vehicles entering on Thames Street may park in one of nine on-street parallel parking spaces or may drive through the site to park in garage spaces located in Buildings 1A, 4, or 6. Additional vehicular access to the Building 4 garage is provided via a garage entrance on Fore Street, directly opposite Waterville Street.

Similar to Phase 1, the design of the proposed roadway internal to the Site will safely accommodate a mix of pedestrian and vehicle traffic. Sections of the roadway will have continuous paving to unify the driving lane and sidewalk zones, while the paving design defines various zones for vehicles, pedestrians, and parking through a mix of materials and paving patterns. Though the material will be continuous, a textured band of paving will differentiate the zones providing visual and tactile clues to the change in use. Curbing will also be used in some areas of the site to help to accommodate grading challenges. Driving lanes are defined by continuous, centerline trench drains along sections of the roadway and the edges are marked by a combination of parking spaces, plants, street trees, bollards, and light poles.

Loading and Servicing

Loading and trash removal will be addressed in each of the buildings throughout the site with designated spaces to accommodate deliveries and storage.

Fore Street Curb and Sidewalks

Brick sidewalks and granite curbs will be provided along Fore Street, generally per the City of Portland Sidewalks and Driveway Apron Materials Policy. We have requested a waiver relative to the driveway apron standards, requesting that ramps be provided on either side of the Fore Street garage entrance as an alternative to the City's apron detail that requires a continuous sidewalk grade with a steep grade change at the curb edge of the sidewalk. The existing steep running grade of Fore Street (as much as 12% in the area of the garage entrance) makes the grading of this space a challenge. With this grade defining the cross pitch of the driveway we do not want to also introduce a steep grade change at the curb line as well. In addition, the City's recent Fore Street roadwork has introduced a crosswalk across Fore Street from Waterville Street located just to the west of the garage entrance; we will be providing a ramp down to access this crosswalk and will ramp the sidewalk back up to curb height following the garage entrance.

4.3 Public Transit Access

While no specific changes to public transit access are proposed as part of this project at this time, Portland Foreside Development Company has been in close touch with Metro. Portland Foreside and Metro are in agreement that this development area is very transit-friendly in terms of land use and location. In addition, the recent development of the Fore Street/Thames Street corridor warrants consideration for transit service in the future. Currently, the site is one quarter of a mile away from India Street where Route 8 runs, with additional service along Congress Street which is a short walk, or Route 8 transfer.

Casco Bay Lines, transit to the local islands, is also within a short walking distance from the site and the Portland Jetport and Portland Transportation Station (Amtrak and Bus Service) are within a 10-minute drive.

4.4 Parking

Vehicular Parking

The attached Traffic Assessment provides a detailed parking analysis for the proposed development. The parking demand will be satisfied by parking spaces on the garage level of Building 1A (previously permitted and under construction), and the proposed Phase 2 parking garage. A portion of the Phase 2 parking garage includes stackers that will allow for more efficient use of space for parking.

Snow Storage

The Site's snow removal will be managed by a contracted third party to ensure safe vehicular and pedestrian circulation, and to maintain access to the building entrances.

Electric Vehicle (EV) Charging

We are currently proposing 69 electric vehicle charging stations within the proposed parking garage. We are evaluating the electrical demand of more widespread electric vehicle charging, anticipating increases in demand in the future, and developing the garage space to support future expansions in charging stations. As set forth in more detail in Section 2.6, we are requesting a waiver of this standard to allow for a smaller number of stations initially, with installation of additional stations in response to demand.

Bicycle Parking

The project will include significant increases in bicycle parking on the site to support both the residential and non-residential uses on the property. Residential bicycle parking will be located inside the Block 4, 5 and Block 6 residential buildings. In the Block 4 building, a majority of the storage space is located on the first floor in a Campus Storage room and in a space near the Thames Street garage entrance. A bicycle FixIt Station will also be included within the Block 4 garage space. In Block 6, bicycle storage will be located on the first flow within designated recreational storage space that will be accessed both from the interior of the garage and through a building entrance fronting along the Eastern Promenade Trail. The non-residential bicycle parking is primarily located outside on exterior bicycle racks, with a few spaces previously provided inside Building 1A associated with the office use. The outside non-residential bicycle parking spaces will not be designated for specific users, and residents may choose to use these spaces as well.

The attached Traffic Assessments provide an analysis of the total number of bicycle parking spaces required based on an evaluation of both the number of residential uses and the number of parking spaces. Based on this analysis and considering the bicycle parking that was provided for Buildings 1A/12 and what is proposed for Blocks 4, 5 and 6, the site will be providing adequate bicycle parking, as represented in the table below.

Table 4-1 Bicycle Parking

	Internal	External
Building 1A/12 (previously approved)	9 (non-residential)	12 (non-residential)
Block 4	100 (residential)	20 (non-residential) (Block 4 and 5 site area combined)
Block 5	30 (residential)	
Block 6	60 (residential)	12 (non-residential)

	Required	Provided
Residential:	178	190
Non-Residential:	40	53
Total:	218	243

4.5 Transportation Demand Management (TDM)

A TDM Plan was developed by VHB for all three development blocks. This report will be uploaded separately to the Documents folder in Eplan.

5. CONSISTENCY WITH CITY OF PORTLAND ENVIRONMENTAL QUALITY STANDARDS (14.6.2)

Compliance with the City of Portland's Land Use Code Section 14.6.2 Environmental Quality Standards is described in the following sections.

5.1 Preservation of Significant Natural Features

The Site has been previously 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 (threatened species), roseate tern (endangered species) and monarch butterfly (candidate 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. It is not anticipated that the proposed development will have a negative impact on the northern long-eared bat, roseate tern, or monarch butterfly.

5.2 Landscape Preservation

The project will meet the Landscape Preservation standards as follows:

1. Site development shall be designed to incorporate, limit disturbance to, and limit removal of existing trees.
    a. The existing site is fully developed and there are no known areas of significant or unusual natural features, rare or endangered botanical features, or areas of significant wildlife habitats within or adjacent to the project site.
    b. Much of the site will be raised to elevation +/-15' above sea level (see grading plan for more detail) as an extension of the first phase of the project and to align with the City of Portland Comprehensive Plan for a resilient waterfront.
    c. The area around the existing seawall along Fore Street is populated with volunteer plants that have seeded themselves in. This slope will be cleared to allow the building to address Fore Street. The planting design more than doubles the number of trees currently found on site.
2. The site plan shall include adequate measures to protect vegetation to be preserved from construction impacts, in accordance with the landscaping and landscape preservation standards of the Technical Manual.
    a. There are no significant trees on site to be preserved.
3. All development subject to zoning setbacks shall preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area unless trees are non-native invasive species, as identified in the landscaping and landscape preservation standards of the Technical Manual or are deemed unsalvageable by the Portland City Arborist or their designee.
    a. The only vegetation on site is a steep slope of volunteer trees and dense shrubs/weeds. Much of the area is dominated by vines and invasive plants. The slope will be cleared as part of the construction process.

5.3 Site Landscaping & Buffers

Block 4 of the development is located to the east of Phase 1 of the project along Fore Street. The site design for this formerly industrial site includes an extension of Thames Street from Phase 1 along the southern side of the building, four significant courtyard spaces on the rooftop of the garage between the residential towers, and individual entries to several townhouses along Fore Street. The design intent is to provide vehicular and pedestrian access to the building and site while creating contemporary social spaces respectful of the site's industrial history that support the programmatic intent of the building.

The frontage along Fore Street consists primarily of a series of individual townhouses. Each unit has its own entry from the sidewalk. Each entry is flanked by a series of planting areas containing a mix of shrubs and groundcover plants to provide separation between the residential units and the sidewalk. The proximity to the existing seawall precludes the planting of trees as their roots would undermine the back of the seawall.

The primary pedestrian and vehicular entrances to the site are via an extension of Thames Street from the west. Nine street trees (Karpick Red Maple) are located within the sidewalk to the south of the building. These trees will be planted using a pavement support system to allow for healthy root development while maximizing paved areas for pedestrian circulation. The trees are arranged in groups of three to mimic the spacing of the residential buildings above. This has the added benefit of being able to aggregate the pavement support system such that they share a contiguous volume of soil.

Pedestrians will also be able to access the site via public stairs from Fore Street through the central courtyard, then down to Thames Street. The courtyards will contain an extensive series of raised planters, paved walkways, seating areas and entry decks to the residential units. The planters will contain a variety of plant types including small to medium trees, shrubs, and perennials to provide privacy for the residential units and to enhance the public walkway.

The east side of the property, where construction will require reinforced slopes cut into the hillside, will contain a sunken woodland garden containing thirteen birch trees and a mix of shade tolerant perennials.

5.4 Water Quality, Stormwater Management & Erosion Control

The 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, as well as the MaineDEP Chapter 500 Stormwater Standards associated with Site Location of Development Act Permit requirements. The Stormwater Management Plan included with this application demonstrates that the proposed development meets the applicable standards.

The project has been designed to minimize the impact of stormwater leaving the site. The project will not result in the flooding of adjacent lots or City property. Proprietary stormwater treatment systems have been installed as part of Phase 1 of the site's development, and additional systems are proposed as part of the current phase. A site that had previously seen no stormwater treatment or management other than some limited collection systems, will be managed to reduce the impact of stormwater on surrounding resources. Additionally, the project is not located within the watershed of an Urban Impaired Stream and is not anticipated to pose a risk of groundwater contamination during or after construction. Erosion and sediment control measures are described in the attached Stormwater Management Plan and detailed in the drawings. The development has also been designed to provide for the adequate and sanitary disposal of sewage, as further described in Section 5 of this Report.

5.5 Attachments

- Official Species List
- Stormwater Management Report (uploaded separately)

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

In Reply Refer To:
Project Code: 2022-0086547
Project Name: 58 Fore Street

September 19, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The 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 website 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/or 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 and/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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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 Code 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

Project Code: 2022-0086547
Project Name: 58 Fore Street
Project Type: Mixed-Use Construction
Project Description: Development project at 58 Fore Street.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.663273149999995,-70.24280579125673,14z



Counties: Cumberland County, Maine

Endangered Species Act Species

There is a total of 3 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

Birds

NAME	STATUS
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Woodard & Curran
Name: Amy LeBel
Address: 41 Hutchins Drive
City: Portland
State: ME
Zip: 04102
Email alebel@woodardcurran.com
Phone: 2075583841

6. CONSISTENCY WITH CITY OF PORTLAND PUBLIC INFRASTRUCTURE AND SAFETY STANDARDS (14.6.3)

Compliance with the City of Portland's Land Use Code Section 14.6.3 Public Infrastructure and Safety Standards is described in the following sections.

6.1 Public Safety and Fire Prevention

Provisions for public safety have been incorporated into the design of site visibility, access, and security. Adequate emergency vehicle access is provided via the proposed roadway. We have had multiple conversations with the Fire Department over the years throughout the Master Development Plan and previous site plan phases. Access remains consistent with what has been intended over the years of planning for this site.

6.1.1 Portland Fire Department Site Review Checklist

The items in the Portland Fire Department Site Review Checklist are addressed as follows:

- Name, address, telephone number of applicant:
    - Portland Foreside Development Company, c/o David Senus, PE
        - 110 Thames Street, Suite 200, Portland, ME 04101
        - (207) 558-3704
- Name, address, telephone number of architect:
    - Block 4
        - Perkins+Will, c/o Derek Johnson, LEED AP BD+C
        - 225 Franklin St, Boston, MA 02110
        - (617) 406-3430
    - Block 5
        - MARVEL, c/o Zachary Griffin
        - 145 Hudson Street, New York, NY 10013
        - (212) 616-0420
    - Block 6
        - Baskervill, c/o Burt Pinnock
        - 1051 E. Cary Street, Suite 200, Richmond, VA 23219
        - (804)728-3039
- Proposed uses of any structures [NFPA and IBC classification]:
    - The structures are mixed-use. Use classifications are provided on the code summaries included in the architectural plans.

- Square footage of all structures [total and per story]:
    - The square footage of all structures is provided on the architectural plans.
- Elevations of all structures:
    - The elevations of all structures are provided on the architectural plans.
- Proposed fire protection of all structures:
    - All structures shall be sprinkled.
- Hydrant locations:
    - Hydrant locations are shown on the Utility Plan.
- Water main size and location:
    - Watermain locations and sizes are shown on the Utility Plan.
- Access to all structures [min. 2 sides]:
    - Access will be provided to a minimum of two sides of all structures.
- A code summary shall be included referencing NFPA 1 and all fire department technical standards:
    - The buildings will be compliant with requirements of NFPA 101: Uniform Fire Code. Automatic sprinkler systems and fire alarms will be provided as required by Use and Occupancy types. Code summaries are provided on the architectural plans.

The life safety code plans for the proposed buildings are uploaded separately to the Drawings folder in Eplan.

6.2 Availability and Adequate Capacity of Public Utilities

The proposed development will be serviced by public water, sewer, gas, and electric utilities. The proposed locations of the utility services are shown on the Utility Plan included in the Design Drawings. The proposed development will also generate waste as a result of construction and post-construction operations.

6.2.1 Water

Woodard & Curran has been working directly with the Portland Water District (PWD) throughout the prior and current phases of work to ensure that all proposed infrastructure is being constructed in conformance with their standards. We previously received the ability to serve confirmation for the overall development and will provide required block-specific approvals as part of the Site Plan process for each phase of development.

The proposed development will be provided with both fire protection water service and domestic water service as shown on the drawings via a private water system that will connect to the public water main on Fore Street. Woodard & Curran is working directly with the Portland Water District to determine the appropriate design for this work. The ability to serve documentation for Phase 2 is attached to this section.

6.2.2 Sewer

The proposed development will be provided with sanitary sewer service as shown in the drawings. The private system on the site will include a combination of gravity sewer and force main with a pump station that will discharge to the sewer on the Thames Street Extension. The existing sewer service on Fore Street will be abandoned. The proposed development will include restaurants, kitchens, and parking garages; grease traps and oil/water separators will be provided as shown in the drawings. A copy of the City's determination of ability to serve will be provided upon receipt.

6.2.3 Gas

The proposed development will utilize natural gas service provided by Unitil. Proposed infrastructure is shown on the Utility Plan. The location and size of the gas service is being coordinated with Unitil. An ability to serve determination will be provided upon receipt.

6.2.4 Electric

The proposed development will utilize underground electric service. Proposed infrastructure is shown on the Utility Plan. The design of the electric service is being coordinated with Central Maine Power (CMP). Final electric layouts will be provided to CMP for their review and an ability to serve determination will be provided upon receipt.

6.2.5 Solid Waste

Adequate provisions for recycling and solid waste disposal have been made. All solid waste materials and recyclables generated by the proposed development will be transported and disposed of or recycled in accordance with applicable laws and regulations. Solid waste will be managed in full accordance with all applicable laws and regulations.

6.2.6 Construction & Demolition Debris

The proposed development will generate construction waste and demolition debris (CDD). The Contractor will be responsible for properly disposing of the CDD. The Contractor will be responsible for handling, managing, and disposing of all waste generated by construction in accordance with the Maine Solid Waste Management Regulations and all other applicable local, state, and federal regulations.

6.2.7 Special & Hazardous Waste

The proposed development is not anticipated to produce any hazardous waste. Environmental assessments of the Site have been conducted and the Owner is a participant in the Maine Department of Environmental Protection Voluntary Response Action Program (VRAP). A soil management plan has been developed for the site.

6.3 Attachments

- PWD Ability to Serve Email

Amy LeBel

From: AMaP MEANS <means@pwd.org>
Sent: Wednesday, March 22, 2023 3:47 PM
To: Lauren Swett
Cc: Thomas Whitney
Subject: 525766-58 Fore Street PH2, PO
Attachments: PO - Portland Foreside Ph II - Infrastructure Map - 2023.pdf

Hello Ms. Swett,

This email does not give final approval of the 58 Fore Street Phase 2 development project from PWD, however it can be used to satisfy Site Law Statute §484 - Standards for Development, Site Law Rule Chapter 375(18), and Site Law Rule Chapter 375(6) granted that the applicant meet all applicable standards set forth by DEP or other governing body. Attached is a copy of PWD's infrastructure map noting the location, type, and size of the public water infrastructure near your site, demonstrating a sufficient and healthful water supply exists. Based on the demand provided by the applicant, the district has sufficient supply to serve the proposed project, as long as the project is designed and installed in accordance with PWD standards. This email shall serve as PWD's acknowledgement of the project and the start of design coordination with the development team; In no way shall this information be interpreted as a determination of PWD's ability to serve the project at this time as this is only a determination of the capacity of the existing system based on the proposed development. As your project progresses, we require that you submit design plans to MEANS for review of the proposed water improvements. An Ability to Serve Determination letter is required from the District in order to receive final approval from the District and the municipality having jurisdiction.

Please let me know if you have any questions.

Thanks,

Portland Water District

225 Douglass Street, PO Box 3553

Portland, ME 04104

Phone: 207-774-5961 x3199

E-mail: means@pwd.org

http://www.pwd.org

Portland Water District NOTICE & DISCLAIMER Confidentiality Notice:

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED AND CONFIDENTIAL. Please notify the sender if you have received this message in error. Recipients should be aware that replies to this message may not be considered confidential under the Maine Freedom of Access law, 1 M.R.S.A. §402, and may therefore be subject to public disclosure upon request.

Please consider the environment before printing this email



86 Leland Street

Portland

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, ME 04104

Scale 0 20 40 80 120 160 Feet — 1 inch = 100 feet

Legend

- Air Valve
- Blow Off
- By Pass
- Distribution
- Transmission
- Connection
- Attribute Change
- Hydrant Control
- Reducer
- Hydrant
- Meter Pits
- Combined Service
- Domestic Service
- Fire Service
- Shallow Water Main
- Deep Water Main
- Proposed Water Main
- Private Hydrants
- Gravity
- Force
- Manhole
- CSO

Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By: HAS	Infrastructure Map
Scale: As Noted	March 8, 2023

7. CONSISTENCY WITH CITY OF PORTLAND SITE DESIGN STANDARDS (14.6.4)

Compliance with the City of Portland's Land Use Code Section 14.6.4 Site Design Standards is described in the following sections.

7.1 Massing, ventilation, and wind impact

Buildings have been designed within a context of similarly scaled new and existing buildings. All primary mechanical equipment is housed either within buildings, or within a fully screened extent of roof located to minimize disruption to abutting properties. HVAC venting is directed away from adjacent public areas.

7.2 Shadows

Buildings have been designed to minimize impacts of shadows on open space and public areas that would affect the viability of the public use and existing vegetation. Over the course of the day, direct sunlight will be provided to adjacent areas to promote the use and growth of vegetation.

7.3 Snow and ice loading

Buildings have been designed to prevent snow and ice from accumulating and falling onto abutting properties and public ways.

7.4 View corridors

Buildings have been designed to accommodate view corridors identified in the City's regulatory requirements.

7.5 Historic Resources

A small portion (4 townhouses) of the proposed development is located within the Portland Company Historic District and the western façade of Block 4 is located within 100 feet of the Portland Company Historic District. The design of these components takes into consideration the review that was undertaken during the Master Development Plan process and the previous Level III Site Plan process. A portion of the residential condominium project associated with Block 6 is located partially within the Munjoy Hill Historic District. We will work with the Planning Division on the required historic preservation review concurrent with the Site Plan process.

7.6 Exterior Lighting

Site Lighting

Proposed exterior lighting will be addressed as part of a future submission. The photometric evaluation of the site is currently ongoing and will be provided under separate cover.

7.7 Noise and Vibration

The noise impact from the proposed development will be minor. The primary source of noise from the proposed project will be the result of construction. Construction activities will be limited to the hours permitted by the City. HVAC and primary mechanical equipment will be located and screened to mitigate noise impacts. Noise associated with the proposed development will not exceed regulated levels and is not anticipated to negatively impact surrounding development in its urban setting. Noise and vibration associated with the proposed development will not exceed regulated levels.

7.8 Signage and Wayfinding

Sign permit applications 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.

Consideration has been put into wayfinding to minimize vehicular traffic. The primary site entrances associated with Phase 2 are located off Fore Street and Thames Street, which will lead directly into the Block 4 parking garage. The Traffic Assessment provided in Section 3 includes a trip summary for each site entrance.

8. CONSISTENCY WITH CITY COMPREHENSIVE PLAN

Since the original vision for the redevelopment of 58 Fore Street was formed, Portland Foreside has reviewed, considered, and referenced numerous City Planning documents – both past and present. The broad planning efforts that have been undertaken in the past have provided a foundation for what the intention and vision is for the eastern waterfront and for what this new, mixed-use neighborhood will become.

Portland Foreside has documented consistency with the City's comprehensive plan(s) twice in the past, including the Master Development Plan that was approved in 2016 and the Phase I Level III Site Plan that was approved in 2020. Phase II, the next phase of development which includes Block 4, Block 5, Block 6 and associated site and infrastructure improvements was designed to bring to life many of the goals and themes of Portland's Plan 2030. Creating a vibrant mixed-use neighborhood that is an extension of the City's downtown area and opens up the waterfront to residents, employees and visitors is what this overall project seeks to achieve.

The City's current Comprehensive Plan (Portland's Plan 2030) completed in 2017 articulates a vision of Portland's values and provides a framework for decision making revolving around the values, goals, and strategies of the City over the next decade. This next phase of the redevelopment remains consistent with the previous planning documents and is also consistent with Portland's Plan 2030.



Figure 8-1 Six Interconnected Themes Identified During Portland's Comprehensive Planning Process

Comprehensive Plan Vision Statement

Portland's Plan 2030 is guided by a vision statement for the City that includes six interconnected themes, which provide the foundation for focusing City policies and priorities identified for gauging success. The goals and implementation strategies in the Plan support the vision statement.

This current phase of the Portland Foreside development aligns with all six themes of the vision statement, with focus on many of the specific points (listed below in italics) highlighted within those themes.

Equitable *We (City) will remain an open and inclusive city, celebrating diversity and providing a welcoming and safe place for residents and visitors alike.*

The benefits and costs of our City will be born fairly across the entire City.

We will incorporate the needs of all our residents in planning for our future.

A core principle of the entire Portland Foreside project is connectivity to the rest of the City and opening up this part of the eastern waterfront to the public for the very first time. Enjoying the waterfront is something that should be available to all residents, employees, and visitors to the City. This new mixed-use neighborhood will be welcoming and safe.

Phase 2 of the project features the addition of over 444 housing units of various types to the Portland market, a hotel, retail spaces and public plaza spaces. The added tax revenue to the City that will be generated from this currently underutilized property will be a tremendous benefit. Phase I of the project completed site features such as stairs and plaza areas that are now accessible from Fore Street. The site is intended to be welcoming to pedestrians and provide important public access to the waterfront.

Sustainable *Portland has been built and rebuilt to endure; we will balance our historic fabric, sound infrastructure, and the best of new technology and design for the future.*

Portland will grow in order to sustain our community, infrastructure, and economy.

Growth should respect and seek to preserve our spectacular natural resources.

We will recognize our responsibility as a global citizen and that climate change will have significant impacts on our city by prioritizing a transition to a low-carbon economy and adapting to those climate changes we can no longer mitigate.

With an authentic, celebrated historic core, Portland Foreside is excited to balance the past with a mix of uses that will allow for full enjoyment of the eastern waterfront by the public. Redevelopment and reuse are a core sustainability principle. Block 4, Block 5, and Block 6 will serve to complement the adjacent historic core and provide needed housing units and additional infrastructure to support sustainable growth. Developing underutilized urban sites by nature helps to preserve natural resources where otherwise growth may occur. The Portland Foreside neighborhood has been framed with important consideration given to floodplain, drainage during storm events, EV charging stations, bicycle access, pedestrian access and offering residents, visitors, and employees a place to live, work and visit without using a vehicle or other mode of transportation. Each of these considerations are actions to help advance the City's climate change goals.

Dynamic *We will embrace innovation in order for our community to thrive.*

We will welcome new residents into our community because they enrich and sustain our city.

Portland will plan for a built environment that encourages an active citizenry.

Phase 2 of the Portland Foreside redevelopment project supports the opportunity to link its a vibrant downtown to the eastern waterfront. Connections to the Eastern Promenade trail reinforce important pedestrian and bicycle connections, while the shared street design prioritizes pedestrian access through the site. The space will be accessible to residents, visitors, and employees from within the development and from the surrounding Portland neighborhoods. The addition of 400 housing units to this site in an already densely developed area is good urban planning and a way to further enrich the City and where people can live. With a new neighborhood that provides places for people to work, live and visit, there is a natural intersection of the built environment with varying uses to encourage an active, diverse, dynamic vibrancy.

Secure *We will strive to create a resilient economy through innovation, investment, and commitment to diversity.*

We will be committed to accessible housing and healthy food for all our residents.

We will prepare for emergencies and be ready for a changing climate.

We will strive to create a resilient economy through innovation, investment, and commitment to diversity.

Phase I of the redevelopment at Portland Foreside focused heavily on adding good paying jobs to the local downtown area by constructing a building for Sun Life Financial. The innovation, investment, and commitment to diversity of this company is inspiring. To further support this office use, Phase 2 is further diversifying the uses on the site to include retail, a hotel, housing, waterfront improvements and infrastructure that will be a major investment along the eastern waterfront. Creating 444 housing units in Block 4, Block 5 and Block 6 is advancing the City's commitment to accessible housing units. Designing these three blocks with climate change and security in mind will provide the City the ability to achieve its resilient economy goals.

Authentic *We (City) will celebrate our city's incredible history.*

The uniqueness and integrity of our neighborhoods will be maintained and enhanced.

We will invest in and support our local economy.

We will maintain our character through preservation, innovation, and excellence in design for the built environment.

The entire Portland Foreside redevelopment project is a celebration of the City's history while positioning the eastern waterfront to be successful in the future. The historic core of this project is complemented by Phase 2 which is unique and different from any other neighborhood in the City. As a true mixed-use neighborhood, the uses not only provide much needed housing, but also a variety of jobs that are good paying and foster further investment in the local economy. Maintaining the character of the eastern waterfront is evident through what has been preserved on site and the outstanding thought and design put forth in Blocks 4, 5 and 6 to complement the historic core and waterfront area.

Connected *We will foster accessible linkages between where we live, work, shop, and play.*

We will enable meaningful access to the natural world and recreational opportunities as a central component of community health.

Our success will be tied to our connections to each other, our state, and our region.

A 21st century Portland will continue to rely on integrated transportation infrastructure.

The entire Portland Foreside redevelopment project is focused on being connected and fostering linkages to the rest of the Old Port, the Eastern Promenade, and the Munjoy Hill Neighborhood. The access to these areas is very meaningful, because historically, they have not existed in this part of the City. Residents, employees, and visitors have not been able to live, work or visit this area of the City and the access that Phase II will provide immediate, meaningful access to the Eastern Promenade trail and the enjoyment of Casco Bay. As a true mixed-use neighborhood, connection of all uses on this property are key to success of the project, but also for people who live and work there. The massive changes as a result of this project connect directly to the City, State and region through increased tax revenue, increased sales tax, and increased income tax. The commitment to integrating this site into the City's public infrastructure will also serve to offer meaningful connections and integration throughout other areas of Portland and the region.

The proposed development supports Portland's desire to endure by offering an opportunity to grow, change, and revitalize an area of the City that has been underutilized for many years and to support redevelopment where it makes sense within the City. The following sections describe how the proposed development will align with the policy guides associated with Portland's Plan 2030.

Comprehensive Plan Policy Guides

The City of Portland Comprehensive Plan includes eight specific policy guides focused on the topics of environment, historic resources, waterfront, economy, housing, recreation and open space, facilities and services and transportation. The discussion below emphasizes how the proposed development is consistent with each individual policy guide.

Environment Policy Guide

- Within the Environment Policy Guide, one of the local goals is to develop climate resilience through specific carbon reduction goals, comprehensive climate adaptation strategies, and protections for the City's most vulnerable infrastructure. The design team has specifically considered resiliency as part of the proposed Block 4, Block 5 and Block 6 development through building design and site layout.

- The Policy Guide also has a local goal to adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation. The proposed development is the next phase of the overall 58 Fore Street Master Development Plan to move forward, and it was conceptualized around the ideas of connectivity and walkability. The proposed shared street concept will prioritize pedestrian movements through the site, and parking garages have been efficiently incorporated into the site layout. Pedestrians will be able to access the site directly from Munjoy Hill.

- One future strategy is improving water quality. As described by the project-specific Stormwater Management Plan, stormwater best management practices will be incorporated into the Site to improve drainage and water quality treatment.

- Another future strategy is to develop climate resilience by pursuing strategic investment where storm surge and sea level rise will have impacts, including the waterfront. The design team has considered future sea level rise, storm surge, and flooding scenarios and the project has been designed to prioritize resiliency on the Site. Building finish floor elevations are established in consideration of future sea level rise.

- The development also includes the addition of stormwater treatment and conveyance systems to improve drainage and water quality. Prior to the site's redevelopment, no stormwater treatment was in place on the site. The development of this phase of work will bring the site to a level of 50% treatment through the use of proprietary treatment devices and below-grade stormwater storage.

The proposed development of Blocks 4, 5 and 6 of the 58 Fore Street Master Development Plan will have a positive impact on maintaining and enhancing connectivity and walkability in the East End of the City. This downtown development is also in line with the goals of the City's environmental policy.

Historic Resources Policy Guide

The overall proposed development supports the Historic Resources Policy Guide by aligning with the following goals:

- Promote historic preservation as a key economic, sustainability, and community development strategy.

- Stabilize and enhance historic areas of the city by ensuring quality investment in existing structures and compatible infill development.

- Ensure an appropriate balance of continuity and change as Portland grows and evolves.

Portions of the proposed development are located within the Portland Company Historic District and the Munjoy Hill Historic District. This phase of the 58 Fore Street Master Development Plan will be compatible with the major character defining elements of the districts. The development has been designed to promote historic preservation as an economic, sustainability, and community development strategy. The redevelopment of this Site is based on enhancing the former Portland Company Complex components that remain through quality investment and compatible adaptive reuse. The project balances continuity and change in an evolving Portland by preserving the historic character of the site while helping to meet the demand for sustainable growth.

Waterfront Policy Guide

The proposed development includes access points from Fore Street and through the site that connect plaza areas on the building rooftops down to the waterfront level. Promoting passive and active recreational access to the waterfront is a key goal in the Waterfront Policy Guide. The overall site development will create public access to the waterfront in an area of the City where direct access does not currently exist by creating thoughtful linkages at the pedestrian level in a built environment. The proposed development will also promote the City's connectivity by maintaining and enhancing the existing Eastern Promenade Trail, which

provides pedestrian access to both the Site and the waterfront area. Reconstruction of the trail has been included as part of a separate site plan application along with the reconstruction of the Narrow Gauge Railroad through this area, and other waterfront improvements that will supplement the work being completed for this phase.

Economy Policy Guide

The proposed development directly supports goals within the Economy Policy Guide including:

- Create economic prosperity by growing Portland's tax and employment base.
- Reinforce the waterfront as a key component of Portland's economic health, balancing traditional and emerging industries with tourism and recreation.

Retail, hotel, and residential space created by the development will help to grow Portland's tax and employment base. Locating these types of uses in this development helps to balance activity in this part of the City between tourism and recreation and traditional and emerging industries, while also providing for new residential uses. The proposed development intends to encourage public access by creating an authentic and dynamic environment, which will help stimulate use of the businesses located in the City's east end. The scale of residential development proposed will also bring a new residential population a property in the City that has never previously served the residential use. Additionally, the proposed development will revitalize the area, which will ultimately result in an increased valuation of the existing surrounding properties.

Housing Policy Guide

Phase 2 (Block 4, Block 5, and Block 6) includes the development of 444 housing units and supports the goals of the City's Housing Policy Guide to create complete neighborhoods. The proposed development will provide housing in close proximity to the City's urban center and transportation hubs in support of a walkable and vibrant neighborhood.

In a 2021 memo to the HECD from the City's Planning Director, it is noted that housing is one of the City's most pressing issues. It references Portland's Plan 2030 and the housing production target goals to "encourage housing that meets the needs, preferences and financial capabilities of all Portland households." Portland's Plan 2030 also is supportive of housing creation "in all neighborhoods and supports significant increases in housing within major transportation nodes and corridors."

The opportunity to create 444 housing units on the peninsula in a mixed-use waterfront neighborhood is consistent with both local policies and plans and with redevelopment efforts throughout the country. The opportunity to live, work and visit waterfront areas that have been previously underutilized in the past is a documented, successful approach to sustainable cities and communities. Phase II will directly and immediately address some of the City's housing production goals in a positive way and allow for residents at varying incomes to live in a vibrant, densely developed area.

Recreation and Open Space Policy Guide

Additional public access to the waterfront from Fore Street is being created as part of Phase 2 through the addition of two staircases that will take pedestrians through a courtyard down a staircase to Thames Street or through an interior staircase down to the historic core. From these locations, pedestrians can continue

onto the waterfront and the Eastern Promenade Trail. The proposed development is exciting and directly consistent with goals in this policy guide including:

- Sustain and build our system of parks, trails, and open spaces to enhance our quality of life, protect our environment, and promote the economic well-being of our remarkable city by the sea.

- Strengthen connections between open spaces.

Providing and strengthening connections to the waterfront and providing passive open space areas is stated in this policy guide as integral to the health and well-being of Portland's residents and visitors. The preservation of open space and revitalization of the downtown area will help the City to maintain its authentic character.

Facilities and Services Policy Guide

The infrastructure associated with the proposed development is supportive of the goal in the Facilities and Services Policy Guide focused on coordinating infrastructure planning and investments with areas of greatest anticipated growth. The buildings will require connections to water, sewer, gas, and electric utilities. Some of the infrastructure investments will be paid for privately, but the coordination and additional investments by the City are in an area where growth is supported and has been planned for. The City will realize a reduced cost for public infrastructure operations and maintenance by permitting downtown development and leveraging existing utilities when compared to developments in other areas of Portland where new utilities are required.

Eastern Waterfront Master Plan

The Master Plan for Redevelopment of the Eastern Waterfront (EWMP) specifically acknowledges the vacant, underutilized land in the area of the project site at 58 Fore Street. The EWMP notes that, given the location of the site and proximity to water views, urban amenities, vehicular access, port access and integration with the City trail system, significant redevelopment potential exists. Redevelopment such as parking structures, intensive reuse of historic buildings, replacement of non-historic structures, and open space enhancement were all anticipated in the EWMP. Many of these items are included in this Phase II project. Several principles and associated objectives for redevelopment are identified in the EWMP, including:

- *"Development within the eastern waterfront will be compatible with the surrounding areas, neighborhoods, natural environment and maritime uses."* Objectives associated with this principle that are consistent with the proposed redevelopment are the use of compatible architecture, continued establishment of a new street and pedestrian network that integrates with the surrounding street and trail network and preservation of significant view corridors to the water and along the waterfront.

- *"Development within the eastern waterfront will create a vital and active mixed-use urban area that generates life and use every day of the year and all hours of the day."* Objectives associated with this principle that are consistent with the proposed redevelopment are the creation of mixed-used non-marine development and activities that are compatible with the use of maritime resources, the increase of the public's use of the water, waterfront, and shore through public access, and maintaining and enhancing recreational trail access.

- *"Development in the eastern waterfront on piers, bulkheads and on land within 75' of mean high-water line, will give priority to compatible water-dependent and maritime uses."* Objectives associated with this principle that are consistent with the proposed redevelopment are preserving and enhancing water dependent uses by providing public physical and visual access to the water and continued prioritization of Fore Points Marina, a water dependent use.

- *"Development in the eastern waterfront will provide a significant benefit to the City and the regional economy."* Objectives associated with this principle that are consistent with the proposed redevelopment are creating a positive economic return to City, sustaining, and strengthening water-related tourism, enhancing the economic viability of the eastern waterfront's property and facilities, and assuring that development benefits the residents of the greater Portland community.

The vision for Phase 2 of the Portland Foreside Master Development Plan was built on the foundation of the EWMP with the intent of connecting the waterfront to the City of Portland with inspiring design focused on mixed-uses, public spaces and historic preservation.

Design Guidelines for the Eastern Waterfront

Consistent with Phase I of the project, the Design Guidelines for the Eastern Waterfront have been considered as part of the master planning of the proposed project. In general, it was noted that encouraging the adaptive reuse and sensitive rehabilitation of historic structures, increasing connections to Commercial Street, and promoting shared parking with abutting uses were key points to consider in the design of the proposed project. The design team has made the following considerations:

Streets

- Appropriate Street Design – The proposed shared roadway has been designed to accommodate expected vehicles and pedestrians safely and efficiently while encouraging appropriate speeds. On-street parking has been provided wherever possible to provide a buffer between pedestrians and moving traffic and to serve the retail, residential, and commercial uses in the area.

- Sidewalks – The proposed shared street concept along with sufficient additional walkways will accommodate pedestrians comfortably and safely. The pedestrian environment will be further enhanced using fixed street furniture, compatible and consistent lighting, and landscaping. Sidewalk cafes, temporary art installations, and seasonal lighting will also be considered to encourage year-round activity.

- View Corridors – The site has been designed to provide for views to and from the water, including the view corridors.

- Underground Utilities - Overhead utilities have been avoided; utilities have been designed to be located underground to the maximum extent practicable.

- Bicycle Safety - The proposed roadway has been designed to accommodate bicycle traffic and safety. Bicycle parking will be provided throughout the site and in the parking garage.

Buildings/Architecture

- Contextual Design - Buildings have been designed in response to their context and will be compatible with the surrounding neighborhood.

- Pedestrian Environment - Large expanses of blank walls have been avoided and multiple entries will be provided into buildings. Amenities such as street furniture and lighting will encourage year-round pedestrian use.

- Primary Entrances and Service Entrances - Service entrances and loading facilities have been strategically located such that they will not directly impact primary entrances.

- Parking Structures - Parking structures will be compatible with adjacent uses and architecture.

Open Space

- Public Open Space and Plazas – The proposed project will contribute to the public realm through enhancement of pedestrian spaces and increased recreational opportunities.

Waterfront

- The Eastern Waterfront - The function of this area as an intermodal transportation center has been designed to facilitate integration and coordination of the various current and potential future modes of transportation.

The overall intent of the project has been to create a vibrant, usable space that will become an extension of the City of Portland's existing downtown. Throughout design, the project team has considered the City's various master plans, policies, and guidelines with the goal of integrating the project into the existing City fabric.

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 4

Via Electronic Mail

March 2, 2023

Charles Tetelman, Planner
City of Portland
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: Portland Foreside Development Co. Blocks 4 & 6 – Major Site Plan Submittal Response to City Planning Staff Comments (PL-002202-2022)

Dear Charles:

Thank you for coordinating the review of the Major Site Plan Application for the proposed development of Phase 2 (Block 4 and Block 6) of the Portland Foreside Project located at 58 Fore Street in Portland. We received preliminary City of Portland staff comments from you via email on February 8, 2023, and provide the following response to these comments, which have been included below in *italics* for reference:

GENERAL

- *The applicant states that state or federal permits can be provided to the City. Please submit copies of the permits.*

  The MaineDEP Site Location of Development Act Permit application was submitted to the City for review under Delegated Review Authority. The other State and Federal permits required (Maine Construction General Permit Notice of Intent and FAA Notice of Proposed Construction), are construction permits and will be submitted as the project nears construction. Evidence of approval can be provided to the City upon receipt, and we would ask that this be a condition of approval as these permits will not be received until just prior to construction.

- *A preliminary shadow analysis is required for Major Site Plan applications outside B-3, B-5, B-6, and B-7 zones. Please submit a shadow analysis as portions of the site extend into the R-6 zone.*

  The portion of the Block 6 Building located within the R-6 zone will not rise greater than 45' above the adjacent site features located in that zone and will not be located in the vicinity of any "publicly accessible open space or other important natural features." It is our understanding of Section 11 of the Technical Manual that a shadow analysis is not applicable.

- *Please provide a description of measures taken to prevent snow and ice from falling on adjacent properties, internal streets, and accessible public areas. Include design measures taken to prevent snow and ice from loading or falling onto adjacent areas or public ways.*

  All roofs of the building, including both the Block 4 and Block 6 portions are flat or low slope, and the risk of falling snow and ice is minimal. All site snow will be managed internally to the Portland Foreside site as it currently is through the use of contracted snow management and removal.

- *Block 6 outdoor areas deviate from approved MDP. Please clarify how Block 6 and outdoor areas will interface with the rail corridor. Will the site be separated from the railroad right of way with a railing / fence?*

  The Site Plan is consistent with the Master Development Plan. Minor deviations from the MDP are inherent with the evolution of detailed site plans. No fencing or railings are planned for the area between Block 6 and the rail corridor.

- *Overall Site Plan – Please show the limit of work as part of Phase II development and what structures are associated with other approvals (Phase 1 / Marina structures).*

  The limit of work line depicted on the Overall Site Plan is for the Phase 2 Development. Structures outside of the limit of work are associated with other approvals and have been shown for context as existing conditions.

- *Overall Site Plan – Please provide a secondary overall site plan that removes notes and references and depicts building footprints overlaid with historic district boundaries, view corridors, and other similar elements.*

  A secondary overall site plan removing notes and references is included as part of this response to comments.

- *Interim Conditions Plan – Will the Block 5 parking lot be operating as a pay-to-park lot?*

  In the event that this interim lot is constructed on Block 5, it will be utilized as a pay-to-park lot, consistent with the current operations of the site. We do not anticipate that construction of this lot will actually occur as we will be submitting a Block 5 site plan application in the near future.

- *Subdivision Plat – Lot "Remaining Land By Developer" still needs to be a numbered lot even with Note 8 explaining intention.*

  The remaining "land by the developer" is not a lot in the subdivision and a lot number is not required per subdivision law. The nomenclature is consistent with previously recorded subdivision plats.

- *Elevations – Separate elevations for Block 4 building, and Block 6 building are required. Additionally, if Block 4 and Block 6 building are considered one building per the MDP an elevation including both buildings is required.*

  Separate elevation views were included in the initial site plan submission for Block 4 (plans entitled "Block 4 Elevation East & West" "Block 4 Elevation North", "Block 4 Elevation South", and "Block 4 Elevation Courtyard") and Block 6 (plans entitled "Block 6 Elevations East & North" and "Block 6 Elevations West & South"). Blocks 4 and 6 are one building due to their shared structural pedestal and we have provided an additional elevation drawing as part of this response to comments to show both Blocks.

- *If Block 4, Block 5 (currently not under review or submitted), and Block 6 are going to be considered one building, please provide City Staff with a narrative explaining the design, construction, and function of the building and three structures.*

  Block 4 and Block 6 are considered one building. The building has pedestal parking at the base, with connected and architecturally varied residential uses above. This approach was presented and agreed to in the MDP approval and was documented in the Staff memos to the Planning Board as part of that process. Block 5 will be a phased addition to this single building structure. We will address Block 5 as part of the site plan application to be submitted separately.

- *Floor Plans – City Staff would like to work with applicant to develop a Floor Plan labeling scheme that is consistent between Block 4 and Block 6. Ideally this system would reflect the elevation of each floor rather than the floor specific to each building.*

  To help with any confusion between the different Blocks, we propose adding an elevation coordination table to the drawings. The proposed table is included on the following page. This table will be updated as we add Block 5 to the Building. We are happy to work with you to review and determine if other adjustments can be made to alleviate confusion during review.

	Block 4 FFE	Block 6 FFE
Level 00: Sea Level	0′	0′
Level 0:		10′
Level 1:	16′	13.2′
Level 2:	27.5′	25.2′
Level 3:	38′	35.2′
Level 4:	48.5″	45.2′
Average Grade (MDP):	50.1′	
Level 5:	60.7′	55.2′
Level 6:	71.5′	65.2′
Level 7:	82.4′	75.2′
Level 8:	93.2′	85.2′
Level 9:	104.0′	95.2′
Level 10:	114.9′	105.2′

- *Construction Management and Phasing Plan – Please submit a Phasing Plan that shows the extent of work completed associated with the 58 Fore Master Development Plan (including Phase 1 and the Marina), work to be completed as part of Block 4 and work to be completed as part of Block 6, work to be completed as part of other applications currently under review or recently approved, and future work on site (ex: Block 5). Please include anticipated timelines and expected length of construction (estimates are fine).*

  A Phasing Plan is being developed that will include anticipated timelines and expected durations of construction. This will be provided separately.

ZONING

- *Please provide how height will be calculated as part of this phase of development. Height calculations and average grade points shall be provided.*

  A summary of the building height calculation was provided in Section 2.4.4 of the original Site Plan Application (page 8 of Section 2 Permitting and Zoning file in the

"Document" upload folder). Associated figures and calculations are provided on page 35 through 38 of this Section. The height calculations are consistent with the approach that was approved as part of the Master Development Plan.

- *The portion of the Block 6 building within the R-6 zoned area is required to meet R-6 dimensional standards. Maximum height in the R-6 zone is 45 feet, with stepback requirements. Height calculations and average grade points taken within the R-6 portion of the building are required to be provided.*

  The portion of the Block 6 building within the R-6 zoned area meets the R-6 dimensional standards as demonstrated in Section 2.4.2 of the original Site Plan Application (starting on page 5 of Section 2 Permitting and Zoning in the "Document" upload folder).

TRANSPORTATION

- *Maine Department of Transportation and Third-Party Traffic Consultant noted that the applicant has until May of 2024 to complete the project associated with the previously approved Traffic Movement Permit.*

  "Automatic Permit Expiration" A permit will be considered automatically expired if construction of the project has not begun within a 5-year period or completed within a 7-year period of the date of issuance. The applicant must reapply for and receive approval prior to continuing construction or opening a facility.

  If the construction schedule does not meet the May 2024 deadline the applicant will need to apply and receive approval for a new Traffic Movement Permit.

  The project received its Traffic Movement Permit in May of 2017, prior to the 2022 amendment to Chapter 305 that enacted the 7-year time limit. Our 2017 TMP was specifically designed around a ten-year development horizon and all actions taken to date are in reliance on the 10-year full buildout expected trip generation and association mitigation costs.

- *The Trip Generation estimate included in the Traffic Assessment shall be based on the 11th Edition of the ITE Trip Generation publication. This was discussed and confirmed with MaineDOT's State Traffic Engineer.*

  The project's initial TMP and the associated traffic assessment was based on the 5th Edition of the ITE Trip Generation manual. Our understanding is that these standards

in place at the time of the initial TMP approval remain the standards for review on this project. This has been the experience with other projects with similar approvals.

- *Trip reduction assumptions used in prior analysis should be revisited and documentation should be provided in support of suggested trip reduction factors given current conditions.*

  There were two trip reductions applied in the Traffic Assessment for Blocks 4 & 6; "shared use" and "other modes". The "shared use" reduction was based on NCHRP 684 as required by MaineDOT, with the existing and currently proposed uses included. No credit was taken for future uses. This reduction would not be expected to change. The "other modes" reduction (18%) is based on a recommendation from Mr. Tom Errico in an email dated December 20, 2019. We would not expect that reduction to change. Both of these methodologies were accepted in previous submittals to the City.

- *The applicant must submit a snow removal plan or show snow storage areas on the site plan. Applicant noted that a third-party will be contracted to manage snow removal and storage.*

  Snow will be managed on the site as it currently is through a contracted management company that is responsible for the hauling and offsite disposal of snow from the site. There will also be snow-melt systems installed in various areas throughout the site to help reduce the need for management of snow. This project will include the installation of the snowmelt boiler system within Block 4 which will support these new snowmelt systems as well as previously installed snowmelt in other areas of the site.

- *Please confirm that proposed compact parking spaces for the entire site will consist of no more than 20% of the total spaces.*

  Considering all of the parking spaces previously provided in Block 1, and proposed in Blocks 4 and 6, the total number of compact spaces proposed is currently 62, which yields a total percentage of 8% of the parking on the site.

- *Section 1 Summary notes that the Block 4 parking structure has been reduced 198 spaces (652 to 454). Please provide additional information on how the development of Block 4 and Block 6 will maintain overall parking requirements as laid out in the MDP.*

  The amount of parking provided within the Block 4 section of the building has been adjusted to account for the increased amount of parking being provided within the Block 6 area through the use of parking "stackers". The site's total parking count of

764 is appropriate for the site, as documented in the transportation analysis provided in the original site plan application submission. This amount of parking is within the range that was assumed for the Master Development Plan and the Traffic Movement Permit which references 435,200 SF of parking or 736 spaces.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- *If construction is anticipated to occur between November 1 to April 15 for this phase of the project, consider adding winter construction guidelines to the Stormwater Management Plan for disturbed areas as required in Appendix A Section 7 of Maine DEP Chapter 500.*

  Winter construction notes and erosion control measures are located on plans entitled "Block 4 Civil Details 1" and "Block 6 Civil Details 1", which were included as part of the original submission.

- *Section 5.4 of the Major Site Plan Application notes that the site will have "adequate sanitary disposal of sewage as further described in Section 5 of this Report." The Applicant should provide an Ability to Serve Letter from Portland Water District or note previous arrangements in the narrative.*

  A copy of the ability to serve requests are included with this response to comments. An Ability to Serve Letter will be provided upon receipt.

- *Per Section 3 of the City of Portland's Technical Standards, elevators must be designed to fit an 84-inch x 24-inch stretcher inside. City Staff recommend verifying and noting elevator dimensions in the Life Safety Plan to conform to the City of Portland's Technical Standards.*

  All building elevators have been designed to accommodate stretchers per the City of Portland's Technical Standards.

- *Per Section 3 of the City of Portland's Technical Standards, hydrants must have 6 feet of clearance around the circumference. Please verify this clear space is met for all hydrants shown on Sheet C-102 for Block 4.*

  Adjustments have been made to the locations of the fire hydrants to ensure there is a 6-foot clearance provided.

- *On Sheet C-100 there is a callout for an SOE retaining wall with reference to geotechnical*

plans. However, geotechnical plans were not submitted as part of this application. Please submit geotechnical plans for review.

The design of the Support of Excavation (SOE) is ongoing. We will provide geotechnical plans with the building permit applications.

- *On Sheet C-102 for Block 4 and Block 6, there is a callout for conduits for electrical and communications with reference to MEP plans. However, MEP plans were not submitted as part of this application. Please submit MEP plans for review.*

  All required site utilities are shown on sheet C-102. The MEP drawings referenced include internal building mechanical, electrical, and plumbing designs. These are items that are typically reviewed during the building permit phase of permitting and are not provided as part of the site plan process. The provided drawings include all proposed site elements.

- *Sheet L-1.1 for Block 4 references an architectural plan. However, architectural plans were not submitted as part of this application. Please submit architectural plans for review.*

  Architectural plans were submitted with original the application. The architectural plan labels include "…Floor Plan…" or "…Elevation…".

- *For Block 4, the civil plans (Sheet C-100) directs the reviewer to the geotechnical plans for retaining wall details, whereas the landscape plans (Sheet L-1.1) directs reviewer to the structural plans for retaining wall details. Additionally, a Segmented Retaining Wall Detail is provided on the civil plans (Sheet C-202). Please keep the location of detail consistent and revising other references as applicable.*

  The segmented retaining wall detail will be removed from the plans, as it is not applicable.

- *Please provide Landscape Details that are referenced on Landscape Plans for Block 4.*

  The detail sheets have been uploaded separately to Eplan.

- *Sheet C-100 for Block 4 notes a detail for safety railing can be found on the Landscaping Plans, which then notes a detail for the safety railing can be found on the Architectural Plans. City Staff recommend adding a safety railing detail to the Landscaping Plans or changing the note on Sheet C-100 to direct the viewer to the Architectural Plans.*

Plan updates have been provided.

- *On Block 6 Landscaping Plans, many detail callouts are missing reference numbers. Please provide callout reference numbers on the plan set.*

  Plan updates have been provided.

- *Overhead utilities exist on the south side of Fore Street, will those remain? The Applicant should verify that there is at least 10 feet between the proposed buildings and existing utilities.*

  The overhead electrical utilities on the south side of Fore Street will be reinstalled. The site constraints are being coordinated with Central Maine Power who is completing the design, to ensure the utilities have adequate separation from the proposed buildings.

- *Coordinate location of water meters with Portland Water District (PWD).*

  Noted. The water meter will be located within the Block 4 building and is being coordinated with PWD.

- *Show anticipated pavement restoration areas within Fore Street due to utility connections, sidewalk reconstruction and construction damage.*

  Pavement restoration areas are shown with gray hatching on the Civil Drawings.

- *Will the SOE retaining wall on the east side of Block 4 remain permanently?*

  The SOE retaining wall will be permanent.

- *Permanent elements within the Fore Street right of way may require approval of a license with the City.*

  We understand that elements within Fore Street may require approval of a license with the City, and would request that this be made a condition of approval as was done for the Phase 1 approval. We will continue to work with the City on this and would anticipate meeting with the City in the near future to discuss resolving any license requirements.

- *Plans need to show and label existing and proposed curb.*

  We are resetting existing curb on Fore Street as shown on the plans.

- *Will the applicant be reusing the existing granite curb or installing new granite curb? The applicant shall verify the condition of the existing granite curb and the plans need to be labeled to indicate what will be installed.*

  We are resetting existing curb on Fore Street as shown on the plans.

- *The sidewalk, driveway, curb and street need to be dimensioned on the plans.*

  Dimensions have been added to the site plan.

- *There are existing utilities that conflict with the proposed driveway off Fore Street across from Waterville Street. None of the plan sheets show how or where they will be relocated or adjusted.*

  There is an existing utility pole located within the driveway – this will be relocated as part of the resetting of the overhead lines. As noted in a previous comment, this design is being coordinated with Central Maine Power. We do not anticipate that any other utilities would require relocation or changes as a result of the proposed driveway.

- *Grading Sheets: Spot grades and slopes shall be added to plans at proposed driveways, egress locations, pedestrian ramps, accessible crossings, sidewalks and steps. The finish floor elevation for all buildings shall be shown on the plans (along Fore Street).*

  We are currently working with the Landscape Architect and the Architects on some changes to the grading along both Fore Street and Thames Street. Once we have made these changes we will provide updated grading plans to show additional detail as requested.

- *Profile: Label where City ROW ends and Private property begins. Show the centerline elevation of the road. The profile (notes and labels) needs to be updated to reflect the portion of the road that has been constructed so far.*

  The entirety of the road shown within the site is private. The profile has been

drawn along the road centerline, as shown by the stationing on the Block 4 Civil Site and Grading and Drainage Plans, and the elevations are provided along the vertical axis. The profile shows only the portion of the road to be constructed as part of Phase 2.

- *Profile: A portion of the proposed street has a 0% slope. Any proposed street shall be designed to have a minimum grade for the centerline of the street that shall not be less than 0.5 percent.*

  The drainage and grading is accounted for through the use of trench drains located at the center of the roadway. While the street itself has a slope of 0%, it has a cross slope draining to the center, the trench drains have a slope, and the discharge pipes beneath the drains are also sloped. As noted in a previous comment, we are currently working on adjustments to site grades – in particular grading changes are being made along the roadway to accommodate the design of the adjacent Block 5 building that will be submitted as part of a separate site plan application in the near future. We will provide additional spot grades for clarity when we resubmit an updated grading plan.

- *The block 4 grading and drainage plan indicates that Jellyfish-2 will be "as-built" prior to this project commencing. It's unclear what phase the Jellyfish unit will be installed in. The concurrent waterfront and utility enabling work phase (PL-00253-2022) calls out a future location of Jellyfish Filter, but does not indicate it will be installed as part of that project. Please clarify when Jellyfish 2 will be installed.*

  We are currently working with the project's Construction Manager to address project phasing between the Waterfront Enabling project and the Block 4/6 project. We will address where to include the Jellyfish filter and will include it on the appropriate project's plan and will resubmit.

- *The applicant should clarify how sanitary facilities associated with the Marina property will be permanently connected to the new sewer system being constructed as part of the block 4 and 6 development. The applicant should clarify the time frame for the removal of temporary sewer holding tanks on marina site. The Interim Marina Site Plan (PL-00289-2022) shows sanitary facilities connecting to an existing EOne pump station on the southside of the railroad tracks. The plan indicates that a force main routes northerly underneath the railroad tracks. It's unclear how this system will be permanently connected to the new sanitary facilities being installed as part of the block 4 and 6 development. Any temporary above ground sewage holding tanks should be eliminated as part of this next*

phase of development.

The Waterfront and Utility Enabling project (PL-00253-2022) will provide the infrastructure to allow for the connection of the marina into the site sewer utilities. When the site's pump station is brought online, we will be able to disconnect the marina's sewer holding tanks and start utilizing the site sewer for the marina. We are currently working with the site contractor on overall phasing and timing between the Waterfront and Utility Enabling project and the Blocks 4 and 6 project, but anticipate that the two sewer holding tanks will need to be utilized for the upcoming year, but with the pump station installation could be removed for the 2024 marina season. We will plan to meet with Public Works and Planning staff on the logistics of this work, and how we could potentially bring the site's pump station online before overall site construction has been completed.

- *An Erosion and Sedimentation Control (ESC) plan shall be added to the plan set, specific to this project, depicting compliance with all City and State ESC regulations.*

  Erosion and Sedimentation Control Plans are provided on "Block 4 Civil Details 1" and "Block 6 Civil Details 2", and associated measures are depicted on the "Civil Demolition" plans.

- *The applicant shall submit a wastewater capacity application for review and approval to the Water Resources division of DPW for this next phase of development.*

  Wastewater capacity applications have been DPW for each of the proposed Blocks and are attached to this application. Confirmation of ability to serve will be provided upon receipt.

- *The intent of the utility extensions along the limit of block 6 work is unclear.*

  Site utilities have been extended to the building structure. The "podium" area is part of the building structure that connects Blocks 4 and 6, and utilities will be run internally from the locations that have been identified on the Block 6 utility plan.

- *The applicant is not showing any external grease traps for any of the proposed development in blocks 4 and 6. The applicant shall confirm that external grease traps are not required for any of the proposed development in these phases. If grease traps are*

required per City of Portland sewer use regulations, then the plans should be updated to show the configuration and location of each unit. Will grease traps be required for any of the proposed future connections associated with building 3 and 6B? If so, the applicant should show the proposed locations and configurations on the utility plans.

The current core and shell design for Block 4 does not include any grease traps. We will work with he architect to determine if any may be required in the future, but would anticipate that these would be addressed through internal building fit-out. We are currently working with the Block 6 Architect to identify the potential location of a grease trap south of the buliding and will provide that on an updated utility plan.

The existing Buildings 3 and 6B were previously permitted with grease traps shown as part of Block 2 in the Phase 1 Site Plan approval. If changes to the previously approved grease trap layout are anticipated as part of the future Block 2 construction, we will provide that as an amendment to the Phase 1 approval.

- *DPW continues to note that Fore Street will be surface paved, curb to curb, in the early summer months of 2023 as part of final work associated with the Fore Street/Eastern Promenade Sewer Separation project.*

  Noted.

- *The stormwater management report indicates that 2 Filterra units will be installed to provide treatment for an interim parking lot as required during this phase of development. These Filterra units appear to have been factored into the required treatment for the entire redevelopment project. DPW assumes there is a plan in place to provide permanent stormwater treatment for block 5, and subsequent development to replace the Filterra units when they are removed during future phases of development. Please clarify.*

  This assumption is correct. Permanent stormwater treatment will be provided as part of Block 5.

- *As part of the recent sewer separation project in Fore Street, the City of Portland completed a curb extension at the NE corner of the Waterville Street/Fore Street intersection. The City installed flush curbing at this location in anticipation of a crosswalk being installed as part of the next phase of the 58 Fore Street project. The City did not complete the ramp work due to safety concerns of implementing a crosswalk ramp*

without the receiving ramp being in place on the southerly side of the street. The developer should include the work to finish the sidewalk ramp at the NE corner of Waterville and Fore Street in order to establish a new crosswalk at this location as shown on the proposed plans.

The plans account for additional work for the completion of the sidewalk ramps required for the Fore Street crossing. We are happy to review with DPW to ensure that adequate accessibility is being provided. As noted in a previous comment, we are currently working on some regrading design for the entrances to the buildings along Fore Street. Once that is complete, we can finalize detailed plan with spot grades that shows how this crossing will be constructed.

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
Technical Manager

Enclosures - the following files have been uploaded separately online and are noted here as new or updated.

- Architecture Plans
  - Block 4 & 6 Combined Elevation (New)
- Landscape Plans
  - Block 4 Landscape Layout and Materials Plan Courtyard (Updated)
  - Block 6 Landscape Layout and Materials Plan Level 1 (Updated)
  - Block 6 Landscape Layout and Materials Plan Level 2 (Updated)
  - Block 6 Landscape Layout and Materials Plan Level 2 Courtyards (Updated)
  - Block 6 Landscape Layout and Materials Plan Level 7 Terrace (Updated)
  - Block 4 Landscape Site Details (New)
  - Block 4 Landscape Courtyard Details (New)
  - Block 4 Landscape Site Furnishings Details (New)
  - Block 4 Landscape Plantings Details (New)
- Civil Plans
  - Overall Site Plan 2 (New)
  - Block 4 Civil Utility Plan (Updated)

    - Block 4 Civil Details 3 (Updated)
- Documents
    - Utility Ability to Serve Requests (New)

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 5

June 23, 2023

Charles Tetelman, Planner
City of Portland
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: Response to Design Review Comments – 58 Fore Street Phase 2
Project ID PL-002202-2022

Dear Charles:

Thank you for coordinating the review of the Level III Site Plan, Subdivision and Site Location of Development (SLOD) Amendment for Phase 2 of development at 58 Fore Street in Portland. We received the following Design Review comments on the project through you, and provide the following response:

REQUEST FOR ADDITIONAL APPLICANT MATERIALS

Staff is requesting additional materials to assist with the design review to include:

- Block 5: 3-dimensional and/or perspective renderings to illustrate the proposed building design with views from the water, view corridor and internal street network in context with the overall development site.

Response: Block 5 3-D renderings were uploaded to ProjectDox on April 25, 2023 and entitled "Block 5 Renderings". Updates have been made to some of the renderings, and a new version has been uploaded with this response to design review comments.

- Block 5 building material palette with images of proposed products

Response: Some of the materiality for Block 5 is shown on the previously submitted Block 5 Renderings. We are providing with this response an additional Block 5 material palette document to provide further clarification of the products that are being proposed. This has been uploaded to ProjectDox as the "Block 5 Material Palette."

- Block 4 renderings to show existing overhead electrical lines along Fore Street.

Response: Overhead electrical utility lines along Fore Street were shown on the Block 4 Renderings uploaded to ProjectDox on March 9, 2023 and entitled "2023.02.21 PFDC Harbor Hill HP Materials & Renderings" and uploaded on March 19, 2023 entitled "Block 4 Renderings". Renderings have been updated and re-uploaded as part of this response to comments, and continue to include the overhead utility lines.

Design Review Comments | June 2, 2023 | PL-002202-2022

DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, red text denotes standards not met to require resubmission.

A. Land Use Code section 14.7.5 – *Master Development Plan for 58 Fore Street*

b. Developed in a comprehensive, design-integrated manner, according to an overall master development plan,

Staff comment: Staff finds the site plan application to be generally consistent with the overall master plan development.

Response: Noted.

h. An efficient use of land demonstrating full coordination of its own site development and surrounding context including, but not limited to, the land uses and functions contemplated, architecture, open space and pedestrian networks,…

Staff comment: Staff finds the site plan application to be generally consistent with the overall master plan development.

Response: Noted.

l. *Designed to create a cohesive identity through building scale, massing, and articulation; use of quality exterior materials, architectural detailing at pedestrian scale; consistency of design and materials for streetscape and pedestrian amenities; framing of outdoor open space and linkages; a clear conveyance of the function and significance of various buildings, entrances, and features;…*

Staff comment: The site plan application for Block 4, 5 & 6 is generally consistent with the overall master plan development with the exception of the additional property located at the eastern portion where Block 6 extends into the R-6 zone and Munjoy Hill historic district. The applicant shall relate to the context of the surrounding residential neighborhood through building scale, massing and articulation. Staff is requesting the applicant provide additional material for [Block 6] north outdoor open space and pedestrian linkages proposed for the new property boundary in relationship to the existing adjacent residential structures at Fore Street.

Staff finds several inconsistencies from the approved Master Development Plan regarding protection mechanism (shown as a landscape buffer) along the railroad right of way to restrict public points of access into the development.



*approved master plan development overall site plan

Response: For northeast entrance to Block 6, we have updated the drawings in the Phase 2 Civil Plans and Details to show the space with some parking spaces to be used for drop-offs, and additional landscape area. The remaining structures on the Eastern Promenade will be part of a future site plan application that will look at that property and consider how any revisions can be made to integrate it further with the Block 6 entrance.

Along the Narrow Gauge Railroad Right of Way, there have been intermittent planters incorporated into the space south of the Block 5 building. These planters are on the Portland Foreside property, not in the Right of Way, as they had originally been shown at the time of the Master Development Plan. The space within the Right of Way is now reserved for railroad infrastructure and the surrounding ballast. A vertical granite curb is included to connect the space in between the proposed planters and rail crossings to further define the separation of the two spaces. We can discuss with the Narrow Gauge Railroad if there may be opportunities to add additional landscape buffering, like a narrow strip of sea grasses, within the Right of Way to add further buffering, but the goal has been to keep the space as visibly open as possible. We will work with the Narrow Gauge Railroad on any additional safety signage that may be beneficial.

B. Eastern Waterfront Master Plan – *Design Guidelines for Portland's Eastern Waterfront*

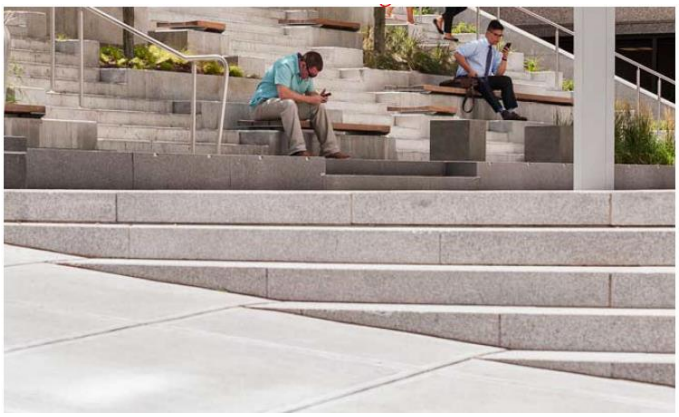
Streets: *The retention and expansion of pedestrian scaled street grid…*

1. Public Streets: The applicant proposes to maintain vehicular and pedestrian access along Fore Street, staff recommends additional crosswalks and curb ramps at St. Lawrence, Atlantic and Munjoy Street to connect the existing neighborhood across Fore Street.

Response: The City of Portland recently conducted a sewer separation and road reconstruction project on Fore Street that included the section of the road along the project frontage and all referenced intersections. During the design of this project, crosswalks were evaluated at intersections along Fore Street based on traffic flow, grades, and existing conditions. The installed pedestrian ramps along the northern side of Fore Street reflect the results of these discussions. The existing crosswalk at Atlantic Street will be maintained, and a crosswalk will be added at Waterville Street once the southern sidewalk is complete and receiving ramps are constructed. Granite tipdown curb sections were installed during the sewer separation at the future Waterville Street ramp location on the northern side of Fore Street to enable pedestrian ramp installation without impacting the newly surface-paved roadway. Tipdowns were not installed along the northern edge of Fore Street at St. Lawrence Street or Munjoy Street. Construction of pedestrian ramps at these locations would result in a much larger disturbance, especially now that Fore Street is under moratorium. Renderings have been updated to be consistent with the proposed crosswalk locations.

2. Sidewalks: The applicant proposes brick sidewalks per city standards along Fore Street. Staff observes the applicant's intent to comply with accessibility requirements and continues to support building entries of the Block 4 Townhouses at Fore Street, however, staff finds the new retaining wall encroachment to be in conflict with this standard *to accommodate visiting and residential pedestrians comfortably and safely*. In particular, staff finds that the proposed retaining wall creates several vertical elevations

above 30 inches to require a guardrail that would not contribute to the value of the pedestrian experience along Fore Street. Staff recommends the applicant replace the retaining wall for stairs to transition the grade difference between the Fore Street sidewalk and paved access to new building entries. The applicant should consider additional landscape opportunities, such as planters, sloped planting areas or other that would consider the existing wall, to mitigate the grade changes between Fore Street sidewalk and new building entries.



Precedent image (courtesy of Christian Phillips Photography, KMDG, landscape architect) to illustrate grade transition along sloped sidewalk condition

Response: The design team recognizes that permanent construction must remain out of the ROW. In addition, we've evaluated the potential for stair grade transitions along Fore Street, and the number of risers and treads necessary would take up more space than is available. The Block 4 Townhouse design has been revised to move the required site features out of the ROW, maintaining only sidewalk within the Fore Street ROW space. There will be below-grade foundation features required in the City ROW, and we understand that a license will be required from the City for this structure. Project drawings including Block 4 Elevations and Renderings and Phase 2 Civil Plans have been updated to reflect these changes.

3. Railroad Right of Way: Staff requests the applicant provide additional detailing, including selection of materials and signage to allow for safe pedestrian access routes at key locations (shown by red arrows) across the railroad right of way. The applicant shall provide additional landscape buffering (e.g., planting areas or low transparent fencing) between the proposed development and railroad right of way to consolidate safe pedestrian access points.



*major site plan landscape plans (combined)

Response: We are working on the railroad crossings as part of the separate site plan application that addresses changes to the Phase 1 site plan approval and includes work within the Narrow Gauge Railroad Right of Way. As noted in a previous comment, along

the Narrow Gauge Railroad Right of Way, there have been intermittent planters incorporated into the space south of the Block 5 building. These planters are on the Portland Foreside property, not in the Right of Way, as they had originally been shown at the time of the Master Development Plan. The space within the Right of Way is now reserved for railroad infrastructure and the surrounding ballast. A vertical granite curb is included to connect the space in between the proposed planters and rail crossings to further define the separation of the two spaces. We can discuss with the Narrow Gauge Railroad if there may be opportunities to add additional landscape buffering, like a narrow strip of sea grasses, within the Right of Way to add further buffering, but the goal has been to keep the space as visibly open as possible. We will work with the Narrow Gauge Railroad on any additional safety signage that may be beneficial.

4. Underground Utilities: Staff supports the underground utilities proposed within the development and observes the existing overhead electrical lines and utility poles to remain along Fore Street. Staff acknowledges the existing cobrahead municipal lights fixed to existing utility poles and shall review exterior lighting during a future submission as the applicant has not provided an exterior lighting replacement.

Response: On Fore Street, we intend to maintain the existing cobrahead lights on the utility poles for site lighting. The Phase 2 Photometrics plans have been updated to show the locations of the existing lights that have been evaluated as part of the overall photometrics design. The revised photometrics plans are uploaded to ProjectDox.

Buildings and Architecture: *Architecture that enhances the development of a mixed-use and marine inter-modal transportation center, and is compatible with the surrounding neighborhood…*

1. Building Composition

    a. Height: The building heights for the Block 4 Townhouses on Fore Street are compatible with the residential building of 3-4 stories located within a two-block radius. The development observes the building break line between Block 4 and Block 5 to divide the building mass into separate distinct buildings of various heights. Block 6 is located at the eastern most portion of the development with the tallest building heights. Staff finds the Block 5, 6 building heights exceed the B-6 building height overlay map with the established average grad (50'). Staff finds the increase in Block 5 heights above Block 4 does not correspond to the B-6 building overlay map's intent to stepdown the building heights towards the waterfront and will continue to review the Block 5 heights related to the City's average grade interpretation.

Response: The enclosed elevations have been notated to show how each of the buildings will meet the height overlay map's requirements.

    b. Massing: The buildings on the western half of the Foreside development site have long and low massing consistent with the historic industrial complex and working waterfront building typologies. The building massing of the Block 4 West Wrapper provides height transitions that step-up towards the west of the development to create a strong relationship with Building 3 and 6B. Staff

recommends Block 5 provide building height transitions by incorporating stepbacks at the southwest elevation. Block 6 is sculpted by many volumetric planes highlighted with changes in the material that staff finds to reduce the building massing.

Response: The Block 5 building has been modified slightly to provide a stepback on the southwest elevation. The ground and second floors are now designed to be slightly forward from the upper floors. The revised Block 5 drawings reflect this change.

c. Proportion: The Block 4,5 & 6 buildings share a similar horizontal orientation with ample window openings unique to each building. The facades along the Thames Street extension include storefront windows to create pedestrian-scaled proportions. The waterfront facades shall be pedestrian scaled and respond more to the intended retail use, staff requests additional articulation or an increased fenestration pattern to reduce the Block 6 ground-level blank facades. In addition, Staff recommends the applicant relocate the Block 6 wharf vehicle storage to promote a stronger pedestrian-activated façade facing the waterfront and discourage marine vehicles within the pedestrian plaza.

Response: The service door is sited to have the least impact on the activation of the Block 6 Terrace, as well as the MNGRR and Eastern Promenade Trail. The location of this door will be further studied along with architectural interventions to enhance the pedestrian experience. Additional fenestration and pattern at the ground level will be incorporated into the design.

d. Materials: Materials shall reflect the historic character of Portland's waterfront. Each building employs a variety of exterior materials and rhythms to complement a contemporary architectural style. Staff will continue to review materials based on future historic preservation board meetings for consistency throughout the development.

- Block 4 Townhouses along Fore Street: The exterior material context of the surrounding neighborhood includes the use of brick, natural stone, and clapboard siding. Based on the architectural renderings, the brick façade, framed windows and roofline articulation separates the Block 4 Townhouse from the internal Block 4 building design. The applicant shall provide exterior material selection on elevations for staff review.

Response: Updated Block 4 renderings are provided with material selection information included.

- Block 5: Staff requests exterior finish material palette imagery for Block 5. Staff is concerned with the reflective infill panel due to glare at the northwest elevation and requests the applicant provide additional narrative and materials for review.

Response: Exterior finish materials were shown on the prior renderings provided for Block 5. Further information is included in a new Block 5 Material Palette document uploaded to ProjectDox with this submission. In addition, it is noted that there are no reflective infill

panels proposed on the northwest elevation of Block 5, as indicated on the renderings and elevations that have been provided.

- Block 6: Staff recommends consideration of a larger format stone to respond to a larger building scale, in addition to historic preservation staff reference to the more monumental stone material found in the nearby context. The proposed stone cladding at the west elevation seems generally out of scale with the mass of the building, staff recommends the applicant consider a horizontal rainscreen panel material above a stone cladded base.



Response: The project team is considering staff's recommendations for larger format stones and is evaluating a larger stone clad base. We will coordinate with the City further as we are considering possible material sources.

2. Pedestrian Environment: Staff finds the Block 4,5 & 6 development generally fosters a walkable pedestrian environment through a unified streetscape at the Thames Street extension with unique surface paving, street trees and lighting. Staff finds the Block 4 Fore Street pedestrian environment to be insufficient and suggests the applicant minimize any encroachments into public right of way to allow for ample sidewalk widths, plantings and pedestrian amenities where possible. Staff recommends a greater concentration of street trees, the applicant should consider a street tree alternative for new trees within the view corridors of St. Lawrence Street and Atlantic Street or allow for street trees within the private property along Fore Street that would require building recessions at the street-facing Block 4 Townhouse facades.

Response: As noted previously, the Block 4 Townhouses have been revised to move site features out of the ROW. The enclosed Block 4 Elevations and Renderings reflect this change to the buildings, site, and landscape features. The landscape design in this area is largely driven by the accessible route of travel adjacent to the sidewalk. The landscape design is also impacted by the presence of the existing Fore Street retaining wall, which provides a restriction on the plantings that are acceptable in the area. It is not recommended that any street trees be planted within the Fore St sidewalk, as these trees may have a negative impact on the retaining wall.

3. Primary Entrances and Service Entrances: Staff supports the clearly articulated primary entrances expressed with distinct materiality at each building as a unifying building

component throughout the development. Service entrances appear to be internal to the site with shared infrastructure. Staff finds the service garage doors at the shared street-facing facades reduce the pedestrian experience and recommends the Block 5 loading dock adjust away from spa and fitness entrance, if possible, to consolidate the rooftop bar entrance (see image below).



Response: The service door is not able to move due to complex coordination of grades on Thames Street and due to the required operational layout of the interior to maintain separation between service corridors, the freight elevator, and public areas. We have updated the design of the service door to match our regular glazed fenestration, changing to a frosted glazed garage door that will better blend with the rest of the façade and feel less like a loading area. The revised Block 5 drawings reflect this change.

Staff finds the building entry south of the garage parking entry at the west elevation is not clearly articulated (see image below), the applicant shall provide additional architectural elements such as a canopy or additional fenestrations that correspond to the Block 4 West Wrapper.

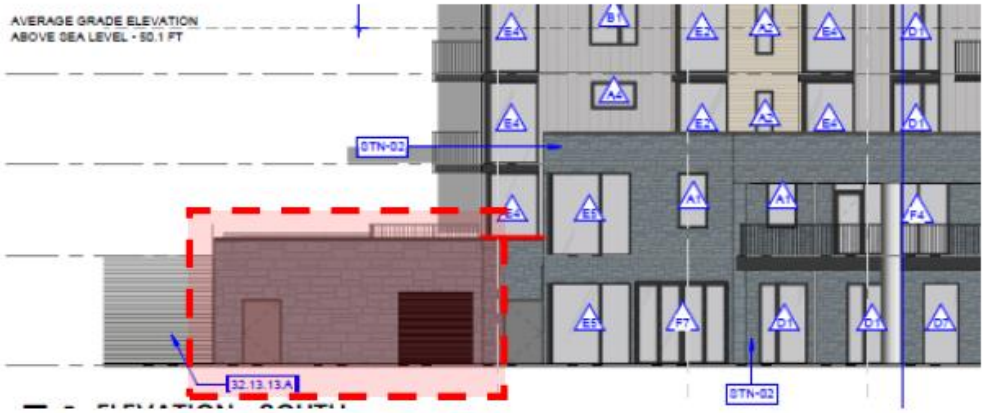


Response: The Block 4 garage entry concerns have been discussed and addressed as part of the Historic Preservation review, and updated Block 4 Elevations and Renderings reflect these changes.

4. Historic Structures: A portion of the Block 4 development is within the Portland Company historic district and a portion of the Block 6 development is within the Munjoy Hill historic district, both are subject to Historic Preservation Board review and applicable design standards. The applicant shall incorporate Historic Preservation board reviews that impact the design of the overall development.

Response: Blocks 4 and 6 are currently under review by the Historic Preservation Board, and recommendations from that Board will be incorporated into the design.

5. Marine Development: Staff observes the Block 6 marine support loading area, service entry and garage door located adjacent to the lower plaza between Block 5 and Block 6. Staff finds the activation of the Block 6 pedestrian-oriented plaza and associated retail uses adjacent to the railroad right of way conflicts with the location of the marine support loading area. Staff recommends the applicant relocate to avoid potential conflicts with vehicles and pedestrians. Staff will review additional railroad right of way crossings as needed as shown in the minor site plan amendment PL-002252-2022.



Response: As noted previously, the service door is sited to have the least impact on the activation of the Block 6 Marina Terrace, as well as the MNGRR and Eastern Promenade Trail. The relocation of the vehicle door will be evaluated along with architectural interventions to enhance the pedestrian experience.

Open Space and the Open Realm: *The character of public streets and sidewalks is the primary determinant of the quality of the public realm…is further defined and enhanced by the incorporation of quality open spaces…*

1. Private Open Space and Plazas: Private open spaces are adjacent to Block 4,5 & 6 retail uses to allow for seating and entries. Internal private open spaces are unique to each building through shared courtyards, rooftop terraces and private balconies for residents. The applicant shall confirm if any shared private opens space (e.g., balconies, terraces, etc.) is proposed for Block 5.

Response: Balconies and Exterior Roof Terraces are indicated on the Block 5 floor plans, and these areas have been highlighted on the updated plans included with this response to comments submission. The large roof terrace on the third floor is intended for shared use by residential tenants. Other roof terrace areas are carved out for individual condo units. Select hotel rooms have terrace space on the third floor as well.

Water's Edge: *The interaction of land activities with harbor activities creates the essential value and character of the Eastern Waterfront district…The successful accommodation of a diverse mixture of people and activity through quality design will best maximize the value of the water's edge.*

1) Public Access to Water: The applicant shall incorporate railroad crossings appropriate to the intended use, staff finds that the conflicts between pedestrians and marine service vehicles shall be minimized to the greatest extent possible.

Response: As noted previously, we are working on the railroad crossings as part of the separate site plan application that addresses changes to the Phase 1 site plan approval and includes work within the Narrow Gauge Railroad Right of Way. The need for service vehicle crossings has been minimized.

2) Lighting: The development provides exterior lighting appropriate at view corridors. Staff requests additional lighting plans and fixture information associated with the Block 5 & 6 buildings to include façade mounted fixtures.

Response: We have submitted additional information about the proposed building lighting fixtures. Two documents on Block 5 Lighting and Block 6 Lighting have been uploaded to the Documents section of ProjectDox.

C. City of Portland Design Manual

i. Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.

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

iii. *Open space on the site for all multiple-family development shall be integrated into the development site.*

Staff comment: The development of Block 4 & 5 integrates open space within the building through shared courtyards, balconies and roof terraces. Staff observes a green roof in the view corridor of Block 5 along with rooftop amenities specific to the upper condo units. Staff finds that Block 5 does not address open space for each residential unit and requests the applicant provide additional open space (e.g., balconies, shared roof terrace or other outdoor space) and an architectural narrative to meet this design standard.

Response: As noted, in a previous comment response, balconies and exterior roof terraces are indicated on the Block 5 floor plans, and these areas have been highlighted on the updated plans included with this response to comments submission. The large roof

terrace on the third floor is intended for shared use by residential tenants. Other roof terrace areas are carved out for individual condo units. Select hotel rooms have terrace space on the third floor as well.

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
Technical Manager

The following supporting documents have been uploaded to ProjectDox, each is noted as a new upload or a revision to materials that have previously been uploaded:

- Block 5 Renderings (Revised)
- Block 5 Material Palette (New)
- Block 4 Renderings (Revised)
- Block 4 Elevations (Revised)
- Block 4 Floor Plans (Revised)
- Phase 2 Civil Plans and Details (Revised)
- Block 5 Elevations (Revised)
- Block 5 Foor Plans (Revised)
- Block 6 Elevations (Revised)
- Block 6 Floor Plans (Revised)
- Block 6 Renderings (Revised)
- Block 5 and 6 Lighting (New)
- Photometrics Plans (Revised)

cc: Dave Senus, PFDC
Mary McCrann, PFDC
Shelby Burgau, PFDC

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 6

June 23, 2023

Charles Tetelman, Planner
City of Portland
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: Response to City Staff Comments – 58 Fore Street Phase 2
Project ID PL-002202-2022

Dear Charles:

Thank you for coordinating the review of the Level III Site Plan, Subdivision and Site Location of Development (SLOD) Amendment for Phase 2 of development at 58 Fore Street in Portland. We received the following City Staff review comments on the project through you, and provide the following response:

City Staff Comments | June 2, 2023 | PL-002202-2022

CRITICAL PATH ITEMS:

1. Phase 2 Average Grade Calculation: Point D and Point E are not acceptable for determining the average grade as currently shown. As currently proposed, the applicant is not measuring the grade from the post development grade but instead from elevated patios/walkways, sidewalks, and other artificial features, projecting from the building facades and to be constructed on top of a retaining wall, with no fill between the building and the retaining wall, leaving a void, and bearing no relation to the structural functionality of the building in these locations. As previously stated, points can be taken at regular intervals or at prominent building corners. Measurement is required to be taken where the building foundation meets the post development earth grade.

   Response: We have revised the points utilized for the average grade calculation. The attached average grade figure includes the selected points at the prominent building corners where the average of proposed grades calculates to 50 feet. We have also included an updated version of the supplemental architecture package that supports the average grade calculations.

2. Fore Street Retaining Wall + Maintenance: The applicant shall assess the current condition of the Fore Street retaining wall and confirm whether footings or other structural elements being proposed pose a risk to the structural integrity of this retaining wall. This study is required to be completed by a qualified professional and will need to address the following questions:

   1) Can the applicant provide past and current elevation data of the Fore Street Retaining Wall for comparison;
   2) Who will ultimately be responsible for maintenance once the structure is occupied;

3) How will the wall be accessed for maintenance and/or replacement once the structure/building is erected; and
4) What is the estimated lifespan of the wall?

Response: The project team's geotechnical engineer Haley & Aldrich has provided the following information with regards to the existing Fore Street wall. The existing Fore Street retaining wall was constructed in 1876 and a short length of the wall was rebuilt in 1896 for reasons unknown. We have visually observed the condition of visible portions of the wall, and it is our opinion that the wall is in good condition with no visible signs of distress, bulging or movement. We have not conducted any physical investigations to further explore the condition of the wall. As explained below, the proposed improvements will not change the stress condition of the wall. Because of that, we do not anticipate that the condition of the wall will change from its current condition once construction is complete.

The proposed building and support of excavation wall will be located south of the existing Fore Street retaining wall (on the water side). Neither structural system - the building foundation or support of excavation wall - will rely on any portion of the existing Fore Street retaining wall for support. Along the Fore Street/Eastern Promenade side of the proposed building, a slab will span over the existing wall from the proposed building to a foundation beneath the sidewalk. The slab will provide pedestrian access from Fore Street into the residential brownstone units. The slab will be structurally connected to and partially supported by the new building. The Fore Street end of the slab will be supported on a small footing or will bear directly on the ground beneath the sidewalk such that negligible additional load will be imparted onto the existing Fore Street retaining wall. The details of the slab and slab support will be finalized in the next phase of design prior to submission for a Building Permit.

- *Existing wall elevation data is provided on page 11 of the enclosed Geotechnical Data Report dated October 2022 prepared by Haley & Aldrich. Historic plans of the wall showing ground surface elevations prior to construction as well as the design wall elevations are also enclosed.*

- *The Applicant intends to take on maintenance responsibility for the existing retaining wall once the structure is occupied. The Fore Street retaining wall is the subject of an 1876 agreement between the City of Portland and the Portland Company. In the Agreement, the Portland Company gave the City permission to locate the wall on the Portland Company property and the City is responsible for maintaining the wall. The Applicant team will work with Corporation Counsel on an amendment to the Agreement which would transfer maintenance responsibility to the Applicant.*

- *As previously noted, the design intent is to span the wall and maintain the existing stress condition of the wall; therefore, maintenance of the wall is anticipated to continue to be minimal. In the unlikely event that wall maintenance is needed in the future, we will have the ability to observe the façade of the wall after the new buildings are constructed and access it through specific interventions along the wall span.*

- *As noted above, the existing wall was constructed in 1876. Historic plans are enclosed for your reference. We were not the designers of the wall and do not know what the design life of it is. We have visually observed the condition of visible portions of the wall, and it is our opinion that the wall is in good condition with no visible signs of distress, bulging or movement. As mentioned previously, the proposed improvements will not change the stress condition of the wall. Because of that, we do not anticipate that the condition of the wall will change from its current condition once construction is complete. Although not all the factors that could influence the stability and "lifespan" of the wall are controllable, and assuming nothing changes, it's reasonable to believe that the wall could continue to function as originally designed for a duration that is equal to or greater that the design life of the proposed structure.*

3. Townhome Height (35 ft.): Dimensional Standards require that buildings along Fore Street do not exceed the grade of Fore Street by more than 35 feet within 100 feet of the Fore Street ROW. This height restriction is required to be met. The applicant needs to provide updated elevations demonstrating consistency with this dimensional standard.

   Response: The height of the townhomes along Fore Street, both for Block 2 and Block 4, will not exceed the grade of Fore Street, measured at the Right of Way, by greater than 35 feet. The elevation drawings have been updated to provide notation that the buildings meet this dimensional requirement.

4. Geotechnical Study: The applicant needs to provide a Geotechnical Study from a qualified professional demonstrating the proposed development is structurally sound and must demonstrate that all structures (pins, retaining walls, etc.) provide adequate support for the proposed development. From the MDP: *"Preliminary geotechnical exploration will occur to inform the future design details related to the B2 and B4 development blocks, specifically how these foundation systems will interface with the retaining wall system."*

   Response: A Geotechnical Data Report (dated 19 October 2022) and Geotechnical Design Memorandum (dated 17 February 2023) prepared by Haley & Aldrich, Inc. for the proposed Block 4 development have been uploaded to ProjectDox for reference on this comment.

5. Fore Street Public Right-of-Way: The applicant is currently proposing a sidewalk, retaining wall, and footings associated with Block 4 and the townhomes encroaching into the City ROW along Fore Street. In order to encroach into the City ROW, a license agreement is required, which the City has not granted to the applicant at this time. The City reiterates that all privatized developed areas, including any necessary retaining walls, pathways, and patios, fronting Fore Street should be shifted outside of the public ROW and onto the property of the applicant. Any building components, except footings, that extend into the ROW are not supported by the City. The City will continue to coordinate with the applicant team to explore the possibility of entering into a license agreement to allow Block 4's footings to encroach into the City ROW, below grade, that is supported by a geotechnical study.

Response: The enclosed civil and landscape plans, floor plans, and elevations reflect modifications that have been made to the proposed Townhomes along Fore Street. All proposed private improvements that are above-surface have been shifted out of the right-of-way. Structural foundation elements will be required within the Right of Way and will be placed beneath the sidewalk. A draft license agreement for these foundations is attached for your reference. The Applicant will continue to coordinate with the City on these required license agreements.

GENERAL

- Please provide snow storage areas on site or provide a management plan for removing snow from site.

  Response: The Applicant is currently working with a private contractor for snow management on the Site, including the finished Phase 1 development area. Equipment is kept on site during the winter to move snow around as necessary, and the contract includes removal of snow from the site as required. During construction, the contractor will be responsible for snow management in the construction zone and the private contractor will continue to be responsible for the remaining areas on Site. After construction, the Applicant intends to expand the existing contract to cover the completed development areas. The intent is that following construction there will not be significant snow storage on site, and it will be managed through removal.

ZONING

- Zoning will review building height and other dimensional requirements once a revised average grade based on the above comments is submitted.

  Response: Noted.

TRANSPORTATION

1. The Trip Generation estimate included in the Traffic Assessment shall be based on the 11th Edition of the ITE Trip Generation publication. This was discussed and confirmed with MaineDOT's State Traffic Engineer. Please provide updated Trip Generation estimates accordingly.

   Response: Please see the attached memo from Gorrill-Palmer that addresses this comment. The Gorrill-Palmer memo does note that the trip generation estimate provided with this application was based on the 7th Edition of the ITE because that was in effect when the Master Development Plan was approved. Normal practice would be to review phases of that project using the edition in effect at the time of original approval, so that it is a consistent comparison. This comment asked us to provide estimates based upon the 11th Edition of the ITE. We have provided the estimates in Gorrill Palmer's memo as requested but note that this is no longer a direct comparison to what was evaluated and approved during the Master Development Plan.

2. The reduction assumptions used in prior analysis should be revisited and documentation should be provided in support of suggested trip reduction factors given current conditions. Please provide revised documentation accordingly.

Response: Please see the attached memo from Gorrill-Palmer that addresses this comment. The response to this comment was prepared based on a 20% non-auto trip factor per the direction of Tom Errico on June 22, 2023.

3. All submitted plans depicting parking shall provide dimensions according to the City of Portland Technical Manual.

   Response: The parking garage plans have been updated to include additional dimensions. The space widths are provided throughout the plans. Space lengths have been dimensioned on each row, and all spaces provided in the garage are 18' in length. Drive aisle widths have been dimensioned for each parking aisle. Revised plans have been added to the ProjectDox file.

4. The applicant shall provide the EXCEL spreadsheet for the parking demand analysis for review and approval. Adjustments to mode share and internal capture may be necessary following the changed to methods used in the traffic study noted above.

   Response: Please see the attached memo from Gorrill-Palmer that addresses this comment. The EXCEL file has been provided as a separate attachment.

5. The proposed details are not compliant with City's standards (for example VERTICAL GRANITE CURB, BRICK SIDEWALK and CAST IRON MANHOLE COVER AND FRAME). City Staff recommend that the applicant review and revise all the proposed Site, Sewer, Storm Drain and Landscape details to meet the requirements of the technical manual. State the location of the details in the installation note.

   Response: Applicable sidewalk, driveway apron, and curb details have been added to Civil Detail Sheet C-207 and callouts have been added to the site plans. No manholes are proposed in the City Right-of-Way. All proposed work in the City Right-of-Way will comply with the City's Technical Manual.

6. A Driveway Apron detail was not included in the submitted plan set and should be added. The proposed driveway apron is required to be designed per the City's Technical Manual Section 1 and the City's Sidewalk and Driveway Apron Material Policy.

   Response: We previously requested a waiver from driveway apron standard due to grading constraints. Figure I-9C and I-10A have been added to Civil Sheet C-207. The brick sidewalk on Fore Street will comply with the City's Sidewalk Material Policy.

7. According to DPW there is an existing utility valve that appears to be within the limits of the proposed driveway.



Response: This valve was previously part of the natural gas main. The gas main on Fore Street was relocated as part of the Fore Street Sewer Separation project, and the old main was abandoned in-place and the valves were demolished (see photo below).



8. The applicant has noted that the existing Granite Curb will be reset. The applicant will be responsible for ensuring that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation/during construction.

   Response: Noted.

9. DPW understands that the applicant is coordinating the relocation of the overhead utilities and poles with Central Maine Power. The applicant is responsible for ensuring that the design/location of the proposed building maintains the required offset from existing overhead utilities if the building is constructed prior to the utility relocation. Be aware that the curb line shall not be extended into the existing pavement to accommodate future utility pole relocations if the coordination is not completed

before the building is constructed. DPW is requesting all overhead utilities and related infrastructure to be shown on all plans and elevations.

Response: Proposed utility pole locations are shown on the Site Plans and Utility Plans. The Applicant is working with CMP to finalize the design of the electrical utility to be installed as part of this project. The utility design will provide adequate separation distance from proposed buildings. The overhead electric service has been added to the Utility Plans. Additionally, the utility poles and overhead utilities are shown on the Block 4 Renderings.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

1. DPW's project manager for the Fore/Eastern Promenade Sewer Separation project is available to meet onsite to discuss coordination of the two projects including the proposed crosswalk at Waterville and Fore.

   Response: Noted. We are happy to meet with DPW for further coordination.

2. The applicant shall clarify how the marina sanitary sewer force main will connect to the new sewage pump station being installed as part of the Phase 2 (block 4-6) work. This may require final approval for the minor site plan amendment PL-002252-2022. Applicant shall finalize plans associated with PL-002252-2022 before receiving approval for this site plan.

   Response: The force main will not become active/online until the pump station is installed. Once the pump station and force main are active, the temporary service will be abandoned in place.

3. The applicant shall update the project's wastewater capacity application, previously sent to DPW water resources engineering to include projected flows from block 5. The application on file does not include this information.

   Response: The updated Wastewater Capacity Application is enclosed.

4. The applicant had previously noted that placement of grease traps associated with block 6 were still being determined and they would appear on subsequent utility plans. This updated plan set still does not include any grease traps. Similarly, if any grease traps are required for the recently added block 5 work, they should be added to the utility plan. All sizing and configurations of grease traps shall be in accordance with section 2 of the technical manual.

   Response: The proposed retail spaces are core and shell only, and the use of the space is to be determined as it is contingent on future tenants. Internal grease traps will be provided for restaurant/kitchen uses. We anticipate internal grease trap applicability, configuration, and sizing will be addressed as part future building permit processes for individual space fit-outs as tenants are identified.

5. An oil water separator has been designed to treat flows coming from an internal parking garage as part of the block 4 work. The applicant shall confirm oil water

separators are not required for any internal parking areas associated with blocks 5 and 6.

Response: An oil/water separator will be provided in the Block 6 building and will be plumbed to sewer. We anticipate this will be reviewed as part of the building permit process.

6. Several sewer service pipes are shown with a slope less than 1/8 in/ft. Based on the City of Portland Technical Manual it is stated that, "All building sewer laterals shall have a minimum diameter of four inch (4") and a minimum slope of one eight inch per foot (1/8 in/ft) installed." We recommend the slopes for sewer pipes be revised to meet City standards or a waiver is requested if this is not achievable due to existing infrastructure grades.

   Response: The proposed sewer services within the project area are all private services that connect to the private main and pump station within the site that discharges to the gravity service lateral connection on Thames Street that was installed during Phase 1. It is our understanding that the City Technical Manual only applies to service laterals in the Right-of-Way; no new service laterals are proposed in the City Right-of-Way as part of this project.

7. Phase 2 Civil Plans and Details Sheet C-102: There are catch basins with a rim elevation at the same elevation as adjacent spot grades provided (AD11, CB7, CB8). We would recommend additional spot grading or adjustment of adjacent grades or rim elevations to promote positive drainage towards the catch basins.

   Response: Additional spot grades are provided on the Grading Plans at these locations.

8. Phase 2 Civil Plans and Details Sheet C-102: AD12 has a rim elevation of 14.80' based on Sheet C107 – Civil Pipe & Structure Tables. The linework for SMH-14 is covering the adjacent spot grade, but it appears that the adjacent spot grade is 14.7'. If this is in fact the case, we would recommend grading be revised in this area to promote positive drainage to AD12.

   Response: The spot grade has been updated accordingly.

9. Phase 2 Civil Plans and Details Sheet C-102: It is unclear how the podium area on the east side of Block 4 will drain. The provided spot grades around the podium are 23.89' with adjacent spot grades all being higher than these points making this area a low point. We would recommend considering the need for drainage infrastructure or revising proposed spot grades to drain to proposed storm drainage infrastructure.

   Response: The podium area, while connected to the driveway on the site, is actually part of the building structure constructed over the below-grade parking garage. Drainage from the podium, which acts like a building roof, is plumbed internally to Block 6, which exits the building along the southwest corner and discharges into DMH14.

10. Phase 2 Civil Plans and Details Sheet C-104: Pipes S16, S14, S15, and S33 are assumed to be sewer service laterals for future construction. Per the City of Portland's Technical Manual, sewer service pipes which are 4" or 6" in diameter shall not be connected into

a sanitary manhole and only into a sanitary sewer main. Please confirm the intent of these sewer pipes and revise as appropriate.

Response: Sewer pipes S14 and S33 are trunk lines servicing Block 2, and S15 and S16 are building service laterals. As previously noted, the proposed sewer services are all private services that drain to the site's internal private main and pump station system the gravity service lateral connection on Thames Street that was installed during Phase 1. It is our understanding that the City Technical Manual only applies to service laterals in the Right-of-Way; no new service laterals are proposed in City Right-of-Way as part of this project.

11. Phase 2 Civil Plans and Details Sheet C-104: the label for SMH14 is covering the label for the sewer pipe. It is unclear which sewer pipe in the pipe table (Sheet C-107) is between SMH14 and SMH6.

    Response: The layering has been updated accordingly.

12. Phase 2 Civil Plans and Details Sheet C-107: Several storm drain pipes are shown as having slopes less than 0.005 ft/ft with some drain pipes shown as being placed flat. We would recommend providing a minimum of 0.005 ft/ft slope for all storm drain pipe to ensure positive drainage.

    Response: Noted. Storm drain slopes have been maximized to provide positive drainage to proposed stormwater treatment systems and outfalls. We are working within the constraints of a relatively flat site, and understand the challenges of low slopes on piping.

13. Phase 2 Civil Plans and Details Sheet C-203: There are several area drains on sheet C-107 that are proposed to be 1' diameter. We would recommend a detail be provided for the type of grate to be used for these structures.

    Response: An Area Drain Detail, which shows the proposed grate, is provided on Sheet C-201.

14. Phase 2 Civil Plans and Details Sheet C-204: The applicant is proposing to install a tree over the top of proposed subsurface R-Tank #2. Based on available literature of R-Tank systems, it is not recommended to place large trees over these systems. We would recommend the applicant confirm that this is acceptable with the manufacturer or remove the proposed tree.

    Response: As shown on the detail plan view on Sheet C-204, the proposed R-Tank modules are arranged in a donut shape around the tree, with no modules proposed under the tree. A structural root containment system is proposed for additional protection against root penetration. We are working with both manufacturers to ensure adequate protections are provided.

15. CB27, SD123, CB28, SD124, CB21, and SD57 on Sheet C-102 are not seen on the Pipe & Structure Table (Sheet C-107).

    Response: The referenced pipes and structures have been added to the tables.

16. CB13 has a rim elevation of 14.40 based on Sheet C-107 – Civil Pipe & Structure Tables. Sheet C-102 shows a spot elevation of 14.55 on CB13. Please confirm the correct elevation and revise as necessary.

    Response: The Structure Table was revised accordingly.

17. The Major Site Plan PFDC Phase 2 Checklist notes that "directional flows of all proposed sewer and stormwater infrastructure" are required on utility plans. Please provide flow direction arrows for all proposed sewer and stormwater infrastructure in accordance with this requirement.

    Response: Directional flow arrows have been added to the plans.

18. Please provide a detail showing storm drain pipe connections. For instance, SD39 is shown to connect into SD40 on Sheet C-102, with not catch basin or drain manhole.

    Response: Our intent is to use our standard wye connection, which is represented in a detail on sheet C-201. The title of the detail has been revised so that it is not specific for sewer.

19. Several area drains on Sheet C-107 are listed with a diameter of 1' and a pipe of 10". The applicant has also provided a detail of the area drains on Sheet C-203. There is a note on the proposed detail which states that the diameter of the hole should be 3" larger than the inside diameter of flexible pipe or the outside diameter of rigid pipe. Based on the detail provided, and the proposed sizes of the area drain and storm drain pipe, it is unclear how there will be sufficient room to accommodate the pipe within these structures.

    Response: The proposed area drain inner diameter is 15" and the structure table has been updated.

20. SW Management Plan Comments

    a. Section 1.3 – Proposed Development: The Applicant indicates that Jellyfish Filter 2 will be relocated and invert elevations adjusted as part of this project. However, it is not clear on the plans where the filter will be relocated or what the adjusted elevations of the inverts are. We would recommend the Applicant clearly show where the filter is to be relocated and provide updated invert information for the filter.

       Response: The design has advanced and the proposed Jellyfish Filter location is shown on the design drawings on the PF Marina property southwest of R-Tank System 2. The Jellyfish Filter has been added to the structure table and inverts have been confirmed.

    b. Section 1.4 – General & Redevelopment Standards (Stormwater Quality): The Applicant indicates that they will continue to coordinate with MaineDEP to obtain approval for reduced water quality volume. It is recommended that the applicant provide documentation stating that a reduction in required water quality volume is accepted by MaineDEP prior to final approval.

Response: Noted

c. Section 1.4 - General & Redevelopment Standards (Stormwater Quality): The Applicant states that the Jellyfish Filters are sized to meet flow from 1-inch of runoff. It is recommended that the applicant include a 1-inch storm in the HydroCAD model to ensure the Jellyfish sizing meets the flow requirements outlined in the MaineDEP proprietary BMP approval letter.

   Response: The HydroCAD report for the 1" storm is provided in the Stormwater Management Report uploaded to ProjectDox. Please note the only component of the Stormwater Management Report that was revised is Appendix C (HydroCAD Report); the other components remain the same as the previous submission.

d. Section 1.4 - General & Redevelopment Standards (Stormwater Quality): The Applicant indicated they are coordinating with the manufacturer on approval of the Jellyfish Filter design and can provide a manufacturer letter of approval. Please provide approval letter once received.

   Response: Noted.

e. HydroCAD – Pond 12P – Jellyfish 2: It appears that the applicant is modeling the bypass weir as device #3. If this is the case, the invert elevation used in HydroCAD does not match the elevation shown for the Peak Diversion Jellyfish Filter #2 Detail on Sheet C-206. Please confirm which elevation is correct and revise the other as appropriate.

   Response: The invert on the detail has been updated accordingly.

LANDSCAPING & ENVIRONMENTAL QUALITY

- Parks, Recreation, and Facilities Reviewers will be providing additional comments regarding landscaping and street trees.

  Response: Noted. We have received additional comments within this category; however, they are related to the work proposed as part of the Phase 1 Amendment project. We'll provide responses to those comments as part of the response provided for that project.

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
Technical Manager

The following supporting documents have been uploaded to ProjectDox, each is noted as a new upload or a revision to materials that have previously been uploaded:

- Average Grade Figure & Supplemental Architectural Plans (Revised)
- 2023.06.23 Traffic Summary Response Memo (New)
- 2023.06.23 Combined Shared Parking Demand 5th Edition – Protected (New)
- Block 4, 5, and 6 Parking Plans (Revised)
- Geotechnical Data Report (New)
- Geotechnical Design Memorandum (New)
- Fore Street Historic Retaining Wall Drawings (New)
- Civil Plans and Details (Revised)
- Block 4 Elevations (Revised)
- Block 4 Floor Plans (Revised)
- Draft Fore Street Foundation License Agreement (New)
- Stormwater Management Plan (Revised with updated HydroCAD model)
- Wastewater Capacity Application (Revised)

cc: Dave Senus, PFDC
Mary McCrann, PFDC
Shelby Burgau, PFDC

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 7

August 7, 2023

Charles Tetelman, Planner
City of Portland
389 Congress Street, 4th Floor
Portland, Maine 04101

Re: Response to City Staff Comments III – 58 Fore Street Phase 2
Project ID PL-002202-2022

Dear Charles:

Thank you for coordinating the review of the Level III Site Plan, Subdivision and Site Location of Development (SLOD) Amendment for Phase 2 of development at 58 Fore Street in Portland. We received the following City Staff review comments on the project through you, and provide the following responses:

City Staff Comments | July 26, 2023 | PL-002202-2022

PRIORITY ITEMS

1. *Foundation Plan, Overall Site Plans, and Unified Floor Plans*: The following drawings and supporting documents are still needed:

   - Full Foundation Plan. This plan should clearly demonstrate that the project consists of one building with a common foundation and three separate towers. Additional information has been submitted since the initial application showing the location of the plinth, but the full extent of the foundation, and how it relates to/differs from the Common base is still not discernable in the materials.

     Response: A Full Foundation Plan was uploaded to ProjectDox on August 4, 2023, as part of the file 2023.08.04 PFDC – One Building Plans & Average Grade.

   - Overall Site Plan that includes the extent of work being proposed as part of the Phase 2 Development on a single sheet. This has been previously requested and still is outstanding.

     Response: The Overall Site Plan is included with this response.

   - Unified and Complete Floor Plans that include Block 4, Block 5, and Block 6 structures. The application treats these blocks separately while requesting they be reviewed as one building, but the application materials will need to consistently show how the blocks physically relate to each other in order for the review to be completed.

     Response: Unified floor plans were uploaded to ProjectDox on August 4, 2023, as part of the file 2023.08.04 PFDC – One Building Plans & Average Grade.

2. *Geotechnical Study:* The applicant has provided documents and reports regarding Geotechnical elements of the proposed development. City Staff and Third-Party reviewers will provide review Comments at a later date. City Staff and Corporation Counsel continue

to review the existing easements and proposed easements associated with maintenance of the retaining wall.

Response: Noted. We respectfully request that the Geotechnical Third-Party review of the proposed SOE wall be made a condition of Site Plan approval for Phase 2, requiring completion of this review, and addressing of any comments prior to the issuance of the building permit required for the SOE wall.

3. *Fore Street Public Right-of-Way:* The most recent submission addresses encroachment concerns into the City ROW along Fore Street. The City will continue to coordinate with the applicant team regarding a license agreement to allow Block 4's footings (proposed to be located above the Fore Street retaining wall) to encroach into the City ROW.

   Response: Noted. We respectfully request the final license agreement for the Block 4 footings and soil nail wall along Fore Street be made a condition of approval for Phase 2, similar to what was included as a condition for Phase 1.

4. *Construction Management and Phasing Plan:* Please submit an updated Site Development Phasing Plan and a supporting Phased Construction Management Plan. The Construction Management Plan will need to be consistent with the submitted drawings and documents and include all work proposed on site including PL-002252-2023, PL-002253-2023, and PL-002202-2022.

   Response: A Construction Management Plan supplement that includes the waterfront work within project PL-002253-2022 has been uploaded to both project folders for reference. We have not received comments on the submitted construction management plans – we will address comments as they are received.

5. *Block 6 Cart Storage:* City Staff have determined that the storage cart room is a Warehousing and Storage use, which is a conditional use in the B-6 Zone. Section 6.4.11(A) states in the B-6 Zone that Marine Uses should include marine products, wholesaling, and retailing, harbor, and marine supplies and services. Marine supplies and services are associated directly with the operation of the vessel; the storage and golf cart room cannot be considered accessory to the marina because it is not located on the marina lot.

   - L1.1 - Sheet appears to show a vehicle parking area by stairs in building six under "Level 1" label. Please clarify vehicle storage and provide vehicular use path diagram and brief management narrative for how vehicle and its function to the property operation will work. Eastern Trail and narrow—gauge circulation patterns take priority and all pedestrian and passenger safety must be ensured. Any vehicle's use of trail must be more detailed and closer coordinated with the Parks Department. Keeping vehicles off of Eastern Promenade trail and high pedestrian use areas is a priority, and mitigation of impacts to the trail will be a critical element of the review.

   Response: The storage cart room has been eliminated from Block 6. Plans are being revised to reflect this change and will be provided after the August 15, 2023, Planning Board Workshop.

GENERAL

- Inclusionary Zoning calculations will be completed following applicant's next resubmittal.

  Response: Noted. As outlined in the next comment, the total unit count for Block 4 is now 199. Please let us know if additional information is required from the Applicant to complete the Inclusionary Zoning evaluation.

- Please be sure to update any of the programming changes in the cover letter as the proposed programming relates to the original proposed programming at the time of MDP approval.

  Response: The proposed Block 4 changes result in the following unit counts for the Block:
  - *Townhouses: 16*
  - *Studio Apartments: 114*
  - *1-Bedroom Apartments: 59*
  - *2-Bedroom Apartments: 10*
  - *Total Block 4 Unit Count: 199*

- The applicant should provide additional information regarding the use, proposed means of access, and legal rights to access the small paved parking area at the rear of 21 Eastern Promenade.

  Response: The 21 Eastern Promenade property is under common ownership with the 58 Fore Street property. In the future if this changes, updated easement access documents will be provided to the City.

- City Staff are still reviewing the proposed Subdivision Plat amendment and may require additional draft easements or edits.

  Response: Noted.

- The applicant will be required to provide all final documentation regarding the land swap between Portland Foreside, MaineDOT, and the City of Portland once the land swaps have been finalized. The applicant will need to provide any final easements or agreements at that time.

  Response: Noted.

- The applicant should submit all existing easements located on site including easements with or from Central Maine Power and Portland Water District.

  Response: Existing easements are reflected on the overall Subdivision Plan.

- The applicant should provide draft Condo Association documents and clarification regarding which units are rental, which are ownership units.

  Response: We respectfully request that the provision of condominium documents be made a condition of approval. These documents are currently under development. All residential units in Blocks 5 and 6 will be listed for sale. In Block 4, all townhome units will be listed for sale, and the remaining residential units will be listed for rent.

ZONING

- City Staff continue to review the submitted Average Grade Plan. The full foundation plan (see above) will help clarify whether any additional points are needed or any need to be adjusted before a final determination on this key zoning compliance issue can be made.

  Response: The Full Foundation Plan has been provided as noted in this response to comments. The submitted plans also show the proposed average grade points on the 6th Floor plan.

- In the July 7,2023 Planning Board Workshop Memo, City Staff identified elements of the proposed development that are not zoning compliant. City Staff have met with the applicant team and provided further guidance. City Staff have requested updated drawings with relevant zoning dimensional requirements included and properly dimension on the plans:

  - **Block 4** related to the B-6 Eastern Waterfront zone dimensional requirements.

  - **Block 5** City Staff have determined that certain elements of the proposed roof plan for Block 5 do not serve as appurtenances (e.g. Telecom and Electrical rooms). Additionally, City Staff have determined that an elevator can service the rooftop amenity deck but the elevator will be required to open out directly to the rooftop. Elevator overrun and supporting screening should be minimized to the fullest extent possible. The Design Review memo includes language and guidance to the screening on Block 5. City Staff have also requested that the applicant reduce the total number of elevators accessing the top floor.

  - **Block 6** Please provide updated drawings that show relevant R-6 zoning dimensional requirements.

  Response: Updated drawings were provided via email and uploaded to ProjectDox for Block 4 on August 4, 2023, and Block 6 on July 25, 2023. Updated drawings showing reduced design elements on the rooftop of Block 5 were also provided on August 4, 2023. These plans are continuing to be revised based on Zoning comments received and will be resubmitted soon under a separate cover.

- City Staff require additional information regarding the operation and use of the proposed CbFt storage area located along the waterfront—side of Block 6, particularly in regard to trail impacts and site circulation.

  Response: The storage cart room has been eliminated from Block 6. Plans are being revised to reflect this change and will be submitted following the August 15, 2023 Planning Board meeting.

TRANSPORTATION

- The trip generation estimate was updated to reflect data contained in the 11th Edition of the Trip Generation Manual. All back-up calculations will need to be provided (similar to what was provided for the 7th Edition).

  Response: There are ongoing discussions on transportation requirements for this project. This comment will be addressed under separate cover.

- The number of vehicle trips estimated under the full build-out of the site as compared to the estimate utilized in the original TMP is summarized as follows:
  - Unadjusted Trips
    - AM Peak Hour
      - 2017 TMP: 769 trips
      - 2023: 609 trips
    - PM Peak Hour
      - 2017 TMP: 921 trips
      - 2023: 1074 trips
  - Adjusted Trips (with Internal Capture Only)
    - AM Peak Hour
      - 2017 TMP: 667 trips
      - 2023: 463 trips
    - PM Peak Hour
      - 2017 TMP: 771 trips
      - 2023: 724 trips
  - Adjusted Trips (with Internal Capture and Mode Share)
    - AM Peak Hour
      - 2017 TMP: 506 trips
      - 2023: 370 trips
    - PM Peak Hour
      - 2017 TMP: 585 trips
      - 2023 579 trips

  The trip generation estimates, when adjusted, are in compliance with the approved TMP. City Staff and Third-Party Reviewers are seeking clarification from MaineDOT to determine whether unadjusted estimates need to be part of the comparison for TMP compliance.

  Response: There are ongoing discussions on transportation requirements for this project. This comment will be addressed under separate cover.

- The Traffic Assessment only includes an assessment of trip and parking generation. Given that the Master Development Plan approval included a requirement that a phased Traffic Movement Permit be required, please provide a traffic study that assesses traffic mobility and safety as part of this site plan application.

  Response: There are ongoing discussions on transportation requirements for this project. This comment will be addressed under separate cover.

- City Staff and Third-Party Reviewers reviewed the parking demand estimate and are requesting additional information as noted below:

  - Multi-Family 1.21 spaces per unit - The applicant should provide back-up information for time-of-day and parking generation assumptions.
  - Specialty Retail 1.95 spaces per 1,000SF - The applicant should provide back-up information.
  - Hotel 1.1 spaces per room - The applicant should provide back-up data for the parking generation rate.
  - Spa 4.3 spaces per 1,000SF - The applicant should provide back—up data for the parking generation rate.
  - The applicant should confirm that the trip generation and parking generation assumptions for ITE land use codes are the same or different.

  Response: There are ongoing discussions on transportation requirements for this project. Thi This comment will be addressed under separate cover.

- The applicant should create a 20-scale plan (on 24" X 36" Sheet) depicting and labeling all improvements and existing conditions within the ROW (Fore Street).

  Response: We are currently developing a plan to reflect all the proposed requests for Fore Street. We understand that there is further information that will be provided on this area by the City. We will coordinate with the City and will plan to provide additional updated drawings under separate cover.

- Improvements and existing conditions (such as the Fore Street ROW, lanes, sidewalk, esplanade, and driveways) should be clearly dimensioned on the plan view sheets at various locations and should include both typical widths and any pinch points.

  Response: We are currently developing a plan to reflect all the proposed requests for Fore Street. We understand that there is further information that will be provided on this area by the City. We will coordinate with the City and will plan to provide additional updated drawings under separate cover.

- The applicant should provide a detail in the plan set that depicts how the existing Fore St. retaining wall, the proposed sidewalk and the proposed building landings will interface.

  Response: This detail section is included with this response.

- The plans need to clearly identify areas of both existing and proposed curb, and should identify, if applicable, whether any curbing will be reset during construction. The applicant has noted in the past that the existing Granite Curb will be reset along Fore Street. This work should be noted on the plans and reference where the details to be followed can be found. The applicant should ensure (at the time of construction) that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation/during construction.

  Response: Granite curb is proposed to be reset along the southern edge of Fore Street as shown on the plans as proposed curb, so long as it is free from defects and approved by Public Works. Notes have been added to the Demolition Plan (callout on Sheet C-002) and the Site Plans (General Note 3 on Sheet C-100 and C-101).

- The finish floor elevation in relation to the sidewalk along Fore Street for all buildings should be shown on the plans.

  Response: The finish floor elevations are shown as spot grades at the building entrances along Fore Street on the Grading Plans (Sheets C-102 and C-103).

- The existing retaining wall along Fore Street should be clearly identified and labeled on the plans when relevant.

  Response: The existing retaining wall has been delineated on the Existing Condition Plan (C-001) and Demolition Plan (C-002). A note was added to the Demolition Plan indicating the wall should be preserved and protected.

- Grading Sheets: Spot grades and slopes should be added to plans (within the ROW) at proposed driveways, pedestrian ramps, accessible crossings, sidewalks, egress locations and steps.

  Response: Spot grades and slopes are being updated and will be provided as part of the final Fore Street plan referenced in prior comments.

- The applicant should design the proposed driveway off of Fore Street using the current City standard Residential Driveway Apron I-9A eliminating the proposed tipdowns.

  Response: The steepness of the existing Fore Street slope does not allow for the creation of a continuously graded driveway apron without pedestrian ramps, per the current requirements of the Department of Public Works. In order to enable a driveway entrance to the parking garage from Fore Street, pedestrian ramps are required. We are respectfully requesting a waiver from the driveway apron standard as previously noted in the Site Plan Application narrative. This was included in the initial application materials, but please clarify if additional information is required.

- The proposed accessible ramp adjacent to the driveway should be redesigned and constructed separate from the driveway apron using the sidewalk as the landing. See example below.



Response: Due to the steepness of Fore Street, a raised entrance is not achievable for the proposed driveway entrance as previously noted. Likewise, a separated accessible curb ramp like the one shown below is not achievable due to the steepness of Fore Street.

- Profile: Label where City ROW ends and Private property begins. Show the centerline elevation of the road. The profile (notes and labels) needs to be updated to reflect the portion of the road that has been constructed so far.

Response: The profile on Sheet C-106 is of Thames Street within the project site, which is entirely private along the section shown. A label has been added to the profile for clarification. Centerline elevations have been added as requested and a callout was added to indicate the portion of the road that was previously constructed.

- City staff and the City's Consulting traffic engineer have confirmed that both on-street parking and a bike travel lane can comfortably fit on Fore, and therefore a bike lane can be included and shown striped between the travel lane and the parking lane, on the ascending side of Fore Street.

Response: We are currently developing a plan to reflect all the proposed requests for Fore Street. We understand that there is further information that will be provided on this area by the City. We will coordinate with the City and will plan to provide additional updated drawings under a separate cover.

- TDM Comments:
  - Page 7: Please describe the types of racks per the COP Technical Manual bike rack inventory types and the capacity of each rack and total capacity outside.
  - Page 8: Update City Bike Share information to include Monthly *'and Annual'* Memberships.
  - Page 10: Please see the expanded transit access plan from GP Metro. Changes will impact Husky Line, Routes 2 + 4.
  - Page 11: Clarify if SunLife Parking (68 spaces) is employee or SunLife paid parking?
  - Page 11: What will be the parking policy for the hotel operation?
  - Page 12: Please describe the ownership/management structure of the various properties to identify who will be responsible for the annual monitoring and reporting. For example, would this be the responsibility of each individual tenant or Portland Foreside?

- Page 15: The November 2022 Technical Manual updates eliminated the TDM requirements for parking and trip reduction monitoring unless otherwise required by some other mechanism such as the TMP and/or other conditions of approval by the Planning Board. The new single metric City Staff requires establishes mode share targets and reporting on progress toward achieving set targets. The tenant mix may be conducive to establishing and surveying for multiple targets (for instance residential all travel; office commute mode share; etc.). SunLife could be governed by the prior TDM Plan until 1 year following the Certificate of Occupancy for Phase II of development.
- Page 17: Please fix formatting for Charts.
- Page 17, Short-Term Box: Provide more definitive numbers on memberships.
- Page 17: User/Group Residents: How and by what means?
- Page 19: Please provide information on employee parking out of pocket costs in narrative.
- Page 19: Are the employee counts for all tenants and Portland Foreside, who specifically?
- Page 22: Once Phase II development is active (or sooner at applicant discretion), the parking and trip monitoring may be useful for establishing and report on mode share targets and actual mode share but are not otherwise required (unless by a TMP or other condition of approval).

  Response: Edits to the TDM Plan are currently in progress and will be provided under separate cover.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- A condition of approval should be added to the project to ensure the applicant's utility plan is ultimately updated to depict the sizing, location, and configuration for any required external grease traps to ensure compliance with City of Portland technical standards. This updated plan should be sent to DPW for review and approval prior to the issuance of a building permit.

  Response: Noted.

- At a minimum, a Condition of approval should be added to the project to ensure the applicant's utility plan is ultimately updated to depict the location and configuration for any required oil/water separators to ensure compliance with City of Portland technical standards. This updated plan should be sent to DPW for review and approval prior to the insurance of a building permit. The project oil/water separator detail should be updated to match the detail found in section #2 of the technical manual.

  Response: Noted. The oil/water separator detail has been updated accordingly.

- DPW Water Resources has determined that the service laterals outside of the City ROW are not exempt from the City Technical Manual:
  - All building sewer laterals should have a minimum diameter of four inch (4") and a minimum slope of one eight inch per foot (1/8 in/ft) installed. According to

international plumbing code, 4" and 6" building sewer laterals should have a minimum slope of 1/8" per foot.

Response: The building sewer laterals are currently being evaluated and will be updated and submitted under separate cover.

- Phase 2 Civil Plans and Details Sheet C-10 4: Pipes S16, S14. S15, and S33, are assumed to be sewer service laterals for future construction. Per the City of Portland's Technical Manual, sewer service pipes which are 4" or 6" in diameter should not be connected into a sanitary manhole and only into a sanitary sewer main. Please confirm the intent of these sewer pipes and revise as appropriate.

  Response: S16 is a sewer service lateral for the proposed Block 2 townhouses (included in Phase 2). S15 is a sewer service lateral for Block 2 Building 3 (future construction). Both building laterals have been adjusted to wye into the sewer main. Pipes S14 and S33 are sewer mains that will be extended to serve Block 2 in the future. Therefore, these sewer mains continue to outlet to sewer manholes.

- The applicant should provide documentation of approval from both manufacturers of the Structural Root Containment System proposed for additional protection against root penetration.

  Response: We are currently working with the manufacturer on the proposed design, and can provide confirmation of design under separate cover.

- The applicant will need to provide final confirmation from utility providers that they have adequate capacity to service the proposed development.

  Response: The Portland Water District ability to serve confirmation has previously been provided, as has the request for sewer ability to serve. The Central Maine Power ability to serve has been received and is provided with this response.

- The directional flow arrows are not shown on following pipes or flow arrow is covered by a different layer: SD47, SD40, SD116, and SD113.

  Response: The flow arrows have been adjusted for the listed pipes accordingly.

- The applicant responded to details showing storm drain pipe connections (SD39 to SD40 on C-102) with no catch basin or drain manhole. The applicant responded, "Our intent is to use our standard wye connection, which is represented in a detail on sheet C-201. The title of the detail has been revised so that it is not specific for sewer." The plan view of the Typical Later WYE Connection Detail provided on Sheet C-201 calls out "Main Sewer." It is recommended to revise this callout to include storm drain.

  Response: The callout has been revised accordingly.

- Phase 2 Civil Plans and Details Sheet C-203: The Field Inlet Grate detail is shaded out. It is recommended to include the detail in the plans.

  Response: The printing error has been resolved.

- Section 2.9.10 of the City of Portland Technical Manual states, "Field inlets or Type-F catch basins may be used when outside of city street right of ways within lawn areas, with Department of Public Works approval." Although the three field inlets (FI11, FI12, and FI13) appear to be located within the Paver Plaza Area, DPW will need to approve the field inlets.

  Response: Noted. These field inlets are located on private property.

- Phase 2 Civil Plans and Details Sheet C-102: Grades for CB-27 and CB-28 are provided on Sheet C-107. There is a spot grade to the west of the R-Tank but due to the site being relatively flat, it is recommended to provide additional spot grading to promote positive drainage towards the catch basins and drainage infrastructure.

  Response: Additional spot grades will be added in the plaza area west of Block 5 to clarify the grading intent. This will be provided on an updated grading plan to be submitted under separate cover.

- Stormwater Management Plan:
  - Section 1.4: General & Redevelopment Standards (Stormwater Quality): Based on requirements outlined in the Maine DEP proprietary BMP approval letter, it does not appear that Jellyfish 2 can handle the inflow from the 1-inch storm. Please confirm that the proposed Jellyfish 2 meets the requirements of Maine DEP or revise as appropriate.

    Response: We are currently working with the Jellyfish manufacturer on a design certificate that we will provide to the City under separate cover.

  - The applicant has provided manufacturer inspection and maintenance guides for the Jellyfish Filters. The inspection frequency states a minimum of quarterly inspections during the first year of operations but that a minimum inspection frequency of yearly in subsequent years. We would recommend the applicant provide a narrative to have the filter inspected a minimum of every six months and the filters maintained yearly per the Maine DEP approval letter dated January 21, 2015.

    Response: The Stormwater O&M Manual has been revised and is enclosed with this response to comments.

LANDSCAPING & ENVIRONMENTAL QUALITY

- All layout plan sheets - in plans with project area adjacent to existing narrow-gauge railroad and/or eastern trail, show rail and trail infrastructure edge, R.O.W and label accordingly.

  Response: We are coordinating the drawing revisions and will provide updated plans under separate cover.

- Phase 2 Civil Plans – C201 and Phase 2 Landscape Plans and Details LD 1.0 - Civil details and Landscape details (curbing) do not correspond to one another. Ensure appropriate detail selected is consistent between documents. Include note or call outs in civil layout plans for paving, curbing and other hardscape or street furnishing details that are being managed by other disciplines.

  Response: We are coordinating the drawing revisions and will provide updated plans under separate cover.

- Ensure hatching on civil plans for hardscape material layouts correctly correspond with hardscape discipline lead documents (assuming this is the landscape architectural layout set as leading material layout document).

  Response: We are coordinating the drawing revisions and will provide updated plans under separate cover.

- C103 - Include general note or callout on plans referring reader to landscape plans for spaces with signature planting or typical planting condition elements or furnishings.

  Response: General Note 1 on Sheets C-100 and C-101 have been updated to include the requested information.

- Landscape plans - please provide section and details on edge condition / transition condition between Narrow Gauge R.O.W, tracks and project work areas. If condition character or typology changes along the boundary of property and Narrow—Gauge R.O.W (e.g. pedestrian hardscape condition, vs vegetation bed.) Ensure that some discernible boundary element, even if something as simple as a raised curb, is utilized to prevent uncontrolled crossings into narrow gauge tracks.

  Response: We met with the City on August 3, 2023 to discuss landscaping elements along the Narrow Gauge Railroad and Eastern Promenade Trail. The drawings are being updated accordingly; updated plans will be provided under separate cover.

- Street Trees:
  - Street Tree Calculation:
    - Residential Requirement: 1 tree per unit planted in ROW and/or along private roadways unless otherwise approved and spaced 25' to 35' apart. Based on the current proposed development, the applicant would be responsible for 444 street trees. Section 14.6.2 of the Land Use Code covers street tree alternatives that will be applicable to this site. Final street tree calculations will be included as part of the final planning board report.

      Response: As noted during the Landscaping design review meeting with the City on August 3, 2023, existing conditions on Fore Street, in particular the existing Fore Street retaining wall and both underground and overhead utilities, preclude the viability of street trees along the project frontage. In order to activate Fore Street, a building footing spanning the existing Fore Street retaining wall is required. There is

not enough space between the Block 4 footing and curb to provide soil volumes to support viable street trees. Planter boxes proposed on the building structure in front of the Fore Street Townhouses will be robustly planted as soil volumes allow. The Applicant acknowledges that contribution to the City Street Tree Fund will be required for the project.

- City Staff will need to update the Phase 1 approval and potentially account for any required street trees. A partial CoO was granted for the SunLife building and focused on the street tree requirement.

  Response: Noted.

- Street Tree Guidance:
  - City Staff support establishing a robust and long—lived urban forest canopy to the extent possible. Applicants and design team should strongly consider working with city departments to establish street tree infrastructure that exceeds city standards and ensures a healthy / lasting urban canopy in the project areas with regard for incorporating stormwater management infiltration capacity to a linked street tree corridor or other street tree / stormwater infiltration design approach.

    Response: The Applicant and Design Team met with the City on August 3, 2023 to discuss street tree alternatives. As previously noted, street trees will not be provided on Fore Street due to existing constraints. The Landscaping Plans are being updated accordingly and will be provided under separate cover.

  - The applicant is encouraged to find opportunities to create, continuous / connected, unified soil volumes along linear blocks of street tree plantings where possible, or individual tree planting conditions that support a mature and healthy street tree.

    Response: As discussed in the August 3, 2023 meeting, there are many challenges impacting the landscaping design along Fore Street, including the existing steepness of Fore Street, the need to span over the existing Fore Street retaining wall with a building footing, and to provide access points from the sidewalk to the Townhouses and public plazas. Due to these site conditions, the proposed planters will have varying soil volumes, and will be planted as robustly as soil volumes allow.

  - Street tree well design is encouraged to create a continuous, connected series of tree wells along blocks / or corridors. Street tree and street tree support infrastructure should provide consideration and accommodation for:
    - Sufficient soil volume
    - Trunk flare and adequate space / capacity for trunk and trunk flare growth over time
    - Water into soil (very important part of success)
    - Water out of soil
    - Sufficient room for canopy growth of tree
    - Specifications to ensure quality of nursery stock

Response: As previously noted, street trees will not be provided along Fore Street.

- Fore Street Trees: As part of the updated streetscape, City Staff would like the applicant to consider adding small street trees along Fore Street if the underlying utility infrastructure will allow for tree roots.

  Response: As previously noted, street trees will not be provided along Fore Street.

- LD 401 - Detail 4 - Tree grate openings, if grates are selected to be used, should be a minimum of 48" in diameter. Square cobbles around trunk and trunk flare zones are encouraged in lieu of restrictive metal grating in pedestrian circumstances. Stone dust between joints for better uniformity to the walking surface is preferred. Root balls of trees should be set directly undergraduate, not below grate.

  Response: As previously noted, street trees will not be provided along Fore Street.

- LD 401 - Detail 4 - Tree well systems are strongly encouraged to have integrated infiltration capacity to accommodate stormwater to the extent possible. A passive irrigation system with first flush capabilities for tree well systems / interconnected infrastructure is encouraged to help mitigate seasonal salt impacts and distribute salts to dilute their effect on soil and root systems. For additional passive water inflow and outflow design, consideration of allocation of impact fees into cost sharing of street tree elements that would accommodate these combined plantain / stormwater recommendations will be possible in coordination with city planning and parks department.

  Response: As discussed during the August 3, 2023 meeting with the City of Portland, infiltration and passive irrigations systems are not feasible on this site.

- LD 401 - Detail 4 - Provide more information on typical soil profile proposed for tree well systems. Street tree wells or other tree planting areas should provide a minimum volume of 600 cubic feet of soil material per tree. Preferred volumes are as follows:
  - Large Trees: 1,500 cubic feet of soil within a 27-foot radius.
  - Medium Trees: 1,000 cubic feet of soil within a 22-foot radius.
  - Small Trees: 600 cubic feet of soil within a 16-foot radius.
  - Where soil volumes within the maximum allowable radii for adjacent trees overlap, up to 25% of the required soil volume per tree may be shared.
  - For trees that are designed to have a covered soil volume which connects to an open area (for example behind the sidewalk), the open area can be considered as part of the required soil volume.
  - For existing trees to remain, the root structure of existing tree should be protected to the extent feasible and provided with additional soil volumes to meet the above requirements.
  - Soil Volume Calculation should be calculated as:
    - Area of Open Soil x Depth of Soil) plus (Area of Covered Soil x Depth of Soil)
    - All soil types are calculated at full volume.

- There may be multiple soil volume areas included in the calculation depending on design.

Response: As previously noted, we are currently working with the manufacturer of the proposed structural root containment system on the proposed design and can provide confirmation of design once that coordination has been completed.

- LD 401 Detail 4 - Provide minimum dimensions for tree cell to ensure adequate soil volumes are achieved per tree. Consider inclusion of a typical plan enlargement drawing to provide confirmation of a typical dimensional area of tree soil spaces for street trees.

  Response: As previously noted, we are currently working with the manufacturer of the proposed structural root containment system on the proposed design and can provide confirmation of design once that coordination has been completed.

- L100 - Indicate approximate size of tree species proposed for street tree locations, if proposed trees are to be uniformly sized, indicate whether that tree type is to be a large, medium or small tree species. Large and medium street trees should have between 30' to 40' spacing at minimum between trunks, if overhead utilities or other complications are present that will impact tree type and mature height, spacings between 20-25' will be considered with Parks Department approval. For street tree plantings proposing larger tree species along streets that are narrower than 30', recommend applicant stagger tree locations to provide less canopy growth competition from plantings across street.

  Response: As previously noted, street trees will not be provided along Fore Street.

- LG 201, LG 202 - Indicate species of street tree at locations of trees in plan.

  Response: As previously noted, street trees will not be provided along Fore Street.

- L1.4 - label for "area to be designed in future phase of work". This area, if accessible in or with proposed phasing elements (buildings 4,5,6) should be detailed and included in this phase of site plan review before approvals can be given or the project can proceed.

  Response: The landscape drawings are currently being revised to show the proposed work within this area. The Civil drawings show the proposed layout of parking with a grassed island, and grass provided around the edges of the paved parking. The area is providing access to the Block 6 entrance at this location. In the future, if this space is to be modified associated with any other changes on the Eastern Promenade property, appropriate additional permit applications will be completed.

In addition to the comments provided above, we also received design review comments on July 26, 2023. In reviewing the provided comments, it was noted that some of the identified items had previously been addressed as part of the resubmission with the June 23, 2023 response to comments to the City:

- Block 5 has received some redesign to address comments with regards to stepdowns, and we understand that these changes addressed the City's prior comments.
- Block 5 material palette was provided.
- The photometrics plans include wall-mounted lighting.

Comments were provided with regards to the proposed wharf storage within Block 6. This area has been removed from Block 6. Comments were also provided about providing street trees on Fore Street. As noted previously, we met with City staff on August 3, 2023, to discuss the limitations of the site and the inability to provide street trees on Fore Street. The proposed landscaping design for this area takes this into consideration.

The design review identified two comments with regards to Fore Street that will be considered along with the other Fore Street comments included earlier in this letter. The design review comments noted that a crosswalk and curb ramps are recommended for St. Lawrence Street. The slope of Fore Street makes the installation of a curb ramp at this location challenging and may require a wider area of impact within the area of Fore Street that was recently reconstructed by the City. We will include this area as part of the Fore Street discussion with the Department of Public Works as referenced earlier in these comments. The design review also noted that accessible access points are recommended to connect to Fore Street in front of the Townhouses. The intent is to provide access points from Fore Street to the walkway in front of the Townhouses. The Fore Street plan referenced in these comments will include spot grades to show how this access will be provided.

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
Technical Manager

Enclosures (Uploaded separately to ProjectDox):
- Overall Site Plan
- Waterfront Construction Management Plan
- Wall Section
- Civil Plan Set
- CMP Ability to Serve
- Revised Stormwater O&M Manual

PORTLAND FORESIDE DEVELOPMENT – PHASE 2

SITE LOCATION OF DEVELOPMENT

58 Fore Street
Portland, ME

Woodard & Curran

41 Hutchins Drive
Portland, ME 04102
800.426.4262

woodardcurran.com

0227007.19
Portland Foreside Development Company
April 2023

TABLE OF CONTENTS

SECTION		PAGE NO.
1.	**DEVELOPMENT DESCRIPTION**	**1-1**
1.1	Objectives & Details	1-1
1.2	Existing Facilities	1-3
1.3	Topographic Map	1-3
1.4	Construction Plan	1-3
1.5	Drawings	1-4
1.6	List of Attachments	1-4
2.	**TITLE, RIGHT, OR INTEREST**	**2-1**
2.1	List of Attachments	2-1
3.	**FINANCIAL CAPACITY**	**3-1**
3.1	Financing	3-1
3.2	Certificate of Good Standing	3-1
3.3	List of Attachments	3-1
4.	**TECHNICAL ABILITY**	**4-1**
5.	**NOISE**	**5-1**
6.	**VISUAL QUALITY & SCENIC CHARACTER**	**6-1**
7.	**WILDLIFE & FISHERIES**	**7-1**
7.1	List of Attachments	7-1
8.	**HISTORIC SITES**	**8-1**
8.1	List of Attachments	8-1
9.	**UNUSUAL NATURAL AREAS**	**9-1**
9.1	List of Attachments	9-1
10.	**BUFFERS**	**10-1**
11.	**SOILS**	**11-1**
11.1	List of Attachments	11-1
12.	**STORMWATER MANAGEMENT**	**12-1**
12.1	List of Attachments	12-1
13.	**URBAN IMPAIRED STREAM**	**13-1**
14.	**BASIC STANDARD**	**14-1**

14.1 List of Attachments 14-1
15. GROUNDWATER 15-1
16. WATER SUPPLY 16-1
17. WASTEWATER DISPOSAL 17-1
18. SOLID WASTE 18-1
18.1 Solid Waste 18-1
18.2 Construction & Demolition Debris 18-1
18.3 Special & Hazardous Waste 18-1
19. FLOODING 19-1
19.1 List of Attachments 19-1
20. BLASTING 20-1
21. AIR EMISSIONS 21-1
22. ODORS 22-1
23. WATER VAPOR 23-1
24. SUNLIGHT 24-1
25. NOTICES 25-1

1. DEVELOPMENT DESCRIPTION

This narrative report is in support of a Site Location of Development (SLOD) Permit Application for development of Blocks 4, 5 and 6 of the Portland Foreside Development located at 58 Fore Street in Portland, Maine ("Phase 2"). It is also our understanding that the MaineDEP has determined that the City of Portland has delegated review authority over this project.

1.1 OBJECTIVES & DETAILS

The proposed development is the next phase of the 58 Fore Street Master Development Plan, approved by the City of Portland Planning Board (Project ID: 2016-224) on December 22, 2016, to redevelop and revitalize the 10.7-acre former Portland Company complex into a mixed-use development.

The redevelopment of 58 Fore Street into a mixed-use neighborhood highlights the historical significance of the area, access to the waterfront and provides a direct connection from the adjacent neighborhoods to the waterfront. The result is a vibrant revitalization of the City's eastern waterfront. The development program for the project was considered and designed around the overall vision of creating this mixed-use neighborhood and proposes commercial, residential, retail, restaurant, marina and public open space uses which are consistent with the Master Development Plan for the site. Open space proposed for Phase 2 includes plazas for pedestrian use between the individual building components as well as a public access easement, view corridors and access to the waterfront.

The 58 Fore Street Master Development Plan consists of six "blocks" of development as shown by the below figure:



The next phase of the development includes the following work:

- **Block 4.** Includes the construction of a four-level structured parking garage with overlying rental apartment units and plaza space, three-story townhouses along Fore Street, and ground-level retail on the north and south elevations.

- **Block 5.** Includes the construction of an eight-story building comprised of a hotel, residential condominiums, below-grade parking and ground-level retail and restaurant. The below-grade parking lot is a continuation of the Block 4 parking garage and will be accessed using the Block 4 garage entrances on Fore Street and Thames Street.
- **Block 6.** Includes development of residential condominiums and courtyard area with ground-level retail and below-grade parking. The below-grade parking lot is a continuation of the Block 4 parking garage and will be accessed using the Block 4 garage entrances on Fore Street and Thames Street.
- **Infrastructure, Utilities & Access Improvements.** In addition to the Block development and similar to Phase 1 of the development, shared street infrastructure and utilities will be installed throughout the site in the common spaces between the development parcels with reciprocal easements granted throughout.
- **Interim Conditions.** In order to create a complete, functional site following construction of this phase, interim conditions are proposed in Block 2, which will not see its finished condition as part of this project. Minor surface improvements, grading, and utility work are required within Parcel 2B and 2C to enable the surrounding work.

The area of disturbance for development of Phase 2 is approximately 7.2-acres and will include approximately 6.9-acres of impervious area. It should be noted that roof areas were considered fully impervious (as any rooftop landscaping systems do not infiltrate into the ground), and significant areas of landscaping and green roof are proposed.

The proposed development is a critical piece to Portland's future for a number of reasons including:

- The overall Project Site is large (+/- 10.7 acres) and strategically located between Portland's vibrant downtown, its working waterfront, and the beginning of its Eastern Promenade residential neighborhoods. This phase will continue building the connection of an underutilized part of the City to adjacent neighborhoods, the waterfront and the Old Port.
- The Project Site represents a keystone piece in the City's continuing efforts to link its vibrant downtown to the vast potential of its commercial waterfront. This project will help the City further realize the benefits of its investments in the Ocean Gateway marine terminal facility and related infrastructure;
- The development will help stimulate other investments in the eastern waterfront with the anticipation that investment in the Project Site will result in investment in underdeveloped public and private lands situated between the India Street neighborhood and the Project Site;

- As a whole, this proposed development presents an unparalleled opportunity to grow the City's tax base, add housing, and create jobs; and

- The development can act as a catalyst for change in this area, improve the quality of life for all Portland residents by facilitating access to the waterfront, adding capacity for events that draw residents and visitors and enable the City's cruise ship terminal to live up to its name as a truly memorable gateway.

In addition to the SLOD permit, the proposed work requires the following permits:

- City of Portland Major Site Plan & Subdivision;
- City of Portland Historic Preservation Application for Certificate of Appropriateness;
- Maine Construction General Permit Notice of Intent; and
- FAA Notice of Proposed Construction.

1.2 EXISTING FACILITIES

The proposed development will be located on a portion of the approximately 10.7-acre property. Existing site conditions consist primarily of impervious paved and gravel areas with some areas of sparse vegetation and a steep, vegetated slope along the eastern edge of the site. The Site is adjacent to the Fore River. There are no significant natural features or wetlands on-site. A survey of the Site was completed by Owen Haskell, Inc. (dated December 10, 2019 and June 27, 2022).

The former Portland Company Complex contained various industrial uses and many of the existing buildings have been demolished. The Site previously served as a pre-Civil War locomotive manufacturing site and components of that past still stand today. Historically significant facades include the Portland Company Vault, the Machine Shop, The Pattern Storehouse, and the Blacksmith Shop. The development team has included these historic facades, along with the character and linear orientation of the alleyways between, in the redevelopment planning for the site.

1.3 TOPOGRAPHIC MAP

A USGS topographic map showing the approximate location of proposed development is attached to this Section for your reference. The proposed development is located within the Portland East Quadrangle.

1.4 CONSTRUCTION PLAN

The proposed development will be constructed in phases. Construction of Phase 2 is anticipated to begin in summer 2023. Erosion and sediment control measures will be installed prior to any ground disturbing activities, as described in Section 14 of this Report. 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.

The Site will be managed during construction to minimize impacts to the adjacent land uses. Maintaining access to adjacent properties and public facilities will be a priority. Traffic impacts to adjacent roadways, including Thames Street Extension, Freedom Way, and Fore Street, will be minimized during construction to the greatest extent possible. Traffic controls will consist of temporary signage and barriers where necessary to manage vehicle, pedestrian, and bicycle traffic and direct it safely around the construction area. Work affecting traffic circulation such as underground utility work and grading activities will be conducted during periods of low traffic to reduce potential impacts.

Below is the anticipated sequence of construction activities for major aspects of the development:

- Installation of erosion and sediment control measures and traffic control measures;
- Demolition and site preparation activities;
- Construction of utilities, stormwater management system, and roadway;
- Construction of buildings;
- Installation of landscaping and final surface materials; and
- Removal of erosion and sediment control measures.

1.5 DRAWINGS

Design drawings showing the proposed development are attached to this Section.

1.6 LIST OF ATTACHMENTS

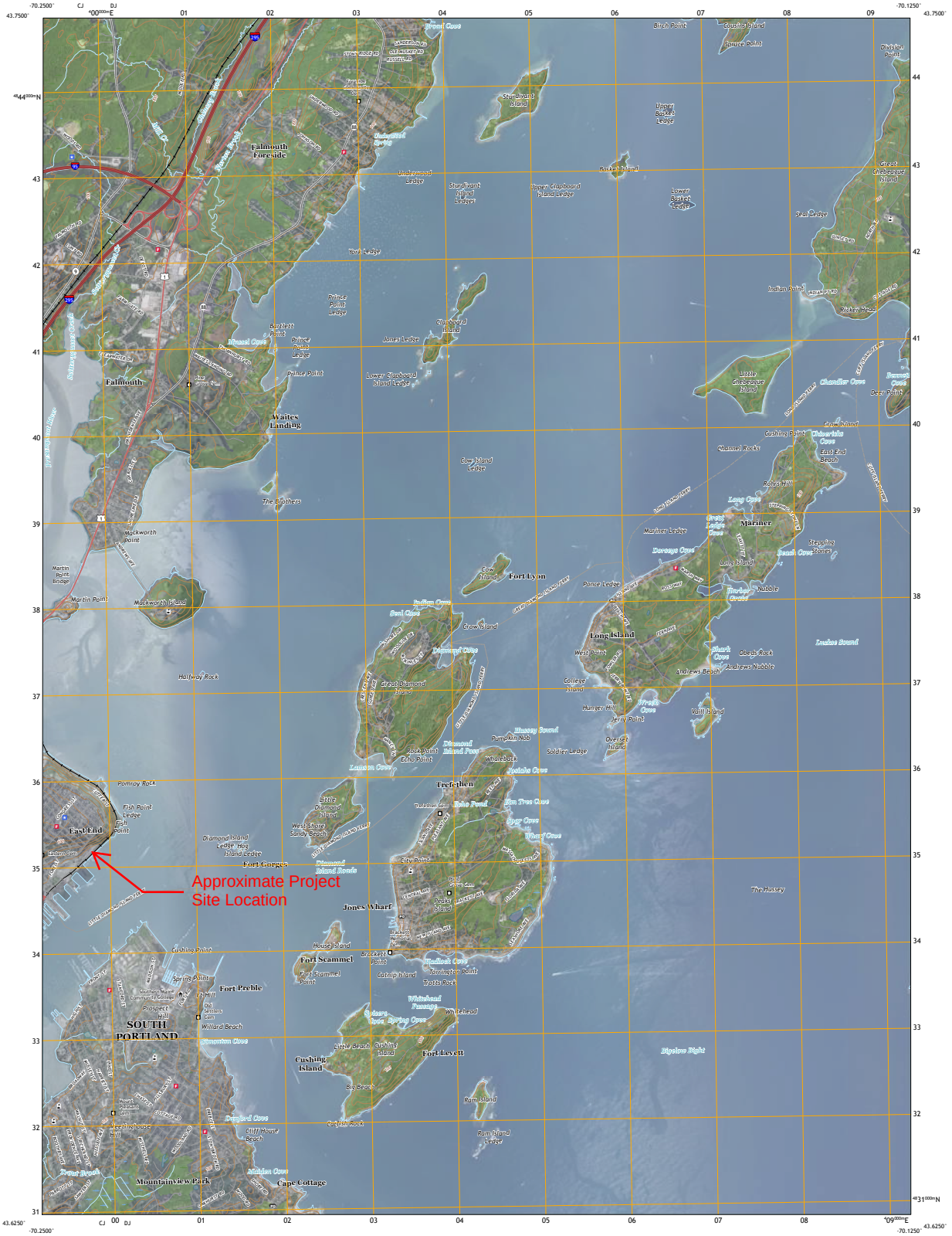
The following documents are attached to this Section:

- Topographic Map; and
- Design Drawings (Bound Separately).

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

PORTLAND EAST QUADRANGLE
MAINE - CUMBERLAND COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 19T
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, July 2015 - November 2015
Roads.....U.S. Census Bureau, 2017
Names.....GNIS, 1980 - 2017
Hydrography.....National Hydrography Dataset, 2003 - 2016
Contours.....National Elevation Dataset, 2005 - 2012
Boundaries.....Multiple sources; see metadata file 2014 - 2016

Wetlands.....FWS National Wetlands Inventory 2001 - 2004

UTM GRID AND 2017 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Publication Standard, 2011.
A metadata file associated with this product is named ...Version 0.6.18

ADJOINING QUADRANGLES
1 Cumberland Center
2 Yarmouth
3 Freeport
4 Portland West
5 South Harpswell
6 Prouts Neck
7 Cape Elizabeth

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

PORTLAND EAST, ME
2018

Page 475

7643016370409
USGS X24K36119
NGA REF NO.

2. TITLE, RIGHT, OR INTEREST

The Project will occur on a parcel of land identified by the City as Lot 18-A-01 and owned by PF Land LLC. The deed into PF Land is attached. PF Land LLC subsequently conveyed approximately 482 square feet to PF One Devco LLC. The deed from PF Land LLC to PF One Devco LLC is also attached, modifying the original parcel into PF Land.

The Project area also includes a portion of an adjacent lot purchased by 21 Eastern Prom LLC, which is an entity affiliated with PF Land LLC. That lot is identified by the City as Lot 2-A-4 and is located at 21 Eastern Promenade. 21 Eastern Prom will convey said portion of Lot 2-A-4 to PF Land LLC prior to obtaining a building permit for the work occurring on that portion of the property.

Project construction may require installation of tiebacks into property on adjacent land, including City land, similar to the tiebacks into the City's Fore Street right-of-way for the Block 4 garage as previously approved in the Phase 1 Site Plan. The Phase 1 Site Plan approval contained the following condition to address the situation: "Prior to application for building permits, the applicant shall finalize any agreement required by the City of Portland authorizing the replacement and maintenance of the retaining wall along Fore Street and any license agreements required to permit encroachments into the City's right of way. All necessary agreements shall be finalized to the satisfaction of the Planning Authority, Department of Public Works, and Corporation Counsel."

Small portions of the Project located along the Maine DOT corridor are subject to the Land Exchange Agreement between the City, Maine DOT, and PF Land. The land swap will occur prior to obtaining building permits for work occurring on that southern edge of the property.

2.1 LIST OF ATTACHMENTS

- Deeds; and
- Easements.

TRUSTEE'S DEED
(Maine Statutory Short Form)

KNOW ALL PERSONS BY THESE PRESENTS, that **TIMOTHY HALEY, of Stuart, Florida, SOLE TRUSTEE OF THE TIMOTHY HALEY LIVING TRUST, dated June 3, 2005** ("Grantor"), for consideration paid, grants to **21 EASTERN PROM LLC**, a Maine limited liability company with a mailing address of 254 Commercial Street, Portland, Maine 04101 ("Grantee"), the following described real estate situated at 13-23 Eastern Promenade, in the City of Portland, Cumberland County, State of Maine as more particularly described in Exhibit A attached hereto and made a part hereof

See Attached Exhibit A

MAINE REAL ESTATE TAX PAID

Meaning and intending to convey the premises conveyed by virtue of Quitclaim Deed without Covenant from Katherine C. Haley and Timothy J. Haley, Trustees, under the Daniel T. Haley Sr. Family Trust dated January 21, 2006, dated January 11, 2007, and recorded in the Cumberland County Registry of Deeds in Book 24759, Page 67, by Quitclaim Deed without Covenants from Katherine C. Haley and Timothy J. Haley, Trustees, under the Daniel T. Haley Sr. Family Trust dated January 21, 2006, dated January 11, 2007 and recorded at Cumberland County Registry of Deeds in Book 24759, Page 069 and by Quitclaim Deed without Covenants from Timothy J. Haley and Julia A. Haley, successor Trustees, under the Haley Family Living Trust dated February 6, 1997, dated December 4, 2008 and recorded at Cumberland County Registry of Deeds in Book 26503, Page 224 to Timothy Haley, sole Trustee or his successors in trust, under the Timothy Haley Living Trust, dated June 3, 2005.

I hereby covenant that I am Trustee pursuant to said Trust; that said Trust is still in full force and effect; that I have the power thereunder to convey as aforesaid; and that, in the making this conveyance, I have, in all respects, acted pursuant to the authority vested in and granted to me there.

WITNESS my hand and seal, this 08 day of December, 2021.

WITNESS:

Cecilia Merrill

Timothy Haley, Sole Trustee of The Timothy Haley Living Trust, dated June 3, 2005

STATE OF FLORIDA
COUNTY OF MARTIN, ss.

December 28, 2021

Then personally appeared the above-named Timothy Haley, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

LANA ELAINE BAILEY
Commission # GG 329959
Expires August 31, 2023
Bonded Thru Troy Fain Insurance 800-385-7019

Before me,

Attorney at Law/Notary Public
Print Name: Elaine Bailey
My Commission Expires: 8-31-23

Exhibit A

Certain lots or parcels of land, together with any building and improvement thereon, situated on the southeasterly side of Eastern Promenade, in the City of Portland, Cumberland County, State of Maine, bounded and described as follows:

PARCEL ONE:

A certain lot or parcel of land, with the buildings thereon, situated on the southeasterly side of the Eastern Promenade in said Portland, and bounded and described as follows, viz: Beginning on said side of said Eastern Promenade at the northeasterly corner of land now or formerly of Henry F. Merrill, and running thence southeasterly by said Merrill land and land of Portland Company two hundred fifty-five (255) feet, more or less, to land conveyed by John G. Munroe and others to the Portland Company by deed dated January 5, 1904, and recorded in Cumberland County Registry of Deeds, Book 765, Page 307; thence northeasterly by said land conveyed to said Portland Company as aforesaid one hundred (100) feet to other land now or formerly of Henry F. Merrill; thence northwesterly on a line parallel with the first described course two hundred fifty-five (255) feet, more or less, to said Eastern Promenade; thence southwesterly by said Eastern Promenade one hundred (100) feet to the place of beginning.

PARCEL TWO:

Beginning at a point on the southeasterly side of said Eastern Promenade at the northwesterly corner of land of Walter W. Duffett and thirty-six (36) feet southwesterly from the dividing line between the land now or formerly of Walter W. Duffett and the land now or formerly of William Curtis; thence southwesterly by said Eastern Promenade, forty-nine (49) feet, more or less, to land formerly belonging to one Monroe; thence southeasterly by said Monroe's land seventy (70) feet, more or less, to land now or formerly of Cyrus Cole; thence northeasterly by said Cole's land, forty-nine (49) feet, more or less, to said Duffett's land; thence northwesterly by said Duffett's land, seventy (70) feet, more or less, to the point begun at.

PARCEL THREE:

Beginning at a point in a southeasterly direction from the Eastern Promenade in the northeasterly side line of land now or formerly owned by heirs of J. Monroe, and distant one hundred and sixty-two (162) feet from the point of intersection of said side line of the Monroe land with the southeasterly side line of said Eastern Promenade, and from this point extending in a northeasterly direction about fifty (50) feet along the northwesterly side line of land sold to Henry Merrill et als. by deed dated June 29, 1898, recorded in Cumberland Registry of Deeds in Book 661, Page 176, and to the southwesterly side of land sold to Walter W. Duffett by deed dated June 29, 1898, recorded in said Registry of Deeds in Book 661, Page 175; thence by said southwesterly side line of the land so conveyed to Walter W. Duffett and by land now or

formerly of Mary Duffett to the southeasterly side line of land now or formerly of one Clark: thence by the said southeasterly side line of land now or formerly of said Clark, and by said line extended, to the said northeasterly side line of said Monroe land; thence by said Monroe land, in a southeasterly direction to the point of beginning.

Received
Recorded Register of Deeds
Dec 30,2021 03:33:48P
Cumberland County
Jessica M. Spaulding

SHORT FORM QUITCLAIM DEED WITH COVENANT
DLN: 1002040119134

CPB2 I LLC (formerly known as **CPB2 LLC**), a Delaware limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantor"), FOR CONSIDERATION PAID, grants to **PF LAND LLC**, a Maine limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantee"), with QUITCLAIM COVENANT, certain real property, together with any improvements thereon, situated southerly of Fore Street, in the City of Portland, County of Cumberland and State of Maine, more particularly described on **Exhibit A** attached hereto and made a part hereof (the "Property").

Being a portion of the property described in the following deeds: (i) Quitclaim Deed with Covenant from 100 Fore Street, LLC dated April 10, 2019 and recorded in the Cumberland County Registry of Deeds in Book 35576, Page 153; (ii) Quitclaim Deed with Covenant from the City of Portland to CPB2 I LLC dated November 2, 2018 and recorded in the Cumberland County Registry of Deeds in Book 35264, Page 286; (iii) Quitclaim Deed with Covenant from The Portland Company to CPB2 LLC dated April 1, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31425, Page 267; and (iv) Trustee's Deed from Elizabeth M. Sprague, Eric Thomas Sprague and Phineas M. Sprague, Trustees of the Buena Vista Trust, to CPB2 LLC dated July 19, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30879, Page 75.

IN WITNESS WHEREOF, CPB2 I LLC has caused this instrument to be executed by Casey W. Prentice, Manager of CPB2 Management LLC, Manager of CPB2 I LLC, thereunto duly authorized, as of this 4th day of November 2020.

WITNESS:

Richard D Prentice

Name: Richard D Prentice

CPB2 I LLC
By: CPB2 Management LLC, Manager

By: _____
Casey W. Prentice, Manager

13531538.3
12481681.4.4.3.3.2

State of Maine
County of Cumberland, ss. November 3, 2020

PERSONALLY APPEARED the above-named Casey W. Prentice, Manager of CPB2 Management LLC, Manager of CPB2 I LLC, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability companies.

Before me,

Notary ~~Public~~/Attorney at Law
Print Name: Tom S. Hanson
Commission Expires: N/A

13531538.3
12481681.4.4.3.3.2

EXHIBIT A

A CERTAIN LOT OR PARCEL OF LAND WITH THE BUILDING THEREON SITUATED ON THE SOUTHERLY SIDE OF FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF LAND NOW OR FORMERLY OF 100 FORE STREET LLC AS DESCRIBED IN DEED BOOK 33748, PAGE 1 ON THE SOUTHEASTERLY SIDELINE OF FORE STREET AT AN IRON ROD FOUND;

THENCE, N 76°17'54"E ALONG THE SOUTHEASTERLY SIDELINE OF SAID FORE STREET 287.55 FEET;

THENCE, N 37°34'49"E CONTINUING ALONG THE SOUTHEASTERLY SIDELINE OF FORE STREET 734.45 FEET;

THENCE, N 45°16'49"E CONTINUING ALONG THE SOUTHEASTERLY SIDELINE OF FORE STREET 43.36 FEET TO THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF KENNETH & CAROLL MACGOWAN AS DESCRIBED IN DEED BOOK 15773, PAGE 153;

THENCE, S 47°03'11"E ALONG THE SOUTHERLY LINE OF SAID MACGOWEN 150.00 FEET;

THENCE, N 45°16'49"E ALONG THE EASTERLY LINE OF LAND OF MACGOWEN 112.00 FEET TO THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF TIMOTHY HALEY, TRUSTEE AS DESCRIBED IN DEED BOOK 24759, PAGE 67 & 69;

THENCE, ALONG THE LAND OF SAID HALEY THE FOLLOWING COURSES AND DISTANCES:

S 47°03'11"E A DISTANCE OF 110.28 FEET;

N 47°33'49"E A DISTANCE OF 100.00 FEET;

N 47°03'11"W A DISTANCE OF 95.88 FEET;

N 53°46'39"E A DISTANCE OF 49.73 FEET TO THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF PORTLAND HOUSE CONDOMINIUM AS SHOWN ON PLAN BOOK 142, PAGE 50;

THENCE, S 47°03'07"E ALONG THE SOUTHERLY LINE OF LAND OF SAID PORTLAND HOUSE CONDOMINIUM 240.48 FEET TO THE NORTHWESTERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE KNOWN AS THE RAIL-TRAIL CORRIDOR AT AN IRON ROD FOUND;

THENCE, S 47°33'49"W ALONG THE NORTHWESTERLY LINE OF LAND OF SAID STATE OF MAINE 685.00 FEET;

THENCE, S 52°46'49"W CONTINUING ALONG THE NORTHWESTERLY LINE OF LAND OF STATE OF MAINE 442.91 FEET TO THE LAND NOW OR FORMERLY OF CITY OF PORTLAND AS DESCRIBED IN DEED BOOK 10924, PAGE 84;

THENCE, S 57°47'32" W ALONG LAND OF SAID CITY OF PORTLAND 11.22 FEET TO A POINT OF CURVATURE;

THENCE, SOUTHWESTERLY CONTINUING ALONG LAND OF SAID CITY OF PORTLAND ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 466.50 FEET, AN ARC LENGTH OF 133.12 FEET, CHORD BEARING OF S 49°37'02" W AND CHORD LENGTH OF 132.67 FEET;

THENCE, S 41°26'32" W CONTINUING ALONG LAND OF THE CITY OF PORTLAND 17.92 FEET TO THE LAND NOW OR FORMERLY OF SAID STATE OF MAINE;

THENCE, S 46°01'18" W ALONG LAND OF STATE OF MAINE 31.95 FEET TO THE LAND OF CITY OF PORTLAND;

THENCE, N 52°05'24" W ALONG LAND OF CITY OF PORTLAND 97.53 FEET TO A POINT OF CURVATURE;

THENCE, NORTHWESTERLY ALONG LAND OF CITY OF PORTLAND ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 370.00 FEET, AN ARC LENGTH OF 47.73 FEET, CHORD BEARING OF N 48°23'40" W AND CHORD LENGTH OF 47.70 FEET TO THE SOUTHERLY LINE OF LAND OF SAID 100 FORE STREET LLC;

THENCE, NORTHWESTERLY ALONG THE EASTERLY LINE OF SAID 100 FORE STREET, LLC ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 370.00 FEET, AN ARC LENGTH OF 13.77 FEET, CHORD BEARING OF N 43°37'59" W AND CHORD LENGTH OF 13.77 FEET;

THENCE, N 42°34'01" W CONTINUING ALONG THE EASTERLY LINE OF 100 FORE STREET LLC 68.76 FEET;

THENCE, NORTHWESTERLY CONTINUING ALONG THE EASTERLY LINE OF 100 FORE STREET, LLC ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 370.24 FEET, AN ARC LENGTH OF 134.07 FEET, CHORD BEARING OF N 32°11'34" W AND CHORD LENGTH OF 133.34 FEET;

THENCE, NORTHWESTERLY CONTINUING ALONG THE EASTERLY LINE OF 100 FORE STREET, LLC ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 274.33 FEET, AN ARC LENGTH OF 13.01 FEET, CHORD BEARING OF N 20°51'48" W AND CHORD LENGTH OF 13.01 FEET TO THE SOUTHERLY SIDELINE OF SAID FORE STREET AT THE POINT OF BEGINNING.

13531538.3
12481681.4.4.3.3.2

BEARING ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 83.

EXCEPTING FROM THE ABOVE DESCRIBED PARCEL, THE LAND CONVEYED BY CBP2 1 LLC TO PF ONE DEVCO LLC BY DEED OF EVEN DATE TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS CONTEMPORANEOUSLY WITH THIS DEED

REFERENCE IS MADE TO THAT CERTAIN PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY, 58 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE, MADE FOR PF ONE DEVCO LLC & PF LAND LLC", DATED MARCH 4, 2020 AND REVISED THOUGH NOVEMBER 2, 2020, PREPARED BY OWEN HASKELL, INC., JOB NO. 2019-013P.

THE PROPERTY IS CONVEYED SUBJECT TO AND WITH THE BENEFIT OF CERTAIN INTERESTS, RIGHTS, EASEMENTS, CONDITIONS, COVENANTS, RESTRICTIONS AND ENCUMBRANCES AS MORE FULLY SET FORTH IN THAT CERTAIN DECLARATION OF RESTRICTIONS, EASEMENTS AND AGREEMENTS BY CPB2 I LLC OF NEAR OR EVEN DATE HEREWITH, AND TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS BEFORE THE RECORDING OF THIS DEED.

THE PROPERTY IS CONVEYED TOGETHER WITH THAT CERTAINREVOCABLE ACCESS LICENSE BY AND BETWEEN THE CITY OF PORTLAND, PF ONE DEVCO LLC, PF LAND LLC AND PF MARINA LLC OF NEAR OR EVEN DATE HEREWITH, TO BE RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS AT OR NEAR THE DATE OF THIS DEED.

THIS CONVEYANCE IS ALSO MADE SUBJECT TO ALL OTHER EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS OF RECORD.

MAINE REAL ESTATE TAX-Paid

QUITCLAIM DEED WITHOUT COVENANT
DLN: 1002140132239

PF LAND LLC, a Delaware limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantor"), FOR CONSIDERATION PAID, grants to **PF ONE DEVCO LLC**, a Delaware limited liability company, with a mailing address of 254 Commercial Street, Suite 118, Portland, Maine 04101 (the "Grantee"), certain real property, together with any improvements thereon, situated southerly of Fore Street, in the City of Portland, County of Cumberland and State of Maine, more particularly described on **Exhibit A** attached hereto and made a part hereof.

Being a portion of the property conveyed to Grantor by deed from CPB2 I LLC dated November 4, 2020 and recorded in the Cumberland County Registry of Deeds in Book 37397, Page 78.

IN WITNESS WHEREOF, PF Land LLC has caused this instrument to be executed by Casey W. Prentice, Manager, thereunto duly authorized, this 11th day of February, 2021, as of

WITNESS:

Richard D. Grantee
Name:

PF LAND LLC

By: _____
Casey W. Prentice, Manager

State of Maine
County of Cumberland, ss.

February 9, 2021

PERSONALLY APPEARED the above-named Casey W. Prentice, Manager of PF Land LLC, and acknowledged that the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability company.

Before me,

_____
~~Notary Public~~/Attorney at Law
Print Name: William M. Welch
Commission Expires:

13531538.3
12722943.2

DOC :11203 BK:37821 PG:161
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
02/17/2021, 10:57:49A
Register of Deeds Nancy A. Lane E-RECORDED

EXHIBIT A

A CERTAIN LOT OR PARCEL OF LAND SITUATED ON THE SOUTHERLY SIDE OF, BUT NOT ADJACENT TO FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHERLY CORNER OF LAND OF PARCEL 1C AS SHOWN ON PLAN TITLED "SUBDIVISION PLAT PORTLAND FORESIDE THAMES STREET & FORE STREET PORTLAND, MAINE MADE FOR OWNER OF RECORD CPB2 I LLC" BY OWEN HASKELL, INC. DATED FEB. 13, 2020, RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 220, PAGE 65;

THENCE, S 57°47'32" W A DISTANCE OF 10.19 FEET;

THENCE, ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 466.50 FEET, AN ARC LENGTH OF 1.10 FEET, A CHORD BEARING OF S 57°43'29" W AND CHORD DISTANCE OF 1.10 FEET;

THENCE, N 49°28'50" W THROUGH REMAINING LAND BY DEVELOPER A DISTANCE OF 19.41 FEET;

THENCE, N 40°31'10" E CONTINUING THROUGH REMAINING LAND BY DEVELOPER A DISTANCE OF 38.71 FEET TO SAID PARCEL 1C;

THENCE, S 53°28'50" E ALONG PARCEL 1C A DISTANCE OF 9.05 FEET;

THENCE, S 40°31'10" W ALONG PARCEL 1C A DISTANCE OF 28.56 FEET;

THENCE, S 49°28'50" E ALONG PARCEL 1C A DISTANCE OF 13.73 FEET TO THE POINT OF BEGINNING, CONTAINING 482 S.F. MORE OR LESS.

BEARING ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 83.

3. FINANCIAL CAPACITY

3.1 FINANCING

A copy of a letter verifying the Applicant's financial capacity to undertake the project is attached to this Section.

3.2 CERTIFICATE OF GOOD STANDING

A copy of the Secretary of State's Certificate of Good Standing for Portland Foreside Management Company, LLC (the Applicant) is attached to this Section.

3.3 LIST OF ATTACHMENTS

- Financial Capacity Letter; and
- Certificate of Good Standing.

September 14, 2022

PF One Devco, LLC
Portland Foreside Development Company
Casey Prentice
Kevin Costello
254 Commercial Street,
Portland, ME 02101

To: City of Portland

From: Rose M. Buckley, Senior Vice President
Rockland Trust Company

Rockland Trust Company has and will provide funding for the construction at 58 Fore Street, Portland ME. Rockland Trust is funding the construction of the Sun Life Building and has provided funding for Building 12 occupied by Twelve Restaurant.

Rockland Trust looks forward to working with Portland Foreside Development Company in the future.

Please contact me at 781-982-6165 with any questions.

Best regards,
ROCKLAND TRUST COMPANY

By: Rose M. Buckley
Rose M. Buckley, Senior Vice President

Member FDIC

EQUAL HOUSING LENDER

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this twenty-ninth day of September 2022.

Shenna Bellows

Shenna Bellows

Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
PF LAND LLC	Registered Agent	HELEN STERLING COBURN, ESQ.	20200853FC	GOOD STANDING

Home Office Address (of foreign entity)	Other Mailing Address
PO BOX 7987 PORTLAND, ME 04112	BERNSTEIN SHUR, 100 MIDDLE STREET PORTLAND, ME 04101

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this twenty-ninth day of September 2022.

Shenna Bellows

Shenna Bellows

Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
PF MARINA LLC	Registered Agent	HELEN STERLING COBURN, ESQ.	20183084DC	GOOD STANDING

Home Office Address (of foreign entity)	Other Mailing Address
	100 MIDDLE STREET WEST TOWER PORTLAND, ME 04101

4. TECHNICAL ABILITY

The project team includes the following partners completing various engineering, landscape architecture, and architecture components of the project work. The project team is also supported by a number of other professional firms providing support with survey, structural design, geotechnical design, mechanical/electrical/plumbing design, and other disciplines. Copies of resumes and information on other members of the project team can be provided upon request.

Woodard & Curran (W&C), an over 1,000-person Portland-based firm, has provided engineering services to the public and private sector for over 40 years, including permitting, civil/site engineering, stormwater, and construction management services. W&C has completed projects for colleges, universities, and healthcare institutions that build strong, sustainable infrastructure and environmental programs serving both their business needs and the communities that make them so vibrant. With extensive experience in design and permitting for site development projects, W&C has completed many projects within the City of Portland and for the University of Maine System.

MBLA is a professional design firm located in Freeport, Maine. MBLA practices nationally and internationally, and over the past twenty-eight years, the office has collaborated on diverse and notable projects, located in a wide range of settings and climates and across the state of Maine. MBLA projects range in scale and complexity including plazas, courtyards, university building projects, private school facilities, master plans, museums, churches, resorts, parks, and residential landscape projects. Many of MBLA's design projects have focused on creating places for people to gather while addressing issues of circulation, security, and programming.

Perkins+Will architects is a firm consisting of twenty-four domestic and international offices with a depth of technical and management skill employed to execute projects of great complexity. Perkins+Will maintains a full-time QA/QC leader in each office to provide ongoing quality assurance for projects. These experts are guided by a national project delivery system that has resulted from the best practices from around the firm.

MARVEL is a design firm with over 20 years of experience working at the intersection of public and private space, creating intentionally timeless design solutions that integrate nature and context. Their portfolio spans affordable housing, commercial, cultural institutions, schools and higher education, civic and public works, hospitality, high-end residential, recreational projects, workspaces, and parks and public spaces.

Baskervill, founded in 1897, is one of the nation's oldest continually operating architectural firms. With five offices along the east coast of the United States, and internationally, Baskervill is a multi-disciplinary design firms with a mix of services from architecture and interior design to MEP engineering and sustainable design.

5. NOISE

The noise impact from the proposed development will be minor. The primary source of noise from the proposed project will be the result of construction. Construction activities will be limited to the hours permitting by the City. HVAC and primary mechanical equipment will be located and screened to mitigate noise impacts. Noise associated with the proposed development will not exceed regulated levels and is not anticipated to negatively impact surrounding development in its urban setting.

6. VISUAL QUALITY & SCENIC CHARACTER

As further described in the City of Portland Site Plan Application for the proposed development, the architecture and landscaping have been designed to be consistent with the scenic and historic character of the surrounding urban waterfront area. The Site Plan Application includes renderings showing how view corridors will be preserved. A Certificate of Appropriateness will also be obtained from the City of Portland Historic Preservation Board. It is not anticipated that the proposed development will result in any negative visual impacts.

7. WILDLIFE & FISHERIES

The Site has been previously 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 (threatened species), roseate tern (endangered species) and monarch butterfly (candidate 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.

A letter was sent to the Maine Department of Inland Fisheries and Wildlife (MDIFW) requesting information regarding any known threatened or endangered species or critical habitat relative to the project area; a copy of their response letter is attached to this Section. It is not anticipated that the proposed development will have a negative impact on the northern long-eared bat, roseate tern or monarch butterfly.

7.1 LIST OF ATTACHMENTS

- Official Species List; and
- MDIFW Environmental Review Response Letter.

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

In Reply Refer To:
Project Code: 2022-0086547
Project Name: 58 Fore Street

April 03, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The 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 website 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/or 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 and/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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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 Code 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

Project Code: 2022-0086547
Project Name: 58 Fore Street
Project Type: Mixed-Use Construction
Project Description: Development project at 58 Fore Street.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.66328875,-70.24278546387461,14z



Counties: Cumberland County, Maine

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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

BIRDS

NAME	STATUS
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPAC USER CONTACT INFORMATION

Agency: Woodard & Curran
Name: Amy LeBel
Address: 41 Hutchins Drive
City: Portland
State: ME
Zip: 04102
Email alebel@woodardcurran.com
Phone: 2075583841

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

October 11, 2022

Amy Lebel
Woodard & Curran
41 Hutchins Drive
Portland, ME 04101

RE: Information Request – 58 Fore Street Project, Portland,

Dear Amy:

Per your request received on October 03, 2022, 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 inland fisheries habitat concerns within the vicinity of the *58 Fore Street Project* in Portland.

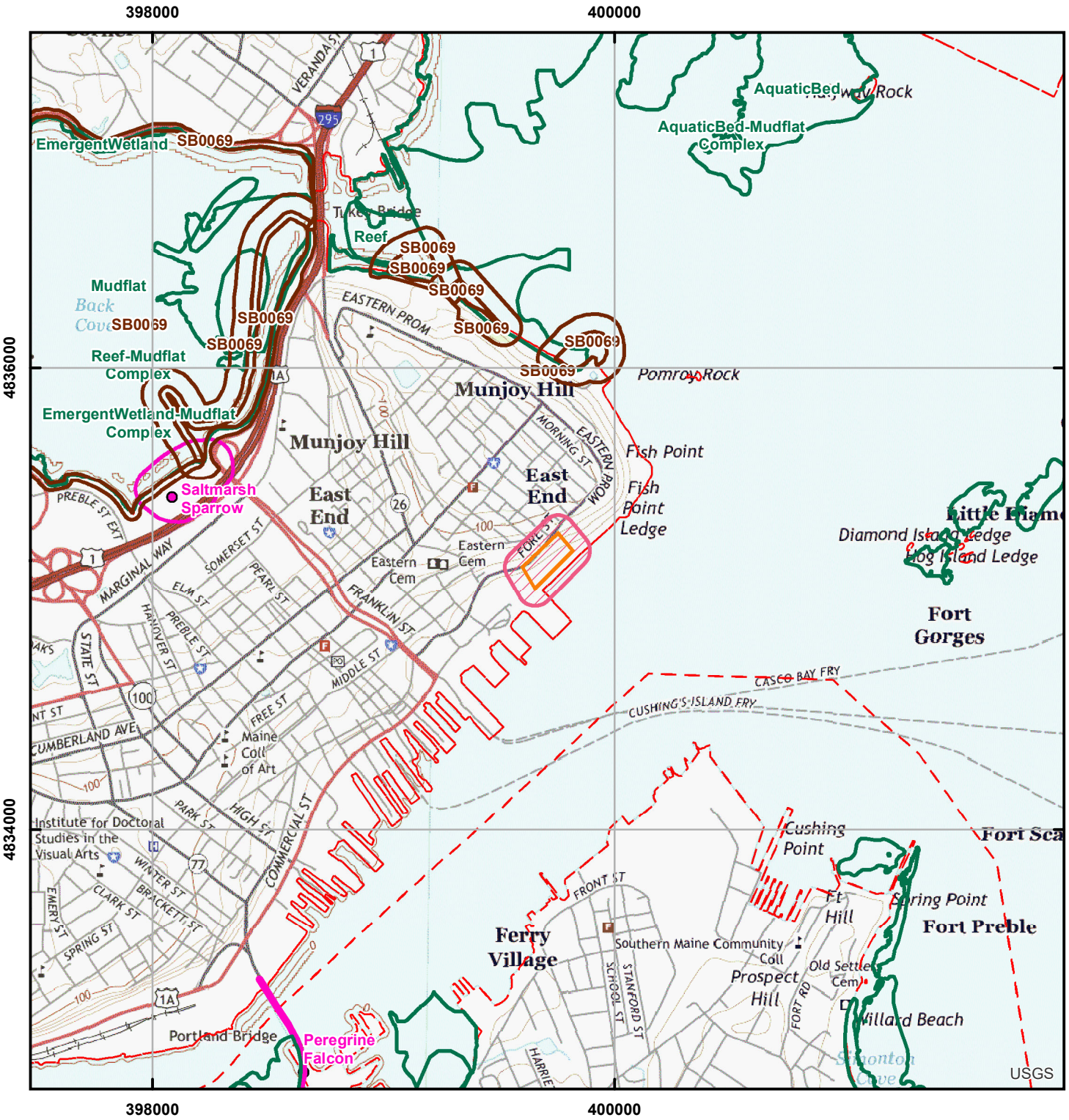
Our information indicates no locations of State-listed Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential or Significant Wildlife Habitats or inland fisheries habitats that would 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, Maine Department of Marine Resources, 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



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Portland, 58 Fore Street (Version 2)

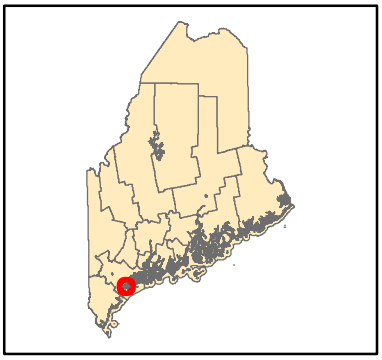
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 10/3/2022

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



8. HISTORIC SITES

A letter has been sent to the Maine Historic Preservation Commission (MHPC) requesting a review of the project area relative to historic properties; a copy of their response letter is attached to this Section. We will work with the Planning Division on the required historic preservation review concurrent with the Site Plan process.

Portions of the site are also being reviewed by the City of Portland's Historic Preservation Board. A Certificate of Appropriateness has been received for Phase 1 buildings (Building 12, the Block 2 historic core of buildings and Building 1A) and will soon be started for the Block 6 building.

8.1 LIST OF ATTACHMENTS

- MHPC Project Review Response Letter.

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

December 19, 2022

Ms. Amy LeBel
Woodard & Curran
41 Hutchins Drive
Portland, ME 04102

Project: MHPC #1777-22 — Portland Foreside Development Co.; 58 Fore St
Develop Blocks 4 and 6

Town: Portland, ME

Dear Ms. LeBel:

In response to your recent request, I have reviewed the information received November 28, 2022 to continue consultation on the above referenced project in accordance with the requirements of Maine Department of Environmental Protection.

Based on the information provided, the Commission feels that the proposed undertaking will have no adverse effect on architectural resources located with in the proposed project area, as defined by Section 106 of the National Historic Preservation Act of 1966, as amended.

With regard to archaeological resources, a historic archaeological survey is recommended. Survey can be conducted in the form of monitoring ground disturbing activities in coordination with the developer. Purpose of the survey is to document architectural remains of the Portland company buildings that are not depicted on maps and plans, and to identify/document/collect potentially significant objects associated with the company's industrial production.

A list of qualified historic archaeologists can be found on our website:
https://www.maine.gov/mhpc/programs/survey/approved-consultants/historic

If you have any questions regarding archaeology, please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov.

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.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

PHONE: (207) 287-2132 FAX: (207) 287-2335

9. UNUSUAL NATURAL AREAS

The Site has been previously developed and there are no known unusual natural areas. A letter was sent to the Maine Natural Areas Program (MNAP) requesting a review of the Site relative to rare and exemplary botanical features; a copy of their response letter is attached to this Section.

9.1 LIST OF ATTACHMENTS

- MNAP Site Review Response Letter.

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 5, 2022

Amy LeBel
Woodard & Curran
41 Hutchins Drive
Portland, ME 04102

Via email: alebel@woodardcurran.com

Re: Rare and exemplary botanical features in proximity to: 58 Fore Street Mixed-Use Development, Blocks 4 and 6, Portland, Maine

Dear Ms. LeBel:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received September 29, 2022 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.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

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.

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,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

10. BUFFERS

The Site has been previously developed. There are no existing or proposed buffers. This Section is not applicable.

11. SOILS

Copies of the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey and the Geotechnical Report prepared for the Site are attached to this Section for your reference. Environmental assessments of the Site have been conducted and the Owner is a participant in the Maine Department of Environmental Protection Voluntary Response Action Program (VRAP). A soil management plan will be developed for the site.

11.1 LIST OF ATTACHMENTS

- United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey

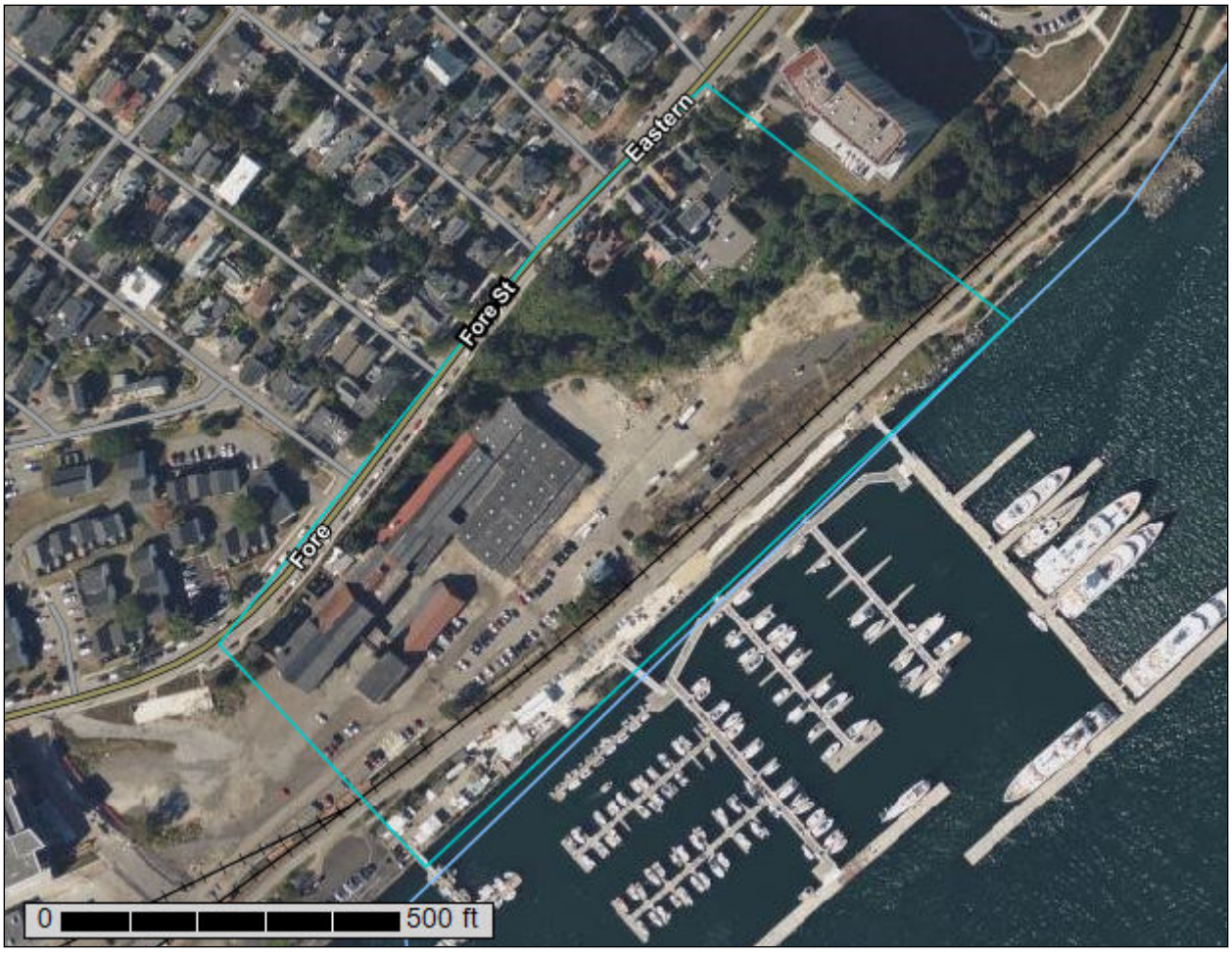
United States Department of Agriculture

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



September 19, 2022

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....12
Map Unit Descriptions.....12
Cumberland County and Part of Oxford County, Maine.....14
Cu—Cut and fill land.....14
HlB—Hinckley loamy sand, 3 to 8 percent slopes.....14
HlC—Hinckley loamy sand, 8 to 15 percent slopes.....15
HlD—Hinckley loamy sand, 15 to 25 percent slopes.....16
W—Water.....17
Soil Information for All Uses.....18
Soil Properties and Qualities.....18
Soil Qualities and Features.....18
Hydrologic Soil Group.....18
References.....24

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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.


70° 14' 48" W
70° 14' 19" W
399490
399560
399630
399700
399770
399840
399910
399980
400050
400120
43° 39' 54" N
43° 39' 40" N
4835400
4835330
4835260
4835190
4835120
4835050
HIC
HIB
HID
HIB
Cu
W
Hoyts Ln
Fore St
Adams St
Munjoy S
Fore
Soil Map may not be valid at this scale.
Map Scale: 1:2,970 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 40 80 160 240
Feet
0 100 200 400 600
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 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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	8.9	65.7%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	0.8	6.1%
HIC	Hinckley loamy sand, 8 to 15 percent slopes	0.0	0.1%
HID	Hinckley loamy sand, 15 to 25 percent slopes	2.5	18.7%
W	Water	1.3	9.4%
Totals for Area of Interest		**13.6**	**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

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 supply, 0 to 60 inches: Moderate (about 6.6 inches)

HlB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8

Elevation: 0 to 1,430 feet

Mean annual precipitation: 36 to 53 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash plains, eskers, moraines, kame terraces, kames, outwash terraces, outwash deltas

Landform position (two-dimensional): Summit, shoulder, backslope, footslope

Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

HIC—Hinckley loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svm9
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

HID—Hinckley loamy sand, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2svmc
Elevation: 0 to 1,460 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash plains, eskers, moraines, outwash terraces, outwash deltas, kame terraces, kames
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Lakes

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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:

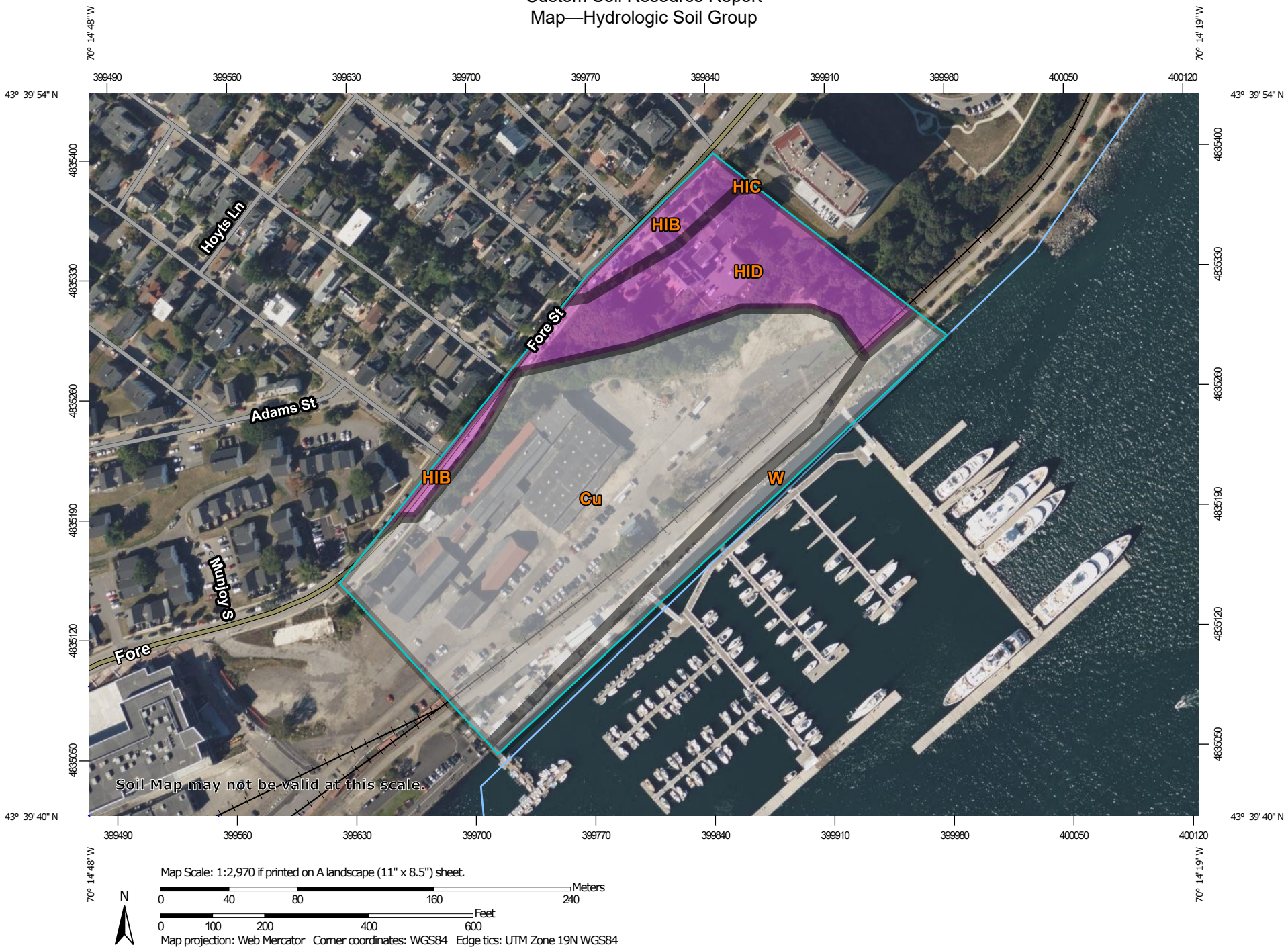
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

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.


70° 14' 48" W
70° 14' 19" W
399490
399560
399630
399700
399770
399840
399910
399980
400050
400120
43° 39' 54" N
43° 39' 40" N
4835400
4835330
4835260
4835190
4835120
4835050
HIC
HIB
HID
HIB
Cu
W
Hoyts Ln
Fore St
Adams St
Munjoy St
Fore
Soil Map may not be valid at this scale.
Map Scale: 1:2,970 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 40 80 160 240
Feet
0 100 200 400 600
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 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cu	Cut and fill land		8.9	65.7%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	A	0.8	6.1%
HIC	Hinckley loamy sand, 8 to 15 percent slopes	A	0.0	0.1%
HID	Hinckley loamy sand, 15 to 25 percent slopes	A	2.5	18.7%
W	Water		1.3	9.4%
Totals for Area of Interest			**13.6**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

12. STORMWATER MANAGEMENT

The attached Stormwater Management Plan describes the proposed stormwater management measures for the project, as shown on the design drawings attached to Section 1 of this Report. A USGS map and a soils map are attached to Section 1 and Section 11 of this Report, respectively.

12.1 LIST OF ATTACHMENTS

- Stormwater Management Plan (Bound Separately)

13. URBAN IMPAIRED STREAM

The proposed development is not located within the watershed of an Urban Impaired Stream; the Urban Impaired Stream Standard does not apply.

14. BASIC STANDARD

The proposed development is adjacent to the Fore River; there are no other known protected resources associated with the Site. As shown by the soil survey attached to Section 11 of this Report, the Site is comprised primarily of urban fill. The Soil Erosion and Sediment Control Plan and compliance with the Basic Standard is described in the Stormwater Management provided as part of Section 12 of this Report.

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 of the permit approvals, 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 Owner will be responsible for inspecting and maintaining the Site's stormwater system.

14.1 LIST OF ATTACHMENTS

- Erosion & Sediment Control Inspection Report Form.

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

The proposed development is not located within a Significant Sand and Gravel Aquifer; as previously noted, the Site is comprised primarily of urban fill. Environmental assessments of the Site have been conducted and the Owner is a participant in the Maine Department of Environmental Protection Voluntary Response Action Program (VRAP). The proposed development will not infiltrate to or extract groundwater and is not anticipated to produce any hazardous waste. It is not anticipated that the proposed development will result in any impacts to groundwater.

16. WATER SUPPLY

The proposed development will be provided with both fire protection water service and domestic water service as shown on the drawings via a private water system that will connect to the public water main on Fore Street. Woodard & Curran is working directly with the Portland Water District to determine the appropriate design for this work and ability to serve documentation is attached to this section.

16.1 LIST OF ATTACHMENTS

- PWD Ability to Serve Email

Amy LeBel

From: AMaP MEANS <means@pwd.org>
Sent: Wednesday, March 22, 2023 3:47 PM
To: Lauren Swett
Cc: Thomas Whitney
Subject: 525766-58 Fore Street PH2, PO
Attachments: PO - Portland Foreside Ph II - Infrastructure Map - 2023.pdf

Hello Ms. Swett,

This email does not give final approval of the 58 Fore Street Phase 2 development project from PWD, however it can be used to satisfy Site Law Statute §484 - Standards for Development, Site Law Rule Chapter 375(18), and Site Law Rule Chapter 375(6) granted that the applicant meet all applicable standards set forth by DEP or other governing body. Attached is a copy of PWD's infrastructure map noting the location, type, and size of the public water infrastructure near your site, demonstrating a sufficient and healthful water supply exists. Based on the demand provided by the applicant, the district has sufficient supply to serve the proposed project, as long as the project is designed and installed in accordance with PWD standards. This email shall serve as PWD's acknowledgement of the project and the start of design coordination with the development team; In no way shall this information be interpreted as a determination of PWD's ability to serve the project at this time as this is only a determination of the capacity of the existing system based on the proposed development. As your project progresses, we require that you submit design plans to MEANS for review of the proposed water improvements. An Ability to Serve Determination letter is required from the District in order to receive final approval from the District and the municipality having jurisdiction.

Please let me know if you have any questions.

Thanks,

Portland Water District

225 Douglass Street, PO Box 3553

Portland, ME 04104

Phone: 207-774-5961 x3199

E-mail: means@pwd.org

http://www.pwd.org

Portland Water District NOTICE & DISCLAIMER Confidentiality Notice:

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED AND CONFIDENTIAL. Please notify the sender if you have received this message in error. Recipients should be aware that replies to this message may not be considered confidential under the Maine Freedom of Access law, 1 M.R.S.A. §402, and may therefore be subject to public disclosure upon request.

Please consider the environment before printing this email



86 Leland Street

Portland

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, ME 04104

Scale 0 20 40 80 120 160 Feet — 1 inch = 100 feet

Legend

- Air Valve
- Blow Off
- By Pass
- Distribution
- Transmission
- Connection
- Attribute Change
- Hydrant Control
- Reducer
- Hydrant
- Meter Pits
- Combined Service
- Domestic Service
- Fire Service
- Shallow Water Main
- Deep Water Main
- Proposed Water Main
- Private Hydrants
- Gravity
- Force
- Manhole
- CSO

Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By: HAS	Infrastructure Map
Scale: As Noted	March 8, 2023

17. WASTEWATER DISPOSAL

The proposed development will be provided with sanitary sewer service as shown on the drawings. The private system on the site will include a combination of gravity sewer and forcemain with a pump station that will discharge to the sewer on the Thames Street Extension. The existing sewer service on Fore Street will be abandoned. The proposed development will include restaurants, kitchens, and parking garages; grease traps and oil/water separators will be provided as shown on the drawings. Woodard & Curran is working directly with the City of Portland to determine the appropriate design for this work. A Wastewater Capacity Application was submitted to the City under separate cover as part of the Site Plan Application for the proposed development. A copy of the City's determination will be provided upon receipt.

18. SOLID WASTE

18.1 SOLID WASTE

All solid waste materials and recyclables from the proposed development will be transported and disposed of or recycled in accordance with applicable laws and regulations.

18.2 CONSTRUCTION & DEMOLITION DEBRIS

The proposed development will generate construction waste and demolition debris (CDD). The Contractor will be responsible for properly disposing of the CDD. The Contractor will be responsible for handling, managing, and disposing of all waste generated by construction in accordance with the Maine Solid Waste Management Regulations and all other applicable local, state, and federal regulations.

18.3 SPECIAL & HAZARDOUS WASTE

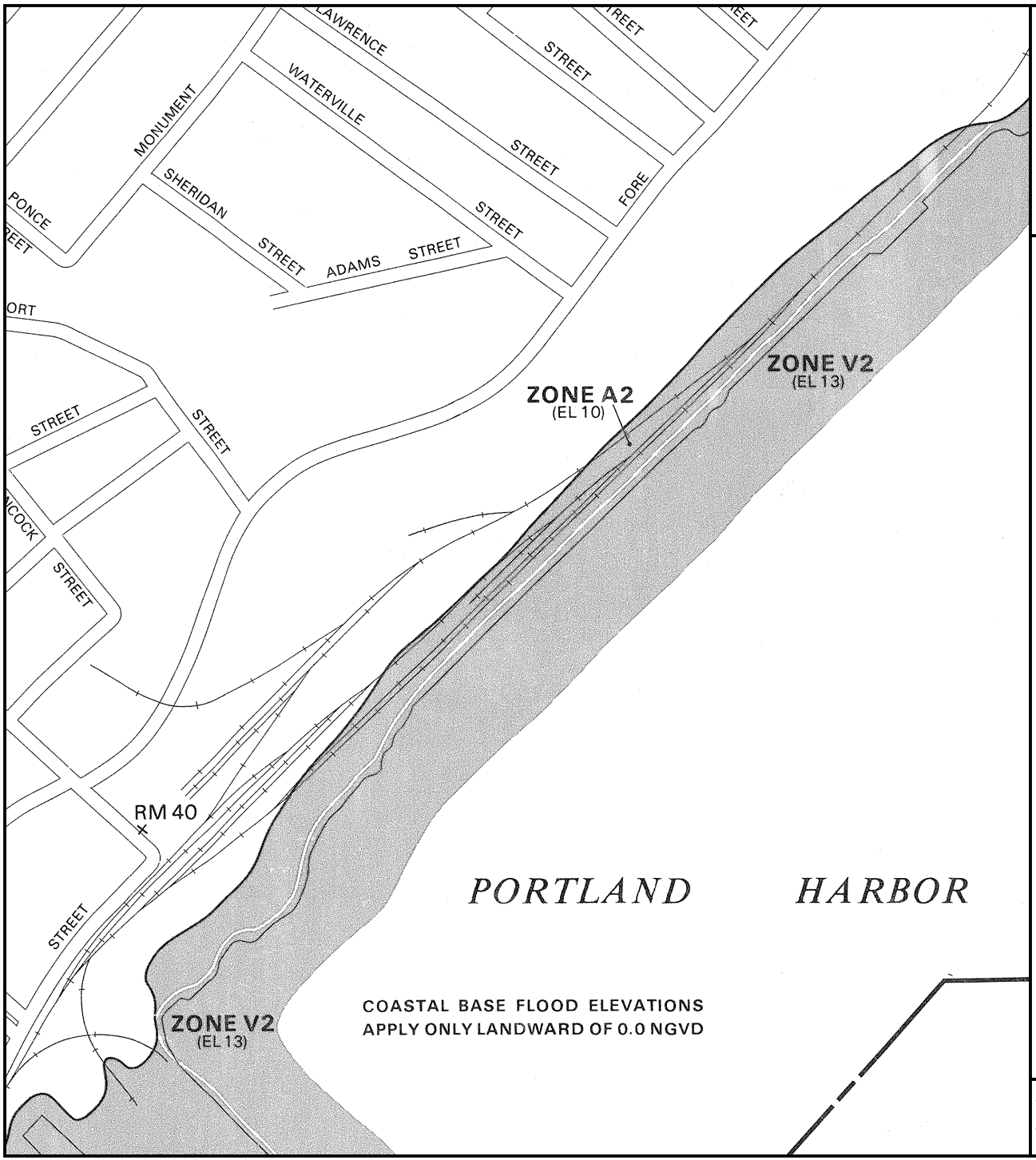
The proposed development is not anticipated to produce any hazardous waste. Environmental assessments of the Site have been conducted and the Owner is a participant in the Maine Department of Environmental Protection Voluntary Response Action Program (VRAP). A soil management plan will be developed for the site to address management of "urban fill" special waste anticipated to be encountered during the construction process.

19. FLOODING

Portland Foreside has submitted and received approval of two Letters of Map Amendment (LOMA), removing the site's developed area from the floodplain. As a result, a Flood Hazard Permit is not required as part of this project's permit review. A copy of the FEMA Flood Insurance Rate Map and LOMA documentation is attached.

19.1 LIST OF ATTACHMENTS

- FEMA Flood Insurance Rate Map;
- LOMA documentation.



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



SCALE : 1" = 50'

0' 25' 50' 100'

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.

Area to be Removed from Flood Zone AE

A CERTAIN LOT OR PARCEL OF LAND ON THE SOUTHERLY SIDE OF, BUT NOT ADJACENT TO FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PORTLAND HOUSE CONDOMINIUM AS SHOWN ON PLAN BOOK 142, PAGE 50;

THENCE, S 47°33'49" W ALONG THE NORTHELRY LINE OF SAID STATE OF MAINE 685.00 FEET;

THENCE, S 52°46'49" W CONTINUING ALONG THE NORTHELRY LINE OF STATE OF MAINE 272.75 FEET TO THE NORTHERLY LIMIT OF FLOOD ZONE A2 (EL 10) AS SCALED FROM FEMA FLOOD INSURANCE RATE MAP NO. 230051-0014B;

THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG THE NORTHERLY LIMIT OF SAID FLOOD ZONE A2:

N 18°22'51" E A DISTANCE OF 26.60 FEET;
N 48°05'42" E A DISTANCE OF 204.67 FEET;
N 50°41'38" E A DISTANCE OF 184.50 FEET;
N 45°09'56" E A DISTANCE OF 136.93 FEET;
N 47°53'09" E A DISTANCE OF 144.17 FEET;
N 39°47'45" E A DISTANCE OF 121.02 FEET;
N 60°27'17" E A DISTANCE OF 116.02 FEET;
N 44°32'44" E A DISTANCE OF 28.73 FEET TO THE WESTERLY LINE OF LAND OF SAID PORTLAND HOUSE CONDOMINIUM;

THENCE, S 47°03'07" E ALONG PORTLAND HOUSE CONDOMINIUM 22.78 FEET TO THE POINT OF BEGINNING, CONTAINING 28,157 S.F. OR 0.65 ACRES, MORE OR LESS.

Plan References

1. *LAND TITLE SURVEY & SUBDIVISION PLAN IN PORTLAND, MAINE U.S.A. MADE FOR THE TRUST FOR PUBLIC LAND, THE CITY OF PORTLAND, THE MAINE DEPARTMENT OF TRANSPORTATION, THE CANADIAN NATIONAL RAILWAY COMPANY DATED FEB. 19, 1993, REV. 9 11/04/96 BY OWEN HASKELL, INC. AND RECORDED IN PLAN BOOK 193, PAGE 187.*

2. *RECORDING PLAT OCEAN GATEWAY MADE FOR THE CITY OF PORTLAND AND STATE OF MAINE, BY OWEN HASKELL, INC, DATED AUGUST 4, 2004, RECORDED IN PLAN BOOK 204, PAGE 622-624*

3. *BOUNDARY & TOPOGRAPHY SURVEY AT 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN BY OWEN HASKELL, INC. AUGUST 29, 2016, REVISED THROUGH FEB. 2019.*

4. *EXHIBIT PLAN PARCELS TO BE CONVEYED 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN BY OWEN HASKELL, INC. DATED MARCH 21, 2018.*

5. *TOPOGRAPHIC SURVEY 100 FORE STREET MADE FOR JONATHAN COHEN BY OWEN HASKELL, INC DATED DECEMBER 4, 2017 REVISED THROUGH 12/17/18.*

6. *AMENDED SUBDIVISION PLAN, OCEAN GATEWAY, COMMERCIAL STREET, THAMES STREET & FORE STREET, PORTLAND, MAINE MADE FOR OWNER OF RECORD CITY OF PORTLAND JULY 17, 2019 BY OWEN HASKELL.*

7. *SUBDIVISION PLAT PORTLAND FORESIDE THAMES STREET & FORE STREET PORTLAND, MAINE MADE FOR OWNER OF RECORD CPB2 I LLC, BY OWEN HASKELL, INC. DATED FEB. 13, 2020, RECORDED IN PLAN BOOK 220, PAGE 65.*

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE C, AREAS OF MINIMUM FLOODING, ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986. THE FEMA FIRM ZONE A2 FLOOD LINE IS DEMARKED ON THE PLAN BY THE ELEVATION 10 CONTOUR. ALL POINTS NORTH OF THIS CONTOUR ON THE SUBJECT PROPERTY EXCEEDS THIS ELEVATION AND THEREFORE FALL OUTSIDE OF THE A2 ZONE.

General Notes

1. OWNER OF RECORD: CPB2 I LLC, C.C.R.D. BOOK 31425 PAGE 267, BOOK 30879 PAGE 75, BOOK 35264, PAGE 286. SEE AFFIDAVIT RECORDED IN BOOK 34737 PAGE 327 FOR NAME CHANGE & CPB2 I LLC BOOK 35576 PAGE 153

2. PARCEL IS MADE UP OF LOTS A3, A1, PART OF A2 & PART OF A13 ON TAX MAP 18 AND LOT A3 & A16 ON TAX MAP 19 AS SHOWN ON THE OFFICIAL CITY OF PORTLAND TAX ASSESSORS MAPS.

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83. CITY POINTS: T-113-80-206 N:302687.77 E:2932345.31
T-113-12-111 N:302722.13 E:2933029.45

4. BENCH MARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) - TIDAL BENCHMARK. BENCH MARK STAMPING: NO. 3 1971 ELEVATION 11.02 FEET NGVD 29 DATUM.

EXISTING CONDITIONS SURVEY

58 Fore Street
Portland, Cumberland County, Maine
Made For
PF One Devco LLC & PF Land LLC

Surveyor's Certification

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.

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: NOVEMBER 5, 2020
REVISED THROUGH: NOVEMBER 17, 2020

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105
Tel. (207) 774-0424 www.owenhaskell.com rloubier@owenhaskell.com

DRAWN BY: RRL / JLW	FIELD BOOK: FILE	JOB NO.	2019-013 P
CHECKED BY: RRL/SDG	SCALE: 1" = 50'	DRWG. #	LOMA

Federal Emergency Management Agency
Washington, D.C. 20472

MR. RANDY LOUBIER
OWEN HASKELL
390 U.S. ROUTE 1 UNIT 10
FALMOUTH, ME 04105

CASE NO.: 21-01-0177A
COMMUNITY: CITY OF PORTLAND,
CUMBERLAND COUNTY, MAINE
COMMUNITY NO.: 230051

DEAR MR. LOUBIER:

This is in reference to a request that the Federal Emergency Management Agency (FEMA) determine if the property described in the enclosed document is located within an identified Special Flood Hazard Area, the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood), on the effective National Flood Insurance Program (NFIP) map. Using the information submitted and the effective NFIP map, our determination is shown on the attached Letter of Map Amendment (LOMA) Determination Document. This determination document provides additional information regarding the effective NFIP map, the legal description of the property and our determination.

Additional documents are enclosed which provide information regarding the subject property and LOMAs. Please see the List of Enclosures below to determine which documents are enclosed. Other attachments specific to this request may be included as referenced in the Determination/Comment document. If you have any questions about this letter or any of the enclosures, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415.

Sincerely,

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

LIST OF ENCLOSURES:
LOMA DETERMINATION DOCUMENT (REMOVAL)

cc: State/Commonwealth NFIP Coordinator
Community Map Repository
Region

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE	A parcel of land, as described in the Quitclaim Deed with Covenant recorded as Document No. 13675 in Book 31425, Pages 267, 268, and 269; and in the Trustee's Deed recorded as Document No. 45157 in Book 30879, Pages 75 through 79; both deeds in the Office of the Register of Deeds, Cumberland County, Maine
	COMMUNITY NO: 230051	
AFFECTED MAP PANEL	NUMBER: 2300510014B	The portion of property is more particularly described by the following metes and bounds:
	DATE: 7/17/1986	
FLOODING SOURCE: PORTLAND HARBOR; CASCO BAY		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY: 43.662943, -70.242677 SOURCE OF LAT & LONG: GPS DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
--	--	--	58 Fore Street	Portion of Property	C	--	--	12.0 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
PORTIONS REMAIN IN THE SFHA/FLOODWAY
eLOMA DETERMINATION

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. If there are any errors on this eLOMA Determination Letter that cause FEMA to rescind and/or nullify the determination the property owner should consult the Licensed Professional that submitted this eLOMA. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, 3601 Eisenhower Avenue, Alexandria, VA 22304-4605, Fax: 703-751-7415.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

eLOMA

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

BEGINNING ON THE NORTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE SOUTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PORTLAND HOUSE CONDOMINIUM AS SHOWN ON PLAN BOOK 142, PAGE 50; THENCE S47°33'49"W, ALONG THE NORTHERLY LINE OF SAID STATE OF MAINE 685.00 FEET; THENCE S52°46'49"W, CONTINUING ALONG THE NORTHERLY LINE OF STATE OF MAINE 272.75 FEET; THENCE N18°22'51"E, A DISTANCE OF 26.60 FEET; THENCE N48°05'42"E, A DISTANCE OF 204.67 FEET; THENCE N50°41'38"E, A DISTANCE OF 184.50 FEET; THENCE N45°09'56"E, A DISTANCE OF 136.93 FEET; THENCE N47°53'09"E, A DISTANCE OF 144.17 FEET; THENCE N39°47'45"E, A DISTANCE OF 121.02 FEET; THENCE N60°27'17"E, A DISTANCE OF 116.02 FEET; THENCE N44°32'44"E, A DISTANCE OF 28.73 FEET TO THE WESTERLY LINE OF LAND OF SAID PORTLAND HOUSE CONDOMINIUM; THENCE S47°03'07"E, ALONG PORTLAND HOUSE CONDOMINIUM 22.78 FEET TO THE POINT OF BEGINNING.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

eLOMA

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

Portion of Property Removal:

The following considerations may or may not apply to the determination for your Portion of Property:

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA and/or FLOODWAY - Portions of this property, but not the subject of the Determination document, may remain in the Special Flood Hazard Area (SFHA) and/or the regulatory floodway for the flooding source indicated on the Determination Document. The NFIP regulatory floodway is the area that must remain unobstructed in order to prevent unacceptable increases in base flood elevations. Therefore, no construction may take place in an NFIP regulatory floodway that may cause an increase in the base flood elevation. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management. The NFIP regulatory floodway is provided to the community as a tool to regulate floodplain development. Modifications to the NFIP regulatory floodway must be accepted by both the Federal Emergency Management Agency (FEMA) and the community involved. Appropriate community actions are defined in Paragraph 60.3(d) of the NFIP regulations. Any proposed revision to the NFIP regulatory floodway must be submitted to FEMA by community officials. The community should contact either the Regional Director (for those communities in Regions I-IV, and VI-X), or the Regional Engineer (for those communities in Region V) for guidance on the data which must be submitted for a revision to the NFIP regulatory floodway. Contact information for each regional office can be obtained by calling the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or from our web site at https://www.fema.gov/regional-contact-information

STUDY UNDERWAY - This determination is based on the flood data presently available. However, the Federal Emergency Management Agency may be currently revising the National Flood Insurance Program (NFIP) map for the community. New flood data could be generated that may affect this property. If a new NFIP map is issued it will supersede this determination. The Federal requirement for the purchase of flood insurance will then be based on the newly revised NFIP map.

EXTRATERRITORIAL JURISDICTION - The subject of the determination is shown on the National Flood Insurance Program map and may be located in an Extraterritorial Jurisdiction area for the community indicated on the Determination Document.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

GREAT LAKES - The Federal Emergency Management Agency (FEMA) has based this determination on elevation data which is published in the current Flood Insurance Study for the community. However, the elevations established in the U.S. Army Corps of Engineers (USACE) reports on the Great Lakes are the best available data known to us. If in the future there are any subsequent map revisions to the National Flood Insurance Program map and the USACE reports remain the best available data known, FEMA will use those elevations for any such revisions. Further, be advised that the elevations on the Flood Insurance Rate Map (FIRM) may only reflect the Stillwater elevation for the lake and may not account for the effects of wind driven waves or wave run-up. On-site conditions such as wind speed, wind direction, fetch distance, water depth and the slope of the beach or bluff may result in significant increases to the base flood elevation. Therefore, it is strongly recommended that the requestor be aware of these circumstances and, if warranted, evaluate the effects of wind driven waves along the shoreline of the property.

STATE AND LOCAL CONSIDERATIONS - Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

COASTAL BARRIER RESOURCE SYSTEM - Based upon information provided to FEMA by the U.S. Fish and Wildlife Service (USFWS), the subject property may be within a System Unit or an Otherwise Protected Area (OPA) of the John H. Chafee Coastal Barrier Resource System (CBRS). Federal flood insurance is generally not available within the CBRS for new construction or substantial improvements occurring after the flood insurance prohibition date (which is generally tied to the date that the area was first established as either a System Unit or OPA, but may differ in some cases). Other federal expenditures and financial assistance (including certain types of disaster assistance) are also restricted within System Units of the CBRS. The USFWS is the authoritative source for information regarding the CBRS. Additional information, including the CBRS Mapper, can be found on the USFWS website at: https://www.fws.gov/cbra.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Assistance Center toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Attn: North Wind Resource Partners (NWRP) eLOMA Coordinator, NWRP eLOMA Coordinator, 3601 Eisenhower Ave., Alexandria, VA 22304-6439, Fax: 703-751-7415

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

eLOMA

Federal Emergency Management Agency

Washington, D.C. 20472

ADDITIONAL INFORMATION REGARDING LETTERS OF MAP AMENDMENT

When making determinations on requests for Letters of Map Amendment (LOMAs), the Department of Homeland Security's Federal Emergency Management Agency (FEMA) bases its determination on the flood hazard information available at the time of the determination. Requesters should be aware that flood conditions may change or new information may be generated that would supersede FEMA's determination. In such cases, the community will be informed by letter.

Requesters also should be aware that removal of a property (parcel of land or structure) from the Special Flood Hazard Area (SFHA) means FEMA has determined the property is not subject to inundation by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This does not mean the property is not subject to other flood hazards. The property could be inundated by a flood with a magnitude greater than the base flood or by localized flooding not shown on the effective National Flood Insurance Program (NFIP) map.

The effect of a LOMA is it removes the Federal requirement for the lender to require flood insurance coverage for the property described. The LOMA *is not* a waiver of the condition that the property owner maintain flood insurance coverage for the property. *Only* the lender can waive the flood insurance purchase requirement because the lender imposed the requirement. *The property owner must request and receive a written waiver from the lender before canceling the policy*. The lender may determine, on its own as a business decision that it wishes to continue the flood insurance requirement to protect its financial risk on the loan.

The LOMA provides FEMA's comment on the mandatory flood insurance requirements of the NFIP as they apply to a particular property. A LOMA is not a building permit, nor should it be construed as such. Any development, new construction, or substantial improvement of a property impacted by a LOMA must comply with all applicable State and local criteria and other Federal criteria.

If a lender releases a property owner from the flood insurance requirement, and the property owner decides to cancel the policy and seek a refund, the NFIP will refund the premium paid for the current policy year, provided that no claim is pending or has been paid on the policy during the current policy year. The property owner must provide a written waiver of the insurance requirement from the lender to the property insurance agent or company servicing his or her policy. The agent or company will then process the refund request.

Even though structures are not located in an SFHA, as mentioned above, they could be flooded by a flooding event with a greater magnitude than the base flood. In fact, more than 25 percent of all claims paid by the NFIP are for policies for structures located outside the SFHA in Zones B, C, X (shaded), or X (unshaded). More than one-fourth of all policies purchased under the NFIP protect structures located in these zones. The risk to structures located outside SFHAs is just not as great as the risk to structures located in SFHAs. Finally, approximately 90 percent of all federally declared disasters are caused by flooding, and homeowners insurance does not provide financial protection from this flooding. Therefore, FEMA encourages the widest possible coverage under the NFIP.

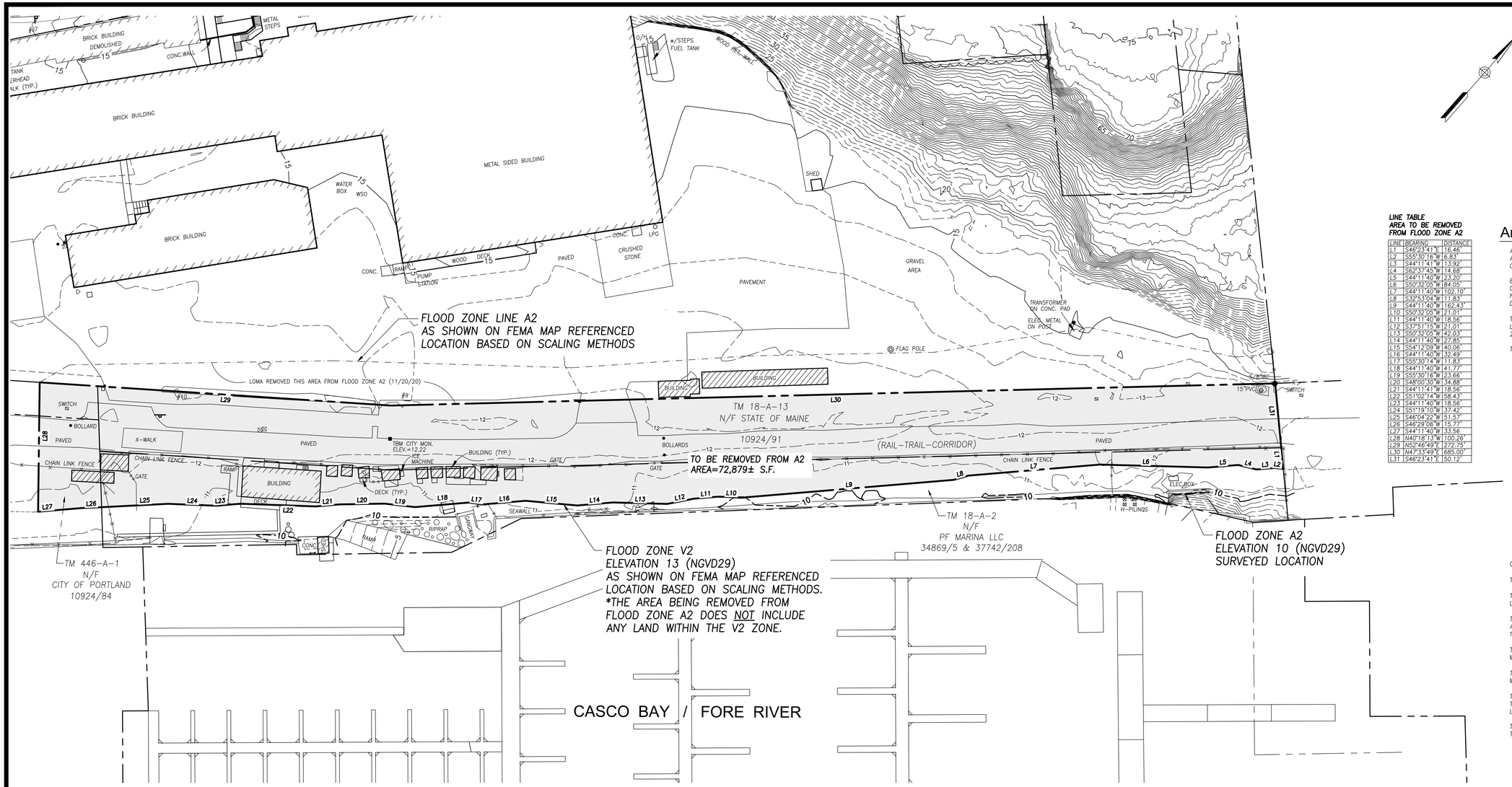
The NFIP offers two types of flood insurance policies to property owners: the low-cost Preferred Risk Policy (PRP) and the Standard Flood Insurance Policy (SFIP). The PRP is available for 1- to 4-family residential structures located outside the SFHA with little or no loss history. The PRP is available for townhouse/rowhouse-type structures, but is not available for other types of condominium units. The SFIP is available for all other structures. Additional information on the PRP and how a property owner can quality for this type of policy may be obtained by calling the Flood Insurance Information Hotline, toll free, at 1-800-427-4661. Before making a final decision about flood insurance coverage, FEMA strongly encourages property owners to discuss their individual flood risk situations and insurance needs with an insurance agent or company.

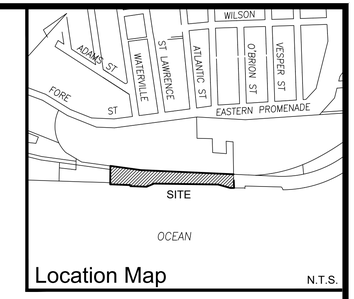
FEMA has established "Grandfather" rules to benefit flood insurance policyholders who have maintained continuous coverage. Property owners may wish to note also that, if they live outside but on the fringe of the SFHA shown on an effective NFIP map and the map is revised to expand the SFHA to include their structure(s), their flood insurance policy rates will not increase as long as the coverage for the affected structure(s) has been continuous. Property owners would continue to receive the lower insurance policy rates.

LOMAs are based on minimum criteria established by the NFIP. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If a State, county, or community has adopted more restrictive and comprehensive floodplain management criteria, these criteria take precedence over the minimum Federal criteria.

In accordance with regulations adopted by the community when it made application to join the NFIP, letters issued to amend an NFIP map must be attached to the community's official record copy of the map. That map is available for public inspection at the community's official map repository. Therefore, FEMA sends copies of all such letters to the affected community's official map repository.

When a restudy is undertaken, or when a sufficient number of revisions or amendments occur on particular map panels, FEMA initiates the printing and distribution process for the affected panels. FEMA notifies community officials in writing when affected map panels are being physically revised and distributed. In such cases, FEMA attempts to reflect the results of the LOMA on the new map panel. If the results of particular LOMAs cannot be reflected on the new map panel because of scale limitations, FEMA notifies the community in writing and revalidates the LOMAs in that letter. LOMAs revalidated in this way usually will become effective 1 day after the effective date of the revised map.





Location Map N.T.S.

LINE TABLE
AREA TO BE REMOVED FROM FLOOD ZONE A2

LINE	BEARING	DISTANCE
L1	S46°23'41"E	16.46'
L2	S55°30'16"W	6.83'
L3	S44°11'41"W	13.92'
L4	S62°37'45"W	14.68'
L5	S44°11'40"W	23.20'
L6	S50°32'05"W	84.05'
L7	S44°11'40"W	102.10'
L8	S32°53'04"W	11.83'
L9	S44°11'40"W	162.43'
L10	S50°32'05"W	21.01'
L11	S44°11'40"W	18.56'
L12	S37°51'15"W	21.01'
L13	S50°32'05"W	42.03'
L14	S44°11'40"W	27.85'
L15	S54°12'09"W	40.06'
L16	S44°11'40"W	32.49'
L17	S55°30'14"W	11.83'
L18	S44°11'40"W	41.77'
L19	S55°30'16"W	23.66'
L20	S48°00'30"W	34.88'
L21	S44°11'41"W	18.56'
L22	S51°02'14"W	58.43'
L23	S44°11'40"W	18.56'
L24	S51°19'10"W	37.42'
L25	S46°04'22"W	51.57'
L26	S46°29'06"W	15.77'
L27	S44°11'40"W	33.56'
L28	N40°18'13"W	100.26'
L29	N52°46'49"E	272.75'
L30	N47°33'49"E	685.00'
L31	S46°23'41"E	50.12'

Area to be Removed from Flood Zone A2

A CERTAIN LOT OR PARCEL OF LAND ON THE SOUTHERLY SIDE OF, BUT NOT ADJACENT TO FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND AND STATE OF MAINE BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PF MARINA, LLC AS DESCRIBED IN DEED BOOK 37742, PAGE 208;

THENCE, S 46°23'41" E A DISTANCE OF 16.46 FEET TO THE V2 FLOOD ZONE LINE AS SHOWN ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B;

THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG SAID V2 ZONE:

S 55°30'16" W A DISTANCE OF 6.83 FEET;
S 44°11'41" W A DISTANCE OF 13.92 FEET;
S 62°37'45" W A DISTANCE OF 14.68 FEET;
S 44°11'40" W A DISTANCE OF 23.20 FEET;
S 50°32'05" W A DISTANCE OF 84.05 FEET;
S 44°11'40" W A DISTANCE OF 102.10 FEET;
S 32°53'04" W A DISTANCE OF 11.83 FEET;
S 44°11'40" W A DISTANCE OF 162.43 FEET;
S 50°32'05" W A DISTANCE OF 21.01 FEET;
S 44°11'40" W A DISTANCE OF 18.56 FEET;
S 37°51'15" W A DISTANCE OF 21.01 FEET;
S 50°32'05" W A DISTANCE OF 42.03 FEET;
S 44°11'40" W A DISTANCE OF 27.85 FEET;
S 54°12'09" W A DISTANCE OF 40.06 FEET;
S 44°11'40" W A DISTANCE OF 32.49 FEET;
S 55°30'14" W A DISTANCE OF 11.83 FEET;
S 44°11'40" W A DISTANCE OF 41.77 FEET;
S 55°30'16" W A DISTANCE OF 23.66 FEET;
S 48°00'30" W A DISTANCE OF 34.88 FEET;
S 44°11'41" W A DISTANCE OF 18.56 FEET;
S 51°02'14" W A DISTANCE OF 58.43 FEET;
S 44°11'40" W A DISTANCE OF 18.56 FEET;
S 51°19'10" W A DISTANCE OF 37.42 FEET;
S 46°04'22" W A DISTANCE OF 51.57 FEET TO LAND NOW OR FORMERLY OF CITY OF PORTLAND AS DESCRIBED IN DEED BOOK 10924, PAGE 84;
THENCE, S 46°29'06" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OF SAID CITY OF PORTLAND A DISTANCE OF 15.77 FEET;

THENCE, S 44°11'40" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OF CITY OF PORTLAND A DISTANCE OF 33.56 FEET;

THENCE, N 40°18'13" W CONTINUING THROUGH LAND OF CITY OF PORTLAND AND LAND NOW OR FORMERLY OF SAID STATE OF MAINE A DISTANCE OF 100.26 FEET TO THE NORTHERLY LINE OF LAND OF SAID STATE OF MAINE;

THENCE, N 52°46'49" E ALONG THE NORTHERLY LINE OF STATE OF MAINE 272.75 FEET;

THENCE, N 47°33'49" E CONTINUING ALONG THE NORTHERLY LINE OF STATE OF MAINE 685.00 FEET;

THENCE, S 46°23'41" E THROUGH LAND OF STATE OF MAINE 50.12 FEET TO THE POINT OF BEGINNING, CONTAINING 72,879 S.F. OR 1.67 ACRES MORE OR LESS.

THE LAND DESCRIBED ABOVE DOES NOT INTEND TO INCLUDE ANY LAND WITHIN THE V2 ZONE.

SCALE : 1" = 50'
0' 25' 50' 100'

General Notes

1. OWNERS OF RECORD: PF MARINA LLC
C.C.R.D. BOOK 34869 PAGE 50
BOOK 37742, PAGE 208

2. PARCEL IS SHOWN AS LOT 2 BLOCK A ON THE CITY OF PORTLAND'S ASSESSORS MAP 18.

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83.

4. BENCH MARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) – TIDAL BENCHMARK. BENCH MARK STAMPING: NO. 3 1971 ELEVATION 11.02 FEET NGVD 29 DATUM.

Plan References

1. "ALTA/NSPS LAND TITLE SURVEY, 1 MARINA WAY, PORTLAND, MAINE MADE FOR PF MARINA, LLC" BY OWEN HASKELL, INC. DATED JANUARY 26, 2021 REVISED THROUGH MARCH 18, 2021.

Flood Zone Note

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS PARTIALLY LOCATED IN FLOOD ZONE A2 ELEV. 10, AREAS OF 100-YEAR FLOOD AND PARTIALLY LOCATED IN FLOOD ZONE V2 ELEV. 13, AREAS OF 100-YEAR COASTAL FLOOD WITH VELOCITY ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986. THE FEMA FIRM ZONE A2 FLOOD LINE IS DEMARKED ON THE PLAN BY THE ELEVATION 10 CONTOUR. ALL POINTS NORTH OF THIS CONTOUR ON THE SUBJECT PROPERTY EXCEEDS THIS ELEVATION AND THEREFORE FALL OUTSIDE OF THE A2 ZONE.

Existing Conditions Survey

1 Marina Way
Portland, Cumberland County, Maine
Made For
PF MARINA, LLC
1 Marina Way, Portland, Maine

Surveyor's Certification

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

DATE OF PLAT OR MAP: JULY 19, 2021

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: RRL / JLW	FIELD BOOK: FILE	JOB NO.	2019-031 P
CHECKED BY: RRL/SDG	SCALE: 1" = 50'	DRWG. #	MARINA-ALTA

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	CITY OF PORTLAND, CUMBERLAND COUNTY, MAINE	A parcel of land, as described in the Deeds recorded as Document Nos. 23925 and 55154, both in the Office of the Register of Deeds, Cumberland County, Maine The portion of property is more particularly described by the following metes and bounds:
	COMMUNITY NO.: 230051	
AFFECTED MAP PANEL	NUMBER: 2300510014B	
	DATE: 7/17/1986	
FLOODING SOURCE: PORTLAND HARBOR; CASCO BAY		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:43.662774, -70.242547 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
--	--	--	1 Marina Way	Portion of Property	C	--	--	10.5 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
ZONE V
PORTIONS REMAIN IN THE SFHA
SUPERSEDES PREVIOUS DETERMINATION
STATE LOCAL CONSIDERATIONS

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan. A Preferred Risk Policy (PRP) is available for buildings located outside the SFHA. Information about the PRP and how one can apply is enclosed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

BEGINNING ON THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF STATE OF MAINE AS DESCRIBED IN DEED BOOK 10924, PAGE 91 AT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF PF MARINA, LLC AS DESCRIBED IN DEED BOOK 37742, PAGE 208; THENCE, S 46°23'41" E A DISTANCE OF 16.46 FEET TO THE V2 FLOOD ZONE LINE AS SHOWN ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051-0014B; THENCE, THE FOLLOWING COURSES AND DISTANCES ALONG SAID V2 ZONE: S 55°30'16" W A DISTANCE OF 6.83 FEET; S 44°11'41" W A DISTANCE OF 13.92 FEET; S 62°37'45" W A DISTANCE OF 14.68 FEET; S 44°11'40" W A DISTANCE OF 23.20 FEET; S 50°32'05" W A DISTANCE OF 84.05 FEET; S 44°11'40" W A DISTANCE OF 102.10 FEET; S 32°53'04" W A DISTANCE OF 11.83 FEET; S 44°11'40" W A DISTANCE OF 162.43 FEET; S 50°32'05" W A DISTANCE OF 21.01 FEET; S 44°11'40" W A DISTANCE OF 18.56 FEET; S 37°51'15" W A DISTANCE OF 21.01 FEET; S 50°32'05" W A DISTANCE OF 42.03 FEET; S 44°11'40" W A DISTANCE OF 27.85 FEET; S 54°12'09" W A DISTANCE OF 40.06 FEET; S 44°11'40" W A DISTANCE OF 32.49 FEET; S 55°30'14" W A DISTANCE OF 11.83 FEET; S 44°11'40" W A DISTANCE OF 41.77 FEET; S 55°30'16" W A DISTANCE OF 23.66 FEET; S 48°00'30" W A DISTANCE OF 34.88 FEET; S 44°11'41" W A DISTANCE OF 18.56 FEET; S 51°02'14" W A DISTANCE OF 58.43 FEET; S 44°11'40" W A DISTANCE OF 18.56 FEET; S 51°19'10" W A DISTANCE OF 37.42 FEET; S 46°04'22" W A DISTANCE OF 51.57 FEET TO LAND NOW OR FORMELRY OF CITY OF PORTLAND AS DESCRIBED IN DEED BOOK 10924, PAGE 84; THENCE, S 46°29'06" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OF SAID CITY OF PORTLAND A DISTANCE OF 15.77 FEET; THENCE, S 44°11'40" W CONTINUING ALONG THE SAID V2 ZONE AND THROUGH LAND OFCITY OF PORTLAND A DISTANCE OF 33.56 FEET; THENCE, N 40°18'13" W CONTINUING THROUGH LAND OF CITY OF PORTLAND AND LAND NOW OR FORMERLY OF SAID STATE OF MAINE A DISTANCE OF 100.26 FEET TO THE NORTHERLY LINE OF LAND OF SAID STATE OF MAINE; THENCE, N 52°46'49" E ALONG THE NORTHERLY LINE OF STATE OF MAINE 272.75 FEET; THENCE, N 47°33'49" E CONTINUING ALONG THE NORTHERLY LINE OF STATE OF MAINE 685.00 FEET; THENCE, S 46°23'41" E THROUGH LAND OF STATE OF MAINE 50.12 FEET TO THE POINT OF BEGINNING

ZONE V (This Additional Consideration applies to the preceding 1 Property.)

A portion of this property, but not the subject of the Determination/Comment Document, is located within a Coastal High Hazard Area (Zone V, VE or V1-30). Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management. No construction using fill for structural support or that may increase flood damage to other property may take place in these areas.

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

SUPERSEDES OUR PREVIOUS DETERMINATION (This Additional Consideration applies to all properties in the LOMA DETERMINATION DOCUMENT (REMOVAL))

This Determination Document supersedes our previous determination dated 7/16/2021, for the subject property.

STATE AND LOCAL CONSIDERATIONS (This Additional Consideration applies to all properties in the LOMA DETERMINATION DOCUMENT (REMOVAL))

Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Map Information eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, Engineering Library, 3601 Eisenhower Ave Ste 500, Alexandria, VA 22304-6426.

Luis V. Rodriguez, P.E., Director
Engineering and Modeling Division
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

ADDITIONAL INFORMATION REGARDING LETTERS OF MAP AMENDMENT

When making determinations on requests for Letters of Map Amendment (LOMAs), the Department of Homeland Security's Federal Emergency Management Agency (FEMA) bases its determination on the flood hazard information available at the time of the determination. Requesters should be aware that flood conditions may change or new information may be generated that would supersede FEMA's determination. In such cases, the community will be informed by letter.

Requesters also should be aware that removal of a property (parcel of land or structure) from the Special Flood Hazard Area (SFHA) means FEMA has determined the property is not subject to inundation by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This does not mean the property is not subject to other flood hazards. The property could be inundated by a flood with a magnitude greater than the base flood or by localized flooding not shown on the effective National Flood Insurance Program (NFIP) map.

The effect of a LOMA is it removes the Federal requirement for the lender to require flood insurance coverage for the property described. The LOMA *is not* a waiver of the condition that the property owner maintain flood insurance coverage for the property. *Only* the lender can waive the flood insurance purchase requirement because the lender imposed the requirement. *The property owner must request and receive a written waiver from the lender before canceling the policy*. The lender may determine, on its own as a business decision, that it wishes to continue the flood insurance requirement to protect its financial risk on the loan.

The LOMA provides FEMA's comment on the mandatory flood insurance requirements of the NFIP as they apply to a particular property. A LOMA is not a building permit, nor should it be construed as such. Any development, new construction, or substantial improvement of a property impacted by a LOMA must comply with all applicable State and local criteria and other Federal criteria.

If a lender releases a property owner from the flood insurance requirement, and the property owner decides to cancel the policy and seek a refund, the NFIP will refund the premium paid for the current policy year, provided that no claim is pending or has been paid on the policy during the current policy year. The property owner must provide a written waiver of the insurance requirement from the lender to the property insurance agent or company servicing his or her policy. The agent or company will then process the refund request.

Even though structures are not located in an SFHA, as mentioned above, they could be flooded by a flooding event with a greater magnitude than the base flood. In fact, more than 25 percent of all claims paid by the NFIP are for policies for structures located outside the SFHA in Zones B, C, X (shaded), or X (unshaded). More than one-fourth of all policies purchased under the NFIP protect structures located in these zones. The risk to structures located outside SFHAs is just not as great as the risk to structures located in SFHAs. Finally, approximately 90 percent of all federally declared disasters are caused by flooding, and homeowners insurance does not provide financial protection from this flooding. Therefore, FEMA encourages the widest possible coverage under the NFIP.

The NFIP offers two types of flood insurance policies to property owners: the low-cost Preferred Risk Policy (PRP) and the Standard Flood Insurance Policy (SFIP). The PRP is available for 1- to 4-family residential structures located outside the SFHA with little or no loss history. The PRP is available for townhouse/rowhouse-type structures, but is not available for other types of condominium units. The SFIP is available for all other structures. Additional information on the PRP and how a property owner can quality for this type of policy may be obtained by calling the Flood Insurance Information Hotline, toll free, at 1-800-427-4661. Before making a final decision about flood insurance coverage, FEMA strongly encourages property owners to discuss their individual flood risk situations and insurance needs with an insurance agent or company.

FEMA has established "Grandfather" rules to benefit flood insurance policyholders who have maintained continuous coverage. Property owners may wish to note also that, if they live outside but on the fringe of the SFHA shown on an effective NFIP map and the map is revised to expand the SFHA to include their structure(s), their flood insurance policy rates will not increase as long as the coverage for the affected structure(s) has been continuous. Property owners would continue to receive the lower insurance policy rates.

LOMAs are based on minimum criteria established by the NFIP. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If a State, county, or community has adopted more restrictive and comprehensive floodplain management criteria, these criteria take precedence over the minimum Federal criteria.

In accordance with regulations adopted by the community when it made application to join the NFIP, letters issued to amend an NFIP map must be attached to the community's official record copy of the map. That map is available for public inspection at the community's official map repository. Therefore, FEMA sends copies of all such letters to the affected community's official map repository.

When a restudy is undertaken, or when a sufficient number of revisions or amendments occur on particular map panels, FEMA initiates the printing and distribution process for the affected panels. FEMA notifies community officials in writing when affected map panels are being physically revised and distributed. In such cases, FEMA attempts to reflect the results of the LOMA on the new map panel. If the results of particular LOMAs cannot be reflected on the new map panel because of scale limitations, FEMA notifies the community in writing and revalidates the LOMAs in that letter. LOMAs revalidated in this way usually will become effective 1 day after the effective date of the revised map.

Your property has been reclassified as moderate-to-low flood risk. Your flood risk has been reduced but not removed.

You may now qualify for a Preferred Risk Flood Insurance Policy with annual rates starting as low as $325. Keep your home—and everything inside of it—covered for less money. Contact your insurance agent to secure a lower-cost policy today.

Protect the life you've built.

Call **800-427-4661** or visit www.FloodSmart.gov



FEMA

NATIONAL FLOOD INSURANCE PROGRAM

Flooding 101: Did you know?

- Flooding is the most common and costly disaster in the United States. Just 1 inch of flood water can cause $25,000 of damage to your home.
- People outside of high-risk flood areas file more than 20% of NFIP claims and receive one-third of disaster assistance for flooding.
- Most homeowners and renters insurance doesn't cover flood damage. Only flood insurance provides financial protection from costly flooding.

Stay covered. Save money. Talk to an agent today.
For more information visit FloodSmart.gov.

20. BLASTING

Haley & Aldrich, the geotechnical engineer for the project has confirmed that based on investigations completed to date, no blasting is anticipated for this project.

21. AIR EMISSIONS

The project will not require an air emissions license; 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 access to sunlight for any structures utilizing solar energy; this Section is not applicable.

25. NOTICES

The City of Portland has Delegated Review Authority for this application; as such, it is our understanding that the public notice requirements associated with MaineDEP Site Law do not apply.

STORMWATER INSPECTION & MAINTENANCE PLAN

Portland Foreside Development – Phase 2, Portland, Maine

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 manufacturer guidelines; an example page of the BMP Maintenance Log that shall be kept on-site is also attached.

INSPECTION AND MAINTENANCE OF STORMWATER SYSTEMS

Trash, debris, and sediment shall be removed from storm drain pipes and catch basins as needed on a semi-annual basis. In addition to the inspection and maintenance of stormwater systems, paved areas will be inspected annually each spring. These areas will be kept clean and clear through periodic sweeping and winter plowing as required. Inspections will also ensure pavement markings are repainted as needed to maintain proper traffic circulation. Paved areas will be plowed and sanded as often as necessary to maintain public safety. Periodic sweeping of pavement will reduce the amount of sediment available to enter the stormwater systems, in turn reducing the need to clean the stormwater systems.

Green Roof

Green roof areas should be inspected after every major storm in the first year to be sure it is functioning properly. Thereafter, the green roof areas should be inspected at least once every six months to ensure that it is draining within 48 hours following a one-inch storm or greater and drains within no less than 36 to 60 hours following storms that fill the system to overflow. If ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity. If ponding exceeds 72 hours, the top several inches of the filter shall be replaced with fresh material. Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.

Subsurface R-Tank System

The subsurface R-Tank System must be inspected and maintained at minimum once annually and at minimum once every six months during the first year of operation per the manufacturer's guidelines, which are outlined in the attached guidance documents.

Jellyfish Filter Unit

The Jellyfish Filter Unit must be inspected and maintained at minimum once annually and at minimum once quarterly during the first year of operation per the manufacturer's guidelines, which are outlined in the attached guidance document.

Filterra Bioretention System

The Filterra Bioretention System must be inspected and maintained at minimum once annually and at minimum once every six months during the first year of operation per the manufacturer's guidelines, which are outlined in the attached guidance document.

STORMWATER INSPECTION CHECKLIST

Inspection by: _____ Date: _____

Stormwater Management Feature	Condition						Comments
Vegetative cover	no bare spots, no evidence of rill erosion		some bare spots, some rill erosion		large bare areas, extensive erosion		
Subsurface Drainage System	no siltation		some siltation		heavily silted in		
Subsurface Drainage System	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		
Subsurface Drainage System	outlet free of erosion		some erosion at outlet		outlet heavily eroded		
Subsurface Drainage System	inlet/outlet clear		some debris		completely blocked		
Green Roof	inlet free of erosion		some erosion at inlet		inlet heavily eroded		
Green Roof	drains in <24 hours		drains in 24 to 48 hours		ponding exceeds 48 hours		
Jellyfish Filter Unit*	Cartridges are in good condition		Cartridges in need of cleaning		Cartridges in need of replacement		
Jellyfish Filter Unit*	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		
Filterra Bioretention System*	No sediment or trash accumulation		Some sediment or trash accumulation		Excessive sediment or trash accumulation		
Filterra Bioretention System*	Plants healthy and pest-free		Plants are somewhat healthy		Plants are not healthy (no growth or excessive growth)		
Filterra Bioretention System*	Structure is in good condition.		Structure has small visible cracks.		Structure has cracks wider than ½ inch.		

**See attached manufacturer's guidelines for system maintenance and inspection.*

Recommended Actions: _____

_____

Actions Completed: _____ Date: _____

MAINTENANCE TASKS	**SCHEDULE**
Inspect for sediment accumulation	Spring and Fall
Remove sediment accumulation	As needed
Clean debris	As needed
Inspect for erosion	As needed
Reestablish vegetation in erosion areas	Early spring
Replace stone rip-rap	Every 3 to 5 years as needed
Inspect structural elements during wet weather and compare to as-built plans	Annually
Make adjustments or replacements as determined by wet weather observations	As needed
Keep records of all inspections and maintenance activities	Annually
Have a professional engineer perform emergency inspections upon identification of severe problems	As needed

R-TANK OPERATION, INSPECTION & MAINTENANCE

Operation

Your ACF R-Tank System has been designed to function in conjunction with the engineered drainage system on your site, the existing municipal infrastructure, and/or the existing soils and geography of the receiving watershed. Unless your site included certain unique and rare features, the operation of your R-Tank System will be driven by naturally occurring systems and will function autonomously. However, upholding a proper schedule of Inspection & Maintenance is critical to ensuring continued functionality and optimum performance of the system.

Inspection

Both the R-Tank and all stormwater pre-treatment features incorporated into your site must be inspected regularly. Inspection frequency for your system must be determined based on the contributing drainage area, but should never exceed one year between inspections (six months during the first year of operation).

Inspections may be required more frequently for pre-treatment systems. You should refer to the manufacturer requirements for the proper inspection schedule.

With the right equipment your inspection and measurements can be accomplished from the surface without physically entering any confined spaces. If your inspection does require confined space entry, you MUST follow all local/regional requirements as well as OSHA standards.

R-Tank Systems may incorporate Inspection Ports, Maintenance Ports, and/or adjoining manholes. Each of these features are easily accessed by removing the lid at the surface. With the cover removed, a visual inspection can be performed to identify sediment deposits within the structure. Using a flashlight, ALL access points should be examined to complete a thorough inspection.

Inspection Ports
Usually located centrally in the R-Tank System, these perforated columns are designed to give the user a base-line sediment depth across the system floor.

Maintenance Ports
Usually located near the inlet and outlet connections, you'll likely find deeper deposits of heavier sediments when compared to the Inspection Ports.

Manholes
Most systems will include at least two manholes - one at the inlet and another at the outlet. There may be more than one location where stormwater enters the system, which would result in additional manholes to inspect.

Bear in mind that these manholes often include a sump below the invert of the pipe connecting to the R-Tank. These sumps are designed to capture sediment before it reaches the R-Tank, and they should be kept clean to ensure they function properly. However, existence of sediment in the sump does NOT necessarily mean sediment has accumulated in the R-Tank.

After inspecting the bottom of the structure, use a mirror on a pole (or some other device) to check for sediment or debris in the pipe connecting to the R-Tank.

If sediment or debris is observed in any of these structures, you should determine the depth of the material. This is typically accomplished with a stadia rod, but you should determine the best way to obtain the measurement.

All observations and measurements should be recorded on an Inspection Log kept on file. We've included a form you can use at the end of this guideline.

Maintenance

The R-Tank System should be back-flushed once sediment accumulation has reached 6" or 15% of the total system height. Use the chart below as a guideline to determine the point at which maintenance is required on your system.

R-Tank Unit	Height	Max Sediment Dept
Mini	9.5"	1.5"
Single	17"	3"
Double	34"	5"
Triple	50"	6"
Quad	67"	6"
Pent	84"	6"

Before any maintenance is performed on your system, be sure to plug the outlet pipe to prevent contamination of the adjacent systems.

To back-flush the R-Tank, water is pumped into the system through the Maintenance Ports as rapidly as possible. Water should be pumped into ALL Maintenance Ports. The turbulent action of the water moving through the R-Tank will suspend sediments which may then be pumped out.

If your system includes an Outlet Structure, this will be the ideal location to pump contaminated water out of the system. However, removal of back-flush water may be accomplished through the Maintenance Ports, as well.

For systems with large footprints that would require extensive volumes of water to properly flush the system, you should consider performing your maintenance within 24 hours of a rain event. Stormwater entering the system will aid in the suspension of sediments and reduce the volume of water required to properly flush the system.

Once removed, sediment-laden water may be captured for disposal or pumped through a Dirtbag™ (if permitted by the locality).

ACF ENVIRONMENTAL
LET'S GET IT DONE
2831 Cardwell Road
Richmond, Virginia, 23234
800.448.3636
FAX 804.743.7779
acfenvironmental.com

Step-By-Step Inspection & Maintenance Routine

1) **Inspection**
    a. Inspection Port
        i. Remove Cap
        ii. Use flashlight to detect sediment deposits
        iii. If present, measure sediment depth with stadia rod
        iv. Record results on Maintenance Log
        v. Replace Cap
    b. Maintenance Port/s
        i. Remove Cap
        ii. Use flashlight to detect sediment deposits
        iii. If present, measure sediment depth with stadia rod
        iv. Record results on Maintenance Log
        v. Replace Cap
        vi. Repeat for ALL Maintenance Ports
    c. Adjacent Manholes
        i. Remove Cover
        ii. Use flashlight to detect sediment deposits
        iii. If present, measure sediment depth with stadia rod, accounting for depth of sump (if present)
        iv. Inspect pipes connecting to R-Tank
        v. Record results on Maintenance Log
        vi. Replace Cover
        vii. Repeat for ALL Manholes that connect to the R-Tank

2) **Maintenance**
    a. Plug system outlet to prevent discharge of back-flush water
    b. Determine best location to pump out back-flush water
    c. Remove Cap from Maintenance Port
    d. Pump water as rapidly as possible (without over-topping port) into system until at least 1”
    of water covers system bottom
    e. Replace Cap
    f. Repeat at ALL Maintenance Ports
    g. Pump out back-flush water to complete back-flushing
    h. Vacuum all adjacent structures and any other structures or stormwater pre-treatment systems that require attention
    i. Sediment-laden water may be captured for disposal or pumped through a Dirtbag™.
    j. Replace any remaining Caps or Covers
    k. Record the back-flushing event in your Maintenance Log with any relevant specifics

R-Tank Maintenance Log

Site Name:_____

Location:_____

System Owner:_____

Company Responsible for Maintenance:_____

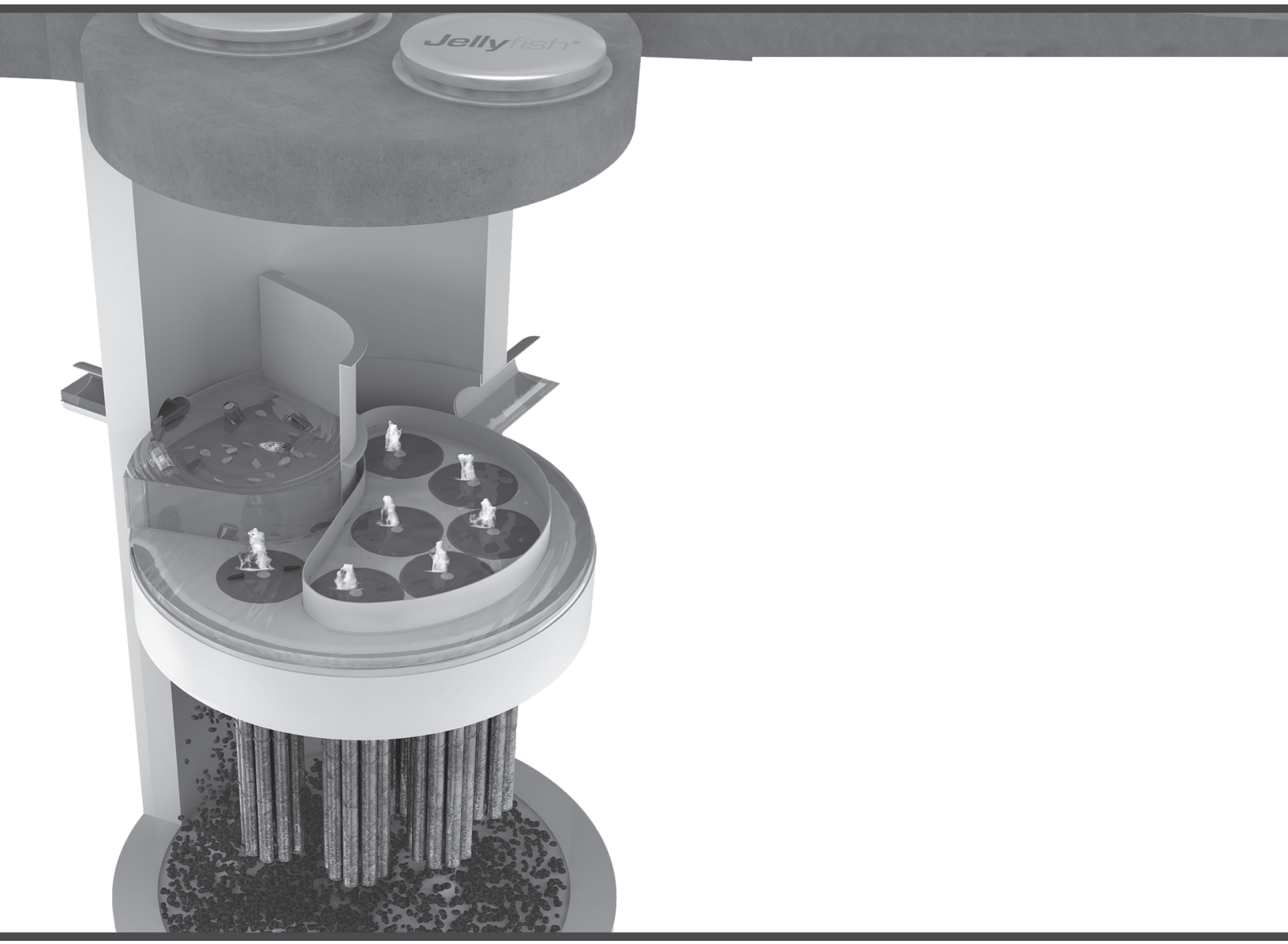
Contact:_____

Phone Number:_____

Date	Location	Depth to Bottom	Depth to Sediment	Sediment Depth	Observations/Notes	Initials

CONTECH®
ENGINEERED SOLUTIONS

Jellyfish® Filter Maintenance Guide



Jellyfish®

JELLYFISH® FILTER
INSPECTION & MAINTENANCE GUIDE

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

TABLE OF CONTENTS

Inspection and Maintenance Overview 3

Inspection Procedure.....3

Maintenance Procedure.....4

Cartridge Assembly & Cleaning.....5

Inspection Process 7

1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

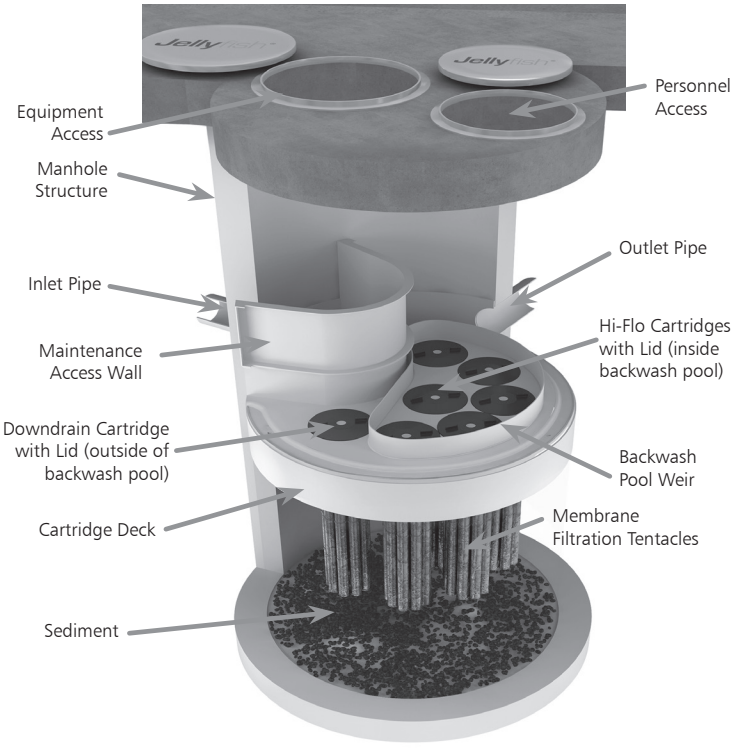
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



Note: Separator Skirt not shown

2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent*.

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

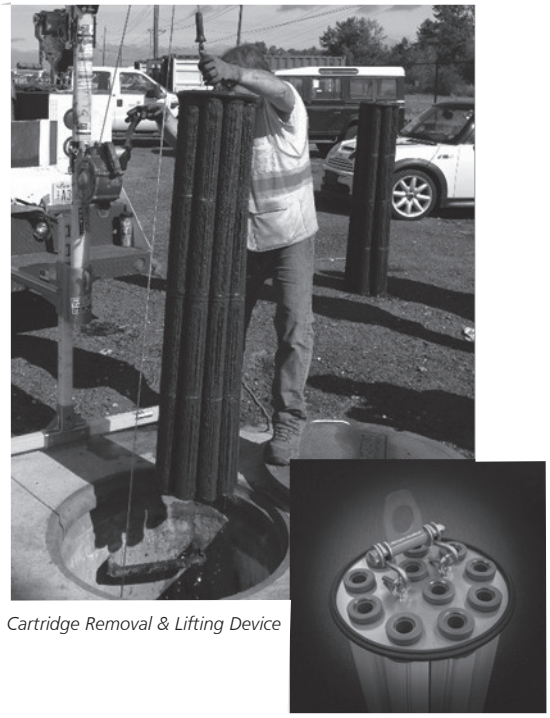
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs*.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



Cartridge Removal & Lifting Device

2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane*.

4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

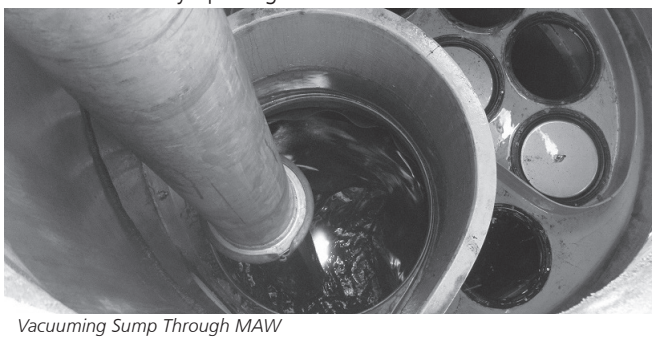
5.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.



Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.



Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. ***Caution: Do not force the cartridge downward; damage may occur.***
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

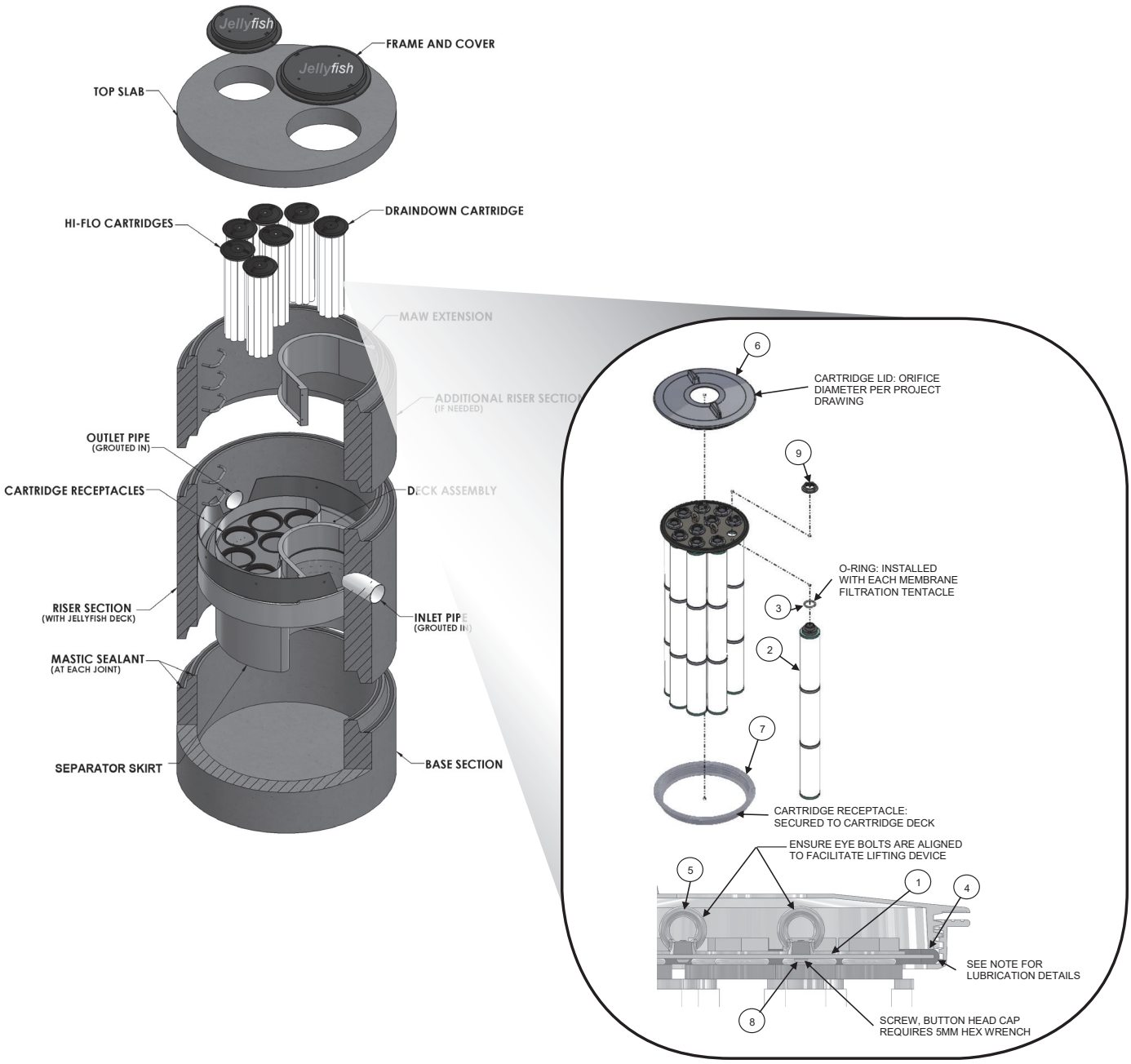


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (ITem 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner:				Jellyfish Model No:		
Location:				GPS Coordinates:		
Land Use:	Commercial:		Industrial:		Service Station:	
	Roadway/Highway:		Airport:		Residential:	

Date/Time:						
Inspector:						
Maintenance Contractor:						
Visible Oil Present: (Y/N)						
Oil Quantity Removed:						
Floatable Debris Present: (Y/N)						
Floatable Debris Removed: (Y/N)						
Water Depth in Backwash Pool						
Draindown Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Draindown Cartridges: (Y/N)						
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Hi-Flo Cartridges: (Y/N)						
Sediment Depth Measured: (Y/N)						
Sediment Depth (inches or mm):						
Sediment Removed: (Y/N)						
Cartridge Lids intact: (Y/N)						
Observed Damage:						
Comments:						



Jellyfish®

CONTECH ENGINEERED SOLUTIONS

Support

- Drawings and specifications are available at www.conteches.com/jellyfish.
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at www.conteches.com/ccmp

800.338.1122
www.ContechES.com

© 2019 Contech Engineered Solutions LLC, a QUIKRETE Company

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, wastewater treatment and earth stabilization products. For information on other Contech segment offerings, visit ContechES.com or call 800.338.1122

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; related foreign patents or other patents pending.

Filterra Owner's Manual



filterra®

Bioretention Systems

CONTECH®

ENGINEERED SOLUTIONS

This Owner's Manual applies to all precast Filterra Configurations, including Filterra Bioscape Vault.







filterra®
Bioretention Systems

Table of Contents

Introduction 4

Activation Overview 4

Filterra Plant Selection Overview 6

Warranty Overview 6

Routine Maintenance Guidelines 6

Maintenance Visit Procedure 9

Appendix 1 – Activation Checklist 12

Appendix 2 – Planting Requirements for Filterra Systems 13

Appendix 3 – Filterra Tree Grate Opening Expansion Procedure 15

CONTECH®
ENGINEERED SOLUTIONS

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and 1-year of routine maintenance (mulch replacement, debris removal, and pruning of vegetation) up to twice during the first year after activation.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices
- Planting of the system's vegetation
- Placement of pretreatment mulch layer using mulch certified for use in Filterra systems.

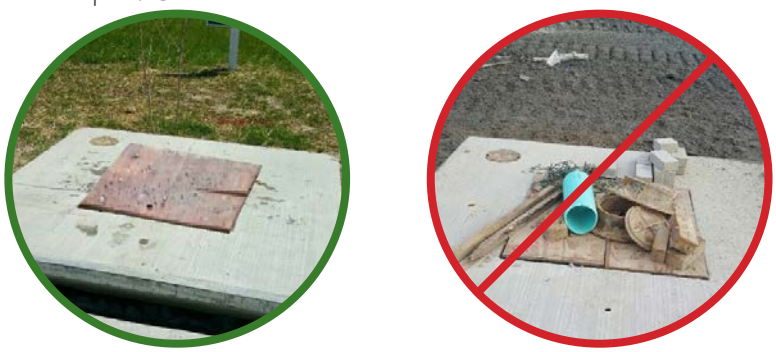
Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch certified for use in Filterra systems.



Minimum Requirements

The minimum requirements for Filterra Activation are as follows:

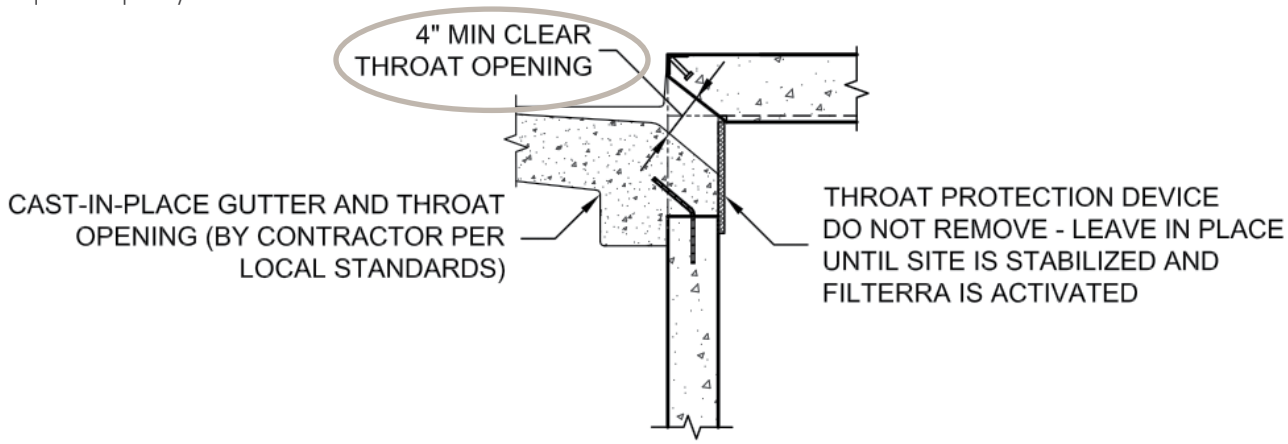
1. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.



2. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.



3. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" in order to ensure adequate capacity for inflow and debris.



An Activation Checklist is included on page 12 to ensure proper conditions are met for Contech to perform the Activation services. A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation.

Filterra Plant Selection Overview

A Plant List is available on the Contech website highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

The "Planting Requirements for Filterra Systems" document is included as an appendix and discusses proper selection and care of the plants within Filterra systems.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Maintenance services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Routine Maintenance Guidelines

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. Routine maintenance is included by the manufacturer on all Filterra systems for the first year after activation. This includes a maximum of 2 visits to remove debris, replace pretreatment mulch, and prune the vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the first year of maintenance, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.



Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Contech includes a 1-year maintenance plan with each system purchase. Annual included maintenance consists of a maximum of two (2) scheduled visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated.

Maintenance visits are typically scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency; e.g. some fast food restaurants require more frequent trash removal. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the maintenance provider of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance to the Supplier (i.e. no pruning or fertilizing) during the first year.



Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the Supplier maintenance contract. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate (where applicable) and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates, where applicable (up to 170 lbs each). If tree grate opening expansion is necessary, safety glasses/goggles and a 3lb or greater mini sledgehammer are required. Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Media Bay Length	Media Bay Width	Filter Surface Area (ft^2)	Volume at 3" (ft^3)	# of 2 ft^3 Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12

Other sizes not listed - 1 bag per 8 ft^2 of media.

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.



1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate (if applicable)	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).



2. Removal of tree grate (if applicable) and erosion control stones

- Remove cast iron grates for access into Filterra box (if applicable).
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	_____



- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	_____
Inches of Media Added	_____



4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3".
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates (if applicable) correctly using appropriate lifting or moving tools, taking care not to damage the plant.
- Where applicable, if 6" tree grate opening is too close to plant trunk, the grate opening may be expanded to 12" using a mini sledgehammer. Refer to instructions in Appendix 3.



5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant's health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above top of Filterra Unit	_____ (ft)
Width at Widest Point	_____ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no



6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.



7. Complete paperwork

- Deliver Maintenance Report and photographs to appropriate location (normally Contech during maintenance contract period).
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____**Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Top of Vault	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3"*	*Lowe's Premium Brown Mulch*	*4'*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Activation Checklist

Project Name: _____ Company: _____

Site Contact Name: _____ Site Contact Phone/Email: _____

Site Owner/End User Name: _____ Site Owner/End User Phone/Email: _____

Preferred Activation Date: _____ (provide 2 weeks minimum from date this form is submitted)

Site Designation	System Size	Final Pavement / Top Coat Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height	Plant Species Requested
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	

Attach additional sheets as necessary.

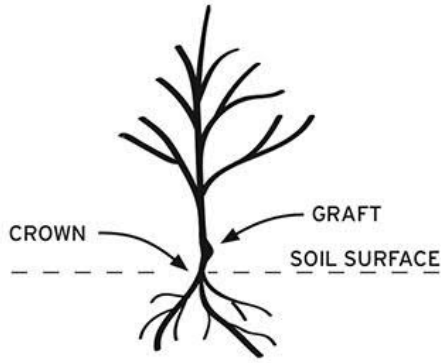
NOTE: A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized Activations will void the system warranty and waive manufacturer supplied Activation and 1st Year Maintenance.

_____ _____

Signature Date

Appendix 2 – Planting Requirements for Filterra® Systems

Plant Material Selection



- Select plant(s) as specified in the engineering plans and specifications.
- Select plant(s) with full root development but not to the point where root bound.
- Use local nursery container plants only. Ball and burlapped plants are not permitted.
- For precast Filterra systems with a tree grate, plant(s) must not have scaffold limbs at least 14 inches from the crown due to spacing between the top of the mulch and the tree grate. Lower branches can be pruned away provided there are sufficient scaffold branches for tree or shrub development.
- For precast Filterra systems with a tree grate, at the time of installation, it is required that plant(s) must be at least 6" above the tree grate opening at installation for all Filterra configurations. This DOES NOT apply to Full Grate Cover designs.
- Plant(s) shall not have a mature height greater than 25 feet.
- For standard 21" media depth, a 7 – 15 gallon container size shall be used. Media less than 21" (Filterra boxes only) may require smaller container plants.
- For precast Filterra systems, plant(s) should have a single trunk at installation, and pruning may be necessary at activation and maintenance for some with a tree grate of the faster growing species, or species known to produce basal sprouts.

Plant Installation

- During transport protect the plant foliage from wind and excessive jostling.
- Prior to removing the plant(s) from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
- Cut away any roots which are growing out of the container drain holes. Plants with excessive root growth from the drain holes should be rejected.
- Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively the pot can be cut away to minimize root ball disturbance.
- Remove any excess soil from above the root flare after removing plant(s) from container.
- Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
- If plant(s) have any circling roots from being pot bound, gently tease them loose without breaking them.
- If root ball has a root mat on the bottom, it should be shaved off with a knife just above the mat line.
- Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
- All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
- With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
- To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
- Plant staking may be required.

Mulch Installation

- Only mulch that meets Contech Engineered Solutions' mulch specifications can be used in the Filterra system.
- Mulch must be applied to a depth of 3" evenly over the surface of the media.

Irrigation Requirements

- Each Filterra system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the top/tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required. It is also important to recognize that plants which are exposed to windy areas and reflected heat from paved surfaces may need more frequent irrigation. Long term care should develop a history which is more site specific.

** Five gallons per square yard approximates 1 inch of water Therefore for a 6' by 6' Filterra approximately 20-60 gallons of water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate then calculate the time needed to irrigate the Filterra. For example, if the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6' by 6' filter.



Appendix 3 – Filterra® Tree Grate Opening Expansion Procedure

The standard grates used on all Filterra configurations that employ Tree Grates are fabricated with a 6″ opening that is designed with a breakaway section that can be removed, allowing the grate opening to be expanded to 12″ as the tree matures and the trunk widens.

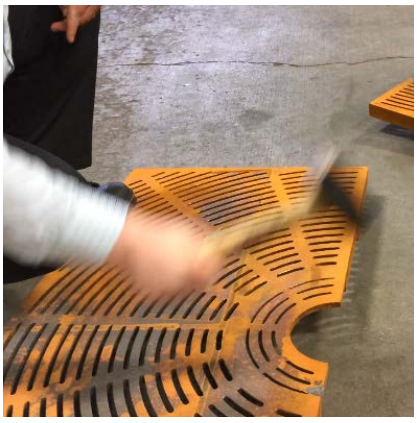
The following tools are required to expand the opening:

- Mini sledgehammer (3 lb. or greater)
- Safety Glasses / Goggles

The following guidelines should be followed to properly expand the tree opening from 6″ to 12″:



1. Remove the grate from the Filterra frame, place it flat on a hard surface, and support the grate by stepping on the edge or using other weighted items such as a few mulch bags if this is being done during a Filterra maintenance event. Put on safety glasses/goggles. Align the mini sledgehammer as shown in the figure to the left. The head of the sledgehammer should be aimed just inside the wide cast iron bar between the larger grate section and the breakaway section.



2. Repeatedly hit the grate at this spot with the mini sledgehammer.



3. After several hits, the breakaway section should snap cleanly off of the larger grate section. Reinstall the grate into the Filterra grate frame. Recycle or dispose of the breakaway section per local guidelines.



CONTECH®
ENGINEERED SOLUTIONS

9025 Centre Pointe Drive, Suite 400
West Chester, OH 45069
info@conteches.com | 800-338-1122
www.ContechES.com

© 2021 Contech Engineered Solutions LLC, a QUIKRETE Company

ALL RIGHTS RESERVED. PRINTED IN THE USA.

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

PDF 6/21

Stormwater BMP Maintenance Log

BMP Structure	Inspector (Name)	Work Performed	Date Performed	Comments
Pavement Sweeping				
Catch Basins				
R-Tank System				
Jellyfish Unit				
Filterra Units				
Green Roof				
Other				
Additional Comments:				

PORTLAND FORESIDE DEVELOPMENT – PHASE 2

STORMWATER MANAGEMENT PLAN

58 Fore Street
Portland, ME

41 Hutchins Drive
Portland, ME 04102
800.426.4262

woodardcurran.com

0227007.19
Portland Foreside Development Co.
April 2023

TABLE OF CONTENTS

SECTION **PAGE NO.**

1. STORMWATER MANAGEMENT PLAN 1-1

1.1 Existing Conditions 1-1
1.2 Proposed Development 1-2
1.3 Stormwater Standards 1-3
1.3.1 Basic Standard (Soil Erosion & Sediment Control) 1-3
1.3.2 Flooding Standard (Stormwater Quantity) 1-3
1.3.3 General & Redevelopment Standards (Stormwater Quality) 1-4
1.4 Inspection & Maintenance Requirements 1-5

APPENDICES

Appendix A: Stormwater Inspection & Maintenance Plan
Appendix B: Stormwater Quality Calculations
Appendix C: HydroCAD Report
Appendix D: Figures

1. STORMWATER MANAGEMENT PLAN

This Stormwater Management Plan (SWMP) describes existing site conditions, the proposed development, compliance with applicable stormwater standards, and inspection and maintenance requirements for the proposed stormwater system associated with development of Phase 2 of the Portland Foreside Development located at 58 Fore Street in Portland, Maine.

1.1 Background

The proposed development is the next phase of the 58 Fore Street Master Development Plan, unanimously approved by the Portland Planning Board on December 22, 2016, to redevelop and revitalize the former Portland Company Complex into a mixed-use development. The Master Development Plan consists of six development "blocks" will include new buildings, renovated historic buildings, open space plazas and a shared roadway. The project is being constructed in phases.

The project received approval of a Level III Site Plan, Site Location of Development and Subdivision approval from the Portland Planning Board for Phase 1 of the development on January 28, 2020. Phase 1 included portions of Block 1 (office building and reconstruction of Building 12), Block 2 (renovation of historic core buildings), Block 4 (parking garage with limited residential and retail), construction of site infrastructure around these buildings, and improvements along the waterfront. After the project received Planning Board approval, construction advanced on a portion of Phase 1. Construction on Block 1 is complete, and included installation of R-Tank System 1, Jellyfish 1, and Outfall #1. Construction of Blocks 2 and 4 was not completed, including R-Tank System 2, Jellyfish 2, and Outfall #2.

The proposed project on Blocks 4, 5 and 6 is the next phase of development (Phase 2). The stormwater management system has been designed to ensure stormwater standards are met for the development during each phase, with consideration to the full build-out. The following report demonstrates the development of the site meets the stormwater standards for this next phase.

1.2 Existing Conditions

The project site is a portion of an approximately 10.7-acre property adjacent to the Fore River. The property was previously developed as the Portland Company Complex, which contained various industrial uses. Many of the existing buildings located within the project area have previously been demolished. Current conditions consist primarily of impervious paved and gravel areas with some areas of sparse vegetation and a steep, vegetated slope along the eastern edge of the site.

The project site is bordered by Fore Street to the north, Freedom Way to the west, the Fore River to the south, and the Portland House condominium complex to the east. Runoff from the Site drains via sheet flow in a southerly direction to a series of catch basins that ultimately discharge to the Fore River.

1.3 Proposed Development

The proposed development of Phase 2 will result in approximately 7.2-acres of disturbance and approximately 6.9-acres of impervious area. Proposed work includes the following:

- Construction of a structured parking garage with overlying rental apartments, townhouses, hotel, and condominiums and ground-level retail and restaurant spaces;
- Construction of a shared street, plazas, and subsurface utilities to support the development; and
- Landscaping and other site improvements to enable the surrounding work.

The proposed drainage system in Phase 2 will be comprised of trench drains located along the centerline of the new roadway, and a series of catch basins and area drains throughout the plaza area which ultimately discharge to Fore River via two outfalls.

Runoff from the Block 4 building roof, portions of the Block 2 building roofs, and a portion of the Block 5 building roof, as well as the proposed roadway, sidewalks and plaza area between these buildings will be conveyed to a subsurface stormwater management system (R-Tank System 2 and Jellyfish 2) that will provide storage and treatment for site runoff prior to discharging to the Fore River via Outfall #1. Roof runoff from portions of the Block 5 roof will be captured, stored, and treated via green roof, and portions of the Block 6 roof will be captured and treated via one of two Filterra Bioretention Systems (Filterra 1 and Filterra 2). Treated runoff from the green roof and Filterra units will discharge to the Fore River via Outfall #2, along with runoff from the remainder of the roof area on Blocks 5 and 6, plaza around Block 6 and south of Block 5, and runoff captured from upgradient drainage area.

As noted in Section 1.1, the proposed R-Tank storage system (R-Tank System 2) and Jellyfish Filter (Jellyfish 2) were previously designed, reviewed and approved as part of Phase 1. Minimal changes to this system are proposed as detailed below:

- Relocation of Jellyfish Filter 2 to accommodate relocation of the railroad and trail, and associated adjustment of invert elevations;
- Increase in drainage area to accommodate the total "future treated area" of which the water quality treatment calculations were based on for Phase 1 (i.e. while the contributing area increased, the water quality volume provided remained the same, as shown on the water quality calculations in Appendix B);
- Reconfiguration of the R-Tank storage system to accommodate utility and landscaping improvements while maintaining the total storage volume provided; and
- Improvement in pollutant loading from converting exposed Block 4 parking garage deck (Phase 1) to structured parking with overlying residential apartments and plaza (current phase).

The proposed stormwater management systems are discussed in further detail in the following sections.

1.4 Stormwater Standards

The project is subject to the MaineDEP Chapter 500 Stormwater Standards. The project is not located within the watershed of an Urban Impaired Stream and is therefore not subject to the Urban Impaired Stream Standard. The following sections describe the project's compliance with the applicable stormwater standards.

1.4.1 Basic Standard (Soil Erosion & Sediment Control)

A variety of erosion and sediment control measures will be utilized during construction, including but not limited to the following:

- Stabilized construction entrances;
- Up-gradient runoff diversion barriers;
- Downgradient sediment barriers;
- Catch basin inlet protection devices;
- Preservation and maintenance of vegetated areas to the maximum extent possible;
- Temporary stabilization of disturbed areas to be exposed for more than seven days;
- Permanent stabilization of final graded areas;
- Controls for fugitive dust, debris, and other materials; and
- Inspection of all measures until the Site is permanently stabilized.

Structural measures will be installed as shown on the design drawings. Details and specifications for these measures are included on the drawings. All measures will be implemented in accordance with the "Maine Erosion and Sedimentation Handbook for Construction: Best Management Practices", latest edition. All temporary measures will be installed prior to any earth-disturbing activities and will be removed upon permanent stabilization of the Site. The Contractor will be responsible for implementing and maintaining all erosion and sediment control measures in an effective operating condition during construction. Permanent erosion control measures will include vegetation and pavement. After construction, the Owner will be responsible for inspecting and maintaining the Site as described in Section 1.4 of this Report.

1.4.2 Flooding Standard (Stormwater Quantity)

Runoff from the proposed project will ultimately discharge to the adjacent Fore River, which is a tidal waterbody, via either sheet flow, the on-site storm drain system, or the City's 60-inch storm drain located within the adjacent Fore Connector roadway. In accordance with Section 4.F(3) of the MaineDEP Chapter 500 Stormwater Standards, a project is eligible for a waiver from the Flooding Standard if it discharges to a coastal wetland or a major river segment. Per the Master Development Plan Approval letter dated December 22, 2016, the City of Portland Planning

Board voted to grant a waiver from the Flooding Standard for future site plan applications associated with the 58 Fore Street Site.

The stormwater management system has been adequately sized to safely convey runoff from the proposed Site. The stormwater management system was designed utilizing the HydroCAD 10.00 Stormwater Modeling System by Applied Microcomputer Systems. Utilizing the HydroCAD software, a 24-hour duration and Type-III rainfall distribution was applied to the rainfall depths provided in Appendix H of the MaineDEP Chapter 500 Rules in order to estimate the peak flows that the stormwater management system will need to accommodate. For your reference, a copy of the HydroCAD Report and the Drainage Area Figure for the proposed site are provided in Appendix C and D of this Report, respectively.

HydroCAD provides a lookup table for curve number (CN), which is a measure of the retention and runoff properties of various surfaces based on the Hydrological Soil Group (HSG) and land cover type. According to the latest NRCS Web Soil Survey data, the Site consists largely of urban fill, which is assumed to be equivalent to HSG D soils. The area of each land cover type was delineated utilizing survey information and HydroCAD computed the final CN for each subcatchment based on an area-weighted average.

The Time of Concentration (Tc) is the time required for runoff to travel from the most hydrologically distant point of a subcatchment to the point of discharge. The Tc for each subcatchment was computed within HydroCAD as the sum of the travel times for each consecutive segment along the longest flow path. The longest flow path was delineated utilizing topographic survey data and partitioned into segments based on flow types and land cover. The primary types of flow include sheet flow, shallow concentrated flow, and channel flows. A minimum Tc of six minutes was utilized.

1.4.3 General & Redevelopment Standards (Stormwater Quality)

The proposed project is subject to the redevelopment standards for stormwater quality. A figure showing the area of redevelopment is included in Appendix D of this Report. Calculations have been prepared in accordance with Section 4.C(2)(d) of the MaineDEP Chapter 500 Stormwater Standards to determine how much treatment is required for the proposed redevelopment project. Based on the impact analysis calculations provided in Appendix B of this Report, it has been determined that the proposed project is required to provide treatment for 50% of the redevelopment area. Figures showing existing and proposed pollutant ranking areas are provided in Appendix D. Greater than 50% of the redevelopment area will be captured and treated. The redevelopment calculations will be re-evaluated as part of the design of future phases to determine if treatment requirements change.

Based on previous discussions with Jeff Dennis, MaineDEP Watershed Management Unit Biologist, it is our understanding that the project will not be required to provide storage for the full water quality channel protection volume (typically 1-inch over impervious areas and 0.4-inches over landscaped areas) because the project discharges directly to the Fore River. Some storage will be provided by R-Tank 2 prior to treatment via Jellyfish Filter 2, which will increase

the time of concentration on-site. It should be noted the Jellyfish Filter 2 was sized to accommodate the water quality flow from 1-inch of runoff over the entire drainage area. The reduced water quality volume for R-Tank 2 was approved during Phase 1. Due to direct discharge to Fore River, stand-alone Filterra Units (without subsurface water quality volume storage) are proposed for treatment of portions of the Block 6 roof. We anticipate some detention will be provided by the building plumbing system. Green roof provided on Block 5 has been sized to provide the full water quality volume storage for the drainage area. The treatment calculations provided in Appendix B of this Report include a summary of the water quality volume that will be provided.

A Jellyfish Filter and two Filterra units will provide stormwater quality treatment for the Site. The systems have been designed in accordance with the MaineDEP proprietary BMP approval letter to Contech dated January 21, 2015 (Jellyfish Filter) and February 2, 2017 (Filterra). The Jellyfish Filter and Filterra units have been sized to accommodate the water quality flow from 1-inch of runoff over the entire drainage area. The Jellyfish Filter is equipped with high-flow bypass via an internal weir for larger storm events. The proposed Filterra units are configured to be "off-line" with a downgradient catch basin inlet. We are coordinating with the manufacturer on proposed Jellyfish Filter and Filterra unit design; a letter that demonstrates manufacturer review and approval of the design will be provided upon receipt.

1.5 Inspection & Maintenance Requirements

General inspection and maintenance of stormwater systems will take place during and after construction. During construction, the Contractor will be responsible for inspecting and maintaining the Site, as described in Section 1.3.1 of this Report. Upon completion of construction, the property owner will be responsible for implementing the Inspection and Maintenance Plan for the proposed stormwater system, which is provided in Appendix A of this Report.

APPENDIX A: STORMWATER INSPECTION & MAINTENANCE PLAN

STORMWATER INSPECTION & MAINTENANCE PLAN

Portland Foreside Development – Phase 2, Portland, Maine

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 manufacturer guidelines; an example page of the BMP Maintenance Log that shall be kept on-site is also attached.

INSPECTION AND MAINTENANCE OF STORMWATER SYSTEMS

Trash, debris, and sediment shall be removed from storm drain pipes and catch basins as needed on a semi-annual basis. In addition to the inspection and maintenance of stormwater systems, paved areas will be inspected annually each spring. These areas will be kept clean and clear through periodic sweeping and winter plowing as required. Inspections will also ensure pavement markings are repainted as needed to maintain proper traffic circulation. Paved areas will be plowed and sanded as often as necessary to maintain public safety. Periodic sweeping of pavement will reduce the amount of sediment available to enter the stormwater systems, in turn reducing the need to clean the stormwater systems.

Green Roof

Green roof areas should be inspected after every major storm in the first year to be sure it is functioning properly. Thereafter, the green roof areas should be inspected at least once every six months to ensure that it is draining within 48 hours following a one-inch storm or greater and drains within no less than 36 to 60 hours following storms that fill the system to overflow. If ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity. If ponding exceeds 72 hours, the top several inches of the filter shall be replaced with fresh material. Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.

Subsurface R-Tank System

The subsurface R-Tank System must be inspected and maintained per the manufacturer's guidelines, which are outlined in the attached guidance documents.

Jellyfish Filter Unit

The Jellyfish Filter Unit must be inspected and maintained per the manufacturer's guidelines, which are outlined in the attached guidance document.

Filterra Bioretention System

The Filterra Bioretention System must be inspected and maintained per the manufacturer's guidelines, which are outlined in the attached guidance document.

STORMWATER INSPECTION CHECKLIST

Inspection by: _____ Date: _____

Stormwater Management Feature	Condition						Comments
Vegetative cover	no bare spots, no evidence of rill erosion		some bare spots, some rill erosion		large bare areas, extensive erosion		
Subsurface Drainage System	no siltation		some siltation		heavily silted in		
Subsurface Drainage System	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		
Subsurface Drainage System	outlet free of erosion		some erosion at outlet		outlet heavily eroded		
Subsurface Drainage System	inlet/outlet clear		some debris		completely blocked		
Green Roof	inlet free of erosion		some erosion at inlet		inlet heavily eroded		
Green Roof	drains in <24 hours		drains in 24 to 48 hours		ponding exceeds 48 hours		
Jellyfish Filter Unit*	Cartridges are in good condition		Cartridges in need of cleaning		Cartridges in need of replacement		
Jellyfish Filter Unit*	no clogging/flooding		some clogging/flooding		heavy clogging/flooding		
Filterra Bioretention System*	No sediment or trash accumulation		Some sediment or trash accumulation		Excessive sediment or trash accumulation		
Filterra Bioretention System*	Plants healthy and pest-free		Plants are somewhat healthy		Plants are not healthy (no growth or excessive growth)		
Filterra Bioretention System*	Structure is in good condition.		Structure has small visible cracks.		Structure has cracks wider than ½ inch.		

**See attached manufacturer's guidelines for system maintenance and inspection.*

Recommended Actions: _____

_____

Actions Completed: _____ Date: _____

MAINTENANCE TASKS	**SCHEDULE**
Inspect for sediment accumulation	Spring and Fall
Remove sediment accumulation	As needed
Clean debris	As needed
Inspect for erosion	As needed
Reestablish vegetation in erosion areas	Early spring
Replace stone rip-rap	Every 3 to 5 years as needed
Inspect structural elements during wet weather and compare to as-built plans	Annually
Make adjustments or replacements as determined by wet weather observations	As needed
Keep records of all inspections and maintenance activities	Annually
Have a professional engineer perform emergency inspections upon identification of severe problems	As needed

R-TANK OPERATION, INSPECTION & MAINTENANCE

Operation

Your ACF R-Tank System has been designed to function in conjunction with the engineered drainage system on your site, the existing municipal infrastructure, and/or the existing soils and geography of the receiving watershed. Unless your site included certain unique and rare features, the operation of your R-Tank System will be driven by naturally occurring systems and will function autonomously. However, upholding a proper schedule of Inspection & Maintenance is critical to ensuring continued functionality and optimum performance of the system.

Inspection

Both the R-Tank and all stormwater pre-treatment features incorporated into your site must be inspected regularly. Inspection frequency for your system must be determined based on the contributing drainage area, but should never exceed one year between inspections (six months during the first year of operation).

Inspections may be required more frequently for pre-treatment systems. You should refer to the manufacturer requirements for the proper inspection schedule.

With the right equipment your inspection and measurements can be accomplished from the surface without physically entering any confined spaces. If your inspection does require confined space entry, you MUST follow all local/regional requirements as well as OSHA standards.

R-Tank Systems may incorporate Inspection Ports, Maintenance Ports, and/or adjoining manholes. Each of these features are easily accessed by removing the lid at the surface. With the cover removed, a visual inspection can be performed to identify sediment deposits within the structure. Using a flashlight, ALL access points should be examined to complete a thorough inspection.

Inspection Ports
Usually located centrally in the R-Tank System, these perforated columns are designed to give the user a base-line sediment depth across the system floor.

Maintenance Ports
Usually located near the inlet and outlet connections, you'll likely find deeper deposits of heavier sediments when compared to the Inspection Ports.

Manholes
Most systems will include at least two manholes - one at the inlet and another at the outlet. There may be more than one location where stormwater enters the system, which would result in additional manholes to inspect.

Bear in mind that these manholes often include a sump below the invert of the pipe connecting to the R-Tank. These sumps are designed to capture sediment before it reaches the R-Tank, and they should be kept clean to ensure they function properly. However, existence of sediment in the sump does NOT necessarily mean sediment has accumulated in the R-Tank.

After inspecting the bottom of the structure, use a mirror on a pole (or some other device) to check for sediment or debris in the pipe connecting to the R-Tank.

If sediment or debris is observed in any of these structures, you should determine the depth of the material. This is typically accomplished with a stadia rod, but you should determine the best way to obtain the measurement.

All observations and measurements should be recorded on an Inspection Log kept on file. We've included a form you can use at the end of this guideline.

Maintenance

The R-Tank System should be back-flushed once sediment accumulation has reached 6" or 15% of the total system height. Use the chart below as a guideline to determine the point at which maintenance is required on your system.

R-Tank Unit	Height	Max Sediment Dept
Mini	9.5"	1.5"
Single	17"	3"
Double	34"	5"
Triple	50"	6"
Quad	67"	6"
Pent	84"	6"

Before any maintenance is performed on your system, be sure to plug the outlet pipe to prevent contamination of the adjacent systems.

To back-flush the R-Tank, water is pumped into the system through the Maintenance Ports as rapidly as possible. Water should be pumped into ALL Maintenance Ports. The turbulent action of the water moving through the R-Tank will suspend sediments which may then be pumped out.

If your system includes an Outlet Structure, this will be the ideal location to pump contaminated water out of the system. However, removal of back-flush water may be accomplished through the Maintenance Ports, as well.

For systems with large footprints that would require extensive volumes of water to properly flush the system, you should consider performing your maintenance within 24 hours of a rain event. Stormwater entering the system will aid in the suspension of sediments and reduce the volume of water required to properly flush the system.

Once removed, sediment-laden water may be captured for disposal or pumped through a Dirtbag™ (if permitted by the locality).

ACF ENVIRONMENTAL
LET'S GET IT DONE
2831 Cardwell Road
Richmond, Virginia, 23234
800.448.3636
FAX 804.743.7779
acfenvironmental.com

Step-By-Step Inspection & Maintenance Routine

1) **Inspection**
    a. Inspection Port
        i. Remove Cap
        ii. Use flashlight to detect sediment deposits
        iii. If present, measure sediment depth with stadia rod
        iv. Record results on Maintenance Log
        v. Replace Cap
    b. Maintenance Port/s
        i. Remove Cap
        ii. Use flashlight to detect sediment deposits
        iii. If present, measure sediment depth with stadia rod
        iv. Record results on Maintenance Log
        v. Replace Cap
        vi. Repeat for ALL Maintenance Ports
    c. Adjacent Manholes
        i. Remove Cover
        ii. Use flashlight to detect sediment deposits
        iii. If present, measure sediment depth with stadia rod, accounting for depth of sump (if present)
        iv. Inspect pipes connecting to R-Tank
        v. Record results on Maintenance Log
        vi. Replace Cover
        vii. Repeat for ALL Manholes that connect to the R-Tank

2) **Maintenance**
    a. Plug system outlet to prevent discharge of back-flush water
    b. Determine best location to pump out back-flush water
    c. Remove Cap from Maintenance Port
    d. Pump water as rapidly as possible (without over-topping port) into system until at least 1”
    of water covers system bottom
    e. Replace Cap
    f. Repeat at ALL Maintenance Ports
    g. Pump out back-flush water to complete back-flushing
    h. Vacuum all adjacent structures and any other structures or stormwater pre-treatment systems that require attention
    i. Sediment-laden water may be captured for disposal or pumped through a Dirtbag™.
    j. Replace any remaining Caps or Covers
    k. Record the back-flushing event in your Maintenance Log with any relevant specifics

R-Tank Maintenance Log

Site Name:_____

Location:_____

System Owner:_____

Company Responsible for Maintenance:_____

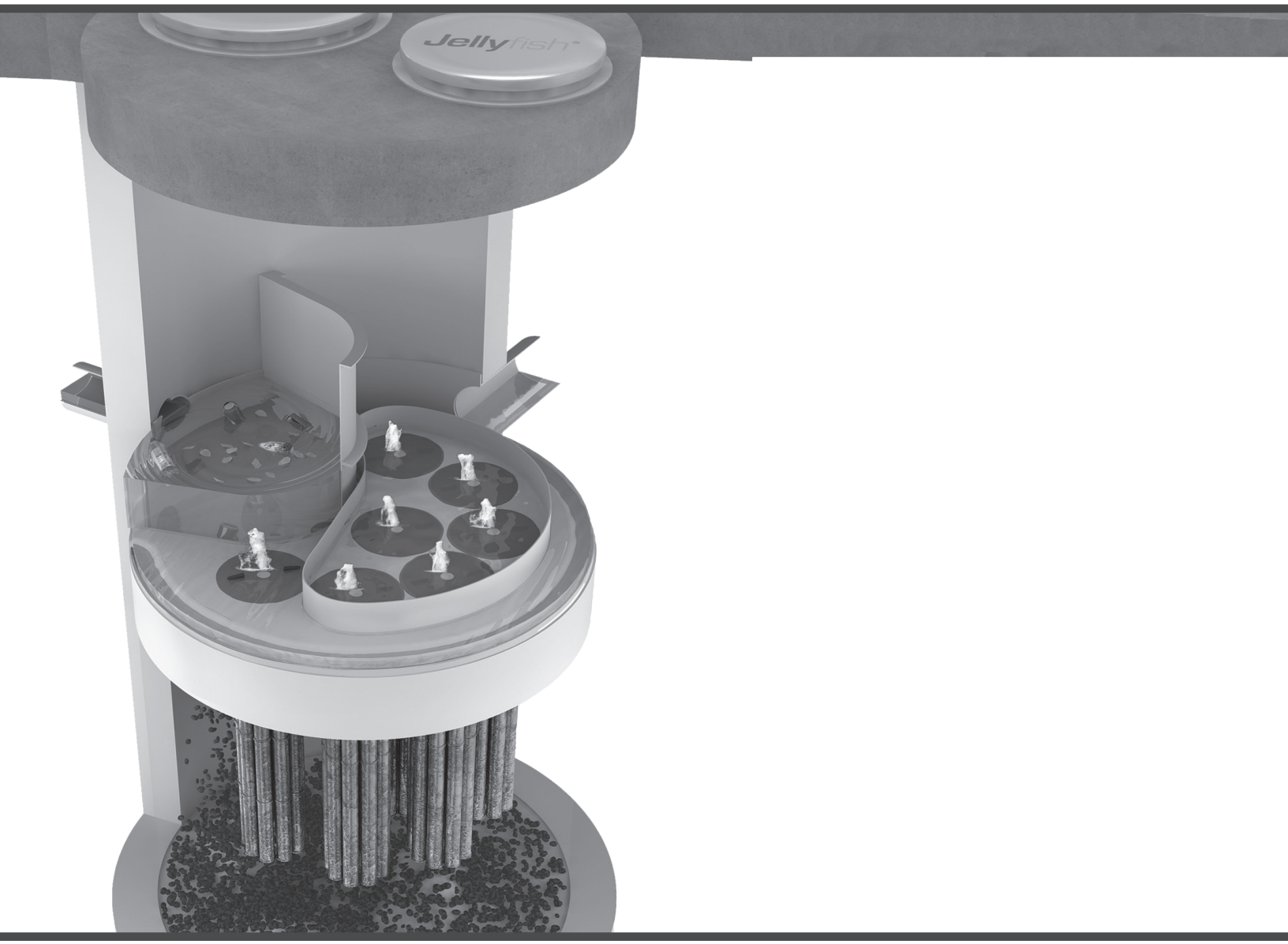
Contact:_____

Phone Number:_____

Date	Location	Depth to Bottom	Depth to Sediment	Sediment Depth	Observations/Notes	Initials

CONTECH®
ENGINEERED SOLUTIONS

Jellyfish® Filter Maintenance Guide



Jellyfish®

JELLYFISH® FILTER
INSPECTION & MAINTENANCE GUIDE

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

TABLE OF CONTENTS

Inspection and Maintenance Overview 3

Inspection Procedure.....3

Maintenance Procedure.....4

Cartridge Assembly & Cleaning.....5

Inspection Process 7

1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

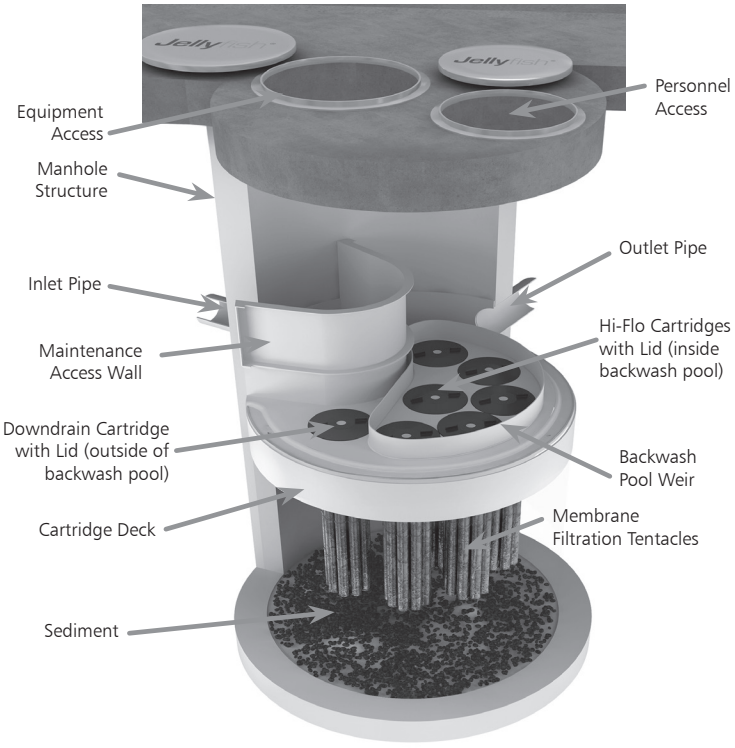
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



Note: Separator Skirt not shown

2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent*.

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

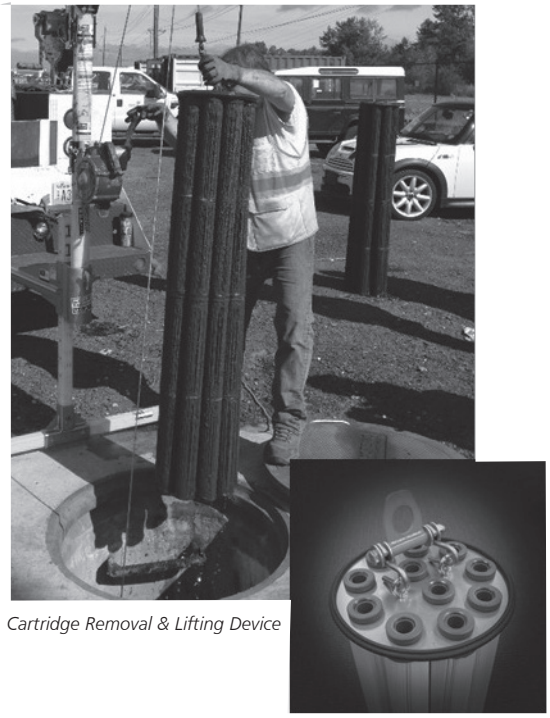
1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.
3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs*.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



Cartridge Removal & Lifting Device

2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane*.

4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

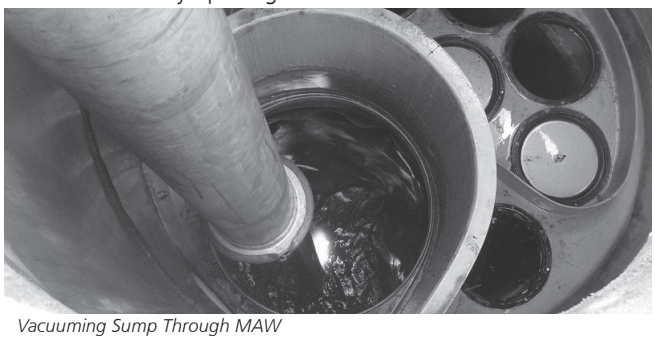
5.3 Sediment and Flotables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.



Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.



Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. ***Caution: Do not force the cartridge downward; damage may occur.***
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

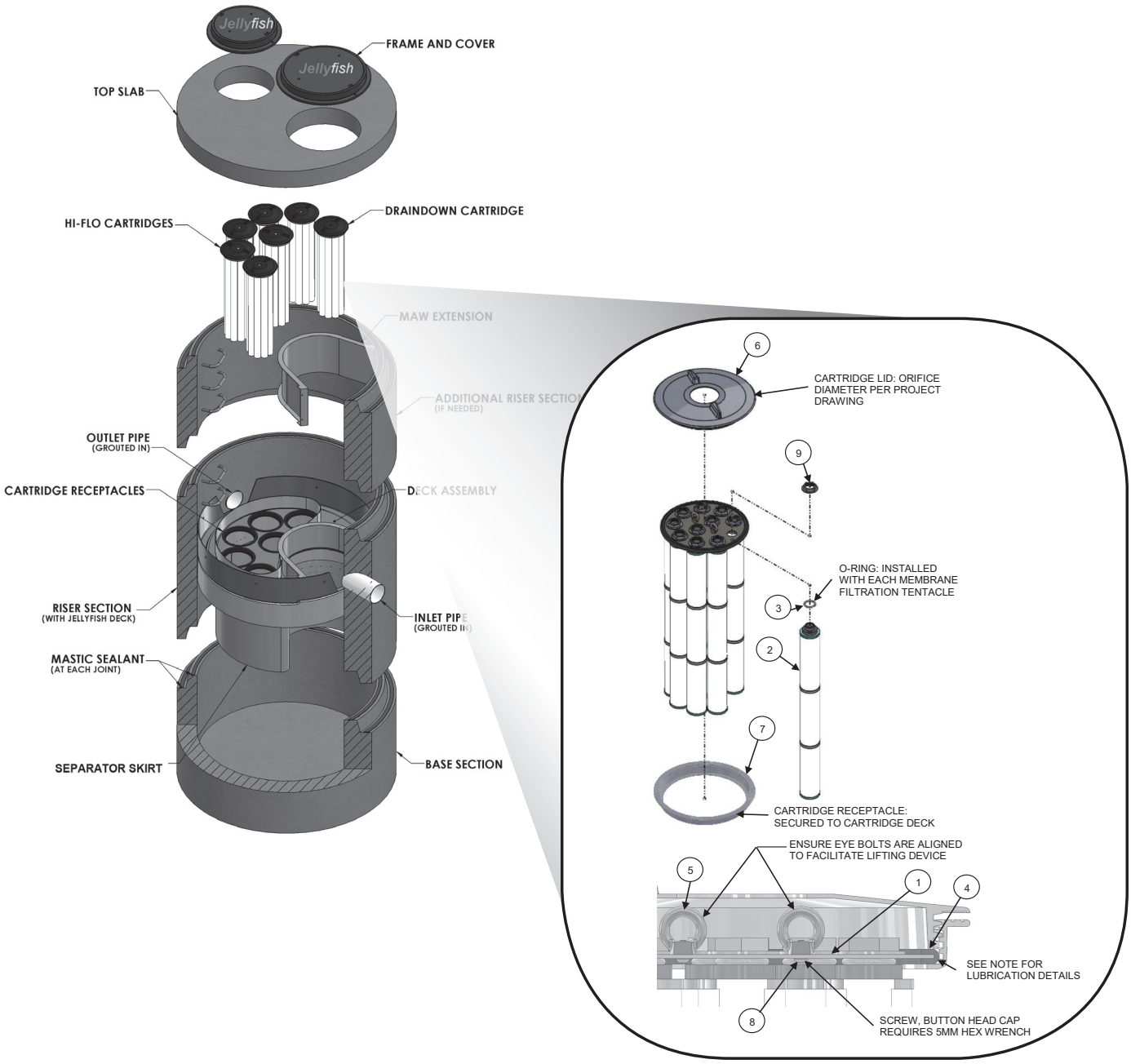


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:
Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (ITem 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:
Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner:				Jellyfish Model No:		
Location:				GPS Coordinates:		
Land Use:	Commercial:		Industrial:		Service Station:	
	Roadway/Highway:		Airport:		Residential:	

Date/Time:						
Inspector:						
Maintenance Contractor:						
Visible Oil Present: (Y/N)						
Oil Quantity Removed:						
Floatable Debris Present: (Y/N)						
Floatable Debris Removed: (Y/N)						
Water Depth in Backwash Pool						
Draindown Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Draindown Cartridges: (Y/N)						
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Hi-Flo Cartridges: (Y/N)						
Sediment Depth Measured: (Y/N)						
Sediment Depth (inches or mm):						
Sediment Removed: (Y/N)						
Cartridge Lids intact: (Y/N)						
Observed Damage:						
Comments:						



Jellyfish®

CONTECH ENGINEERED SOLUTIONS

Support

- Drawings and specifications are available at www.conteches.com/jellyfish.
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at www.conteches.com/ccmp

800.338.1122
www.ContechES.com

© 2019 Contech Engineered Solutions LLC, a QUIKRETE Company

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, wastewater treatment and earth stabilization products. For information on other Contech segment offerings, visit ContechES.com or call 800.338.1122

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; related foreign patents or other patents pending.

Filterra Owner's Manual



filterra®

Bioretention Systems

CONTECH®
ENGINEERED SOLUTIONS

This Owner's Manual applies to all precast Filterra Configurations, including Filterra Bioscape Vault.







Table of Contents

Introduction 4

Activation Overview 4

Filterra Plant Selection Overview 6

Warranty Overview 6

Routine Maintenance Guidelines 6

Maintenance Visit Procedure 9

Appendix 1 – Activation Checklist 12

Appendix 2 – Planting Requirements for Filterra Systems 13

Appendix 3 – Filterra Tree Grate Opening Expansion Procedure 15

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and 1-year of routine maintenance (mulch replacement, debris removal, and pruning of vegetation) up to twice during the first year after activation.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices
- Planting of the system's vegetation
- Placement of pretreatment mulch layer using mulch certified for use in Filterra systems.

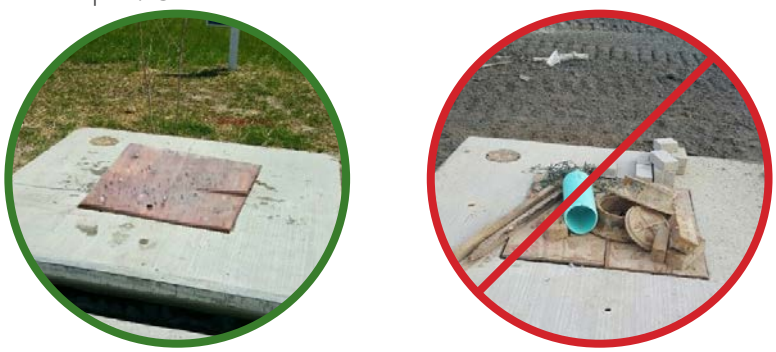
Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch certified for use in Filterra systems.



Minimum Requirements

The minimum requirements for Filterra Activation are as follows:

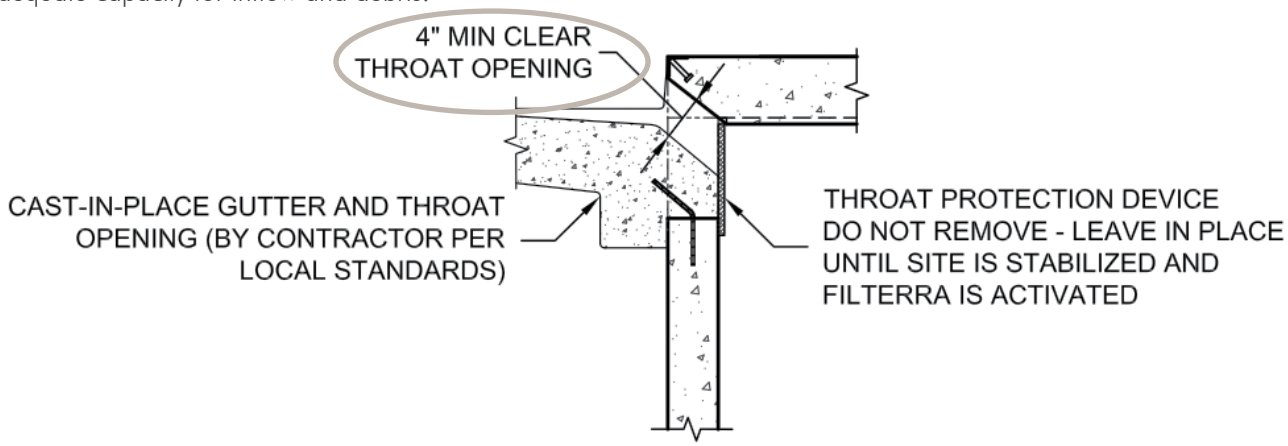
1. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.



2. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.



3. Where curb inlets are included as part of the Filterra system, Filterra throat opening should be at least 4" in order to ensure adequate capacity for inflow and debris.



An Activation Checklist is included on page 12 to ensure proper conditions are met for Contech to perform the Activation services. A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation.

Filterra Plant Selection Overview

A Plant List is available on the Contech website highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

The "Planting Requirements for Filterra Systems" document is included as an appendix and discusses proper selection and care of the plants within Filterra systems.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Maintenance services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Routine Maintenance Guidelines

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. Routine maintenance is included by the manufacturer on all Filterra systems for the first year after activation. This includes a maximum of 2 visits to remove debris, replace pretreatment mulch, and prune the vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the first year of maintenance, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.



Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Contech includes a 1-year maintenance plan with each system purchase. Annual included maintenance consists of a maximum of two (2) scheduled visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated.

Maintenance visits are typically scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency; e.g. some fast food restaurants require more frequent trash removal. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the maintenance provider of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance to the Supplier (i.e. no pruning or fertilizing) during the first year.



Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the Supplier maintenance contract. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate (where applicable) and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates, where applicable (up to 170 lbs each). If tree grate opening expansion is necessary, safety glasses/goggles and a 3lb or greater mini sledgehammer are required. Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Media Bay Length	Media Bay Width	Filter Surface Area (ft^2)	Volume at 3" (ft^3)	# of 2 ft^3 Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12

Other sizes not listed - 1 bag per 8 ft^2 of media.

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.



1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate (if applicable)	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).



2. Removal of tree grate (if applicable) and erosion control stones

- Remove cast iron grates for access into Filterra box (if applicable).
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	_____



- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	_____
Inches of Media Added	_____



4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3".
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates (if applicable) correctly using appropriate lifting or moving tools, taking care not to damage the plant.
- Where applicable, if 6" tree grate opening is too close to plant trunk, the grate opening may be expanded to 12" using a mini sledgehammer. Refer to instructions in Appendix 3.



5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant's health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above top of Filterra Unit	_____ (ft)
Width at Widest Point	_____ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no



6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.



7. Complete paperwork

- Deliver Maintenance Report and photographs to appropriate location (normally Contech during maintenance contract period).
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.
Maintenance is ideally to be performed twice annually.				

Filterra Inspection & Maintenance Log

Filterra System Size/Model:_____**Location:** _____

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Top of Vault	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3"*	*Lowe's Premium Brown Mulch*	*4'*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Activation Checklist

Project Name: _____ Company: _____

Site Contact Name: _____ Site Contact Phone/Email: _____

Site Owner/End User Name: _____ Site Owner/End User Phone/Email: _____

Preferred Activation Date: _____ (provide 2 weeks minimum from date this form is submitted)

Site Designation	System Size	Final Pavement / Top Coat Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height	Plant Species Requested
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ N/A	

Attach additional sheets as necessary.

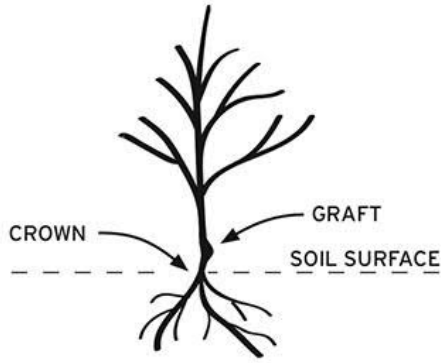
NOTE: A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized Activations will void the system warranty and waive manufacturer supplied Activation and 1st Year Maintenance.

_____ _____

Signature Date

Appendix 2 – Planting Requirements for Filterra® Systems

Plant Material Selection



- Select plant(s) as specified in the engineering plans and specifications.
- Select plant(s) with full root development but not to the point where root bound.
- Use local nursery container plants only. Ball and burlapped plants are not permitted.
- For precast Filterra systems with a tree grate, plant(s) must not have scaffold limbs at least 14 inches from the crown due to spacing between the top of the mulch and the tree grate. Lower branches can be pruned away provided there are sufficient scaffold branches for tree or shrub development.
- For precast Filterra systems with a tree grate, at the time of installation, it is required that plant(s) must be at least 6" above the tree grate opening at installation for all Filterra configurations. This DOES NOT apply to Full Grate Cover designs.
- Plant(s) shall not have a mature height greater than 25 feet.
- For standard 21" media depth, a 7 – 15 gallon container size shall be used. Media less than 21" (Filterra boxes only) may require smaller container plants.
- For precast Filterra systems, plant(s) should have a single trunk at installation, and pruning may be necessary at activation and maintenance for some with a tree grate of the faster growing species, or species known to produce basal sprouts.

Plant Installation

- During transport protect the plant foliage from wind and excessive jostling.
- Prior to removing the plant(s) from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
- Cut away any roots which are growing out of the container drain holes. Plants with excessive root growth from the drain holes should be rejected.
- Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively the pot can be cut away to minimize root ball disturbance.
- Remove any excess soil from above the root flare after removing plant(s) from container.
- Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
- If plant(s) have any circling roots from being pot bound, gently tease them loose without breaking them.
- If root ball has a root mat on the bottom, it should be shaved off with a knife just above the mat line.
- Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
- All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
- With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
- To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
- Plant staking may be required.

Mulch Installation

- Only mulch that meets Contech Engineered Solutions' mulch specifications can be used in the Filterra system.
- Mulch must be applied to a depth of 3" evenly over the surface of the media.

Irrigation Requirements

- Each Filterra system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the top/tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required. It is also important to recognize that plants which are exposed to windy areas and reflected heat from paved surfaces may need more frequent irrigation. Long term care should develop a history which is more site specific.

** Five gallons per square yard approximates 1 inch of water Therefore for a 6' by 6' Filterra approximately 20-60 gallons of water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate then calculate the time needed to irrigate the Filterra. For example, if the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6' by 6' filter.



Appendix 3 – Filterra® Tree Grate Opening Expansion Procedure

The standard grates used on all Filterra configurations that employ Tree Grates are fabricated with a 6″ opening that is designed with a breakaway section that can be removed, allowing the grate opening to be expanded to 12″ as the tree matures and the trunk widens.

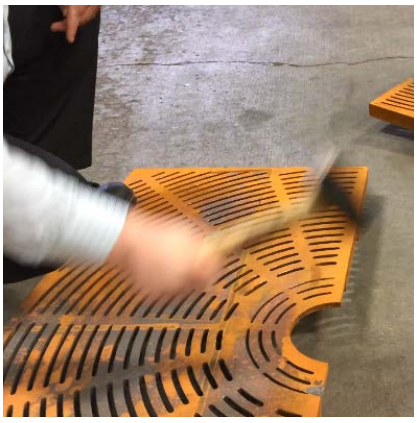
The following tools are required to expand the opening:

- Mini sledgehammer (3 lb. or greater)
- Safety Glasses / Goggles

The following guidelines should be followed to properly expand the tree opening from 6″ to 12″:



1. Remove the grate from the Filterra frame, place it flat on a hard surface, and support the grate by stepping on the edge or using other weighted items such as a few mulch bags if this is being done during a Filterra maintenance event. Put on safety glasses/goggles. Align the mini sledgehammer as shown in the figure to the left. The head of the sledgehammer should be aimed just inside the wide cast iron bar between the larger grate section and the breakaway section.



2. Repeatedly hit the grate at this spot with the mini sledgehammer.



3. After several hits, the breakaway section should snap cleanly off of the larger grate section. Reinstall the grate into the Filterra grate frame. Recycle or dispose of the breakaway section per local guidelines.





9025 Centre Pointe Drive, Suite 400
West Chester, OH 45069
info@conteches.com | 800-338-1122
www.ContechES.com

© 2021 Contech Engineered Solutions LLC, a QUIKRETE Company

ALL RIGHTS RESERVED. PRINTED IN THE USA.

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

PDF 6/21

Stormwater BMP Maintenance Log

BMP Structure	Inspector (Name)	Work Performed	Date Performed	Comments
Pavement Sweeping				
Catch Basins				
R-Tank System				
Jellyfish Unit				
Filterra Units				
Green Roof				
Other				
Additional Comments:				

APPENDIX B: STORMWATER QUALITY CALCULATIONS

Woodard & Curran
41 HUTCHINS DRIVE
PORTLAND, MAINE 04102

CLIENT: PFDC
PROJECT: Phase 2
CALCS BY: AL/LS
DATE: 4/11/2023
PROJECT NO.: 227007.19

Redevelopment Treatment Calculations - Per Section 4.C.2.d of the MaineDEP Chapter 500 Rules

Area of Redevelopment (acres) = 12.15

a. Existing Pollutant Impact

Land Use	Pollutant Ranking	Land Area (Ac.)	Impact
High Use Roads/Parking Lot	5	0.00	0.00
Other Roads/Medium Use Parking Lot	4	4.14	16.54
Other Parking Lots/Flat Asphalt Roofs/Industrial Roofs	3	2.70	8.09
Other Roofs/Landscaped Area/Paved Walkway	2	3.51	7.03
Non-grass Landscaping/Stormwater	1	1.80	1.80
Forest/Meadow	0	0.00	0.00
		12.15	33.46

b. Proposed Pollutant Impact

Land Use	Pollutant Ranking	Land Area (Ac.)	Impact
High Use Roads/Parking Lot	5	0.51	2.54
Other Roads/Medium Use Parking Lot	4	0.70	2.80
Other Parking Lots/Flat Asphalt Roofs/Industrial Roofs	3	0.55	1.66
Other Roofs/Landscaped Area/Paved Walkway	2	10.29	20.59
Non-grass Landscaping/Stormwater	1	0.09	0.09
Forest/Meadow	0	0.00	0.00
		12.15	27.68

c. Existing Impact/Total Redevelopment Acres

2.754

d. Proposed Impact/Total Redevelopment Acres

2.278

e. Item D Minus Item C

-0.48

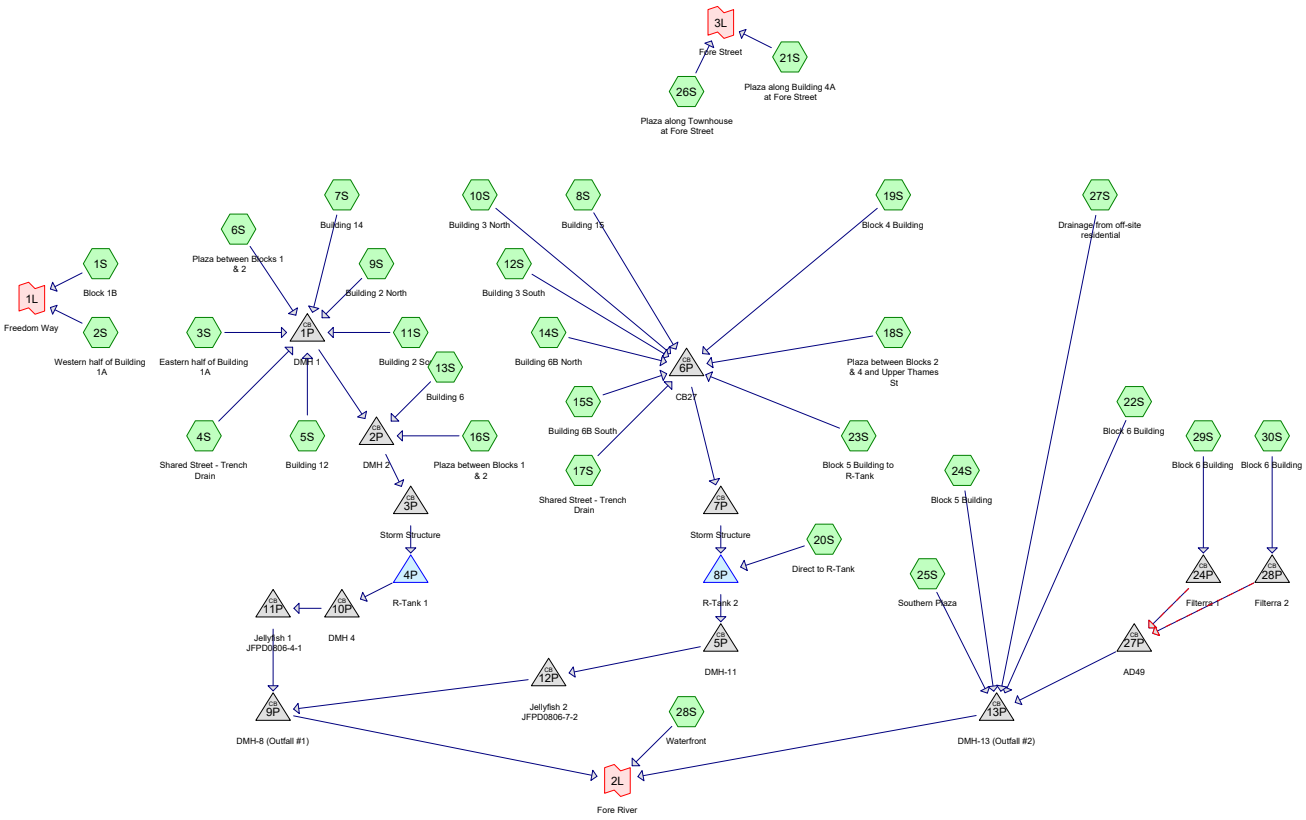
Ranked Impact Change Due to Redevelopment	Percentage of Developed Area that Must be Treated
0.0 or less	0% (Stormwater projects)
	50% (Site projects)
≥ 0.0 to ≤ 1.0	60%
> 1.0 to ≤ 2.0	70%
> 2.0 to ≤ 3.0	80%
> 3.0	Same treatment level as for new development

Stormwater Treatment Summary	*Treatment Percentage*	*Treated Area (SF)*
Required	50%	264,605
Provided	51%	271,000

WQV Summary	*R-Tank System 1*	*R-Tank System 2*	*Block 5 Green Roof*	*Filterra 1*	*Filterra 2*
Status	Approved (Phase 1), Constructed	Approved (Phase 1), Proposed	Proposed	Proposed	Proposed
Phase 1 Treated Area (SF)	84,114	114,084	N/A	N/A	N/A
Proposed Treated Area (SF)	89,644	149,106	8,300	11,975	11,975
Total Future Treated Areas (same as Phase 1) (SF)	94,090	149,106	N/A	N/A	N/A
WQV Required (CF)	7,841	12,426	692	998	998
WQ Design Storm Event (in.)	1.00	1.00	1.00	1.00	1.00
WQV Provided (CF)	2,859	6,035	N/A	N/A	N/A
*WQ Storm Event Provided (in.)**	0.36	0.49	N/A	N/A	N/A
Filterra Size	N/A	N/A	N/A	6'X8'	6'X8'

**Note: Based on discussions with Jeff Dennis, MaineDEP Watershed Management Unit Biologist, and consistent with the approach for Phase 1 of the development, it is our understanding that the project will not be required to provide storage for the full Water Quality Volume (WQV) because the project ultimately discharges to the Fore River. R-Tank Systems 1 & 2 were previously approved as part of Phase 1 of development, but only R-Tank System 1 was constructed. R-Tank System 2 is proposed to be installed during this next phase of development. Additional area may be directed to the R-Tank treatment systems as part of future phases of development; the total future treated area is consistent with what was approved during Phase 1. The WQ storm event that the proposed WQV will be able to accommodate has been calculated based upon the total future treated area.*

APPENDIX C: HYDROCAD REPORT



Routing Diagram for PFDC Working Model
Prepared by Woodard & Curran, Inc, Printed 6/22/2023
HydroCAD® 10.20-2d s/n 01204 © 2021 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.914	80	>75% Grass cover, Good, HSG D (1S, 4S, 6S, 16S, 27S, 28S)
5.607	98	Impervious (1S, 4S, 6S, 16S, 17S, 18S, 20S, 21S, 23S, 24S, 25S, 26S, 27S, 28S)
5.399	98	Roof (2S, 3S, 5S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 19S, 22S, 29S, 30S)
12.919	**95**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Block 1B Runoff Area=19,389 sf 1.02% Impervious Runoff Depth>0.08"
Tc=6.0 min CN=80 Runoff=0.02 cfs 0.003 af

Subcatchment2S: Western half of Runoff Area=22,128 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.44 cfs 0.033 af

Subcatchment3S: Eastern half of Runoff Area=22,147 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.44 cfs 0.033 af

Subcatchment4S: Shared Street - Trench Runoff Area=26,424 sf 83.24% Impervious Runoff Depth>0.56"
Tc=6.0 min CN=95 Runoff=0.39 cfs 0.028 af

Subcatchment5S: Building 12 Runoff Area=3,244 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment6S: Plaza between Blocks 1 Runoff Area=18,771 sf 95.74% Impervious Runoff Depth>0.71"
Tc=6.0 min CN=97 Runoff=0.34 cfs 0.025 af

Subcatchment7S: Building 14 Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment8S: Building 15 Runoff Area=2,578 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment9S: Building 2 North Runoff Area=4,695 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.09 cfs 0.007 af

Subcatchment10S: Building 3 North Runoff Area=2,212 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment11S: Building 2 South Runoff Area=4,855 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.10 cfs 0.007 af

Subcatchment12S: Building 3 South Runoff Area=2,326 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment13S: Building 6 Runoff Area=3,304 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.07 cfs 0.005 af

Subcatchment14S: Building 6B North Runoff Area=4,296 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.09 cfs 0.006 af

Subcatchment15S: Building 6B South Runoff Area=2,512 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment16S: Plaza between Blocks 1 Runoff Area=3,650 sf 75.84% Impervious Runoff Depth>0.50"
Tc=6.0 min CN=94 Runoff=0.05 cfs 0.004 af

Subcatchment17S: Shared Street - Trench Runoff Area=8,719 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.17 cfs 0.013 af

Subcatchment18S: Plaza between Runoff Area=28,813 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.58 cfs 0.044 af

Subcatchment19S: Block 4 Building Runoff Area=86,592 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=1.73 cfs 0.131 af

Subcatchment20S: Direct to R-Tank Runoff Area=7,210 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment21S: Plaza along Building Runoff Area=2,534 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment22S: Block 6 Building Runoff Area=47,780 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.95 cfs 0.072 af

Subcatchment23S: Block 5 Building to Runoff Area=11,218 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.017 af

Subcatchment24S: Block 5 Building Runoff Area=30,570 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.61 cfs 0.046 af

Subcatchment25S: Southern Plaza Runoff Area=11,168 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.017 af

Subcatchment26S: Plaza along Townhouse Runoff Area=550 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.01 cfs 0.001 af

Subcatchment27S: Drainage from off-site Runoff Area=49,238 sf 43.84% Impervious Runoff Depth>0.25"
Tc=6.0 min CN=88 Runoff=0.29 cfs 0.024 af

Subcatchment28S: Waterfront Runoff Area=109,324 sf 72.19% Impervious Runoff Depth>0.45"
Tc=6.0 min CN=93 Runoff=1.29 cfs 0.094 af

Subcatchment29S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.24 cfs 0.018 af

Subcatchment30S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>0.79"
Tc=6.0 min CN=98 Runoff=0.24 cfs 0.018 af

Pond 1P: DMH 1 Peak Elev=10.40' Inflow=1.48 cfs 0.110 af
24.0" Round Culvert n=0.013 L=61.0' S=0.0038 '/' Outflow=1.48 cfs 0.110 af

Pond 2P: DMH 2 Peak Elev=10.12' Inflow=1.60 cfs 0.119 af
24.0" Round Culvert n=0.013 L=31.0' S=0.0048 '/' Outflow=1.60 cfs 0.119 af

Pond 3P: Storm Structure Peak Elev=8.81' Inflow=1.60 cfs 0.119 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=1.60 cfs 0.119 af

Pond 4P: R-Tank 1 Peak Elev=7.51' Storage=838 cf Inflow=1.60 cfs 0.119 af
21.0" Round Culvert n=0.013 L=62.0' S=0.0000 '/' Outflow=1.30 cfs 0.114 af

Pond 5P: DMH-11 Peak Elev=8.54' Inflow=1.96 cfs 0.219 af
24.0" Round Culvert n=0.013 L=16.0' S=0.0069 '/' Outflow=1.96 cfs 0.219 af

Pond 6P: CB27 Peak Elev=10.43' Inflow=2.98 cfs 0.226 af
24.0" Round Culvert n=0.013 L=22.0' S=0.0064 '/' Outflow=2.98 cfs 0.226 af

Pond 7P: Storm Structure Peak Elev=9.03' Inflow=2.98 cfs 0.226 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=2.98 cfs 0.226 af

Pond 8P: R-Tank 2 Peak Elev=8.71' Storage=2,746 cf Inflow=3.12 cfs 0.237 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0000 '/' Outflow=1.96 cfs 0.219 af

Pond 9P: DMH-8 (Outfall #1) Peak Elev=7.42' Inflow=3.24 cfs 0.333 af
30.0" Round Culvert n=0.013 L=52.0' S=0.0052 '/' Outflow=3.24 cfs 0.333 af

Pond 10P: DMH 4 Peak Elev=7.47' Inflow=1.30 cfs 0.114 af
24.0" Round Culvert n=0.013 L=59.0' S=0.0000 '/' Outflow=1.30 cfs 0.114 af

Pond 11P: Jellyfish 1 JFPD0806-4-1 Peak Elev=9.73' Inflow=1.30 cfs 0.114 af
Outflow=1.30 cfs 0.114 af

Pond 12P: Jellyfish 2 JFPD0806-7-2 Peak Elev=10.01' Inflow=1.96 cfs 0.219 af
Outflow=1.96 cfs 0.219 af

Pond 13P: DMH-13 (Outfall #2) Peak Elev=7.47' Inflow=2.55 cfs 0.195 af
24.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=2.55 cfs 0.195 af

Pond 24P: Filterra 1 Peak Elev=14.80' Inflow=0.24 cfs 0.018 af
Primary=0.24 cfs 0.018 af Secondary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.018 af

Pond 27P: AD49 Peak Elev=14.39' Inflow=0.48 cfs 0.036 af
12.0" Round Culvert n=0.013 L=240.0' S=0.0301 '/' Outflow=0.48 cfs 0.036 af

Pond 28P: Filterra 2 Peak Elev=14.80' Inflow=0.24 cfs 0.018 af
Primary=0.24 cfs 0.018 af Secondary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.018 af

Link 1L: Freedom Way Inflow=0.45 cfs 0.037 af
Primary=0.45 cfs 0.037 af

Link 2L: Fore River Inflow=6.66 cfs 0.623 af
Primary=6.66 cfs 0.623 af

Link 3L: Fore Street Inflow=0.06 cfs 0.005 af
Primary=0.06 cfs 0.005 af

Total Runoff Area = 12.919 ac Runoff Volume = 0.686 af Average Runoff Depth = 0.64"
14.81% Pervious = 1.914 ac 85.19% Impervious = 11.005 ac

Summary for Subcatchment 1S: Block 1B

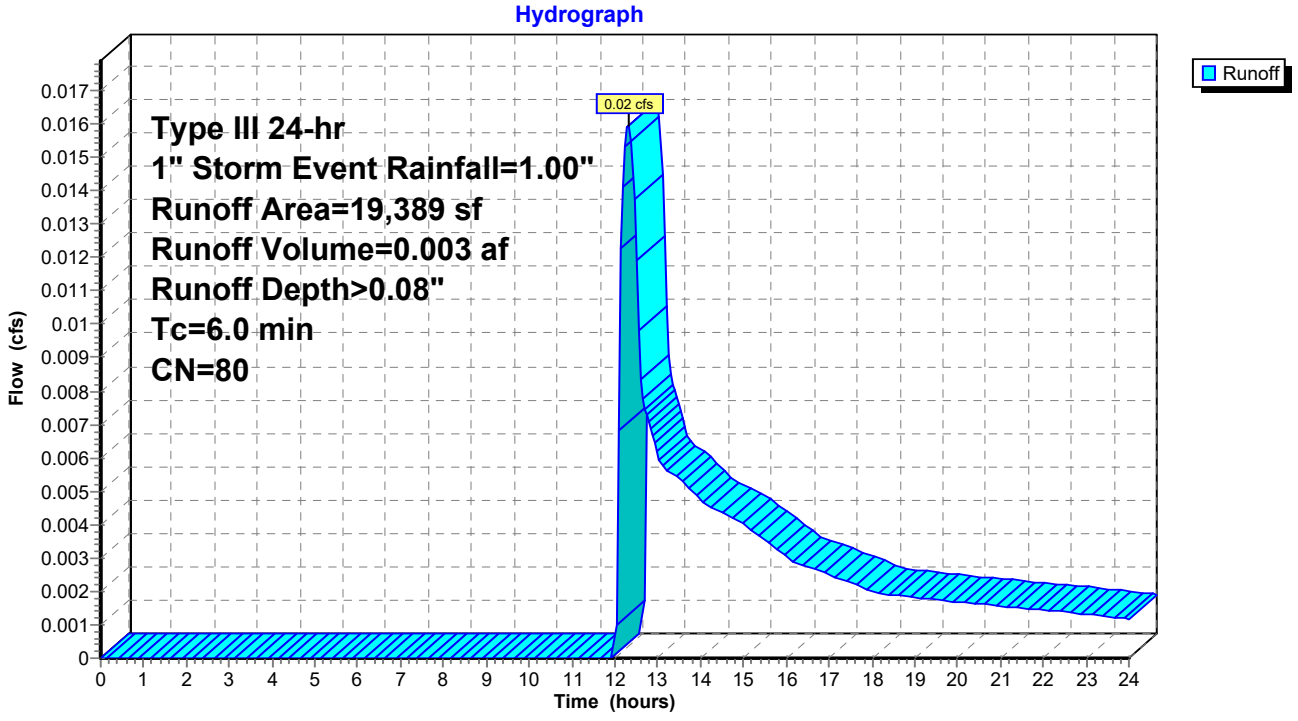
Runoff = 0.02 cfs @ 12.32 hrs, Volume= 0.003 af, Depth> 0.08"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	198	98	Impervious
	19,191	80	>75% Grass cover, Good, HSG D
	19,389	80	Weighted Average
	19,191		98.98% Pervious Area
	198		1.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Block 1B



Summary for Subcatchment 2S: Western half of Building 1A

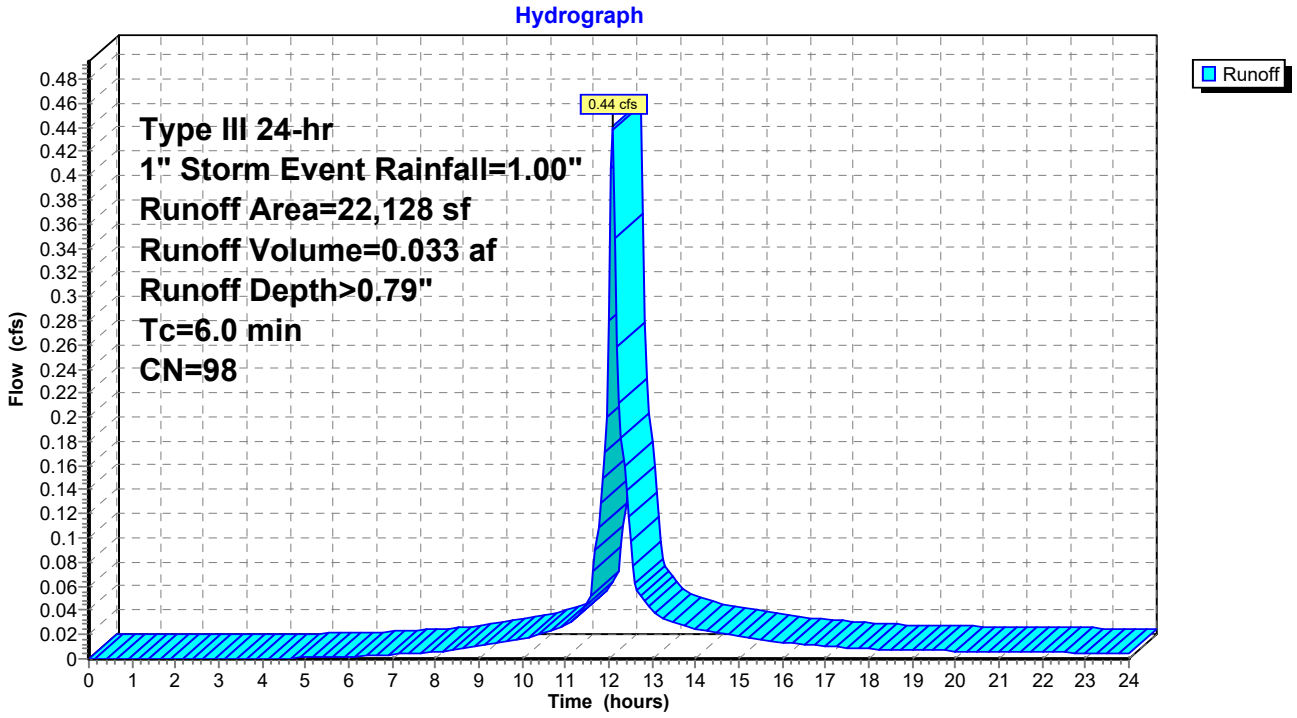
Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 0.79"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	22,128	98	Roof
	22,128		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Western half of Building 1A



Summary for Subcatchment 3S: Eastern half of Building 1A

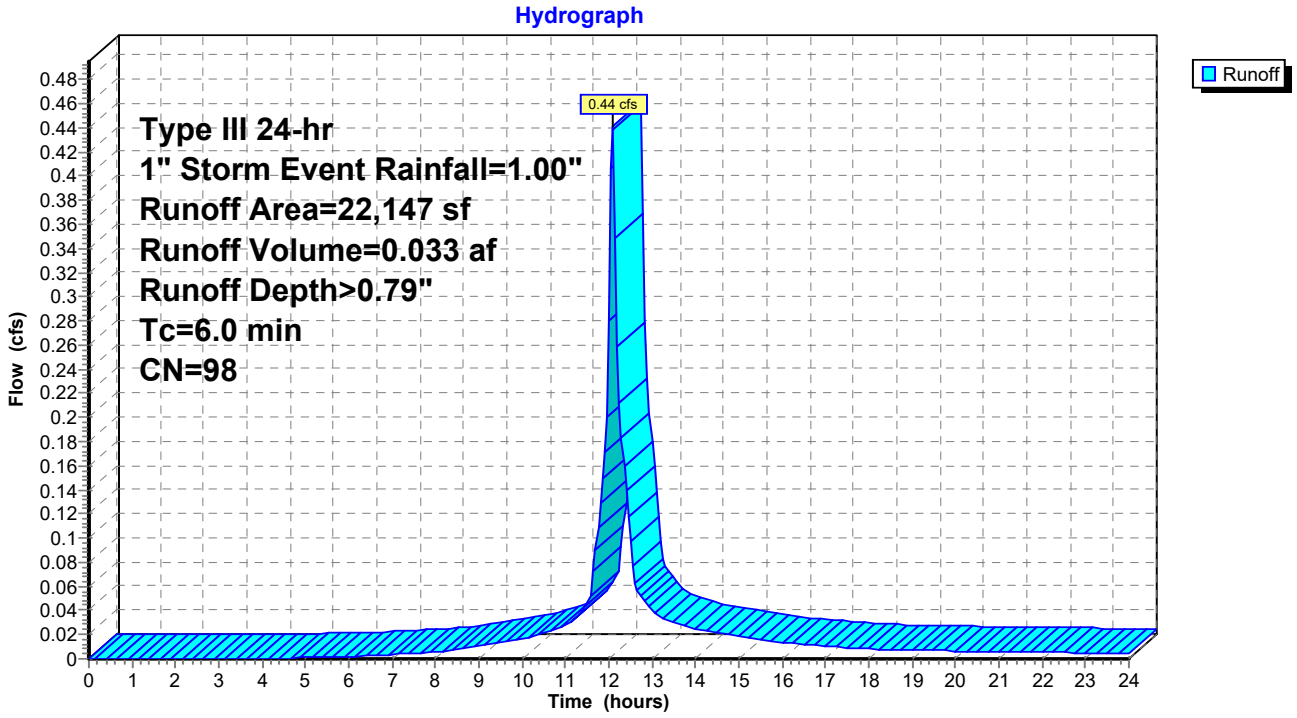
Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 0.79"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	22,147	98	Roof
	22,147		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Eastern half of Building 1A



Summary for Subcatchment 4S: Shared Street - Trench Drain

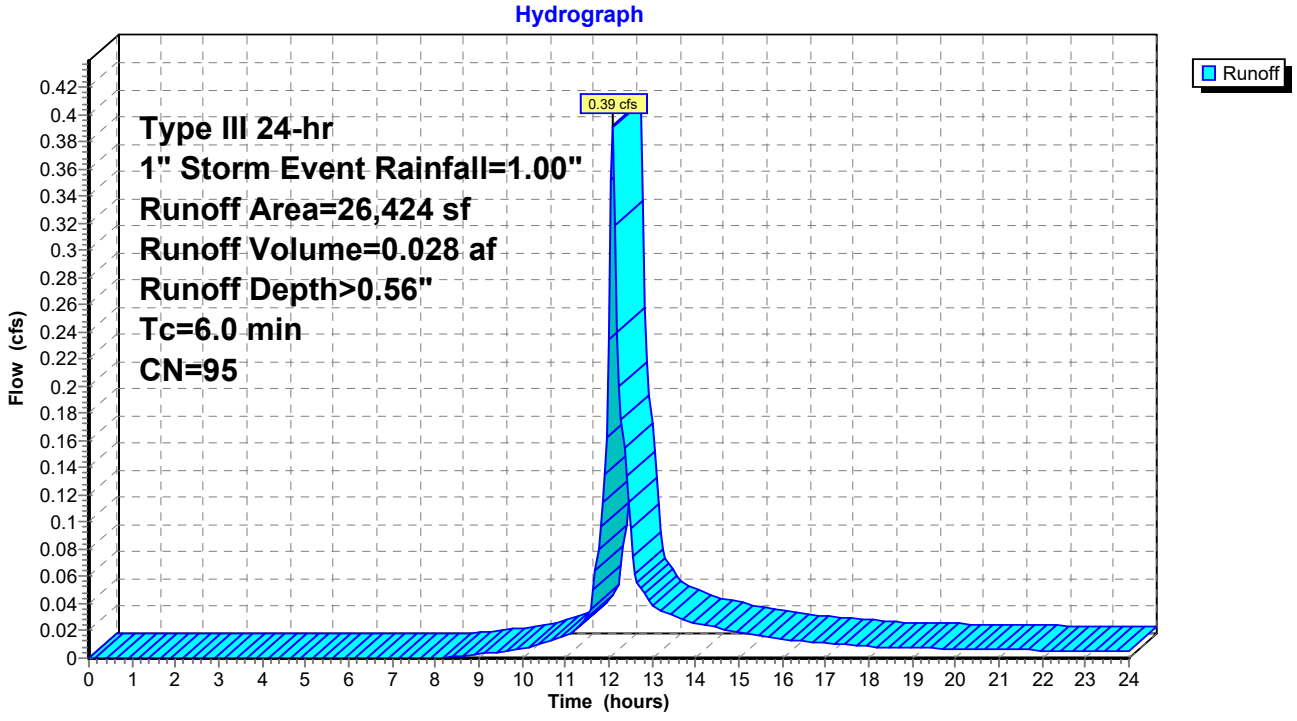
Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 0.56"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
	4,428	80	>75% Grass cover, Good, HSG D
*	21,996	98	Impervious
	26,424	95	Weighted Average
	4,428		16.76% Pervious Area
	21,996		83.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Shared Street - Trench Drain



Summary for Subcatchment 5S: Building 12

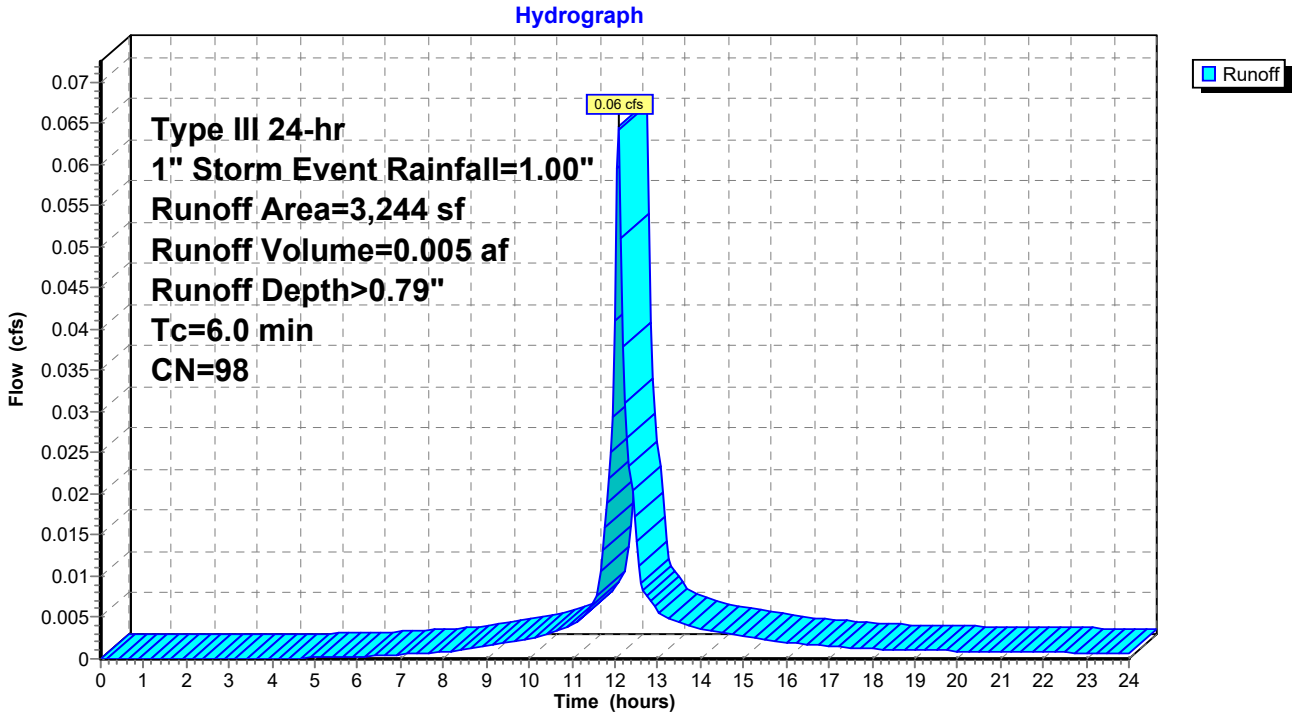
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth> 0.79"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	3,244	98	Roof
	3,244		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Building 12



Summary for Subcatchment 6S: Plaza between Blocks 1 & 2

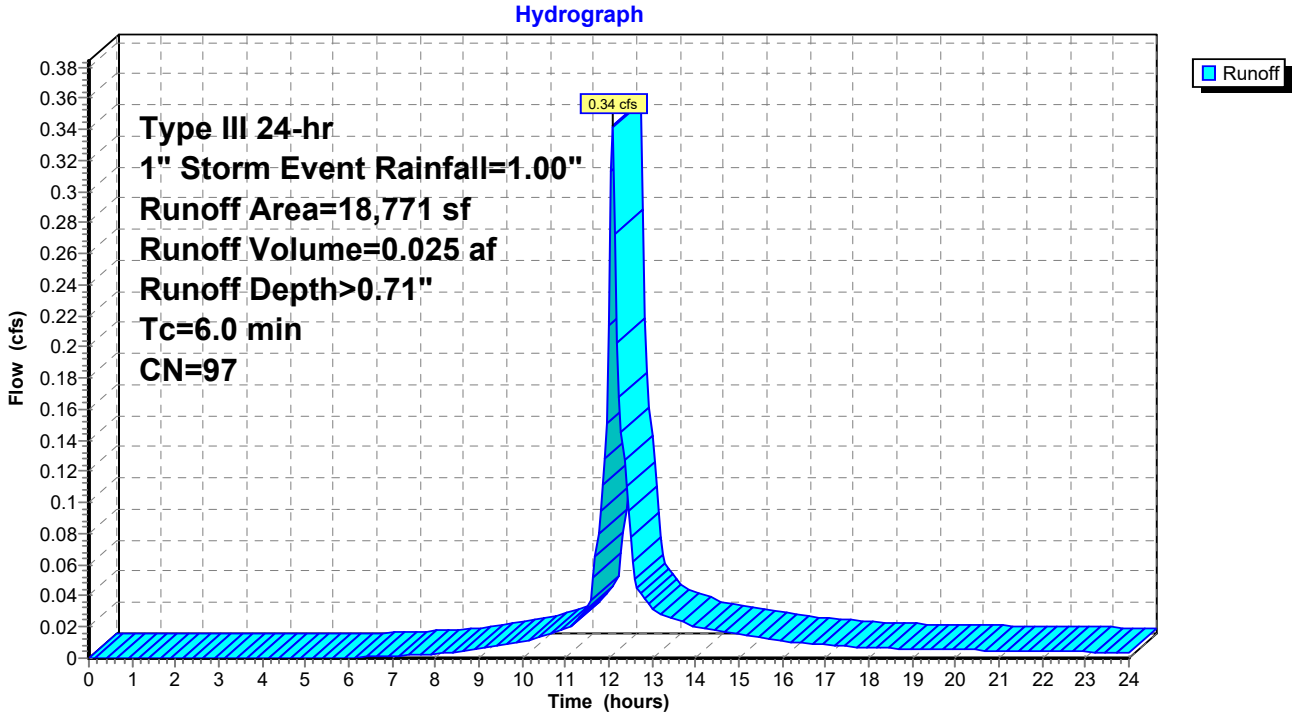
Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 0.71"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	17,972	98	Impervious
	799	80	>75% Grass cover, Good, HSG D
	18,771	97	Weighted Average
	799		4.26% Pervious Area
	17,972		95.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: Plaza between Blocks 1 & 2



Summary for Subcatchment 7S: Building 14

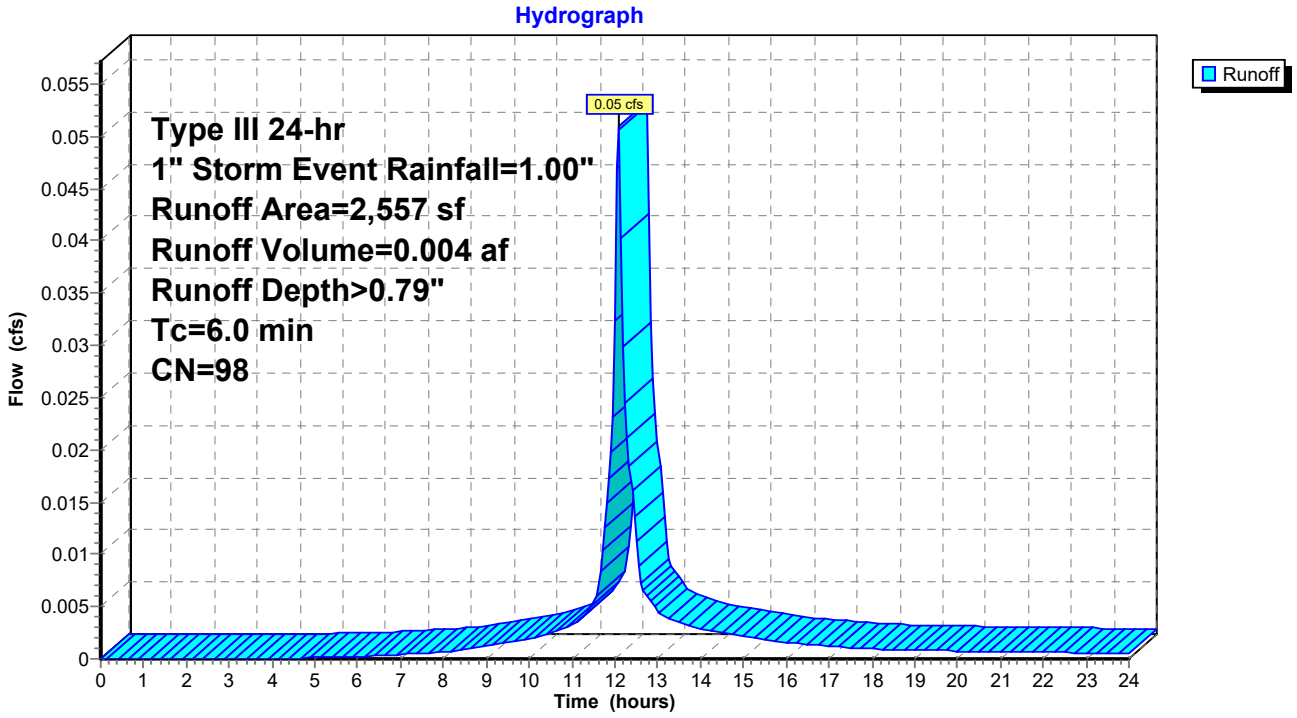
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.79"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,557	98	Roof
	2,557		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 7S: Building 14



Summary for Subcatchment 8S: Building 15

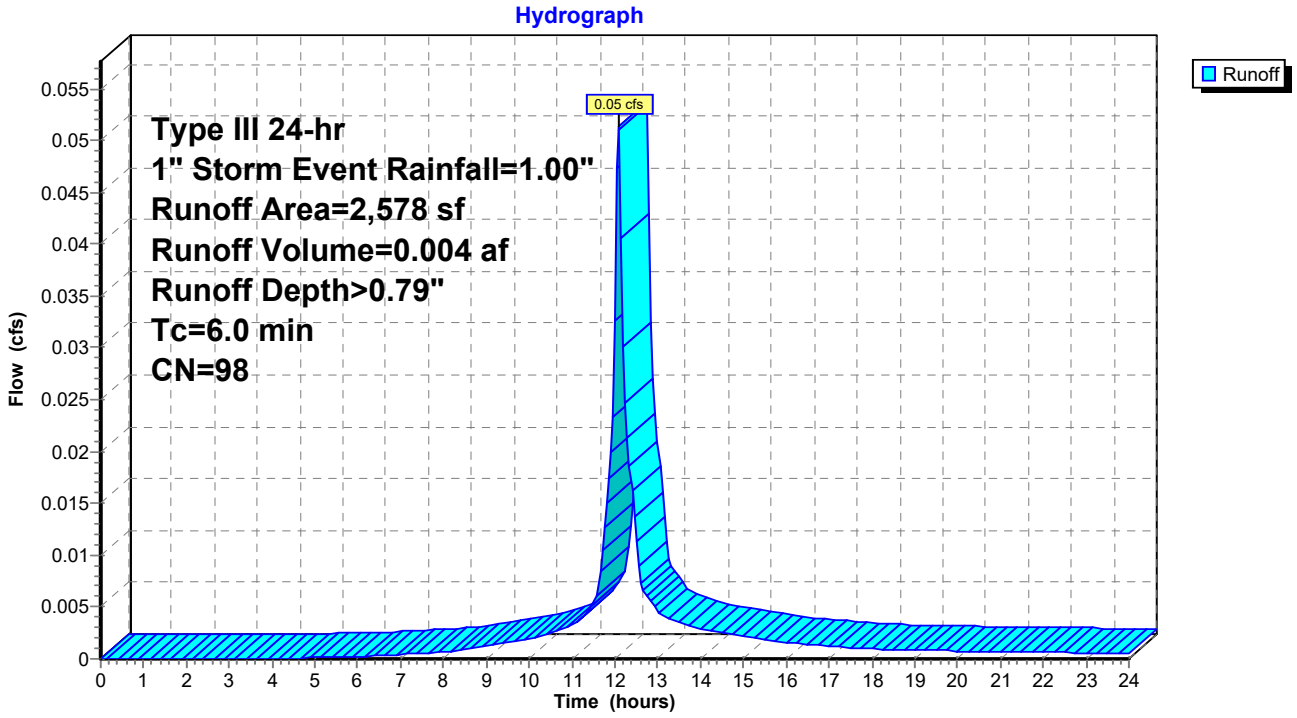
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,578	98	Roof
	2,578		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 8S: Building 15



Summary for Subcatchment 9S: Building 2 North

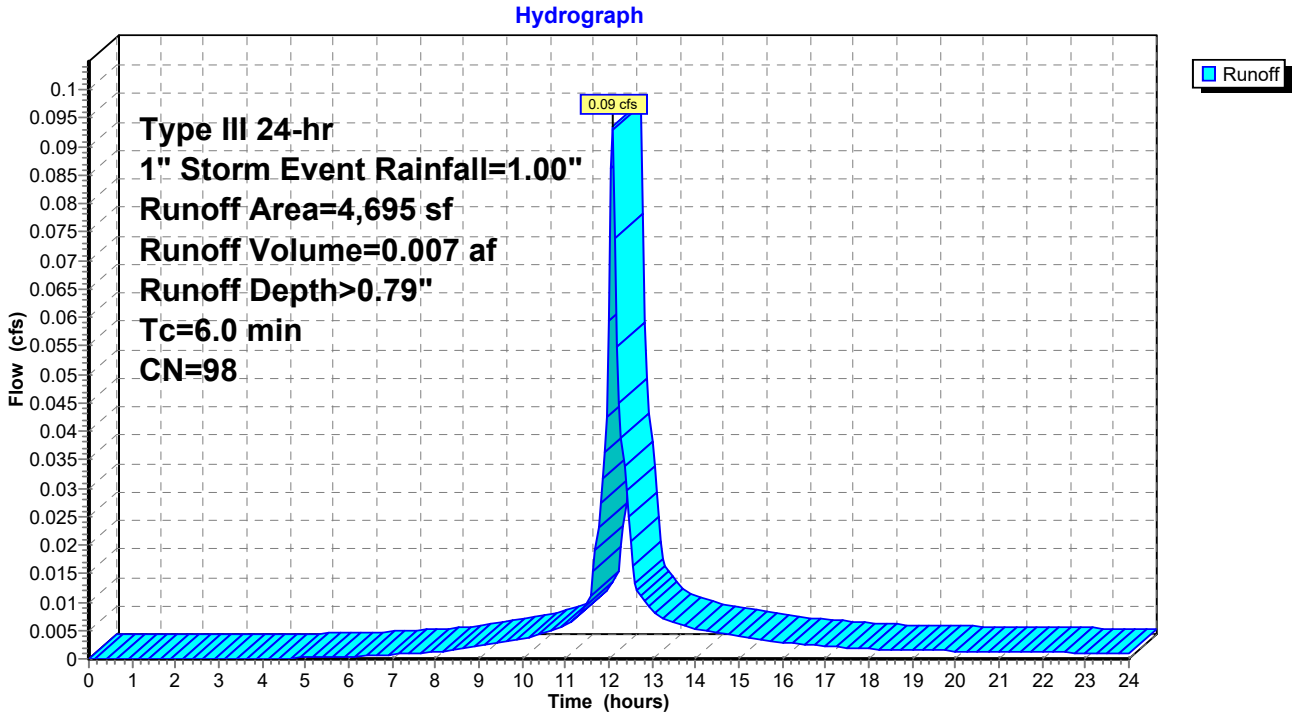
Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.007 af, Depth> 0.79"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	4,695	98	Roof
	4,695		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: Building 2 North



Summary for Subcatchment 10S: Building 3 North

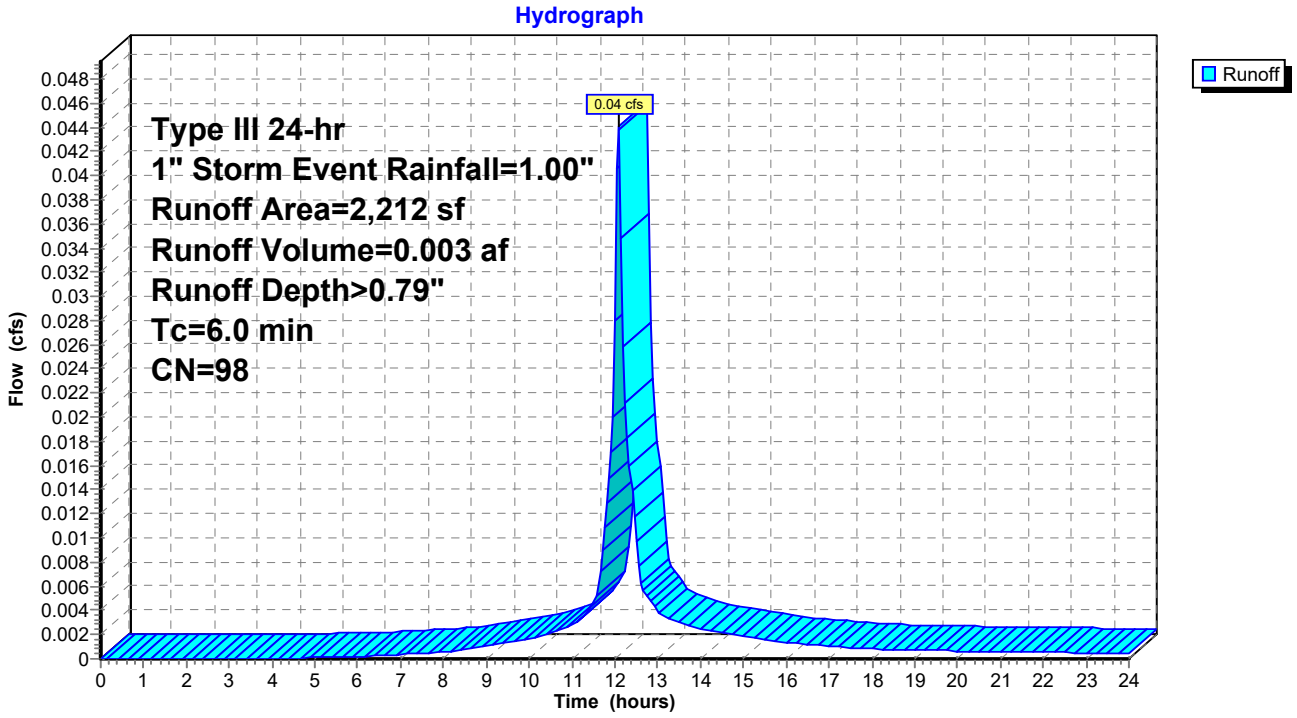
Runoff = 0.04 cfs @ 12.09 hrs, Volume= 0.003 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,212	98	Roof
	2,212		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 10S: Building 3 North



Summary for Subcatchment 11S: Building 2 South

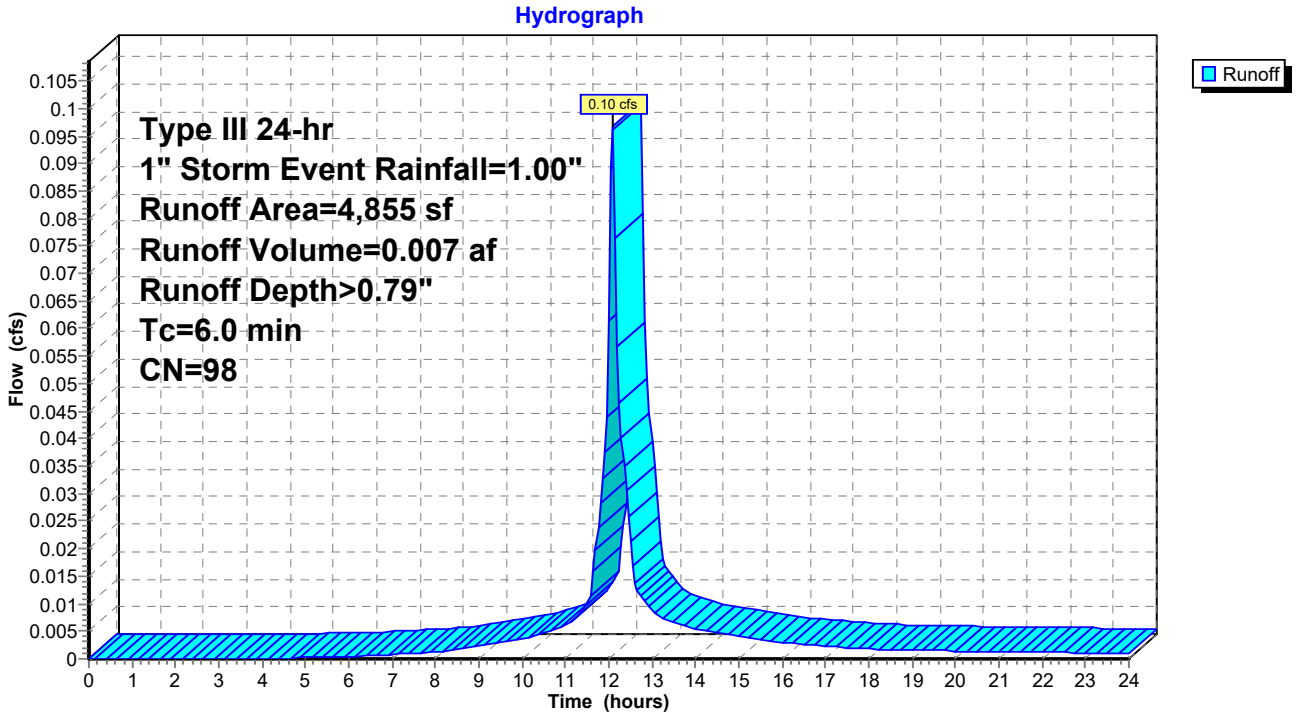
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af, Depth> 0.79"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	4,855	98	Roof
	4,855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 11S: Building 2 South



Summary for Subcatchment 12S: Building 3 South

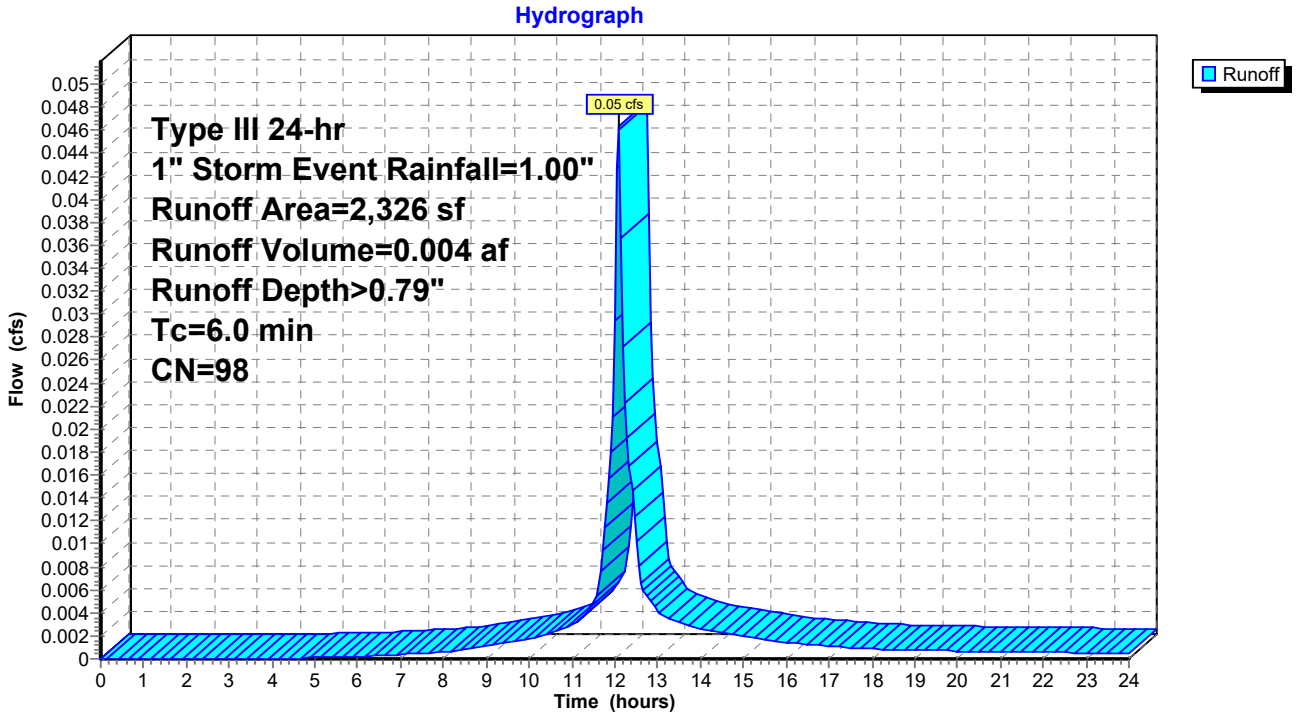
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,326	98	Roof
	2,326		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 12S: Building 3 South



Summary for Subcatchment 13S: Building 6

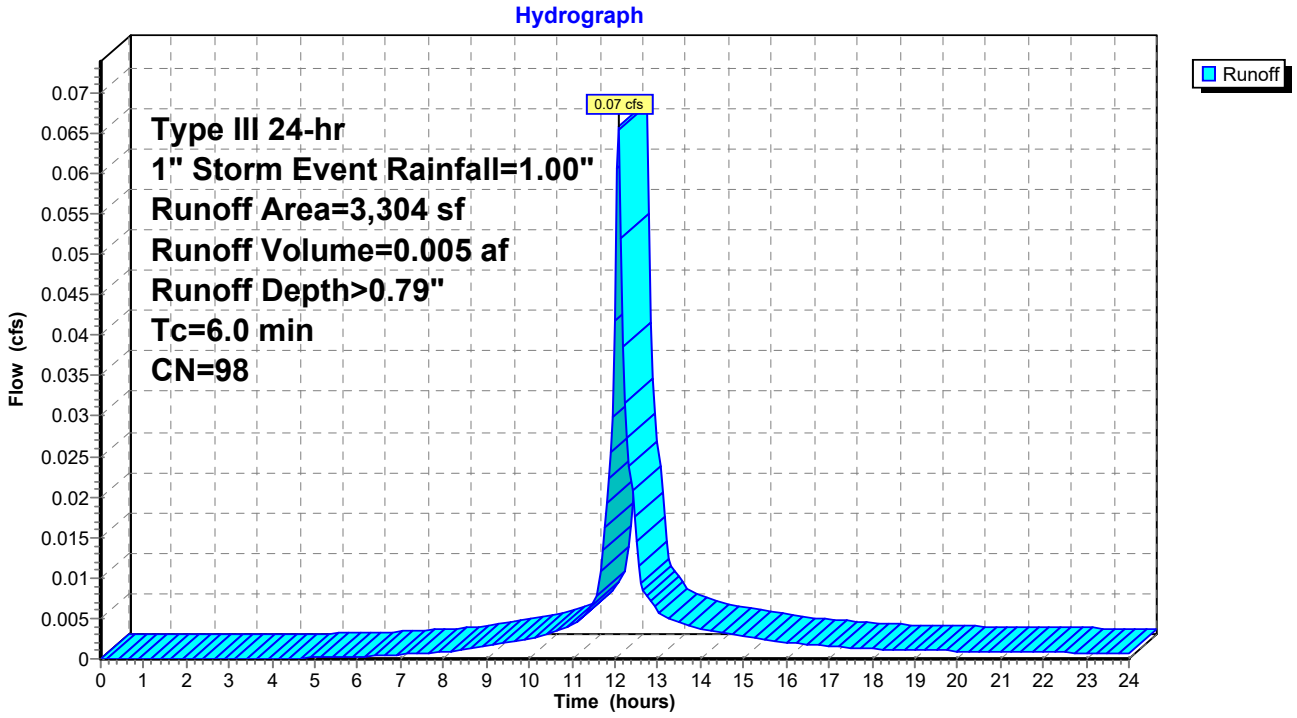
Runoff = 0.07 cfs @ 12.09 hrs, Volume= 0.005 af, Depth> 0.79"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	3,304	98	Roof
	3,304		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 13S: Building 6



Summary for Subcatchment 14S: Building 6B North

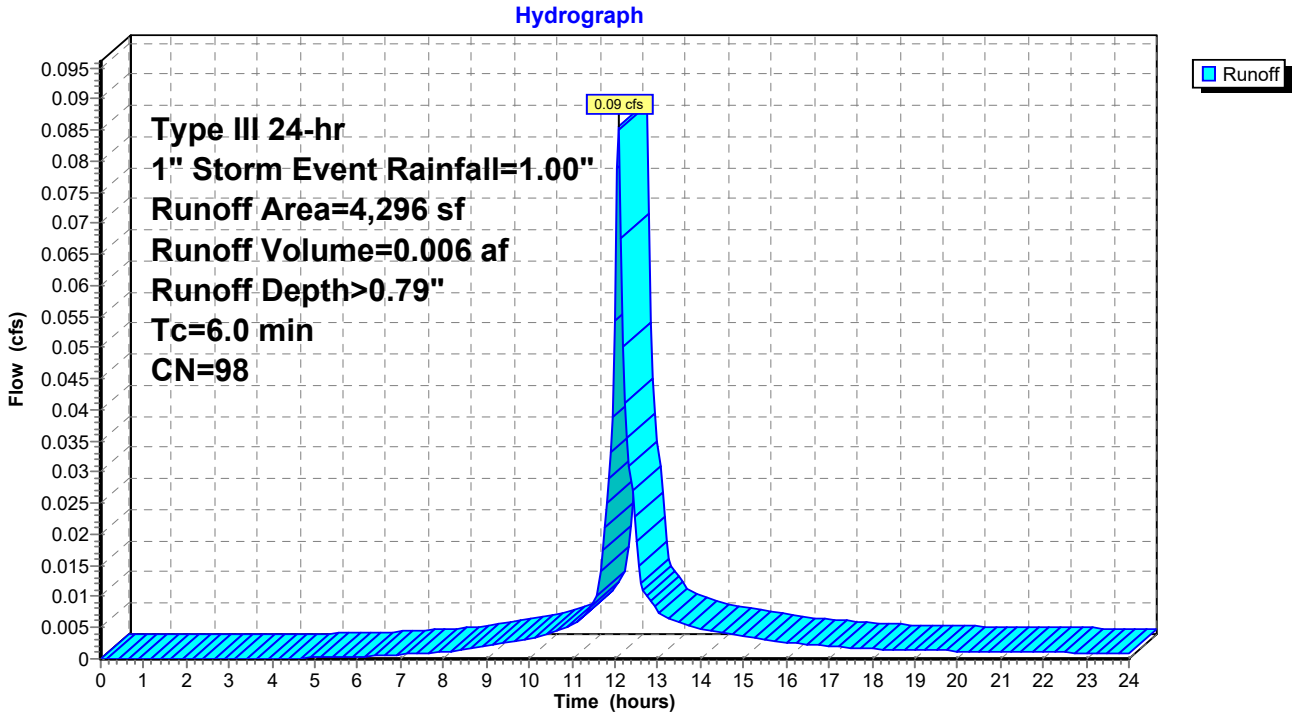
Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	4,296	98	Roof
	4,296		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 14S: Building 6B North



Summary for Subcatchment 15S: Building 6B South

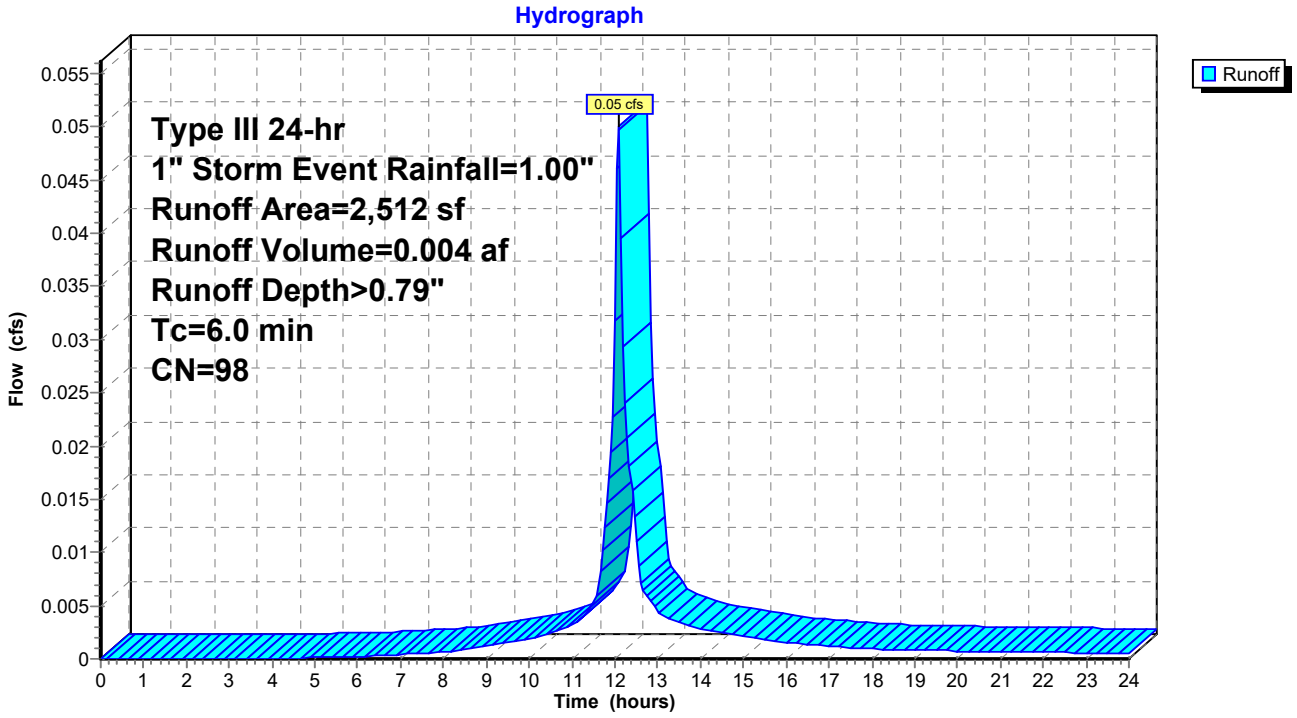
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,512	98	Roof
	2,512		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: Building 6B South



Summary for Subcatchment 16S: Plaza between Blocks 1 & 2

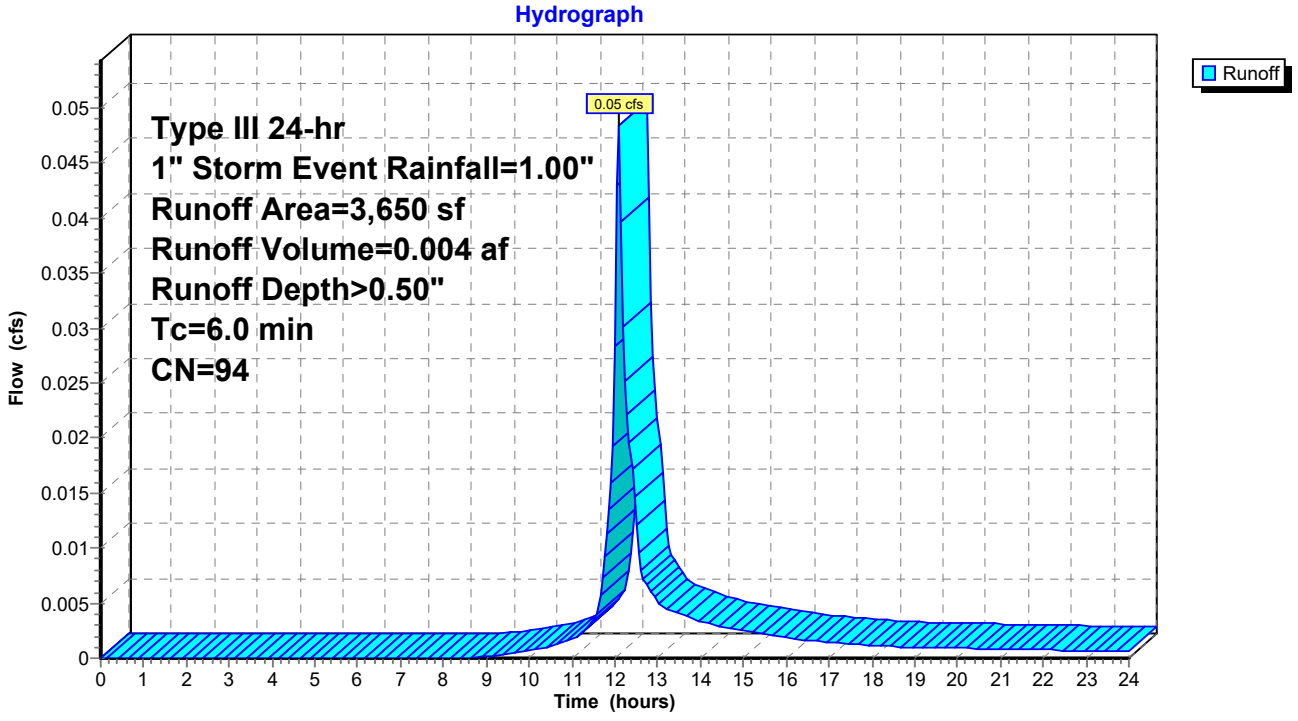
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.50"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,768	98	Impervious
	882	80	>75% Grass cover, Good, HSG D
	3,650	94	Weighted Average
	882		24.16% Pervious Area
	2,768		75.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: Plaza between Blocks 1 & 2



Summary for Subcatchment 17S: Shared Street - Trench Drain

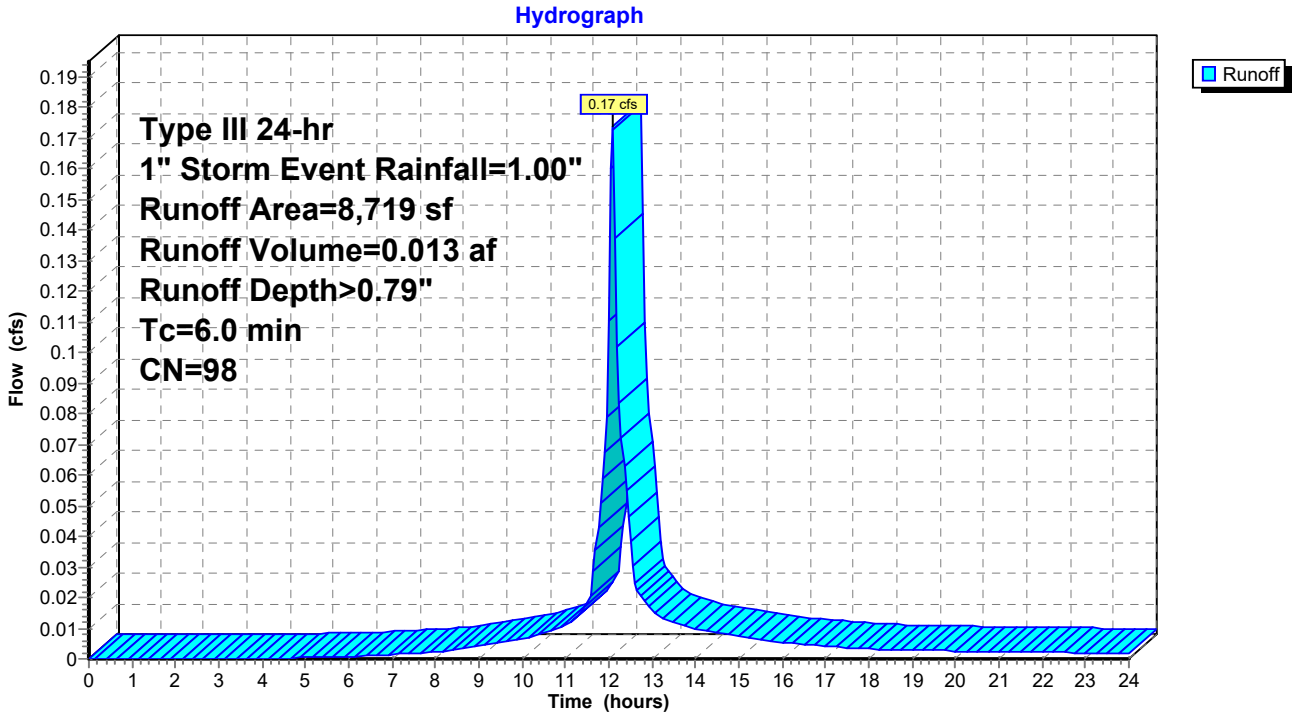
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	8,719	98	Impervious
	8,719		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 17S: Shared Street - Trench Drain



Summary for Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St

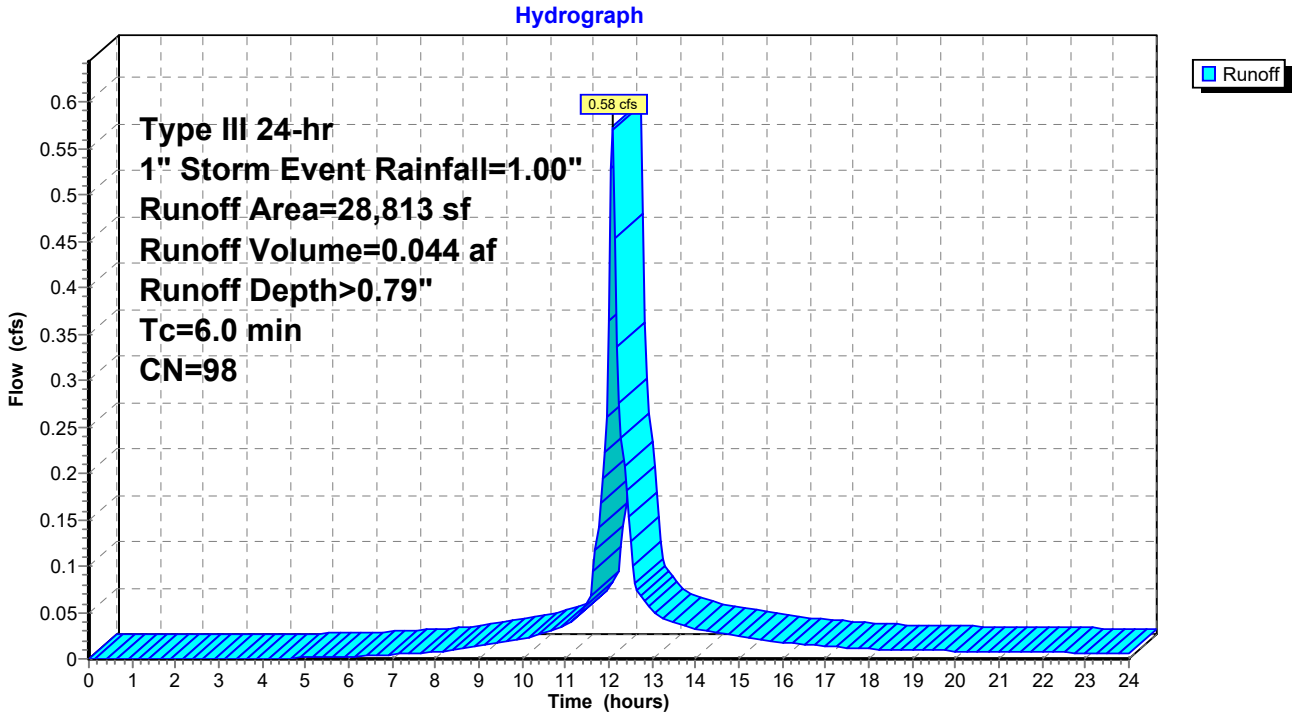
Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.044 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	28,813	98	Impervious
	28,813		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St



Summary for Subcatchment 19S: Block 4 Building

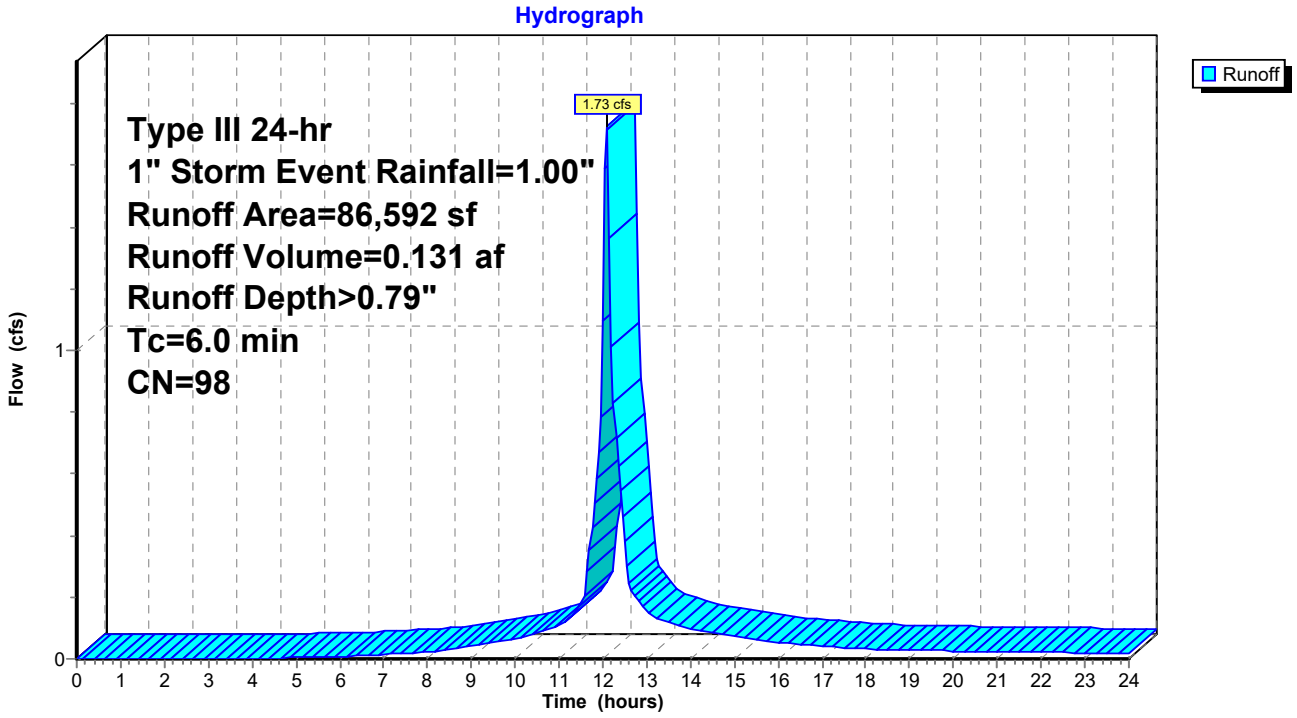
Runoff = 1.73 cfs @ 12.09 hrs, Volume= 0.131 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	86,592	98	Roof
	86,592		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: Block 4 Building



Summary for Subcatchment 20S: Direct to R-Tank

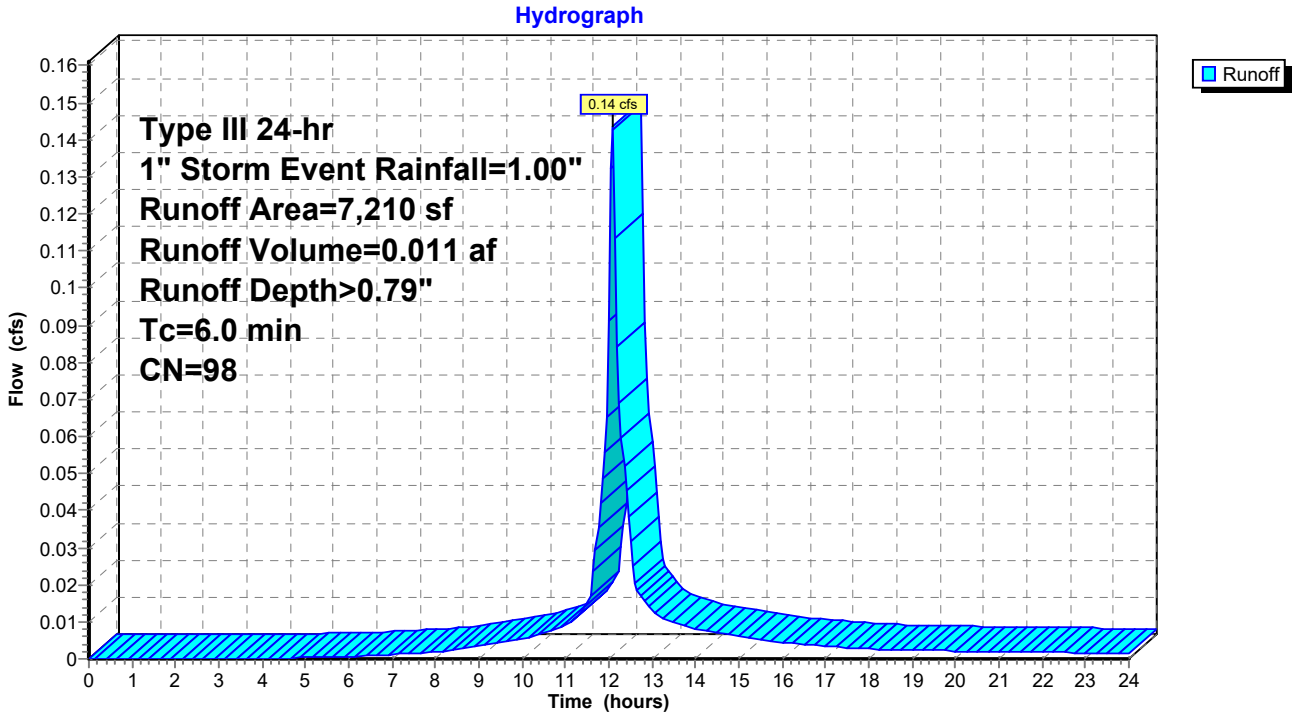
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.011 af, Depth> 0.79"
Routed to Pond 8P : R-Tank 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	7,210	98	Impervious
	7,210		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 20S: Direct to R-Tank



Summary for Subcatchment 21S: Plaza along Building 4A at Fore Street

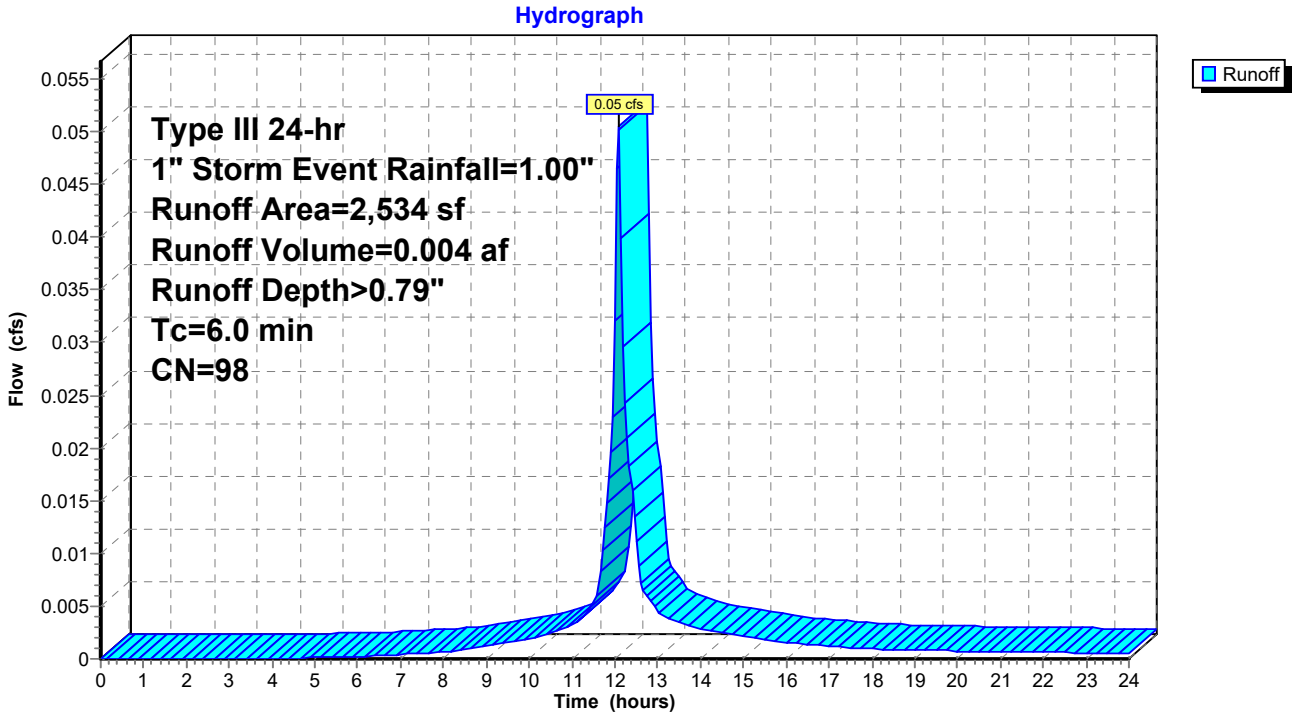
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.79"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	2,534	98	Impervious
	2,534		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: Plaza along Building 4A at Fore Street



Summary for Subcatchment 22S: Block 6 Building

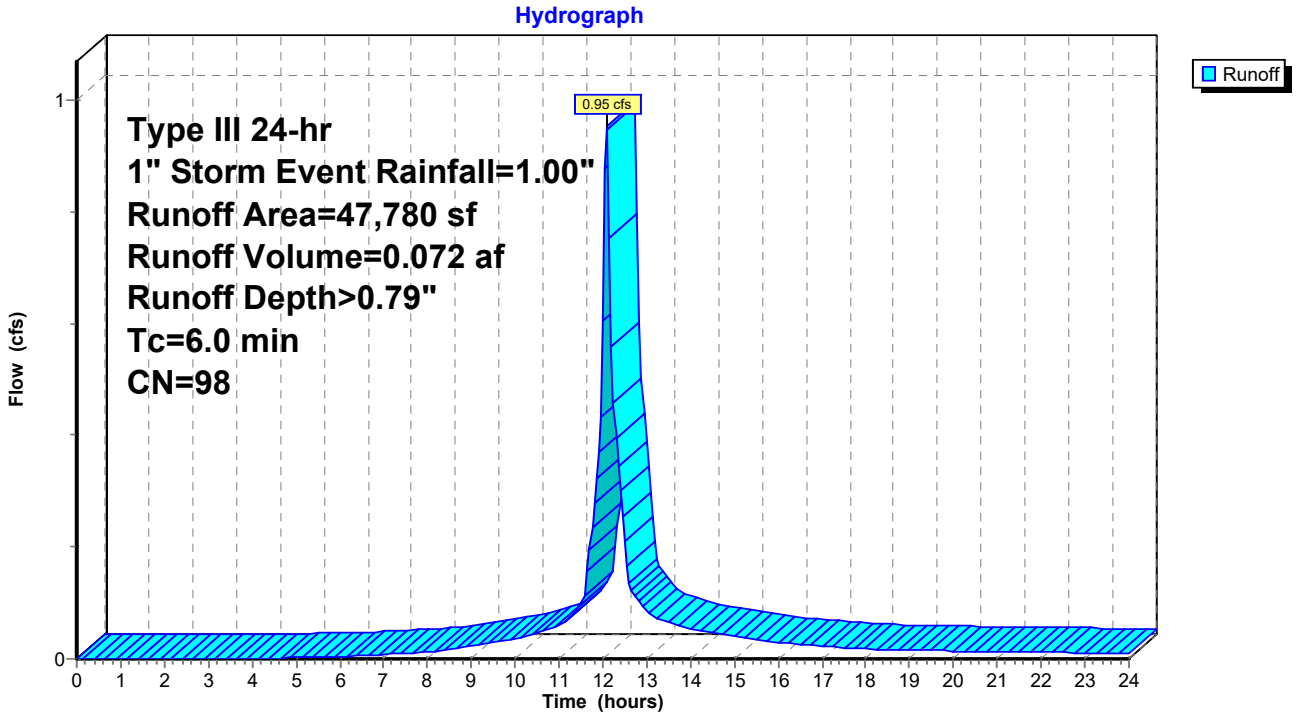
Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.072 af, Depth> 0.79"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	47,780	98	Roof
	47,780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 22S: Block 6 Building



Summary for Subcatchment 23S: Block 5 Building to R-Tank

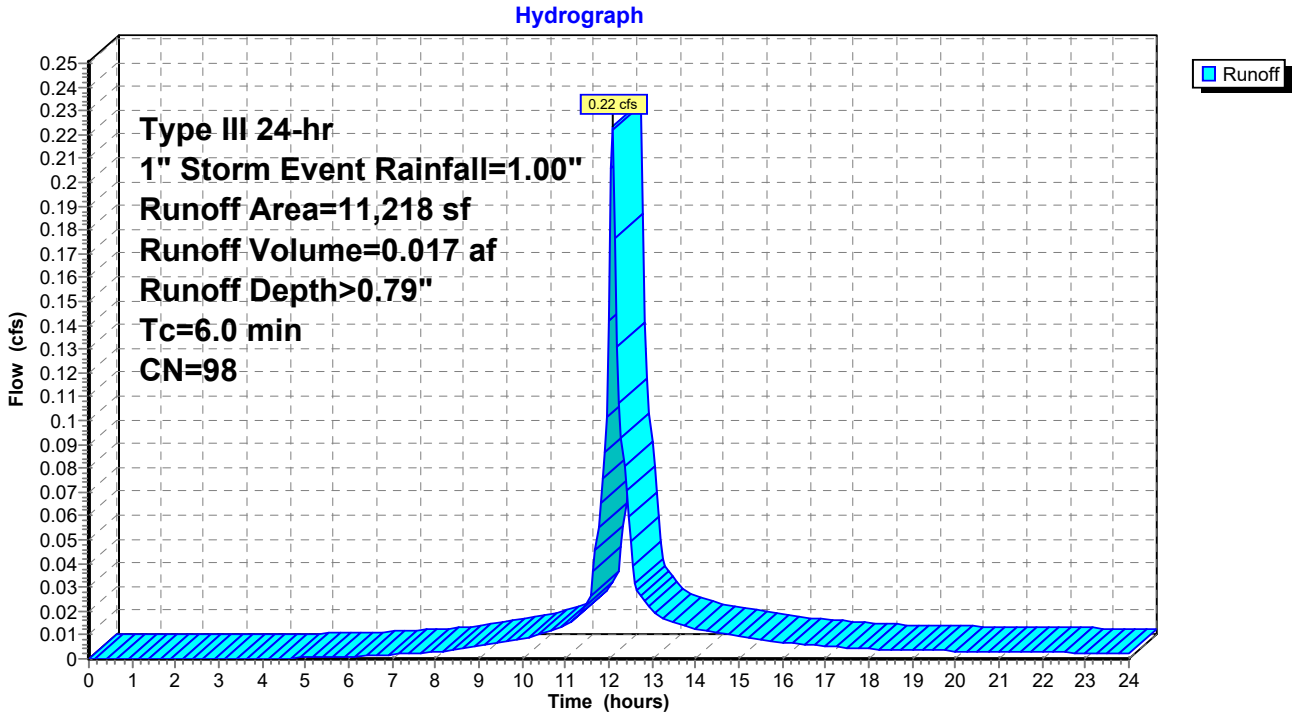
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 0.79"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	11,218	98	Impervious
	11,218		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 23S: Block 5 Building to R-Tank



Summary for Subcatchment 24S: Block 5 Building

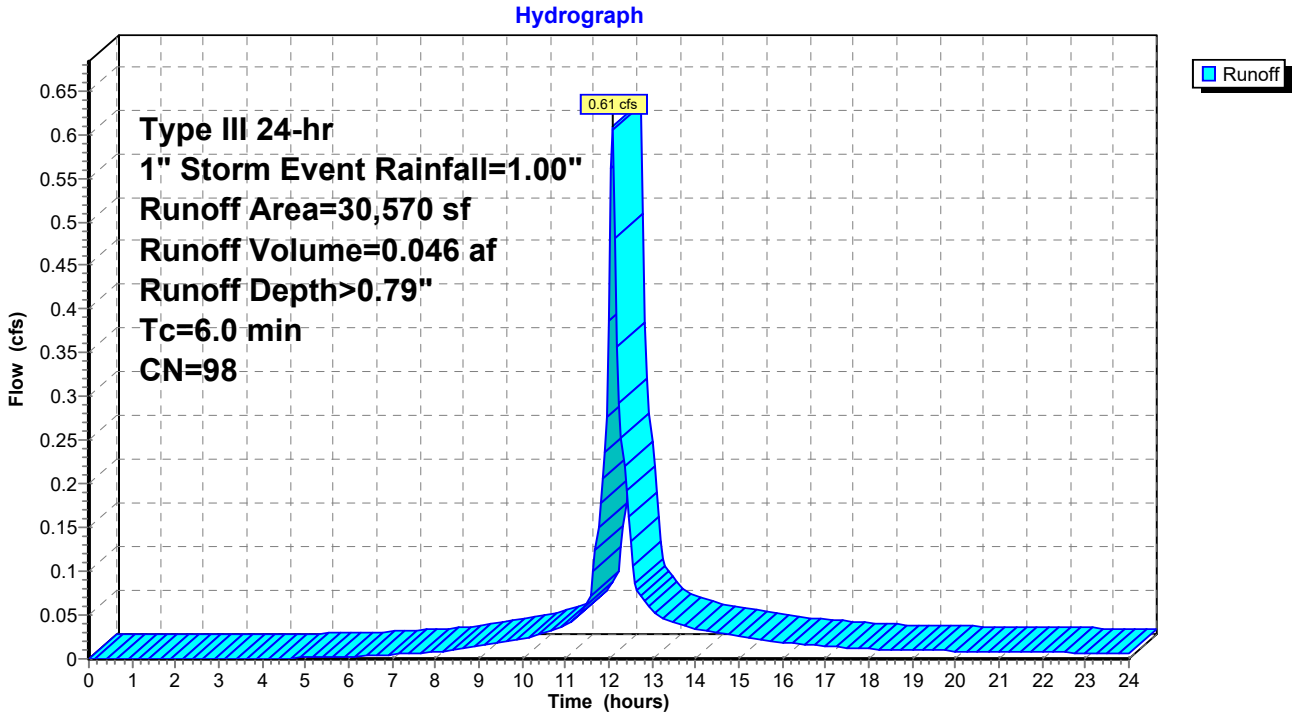
Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.046 af, Depth> 0.79"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	30,570	98	Impervious
	30,570		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 24S: Block 5 Building



Summary for Subcatchment 25S: Southern Plaza

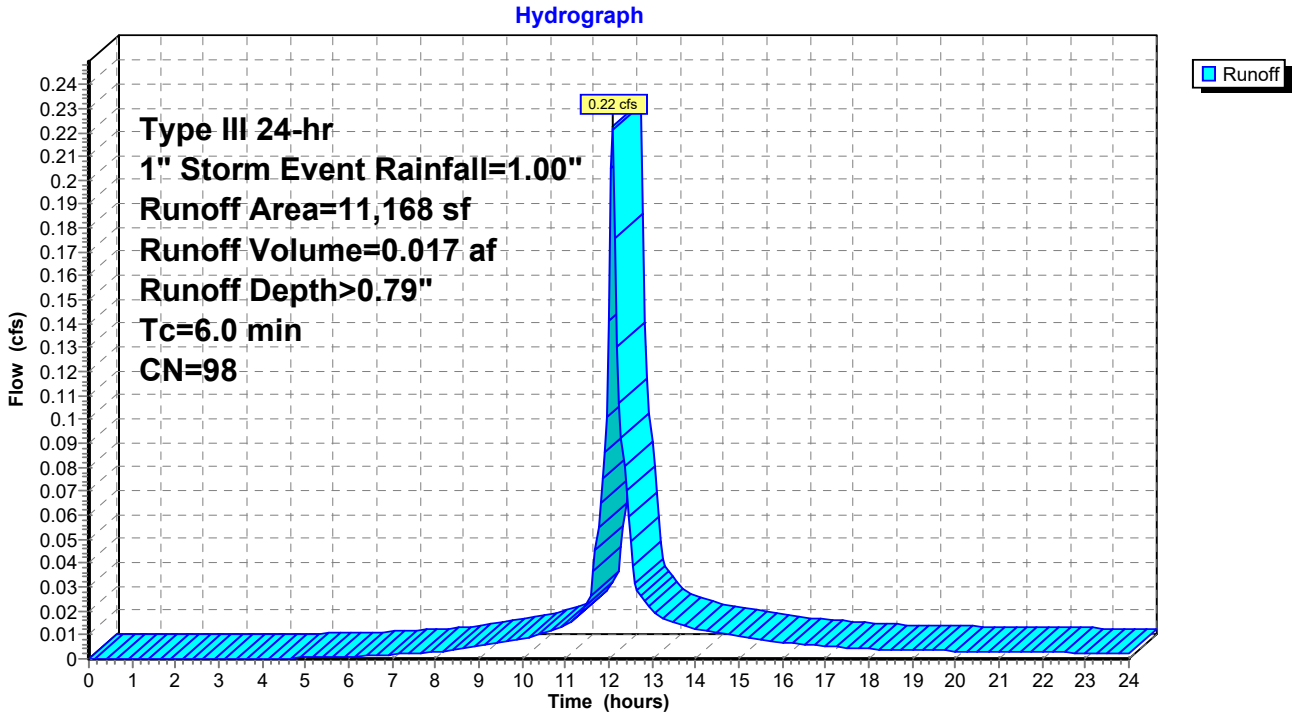
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 0.79"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	11,168	98	Impervious
	11,168		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 25S: Southern Plaza



Summary for Subcatchment 26S: Plaza along Townhouse at Fore Street

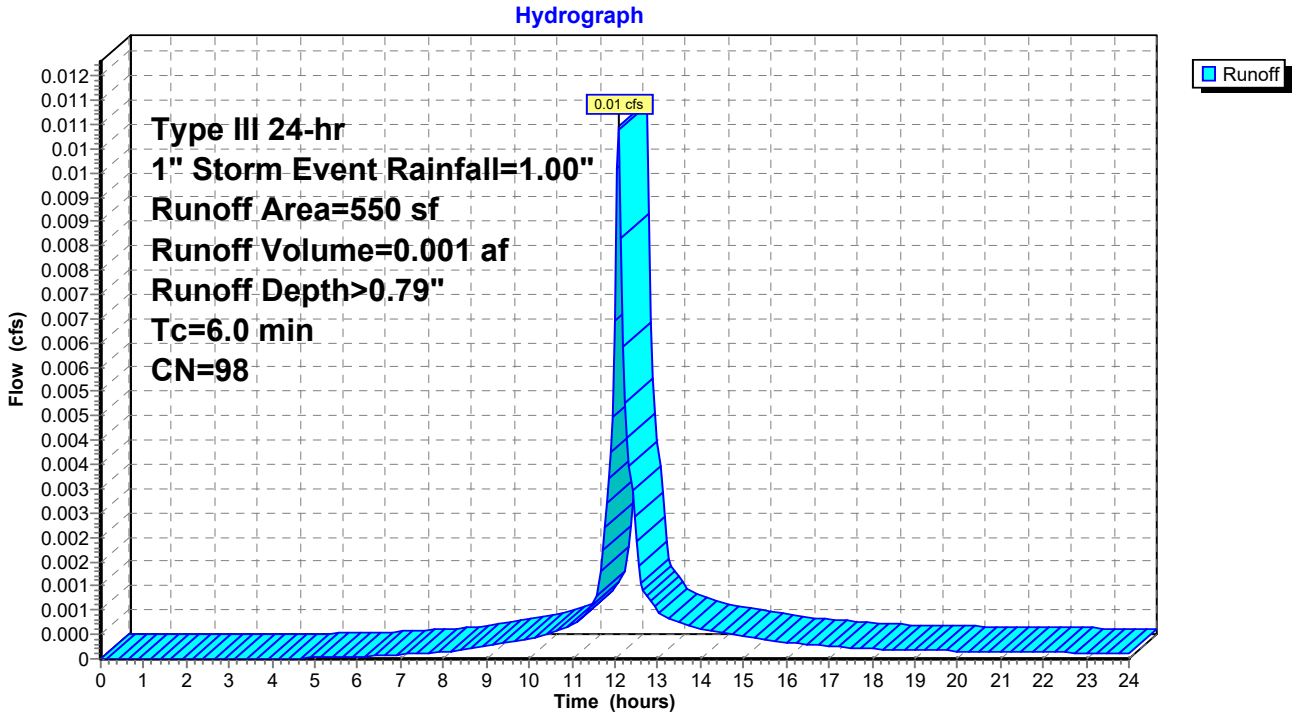
Runoff = 0.01 cfs @ 12.09 hrs, Volume= 0.001 af, Depth> 0.79"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	550	98	Impervious
	550		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 26S: Plaza along Townhouse at Fore Street



Summary for Subcatchment 27S: Drainage from off-site residential

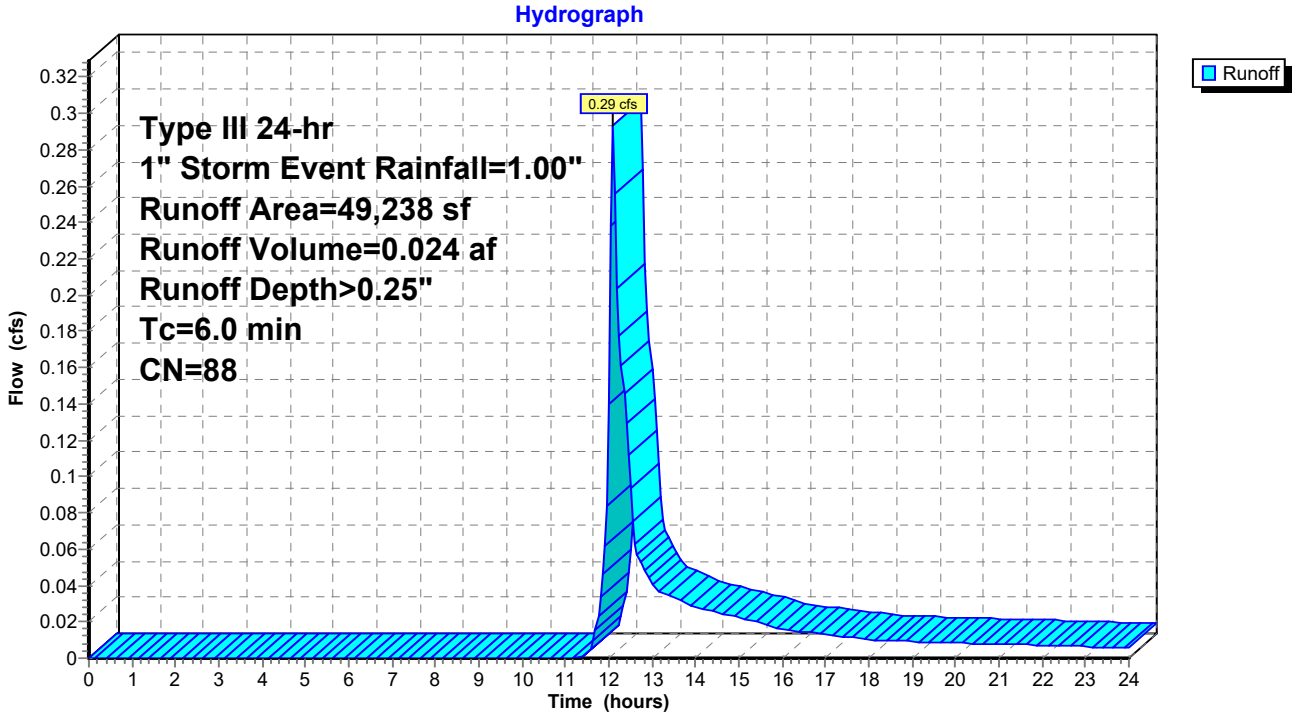
Runoff = 0.29 cfs @ 12.10 hrs, Volume= 0.024 af, Depth> 0.25"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	21,588	98	Impervious
	27,650	80	>75% Grass cover, Good, HSG D
	49,238	88	Weighted Average
	27,650		56.16% Pervious Area
	21,588		43.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 27S: Drainage from off-site residential



Summary for Subcatchment 28S: Waterfront

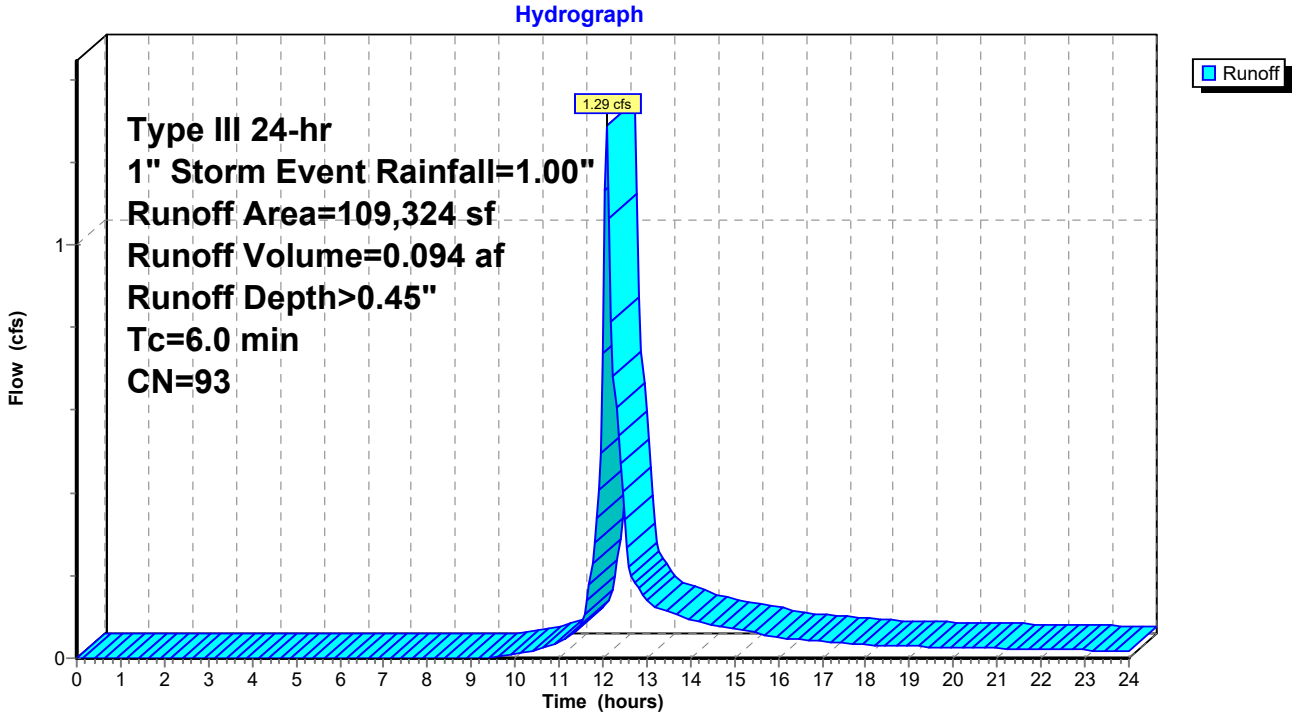
Runoff = 1.29 cfs @ 12.10 hrs, Volume= 0.094 af, Depth> 0.45"
Routed to Link 2L : Fore River

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	78,916	98	Impervious
	30,408	80	>75% Grass cover, Good, HSG D
	109,324	93	Weighted Average
	30,408		27.81% Pervious Area
	78,916		72.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 28S: Waterfront



Summary for Subcatchment 29S: Block 6 Building

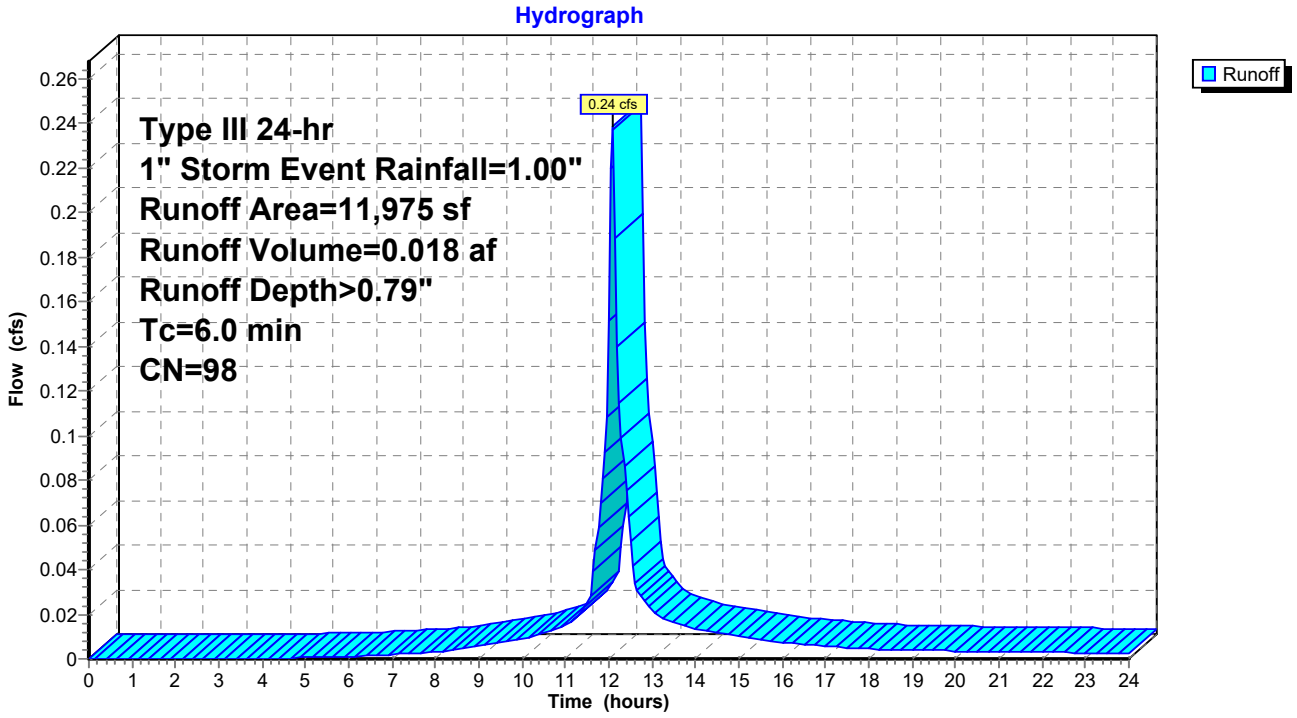
Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 0.79"
Routed to Pond 24P : Filterra 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 29S: Block 6 Building



Summary for Subcatchment 30S: Block 6 Building

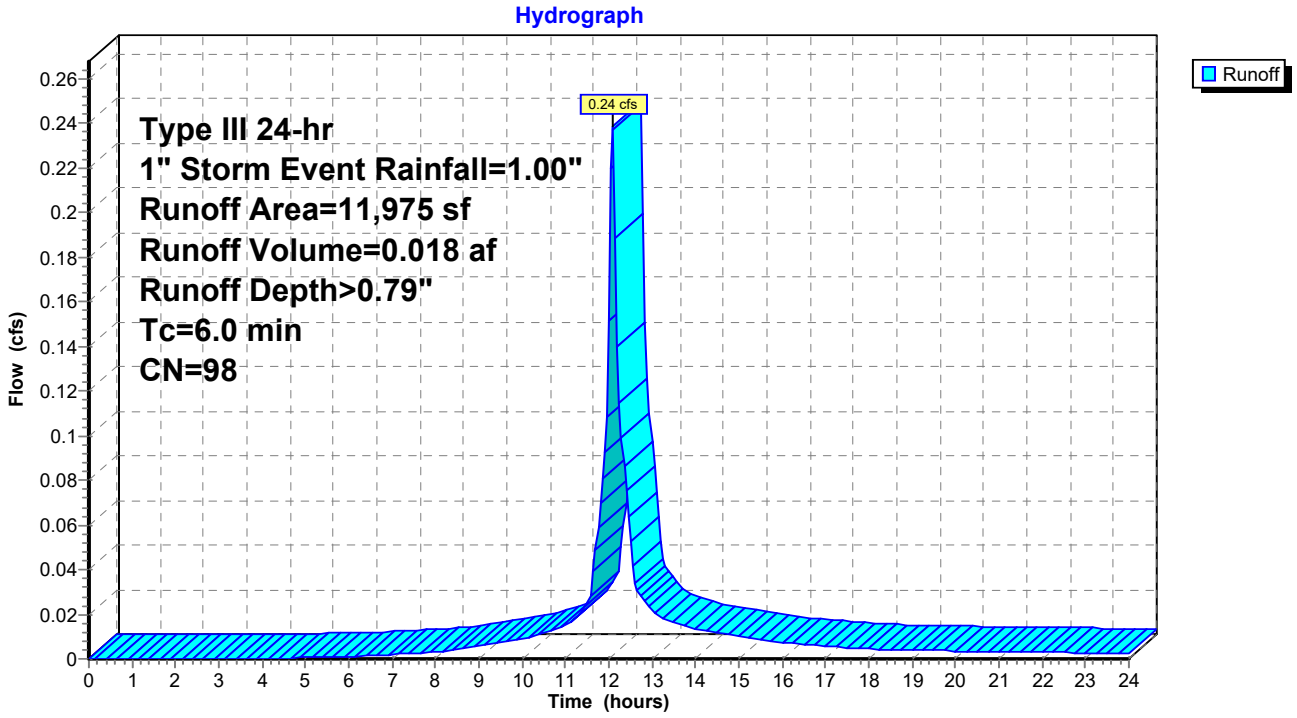
Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 0.79"
Routed to Pond 28P : Filterra 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1" Storm Event Rainfall=1.00"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 30S: Block 6 Building



Summary for Pond 1P: DMH 1

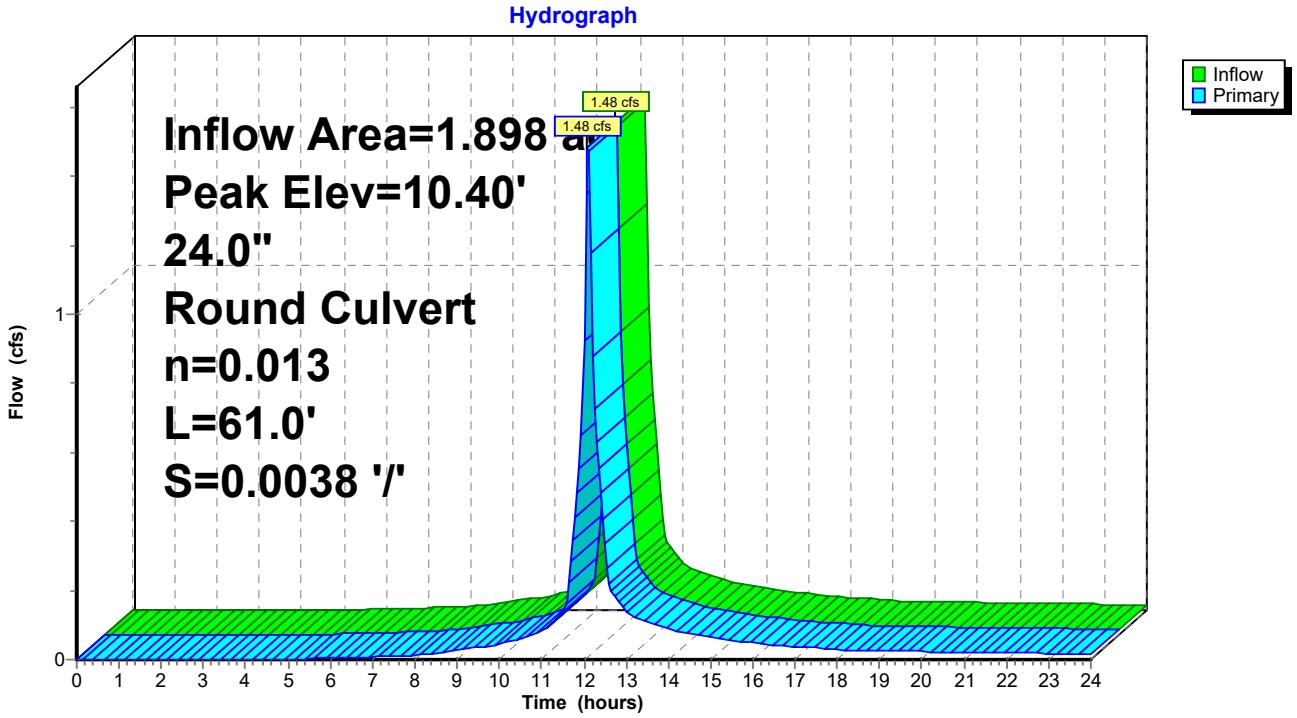
Inflow Area = 1.898 ac, 93.68% Impervious, Inflow Depth > 0.70" for 1" Storm Event event
Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.110 af
Outflow = 1.48 cfs @ 12.09 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 12.09 hrs, Volume= 0.110 af
Routed to Pond 2P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.40' @ 12.09 hrs
Flood Elev= 14.71'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.77'	**24.0" Round Culvert** L= 61.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.77' / 9.54' S= 0.0038 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.45 cfs @ 12.09 hrs HW=10.39' (Free Discharge)
1=Culvert (Barrel Controls 1.45 cfs @ 2.63 fps)

Pond 1P: DMH 1



Summary for Pond 2P: DMH 2

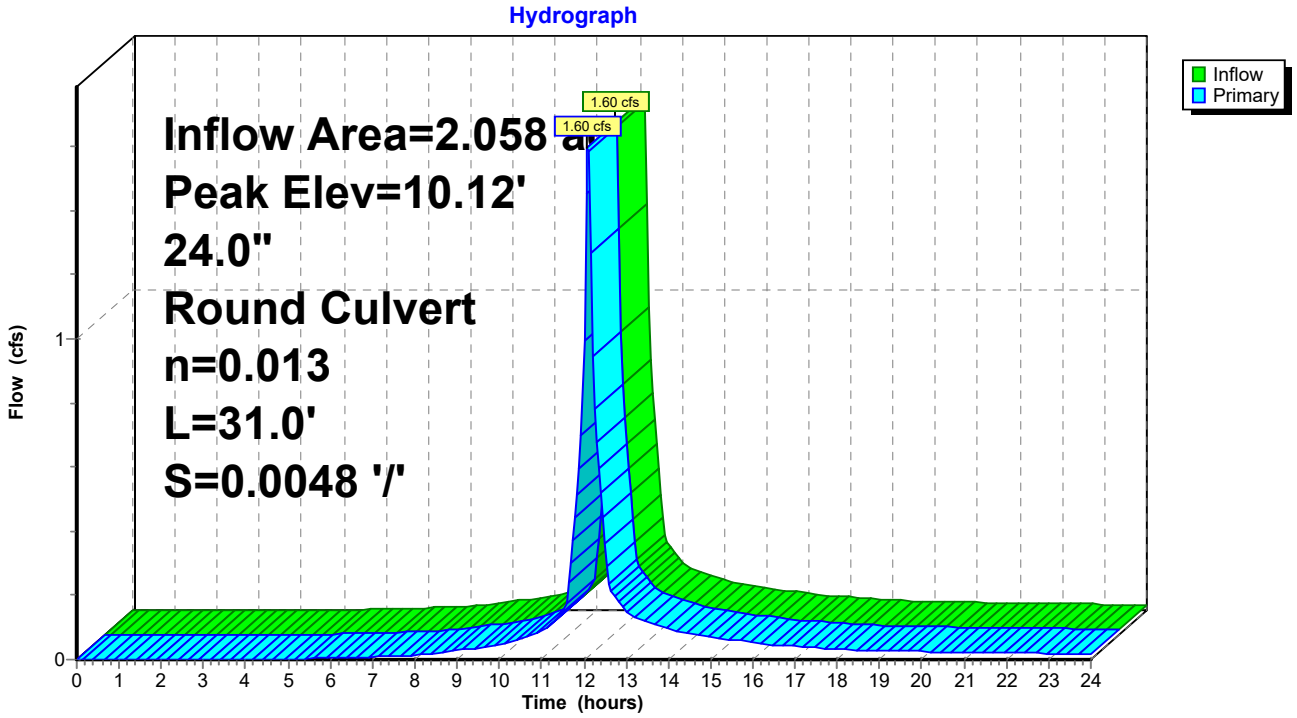
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 0.69" for 1" Storm Event event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af
Outflow = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min
Primary = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af
Routed to Pond 3P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.12' @ 12.09 hrs
Flood Elev= 14.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.50'	**24.0" Round Culvert** L= 31.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.35' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.56 cfs @ 12.09 hrs HW=10.11' (Free Discharge)
1=Culvert (Barrel Controls 1.56 cfs @ 2.87 fps)

Pond 2P: DMH 2



Summary for Pond 3P: Storm Structure

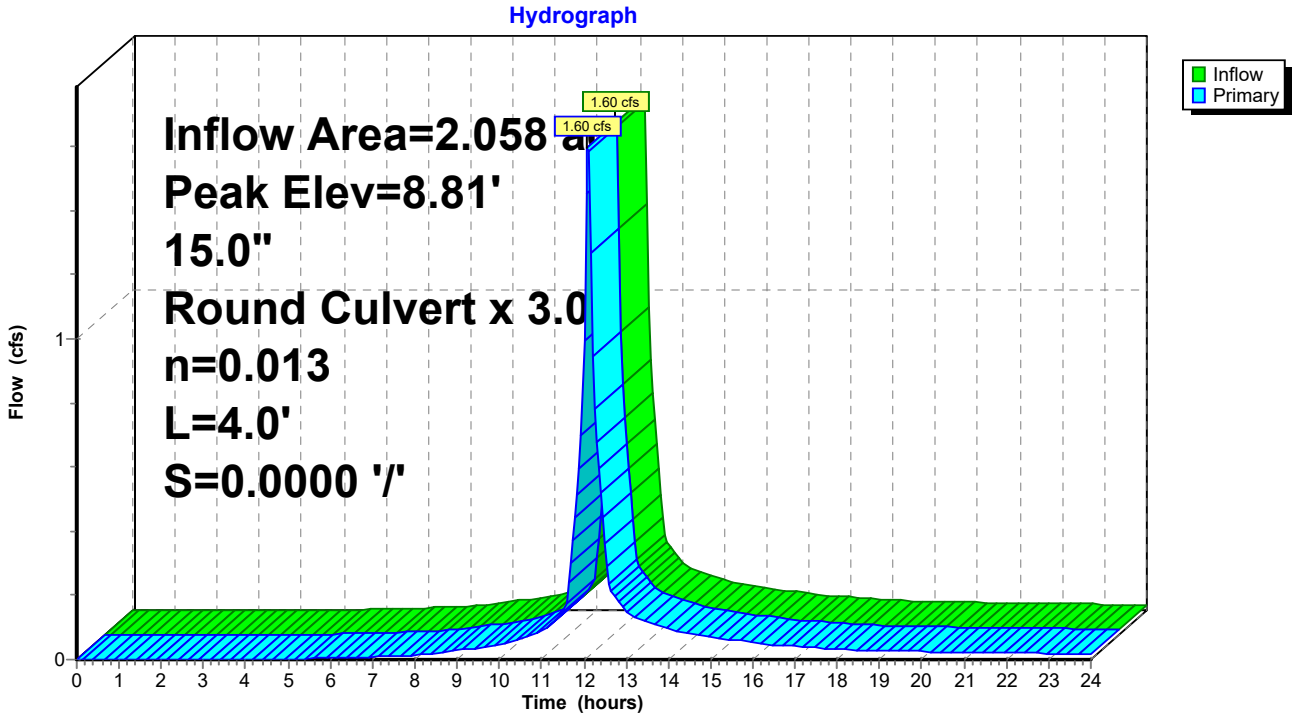
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 0.69" for 1" Storm Event event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af
Outflow = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min
Primary = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af
Routed to Pond 4P : R-Tank 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.81' @ 12.09 hrs
Flood Elev= 14.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.35'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.35' / 8.35' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.56 cfs @ 12.09 hrs HW=8.81' (Free Discharge)
1=Culvert (Barrel Controls 1.56 cfs @ 1.89 fps)

Pond 3P: Storm Structure



Summary for Pond 4P: R-Tank 1

Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 0.69" for 1" Storm Event event
Inflow = 1.60 cfs @ 12.09 hrs, Volume= 0.119 af
Outflow = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af, Atten= 18%, Lag= 3.8 min
Primary = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af
Routed to Pond 10P : DMH 4

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 7.51' @ 12.15 hrs Surf.Area= 1,162 sf Storage= 838 cf
Flood Elev= 12.00' Surf.Area= 1,162 sf Storage= 3,266 cf

Plug-Flow detention time= 52.4 min calculated for 0.113 af (95% of inflow)
Center-of-Mass det. time= 27.8 min (828.2 - 800.5)

Volume	Invert	Avail.Storage	Storage Description
#1	6.50'	892 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 4,729 cf Overall - 2,499 cf Embedded = 2,231 cf x 40.0% Voids
#2	6.75'	2,374 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 2,499 cf Overall x 95.0% Voids
		3,266 cf	Total Available Storage

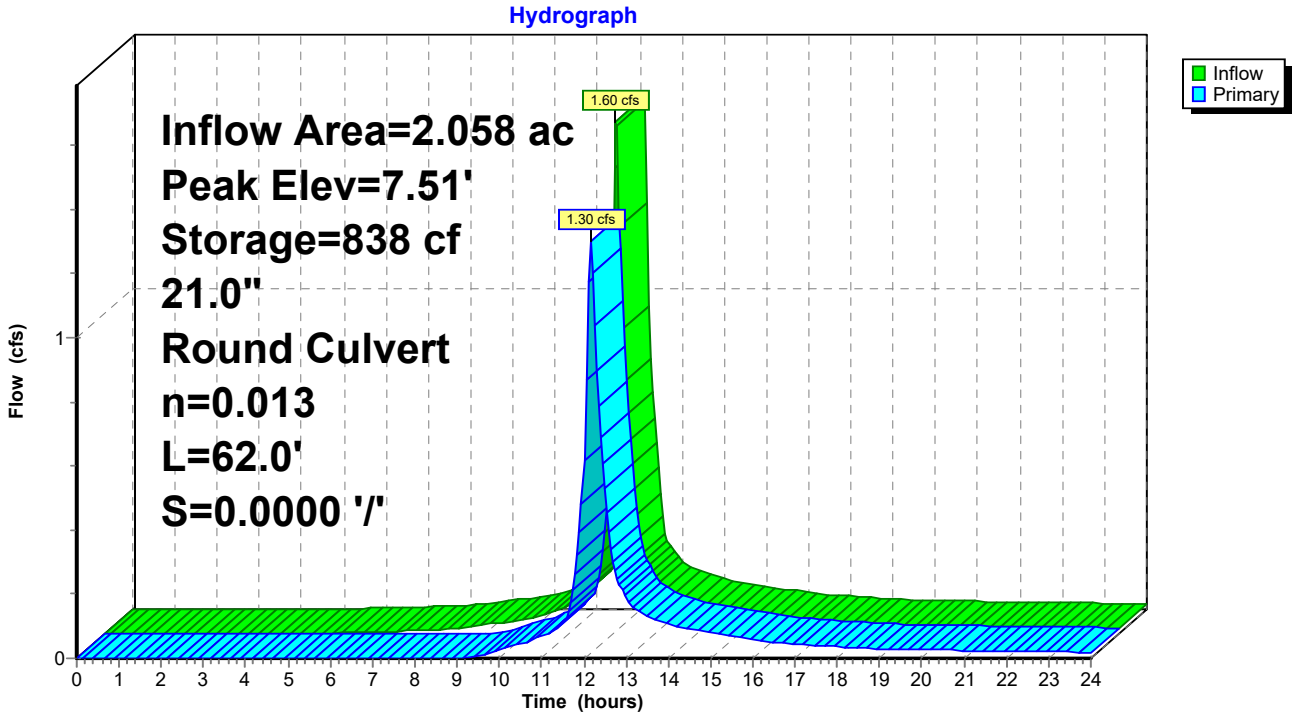
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.50	1,162	0	0
10.57	1,162	4,729	4,729

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.75	886	0	0
9.57	886	2,499	2,499

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**21.0" Round Culvert to Filter** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf

Primary OutFlow Max=1.29 cfs @ 12.15 hrs HW=7.51' (Free Discharge)
1=Culvert to Filter (Barrel Controls 1.29 cfs @ 1.92 fps)

Pond 4P: R-Tank 1



Summary for Pond 5P: DMH-11

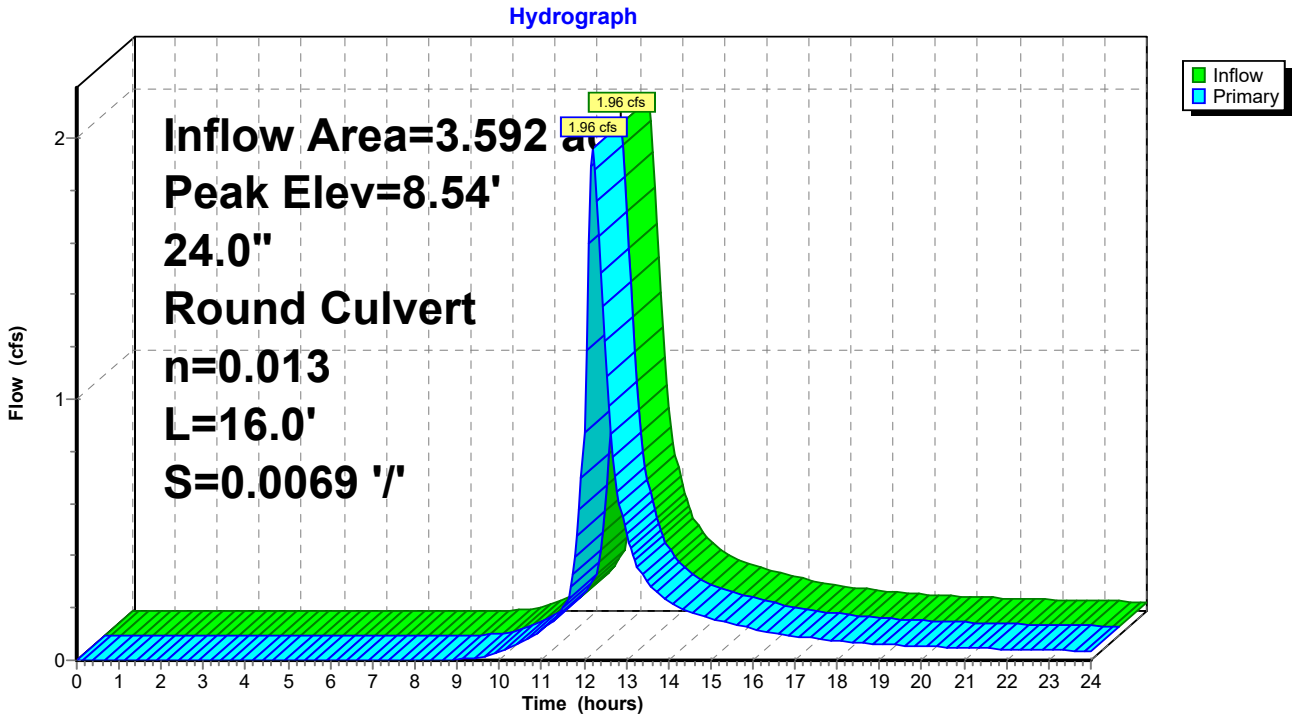
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 0.73" for 1" Storm Event event
Inflow = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af
Outflow = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min
Primary = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af
Routed to Pond 12P : Jellyfish 2 JFPD0806-7-2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.54' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.71' S= 0.0069 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.96 cfs @ 12.20 hrs HW=8.54' (Free Discharge)
1=Culvert (Barrel Controls 1.96 cfs @ 2.87 fps)

Pond 5P: DMH-11



Summary for Pond 6P: CB27

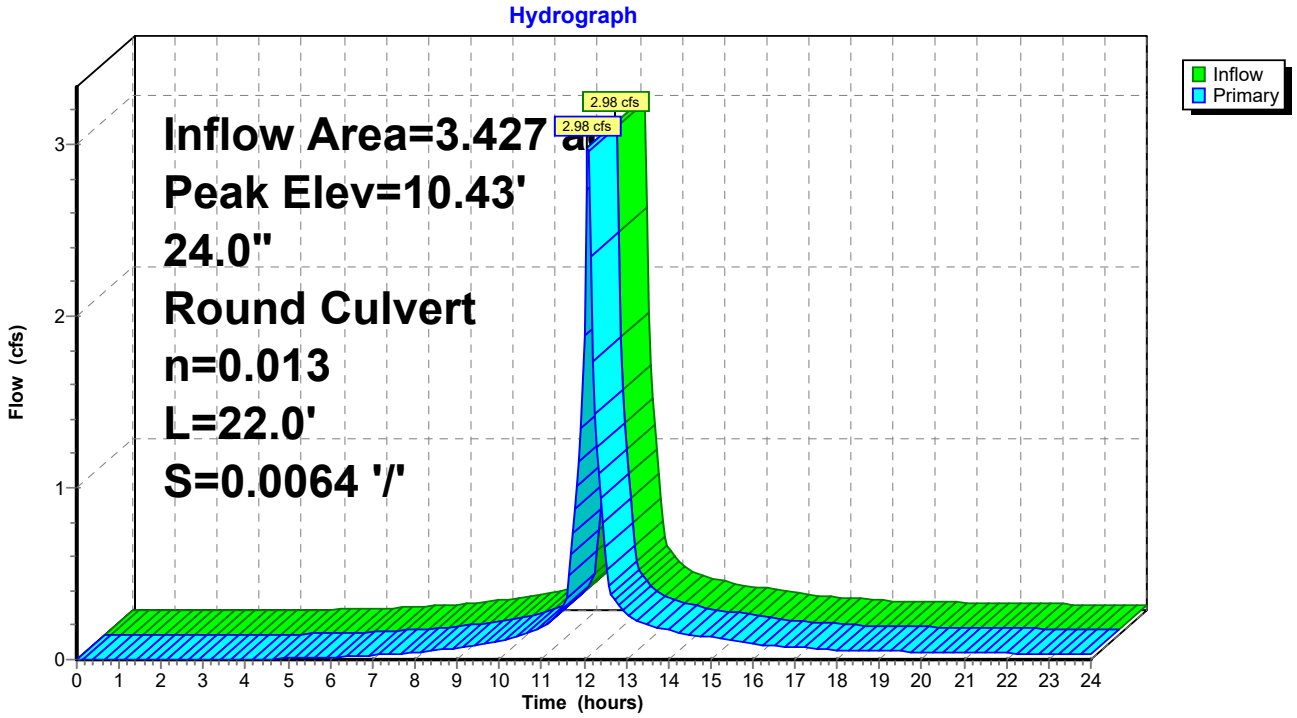
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 2.98 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.98 cfs @ 12.09 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.09 hrs, Volume= 0.226 af
Routed to Pond 7P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.43' @ 12.09 hrs
Flood Elev= 14.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.53'	**24.0" Round Culvert** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.53' / 9.39' S= 0.0064 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.90 cfs @ 12.09 hrs HW=10.42' (Free Discharge)
1=Culvert (Barrel Controls 2.90 cfs @ 3.18 fps)

Pond 6P: CB27



Summary for Pond 7P: Storm Structure

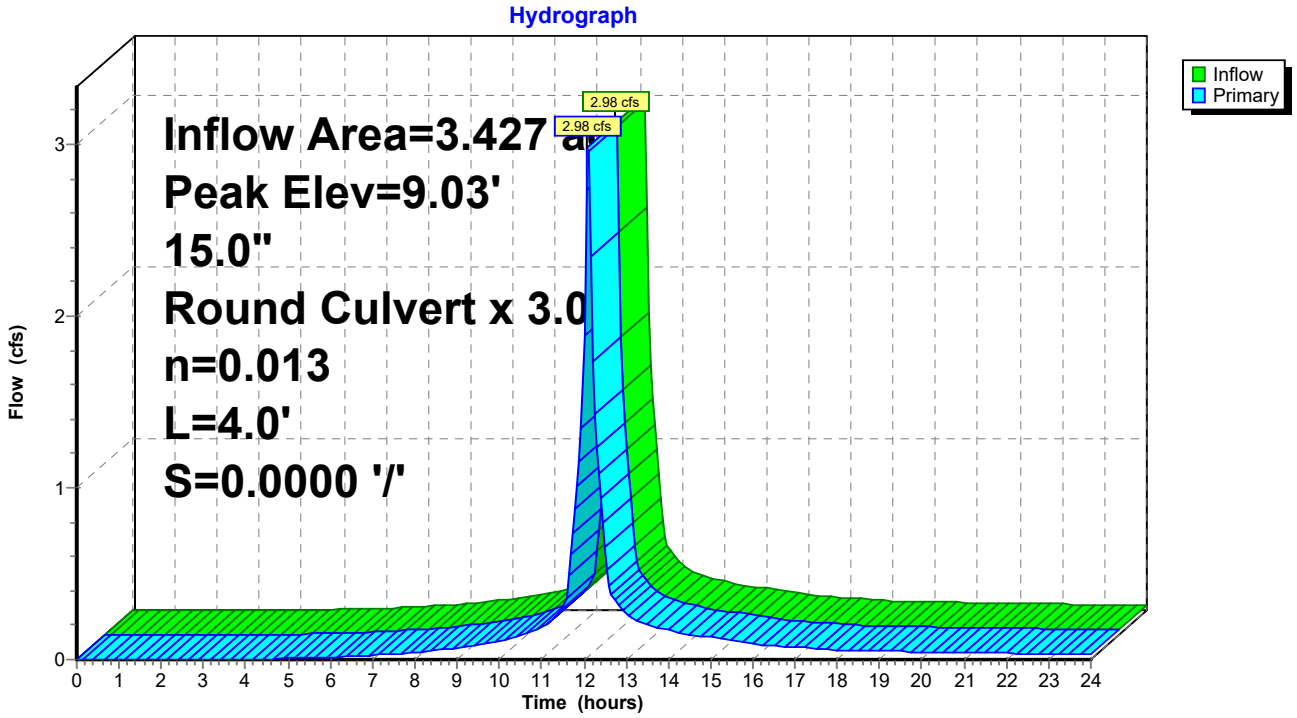
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 2.98 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.98 cfs @ 12.09 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.09 hrs, Volume= 0.226 af
Routed to Pond 8P : R-Tank 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.03' @ 12.09 hrs
Flood Elev= 14.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.39'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.39' / 8.39' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.90 cfs @ 12.09 hrs HW=9.03' (Free Discharge)
1=Culvert (Barrel Controls 2.90 cfs @ 2.25 fps)

Pond 7P: Storm Structure



Summary for Pond 8P: R-Tank 2

Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 3.12 cfs @ 12.09 hrs, Volume= 0.237 af
Outflow = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af, Atten= 37%, Lag= 6.6 min
Primary = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af
Routed to Pond 5P : DMH-11

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.71' @ 12.20 hrs Surf.Area= 3,128 sf Storage= 2,746 cf
Flood Elev= 12.71' Surf.Area= 3,128 sf Storage= 8,290 cf

Plug-Flow detention time= 86.4 min calculated for 0.219 af (93% of inflow)
Center-of-Mass det. time= 48.7 min (836.1 - 787.4)

Volume	Invert	Avail.Storage	Storage Description
#1	7.57'	2,767 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 12,731 cf Overall - 5,813 cf Embedded = 6,918 cf x 40.0% Voids
#2	7.82'	5,523 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 5,813 cf Overall x 95.0% Voids
		8,290 cf	Total Available Storage

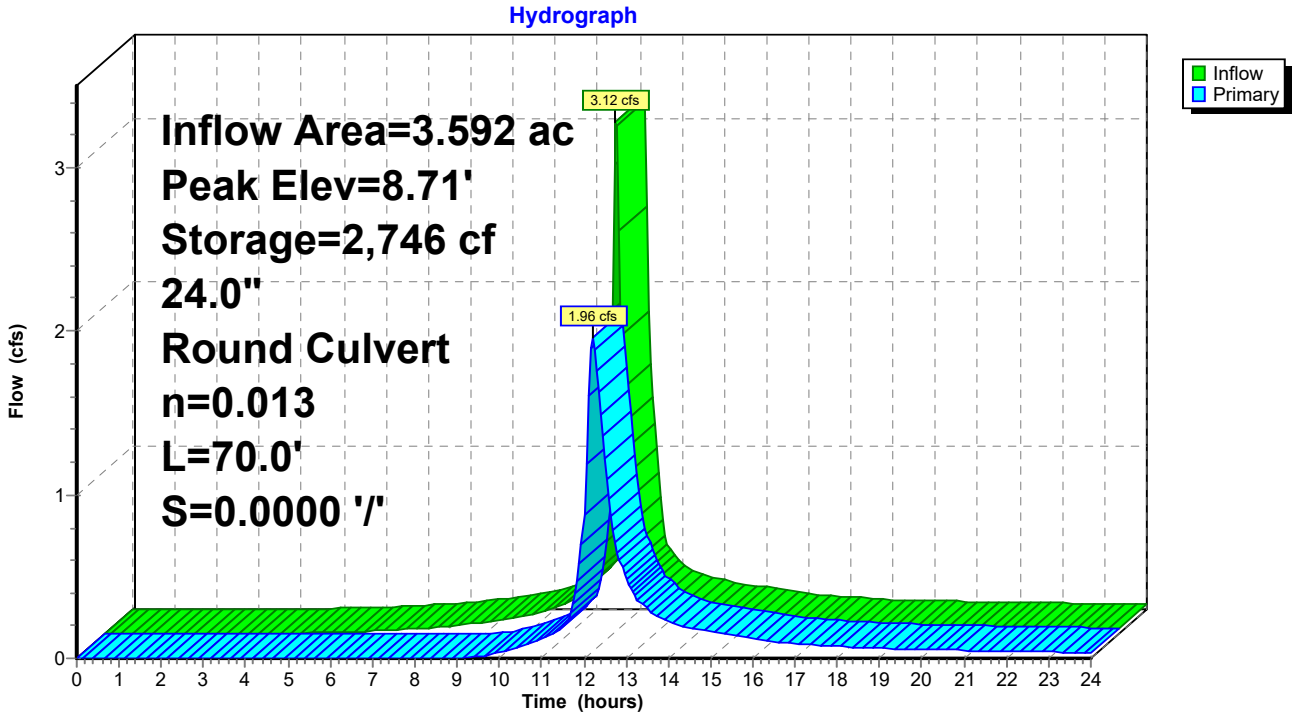
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.57	3,128	0	0
11.64	3,128	12,731	12,731

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.82	2,679	0	0
9.99	2,679	5,813	5,813

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.82' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.96 cfs @ 12.20 hrs HW=8.71' (Free Discharge)
1=Culvert (Barrel Controls 1.96 cfs @ 2.12 fps)

Pond 8P: R-Tank 2



Summary for Pond 9P: DMH-8 (Outfall #1)

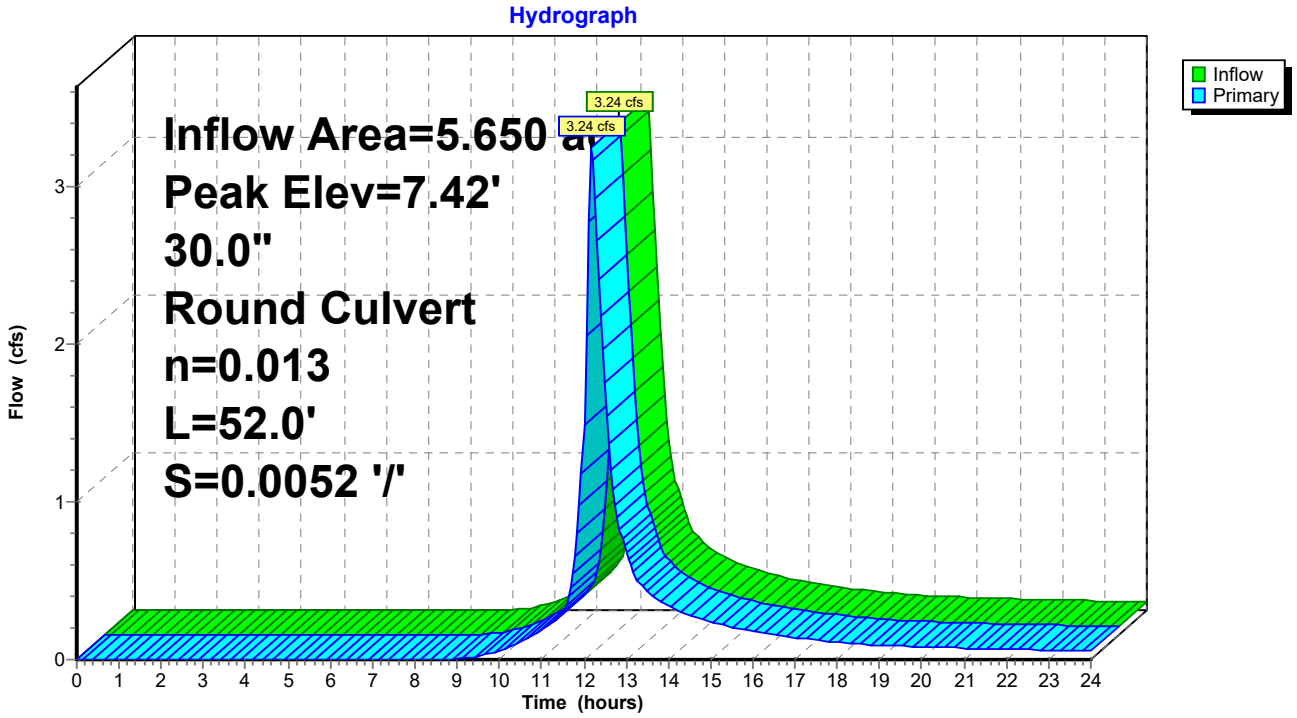
Inflow Area = 5.650 ac, 97.52% Impervious, Inflow Depth > 0.71" for 1" Storm Event event
Inflow = 3.24 cfs @ 12.17 hrs, Volume= 0.333 af
Outflow = 3.24 cfs @ 12.17 hrs, Volume= 0.333 af, Atten= 0%, Lag= 0.0 min
Primary = 3.24 cfs @ 12.17 hrs, Volume= 0.333 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 7.42' @ 12.17 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.57'	**30.0" Round Culvert** L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.57' / 6.30' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=3.18 cfs @ 12.17 hrs HW=7.41' (Free Discharge)
1=Culvert (Barrel Controls 3.18 cfs @ 3.28 fps)

Pond 9P: DMH-8 (Outfall #1)



Summary for Pond 10P: DMH 4

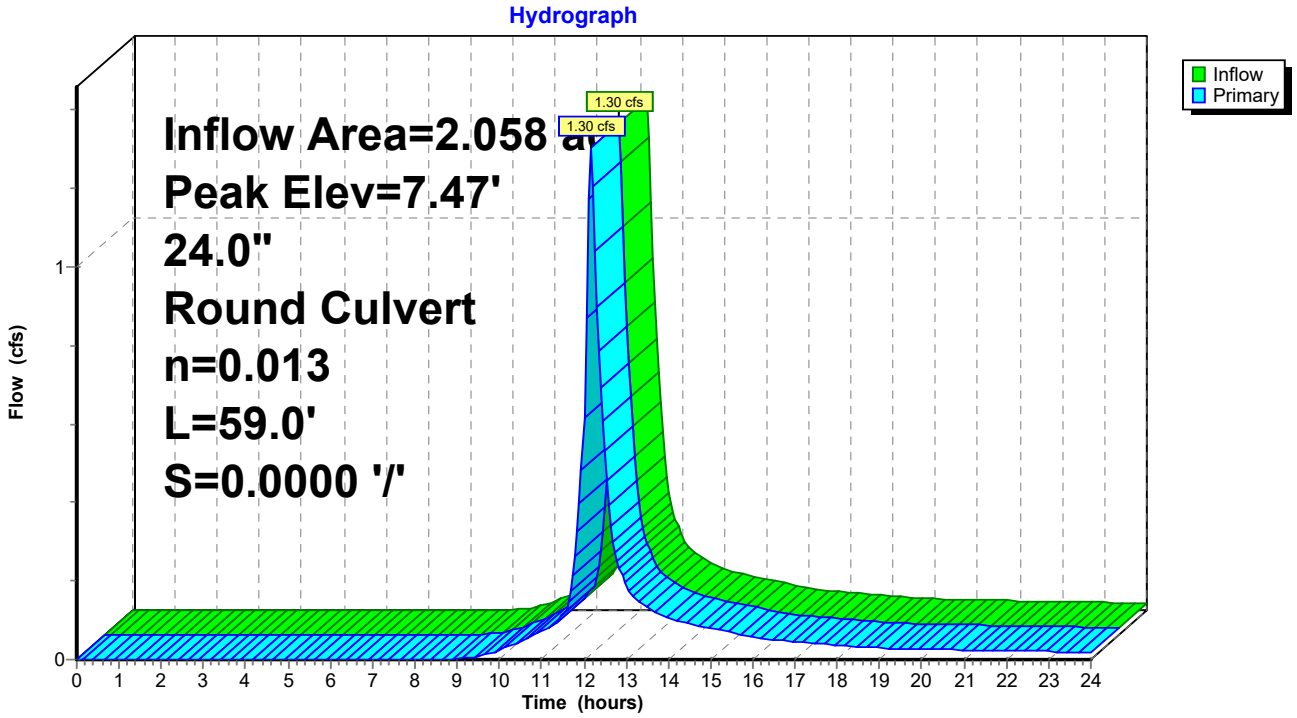
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 0.66" for 1" Storm Event event
Inflow = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af
Outflow = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af
Routed to Pond 11P : Jellyfish 1 JFPD0806-4-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 7.47' @ 12.15 hrs
Flood Elev= 13.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Culvert** L= 59.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.29 cfs @ 12.15 hrs HW=7.47' (Free Discharge)
1=Culvert (Barrel Controls 1.29 cfs @ 1.88 fps)

Pond 10P: DMH 4



Summary for Pond 11P: Jellyfish 1 JFPD0806-4-1

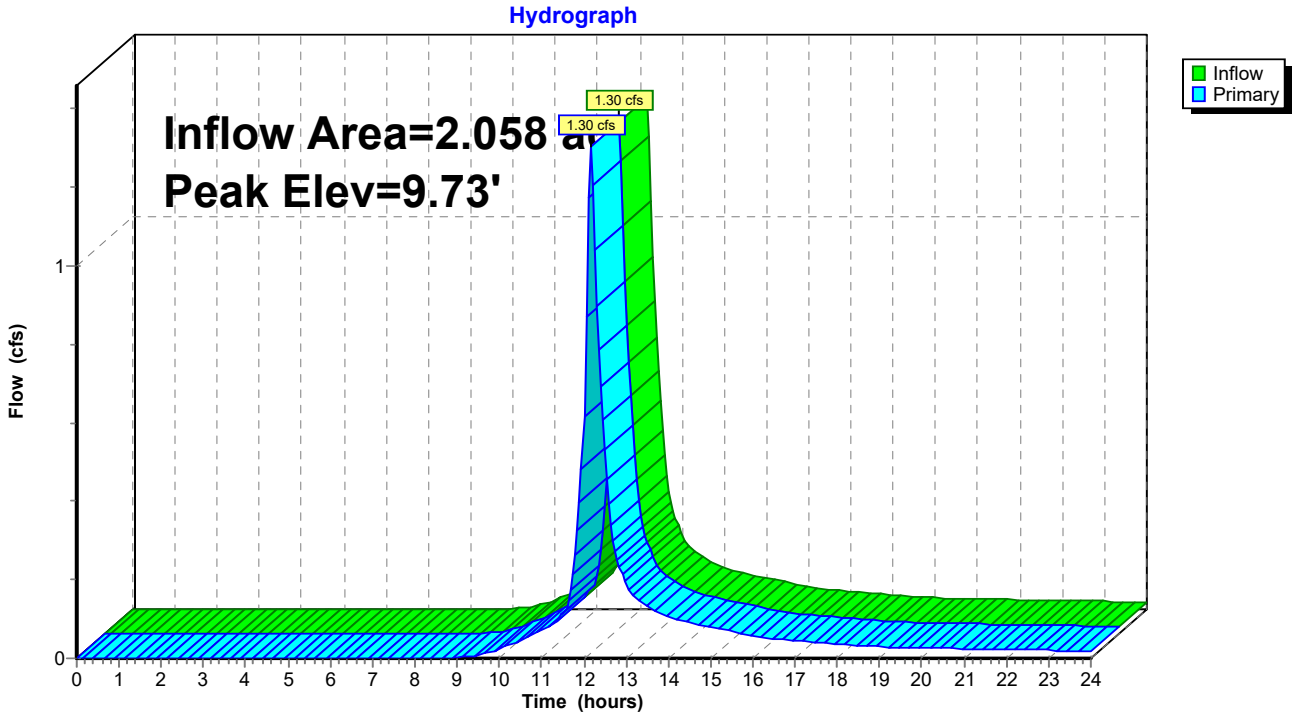
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 0.66" for 1" Storm Event event
Inflow = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af
Outflow = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.15 hrs, Volume= 0.114 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.73' @ 12.15 hrs
Flood Elev= 12.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Filter Culvert Out** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.67' S= 0.0160 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	6.75'	**JF Filter-1 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.129 0.198 0.267 0.337 0.406 0.475 0.545 0.614 0.683 0.753 0.822 0.891
#3	Device 1	9.59'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.29 cfs @ 12.15 hrs HW=9.73' (Free Discharge)
└**1=Filter Culvert Out** (Passes 1.29 cfs of 16.79 cfs potential flow)
  ├**2=JF Filter-1 CSV File** (Custom Controls 0.89 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.40 cfs @ 1.04 fps)

Pond 11P: Jellyfish 1 JFPD0806-4-1



Summary for Pond 12P: Jellyfish 2 JFPD0806-7-2

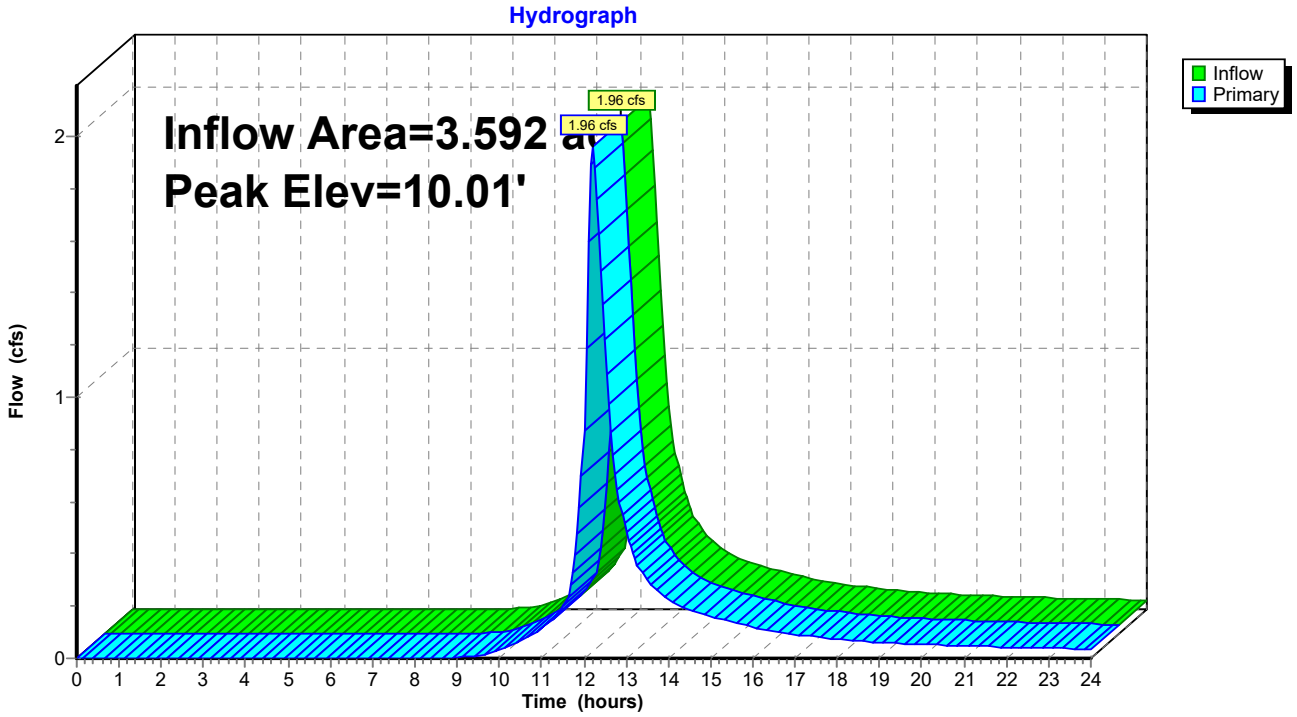
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 0.73" for 1" Storm Event event
Inflow = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af
Outflow = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min
Primary = 1.96 cfs @ 12.20 hrs, Volume= 0.219 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.01' @ 12.20 hrs
Flood Elev= 11.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.71'	**24.0" Round Filter Culvert Out** L= 125.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.71' / 6.92' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	7.71'	**JF Filter-2 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.173 0.287 0.401 0.515 0.629 0.743 0.857 0.970 1.084 1.198 1.312 1.426
#3	Device 1	9.84'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.96 cfs @ 12.20 hrs HW=10.01' (Free Discharge)
└**1=Filter Culvert Out** (Passes 1.96 cfs of 13.59 cfs potential flow)
  ├**2=JF Filter-2 CSV File** (Custom Controls 1.43 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 1.14 fps)

Pond 12P: Jellyfish 2 JFPD0806-7-2



Summary for Pond 13P: DMH-13 (Outfall #2)

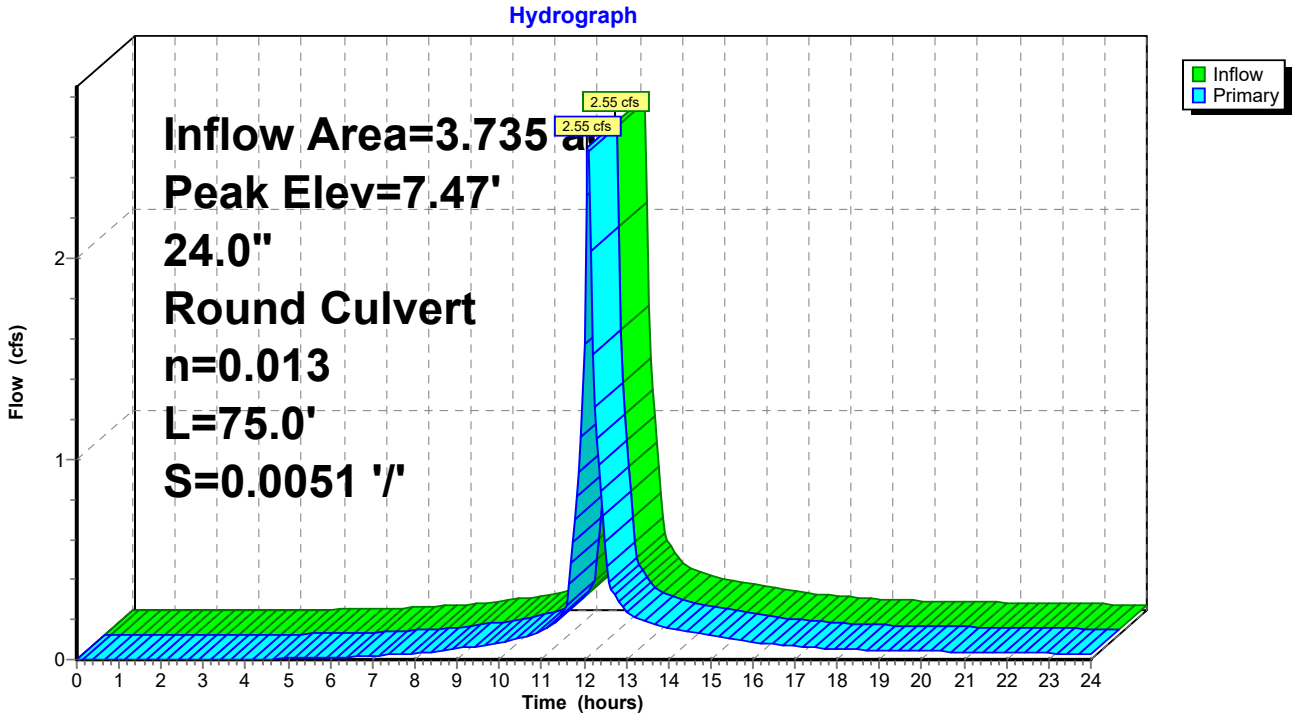
Inflow Area = 3.735 ac, 83.01% Impervious, Inflow Depth > 0.63" for 1" Storm Event event
Inflow = 2.55 cfs @ 12.09 hrs, Volume= 0.195 af
Outflow = 2.55 cfs @ 12.09 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min
Primary = 2.55 cfs @ 12.09 hrs, Volume= 0.195 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 7.47' @ 12.09 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.68'	**24.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.68' / 6.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.50 cfs @ 12.09 hrs HW=7.46' (Free Discharge)
1=Culvert (Barrel Controls 2.50 cfs @ 3.26 fps)

Pond 13P: DMH-13 (Outfall #2)



Summary for Pond 24P: Filterra 1

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

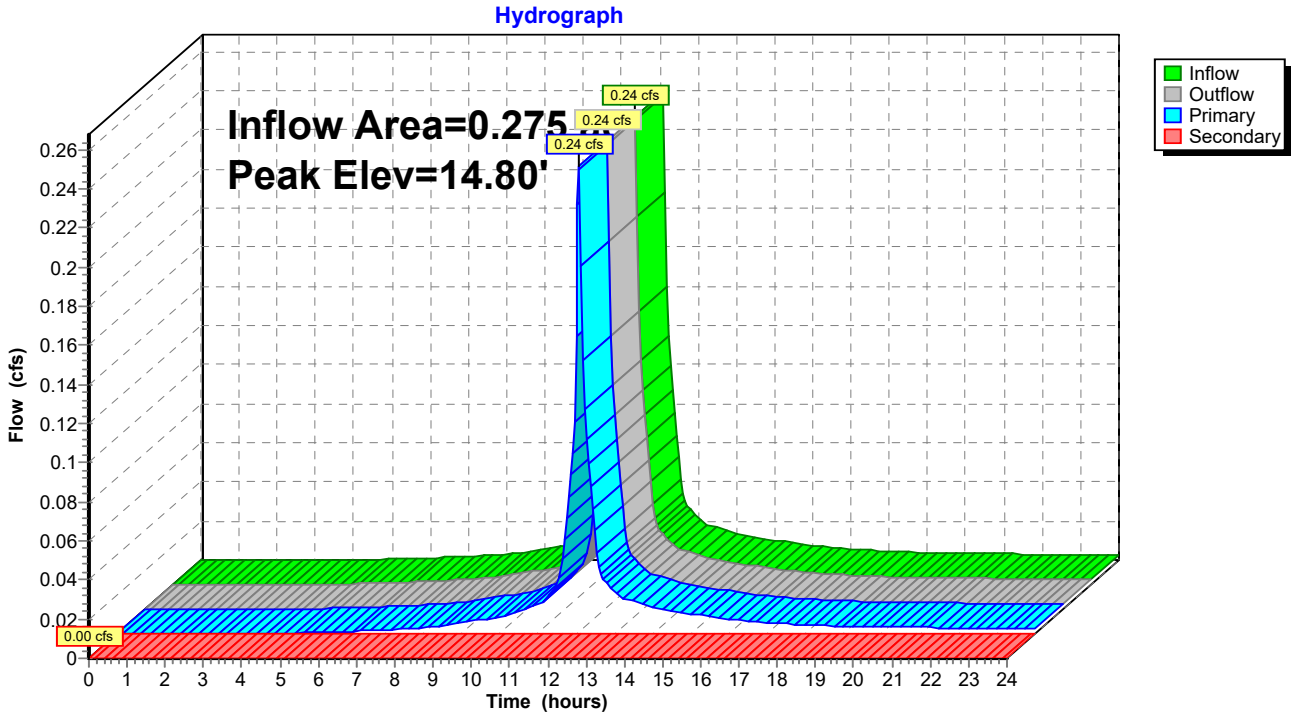
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 14.80' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.23 cfs @ 12.09 hrs HW=14.80' (Free Discharge)
1=Culvert (Barrel Controls 0.23 cfs @ 1.76 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 24P: Filterra 1



Summary for Pond 27P: AD49

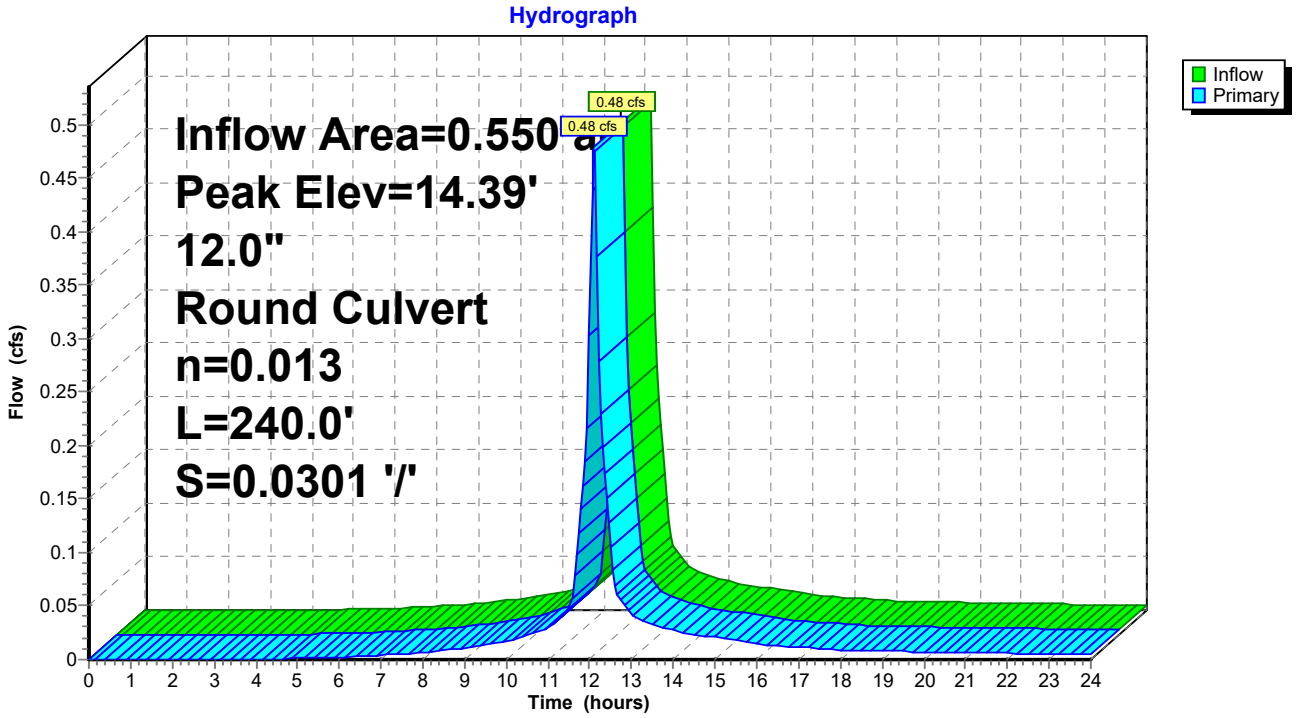
Inflow Area = 0.550 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.036 af
Outflow = 0.48 cfs @ 12.09 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 12.09 hrs, Volume= 0.036 af
Routed to Pond 13P : DMH-13 (Outfall #2)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 14.39' @ 12.09 hrs
Flood Elev= 12.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 240.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.00' / 6.78' S= 0.0301 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 12.09 hrs HW=14.39' (Free Discharge)
1=Culvert (Inlet Controls 0.47 cfs @ 1.67 fps)

Pond 27P: AD49



Summary for Pond 28P: Filterra 2

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

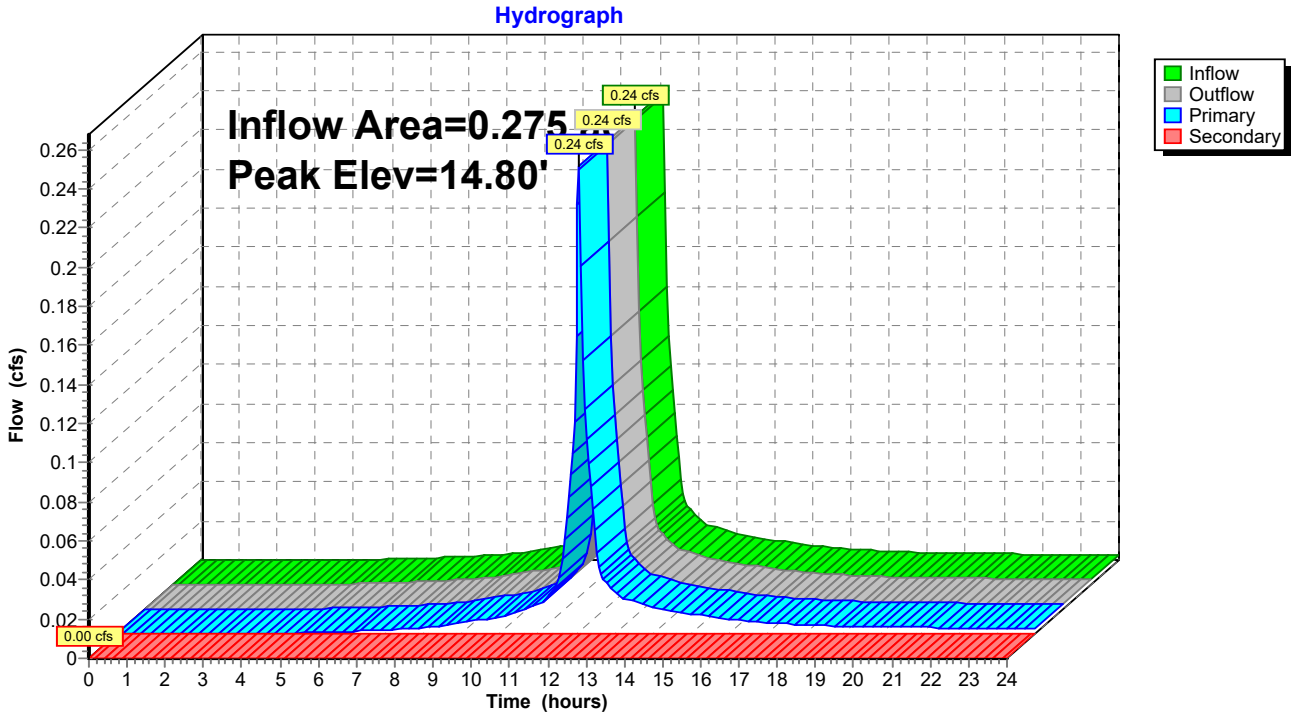
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 14.80' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.23 cfs @ 12.09 hrs HW=14.80' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.23 cfs @ 1.76 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 28P: Filterra 2

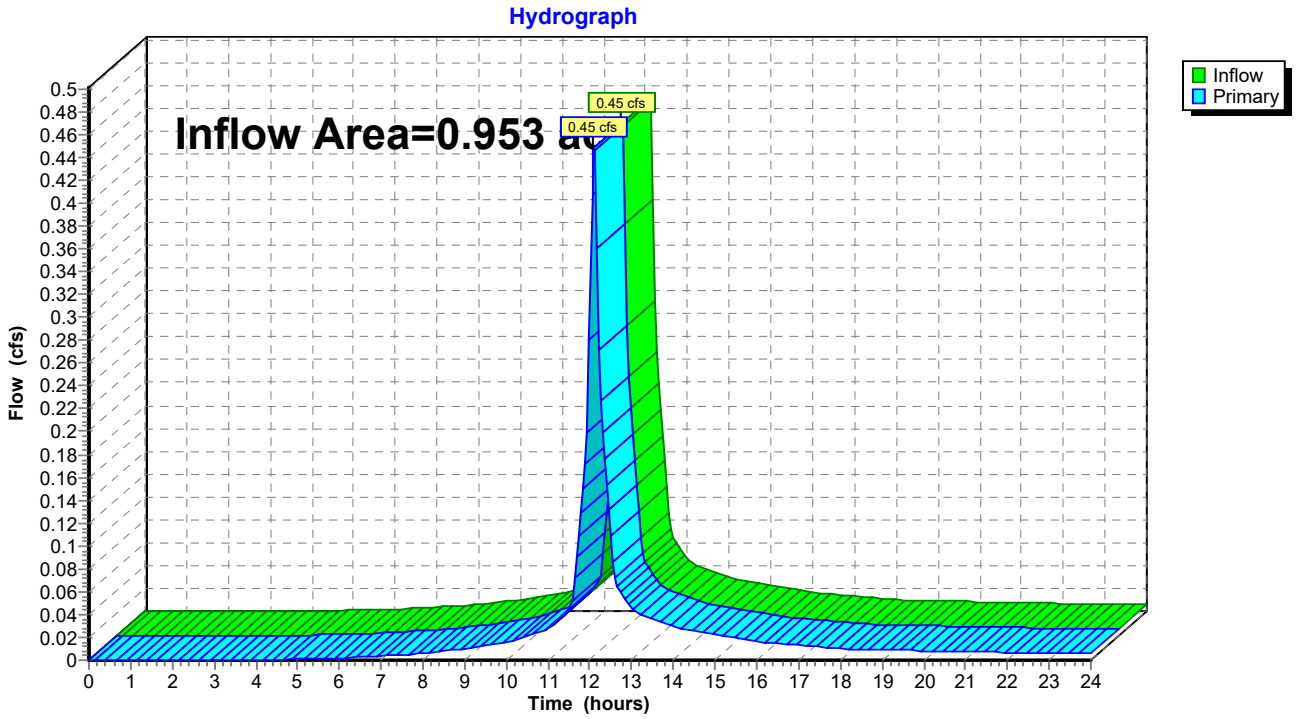


Summary for Link 1L: Freedom Way

Inflow Area = 0.953 ac, 53.78% Impervious, Inflow Depth > 0.46" for 1" Storm Event event
Inflow = 0.45 cfs @ 12.09 hrs, Volume= 0.037 af
Primary = 0.45 cfs @ 12.09 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 1L: Freedom Way

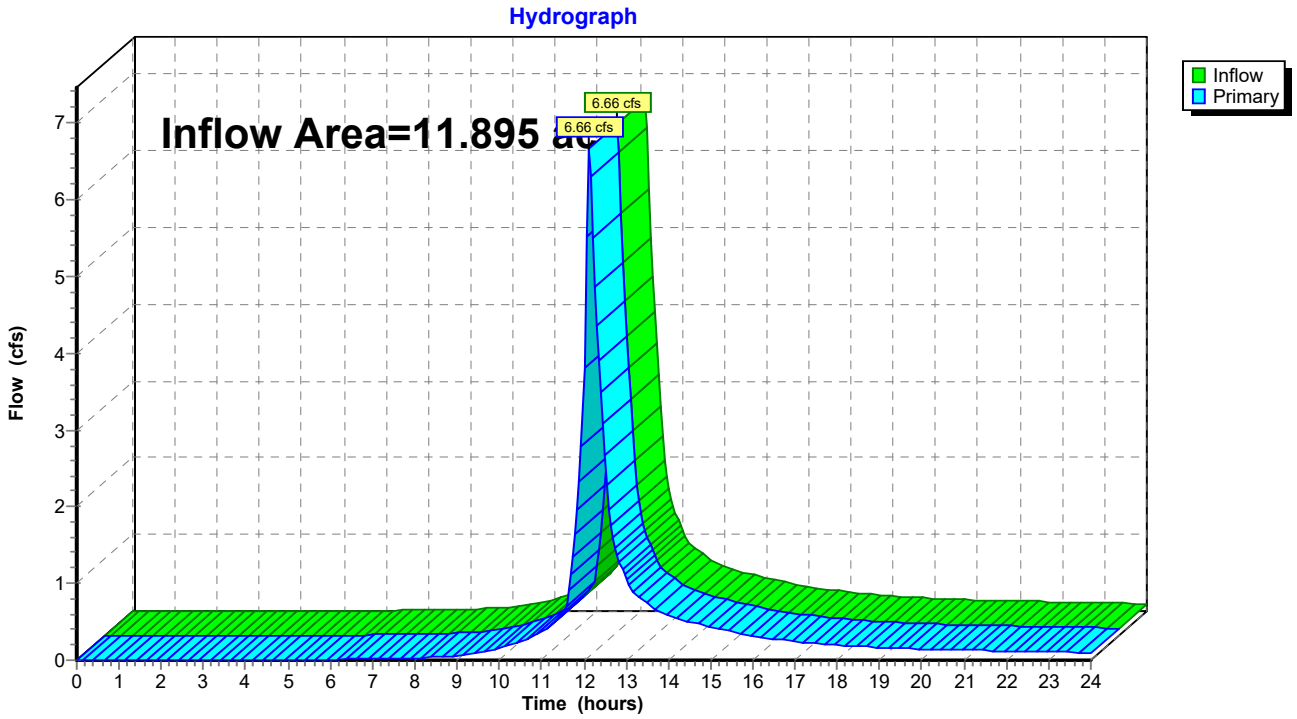


Summary for Link 2L: Fore River

Inflow Area = 11.895 ac, 87.62% Impervious, Inflow Depth > 0.63" for 1" Storm Event event
Inflow = 6.66 cfs @ 12.11 hrs, Volume= 0.623 af
Primary = 6.66 cfs @ 12.11 hrs, Volume= 0.623 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 2L: Fore River

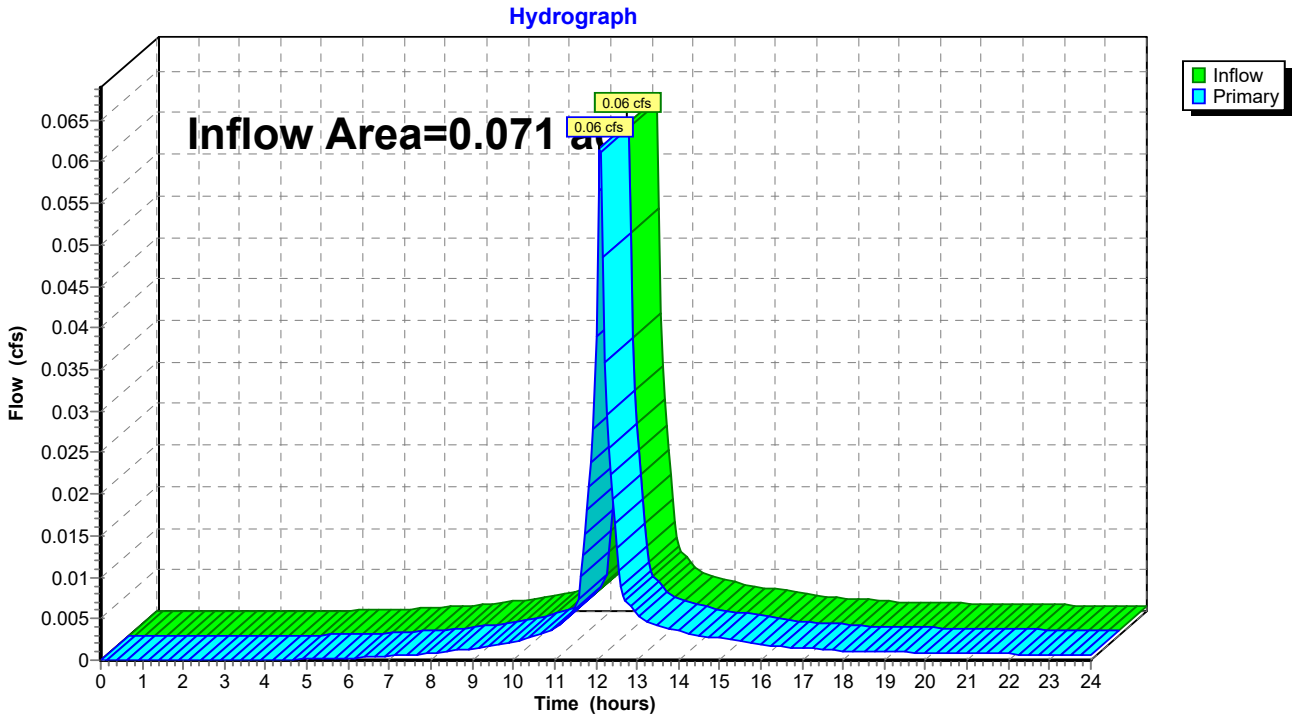


Summary for Link 3L: Fore Street

Inflow Area = 0.071 ac,100.00% Impervious, Inflow Depth > 0.79" for 1" Storm Event event
Inflow = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af
Primary = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: Fore Street



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Block 1B Runoff Area=19,389 sf 1.02% Impervious Runoff Depth>1.32"
Tc=6.0 min CN=80 Runoff=0.67 cfs 0.049 af

Subcatchment2S: Western half of Runoff Area=22,128 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=1.49 cfs 0.121 af

Subcatchment3S: Eastern half of Runoff Area=22,147 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=1.49 cfs 0.121 af

Subcatchment4S: Shared Street - Trench Runoff Area=26,424 sf 83.24% Impervious Runoff Depth>2.55"
Tc=6.0 min CN=95 Runoff=1.68 cfs 0.129 af

Subcatchment5S: Building 12 Runoff Area=3,244 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment6S: Plaza between Blocks 1 Runoff Area=18,771 sf 95.74% Impervious Runoff Depth>2.76"
Tc=6.0 min CN=97 Runoff=1.25 cfs 0.099 af

Subcatchment7S: Building 14 Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.17 cfs 0.014 af

Subcatchment8S: Building 15 Runoff Area=2,578 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.17 cfs 0.014 af

Subcatchment9S: Building 2 North Runoff Area=4,695 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.32 cfs 0.026 af

Subcatchment10S: Building 3 North Runoff Area=2,212 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment11S: Building 2 South Runoff Area=4,855 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af

Subcatchment12S: Building 3 South Runoff Area=2,326 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment13S: Building 6 Runoff Area=3,304 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment14S: Building 6B North Runoff Area=4,296 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.29 cfs 0.024 af

Subcatchment15S: Building 6B South Runoff Area=2,512 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.17 cfs 0.014 af

Subcatchment16S: Plaza between Blocks 1 Runoff Area=3,650 sf 75.84% Impervious Runoff Depth>2.45"
Tc=6.0 min CN=94 Runoff=0.23 cfs 0.017 af

Subcatchment17S: Shared Street - Trench Runoff Area=8,719 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.59 cfs 0.048 af

Subcatchment18S: Plaza between Runoff Area=28,813 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=1.94 cfs 0.158 af

Subcatchment19S: Block 4 Building Runoff Area=86,592 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=5.84 cfs 0.475 af

Subcatchment20S: Direct to R-Tank Runoff Area=7,210 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.49 cfs 0.040 af

Subcatchment21S: Plaza along Building Runoff Area=2,534 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.17 cfs 0.014 af

Subcatchment22S: Block 6 Building Runoff Area=47,780 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=3.22 cfs 0.262 af

Subcatchment23S: Block 5 Building to Runoff Area=11,218 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.76 cfs 0.062 af

Subcatchment24S: Block 5 Building Runoff Area=30,570 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=2.06 cfs 0.168 af

Subcatchment25S: Southern Plaza Runoff Area=11,168 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.75 cfs 0.061 af

Subcatchment26S: Plaza along Townhouse Runoff Area=550 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment27S: Drainage from off-site Runoff Area=49,238 sf 43.84% Impervious Runoff Depth>1.91"
Tc=6.0 min CN=88 Runoff=2.47 cfs 0.180 af

Subcatchment28S: Waterfront Runoff Area=109,324 sf 72.19% Impervious Runoff Depth>2.35"
Tc=6.0 min CN=93 Runoff=6.56 cfs 0.491 af

Subcatchment29S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.81 cfs 0.066 af

Subcatchment30S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=0.81 cfs 0.066 af

Pond 1P: DMH 1 Peak Elev=11.06' Inflow=5.45 cfs 0.433 af
24.0" Round Culvert n=0.013 L=61.0' S=0.0038 '/' Outflow=5.45 cfs 0.433 af

Pond 2P: DMH 2 Peak Elev=10.77' Inflow=5.90 cfs 0.468 af
24.0" Round Culvert n=0.013 L=31.0' S=0.0048 '/' Outflow=5.90 cfs 0.468 af

Pond 3P: Storm Structure Peak Elev=9.29' Inflow=5.90 cfs 0.468 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=5.90 cfs 0.468 af

Pond 4P: R-Tank 1 Peak Elev=8.32' Storage=1,608 cf Inflow=5.90 cfs 0.468 af
21.0" Round Culvert n=0.013 L=62.0' S=0.0000 '/' Outflow=5.30 cfs 0.461 af

Pond 5P: DMH-11 Peak Elev=9.45' Inflow=8.11 cfs 0.835 af
24.0" Round Culvert n=0.013 L=16.0' S=0.0069 '/' Outflow=8.11 cfs 0.835 af

Pond 6P: CB27 Peak Elev=11.39' Inflow=10.06 cfs 0.818 af
24.0" Round Culvert n=0.013 L=22.0' S=0.0064 '/' Outflow=10.06 cfs 0.818 af

Pond 7P: Storm Structure Peak Elev=9.69' Inflow=10.06 cfs 0.818 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=10.06 cfs 0.818 af

Pond 8P: R-Tank 2 Peak Elev=9.70' Storage=5,443 cf Inflow=10.55 cfs 0.858 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0000 '/' Outflow=8.11 cfs 0.835 af

Pond 9P: DMH-8 (Outfall #1) Peak Elev=8.49' Inflow=13.31 cfs 1.297 af
30.0" Round Culvert n=0.013 L=52.0' S=0.0052 '/' Outflow=13.31 cfs 1.297 af

Pond 10P: DMH 4 Peak Elev=8.21' Inflow=5.30 cfs 0.461 af
24.0" Round Culvert n=0.013 L=59.0' S=0.0000 '/' Outflow=5.30 cfs 0.461 af

Pond 11P: Jellyfish 1 JFPD0806-4-1 Peak Elev=10.22' Inflow=5.30 cfs 0.461 af
Outflow=5.30 cfs 0.461 af

Pond 12P: Jellyfish 2 JFPD0806-7-2 Peak Elev=10.65' Inflow=8.11 cfs 0.835 af
Outflow=8.11 cfs 0.835 af

Pond 13P: DMH-13 (Outfall #2) Peak Elev=8.48' Inflow=10.12 cfs 0.802 af
24.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=10.12 cfs 0.802 af

Pond 24P: Filterra 1 Peak Elev=15.10' Inflow=0.81 cfs 0.066 af
Primary=0.81 cfs 0.066 af Secondary=0.00 cfs 0.000 af Outflow=0.81 cfs 0.066 af

Pond 27P: AD49 Peak Elev=14.80' Inflow=1.61 cfs 0.131 af
12.0" Round Culvert n=0.013 L=240.0' S=0.0301 '/' Outflow=1.61 cfs 0.131 af

Pond 28P: Filterra 2 Peak Elev=15.10' Inflow=0.81 cfs 0.066 af
Primary=0.81 cfs 0.066 af Secondary=0.00 cfs 0.000 af Outflow=0.81 cfs 0.066 af

Link 1L: Freedom Way Inflow=2.16 cfs 0.170 af
Primary=2.16 cfs 0.170 af

Link 2L: Fore River Inflow=29.07 cfs 2.590 af
Primary=29.07 cfs 2.590 af

Link 3L: Fore Street Inflow=0.21 cfs 0.017 af
Primary=0.21 cfs 0.017 af

Total Runoff Area = 12.919 ac Runoff Volume = 2.806 af Average Runoff Depth = 2.61"
14.81% Pervious = 1.914 ac 85.19% Impervious = 11.005 ac

Summary for Subcatchment 1S: Block 1B

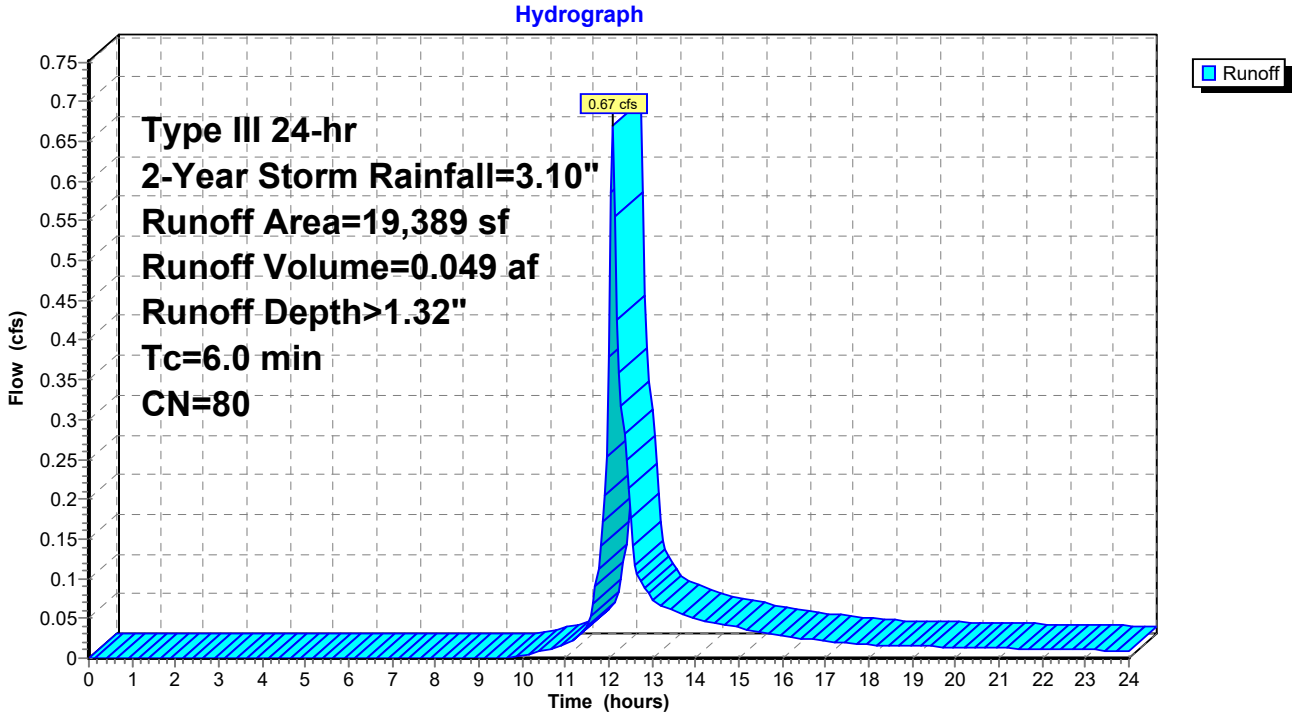
Runoff = 0.67 cfs @ 12.10 hrs, Volume= 0.049 af, Depth> 1.32"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	198	98	Impervious
	19,191	80	>75% Grass cover, Good, HSG D
	19,389	80	Weighted Average
	19,191		98.98% Pervious Area
	198		1.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Block 1B



Summary for Subcatchment 2S: Western half of Building 1A

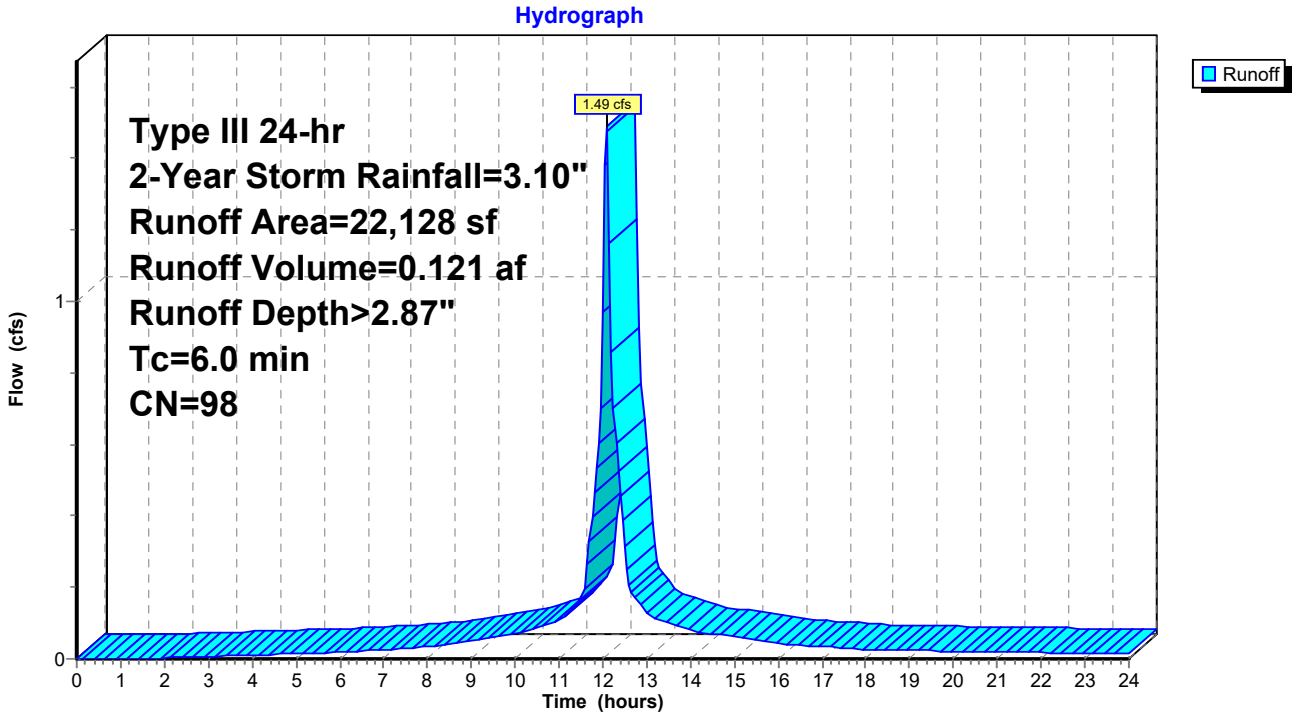
Runoff = 1.49 cfs @ 12.09 hrs, Volume= 0.121 af, Depth> 2.87"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	22,128	98	Roof
	22,128		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Western half of Building 1A



Summary for Subcatchment 3S: Eastern half of Building 1A

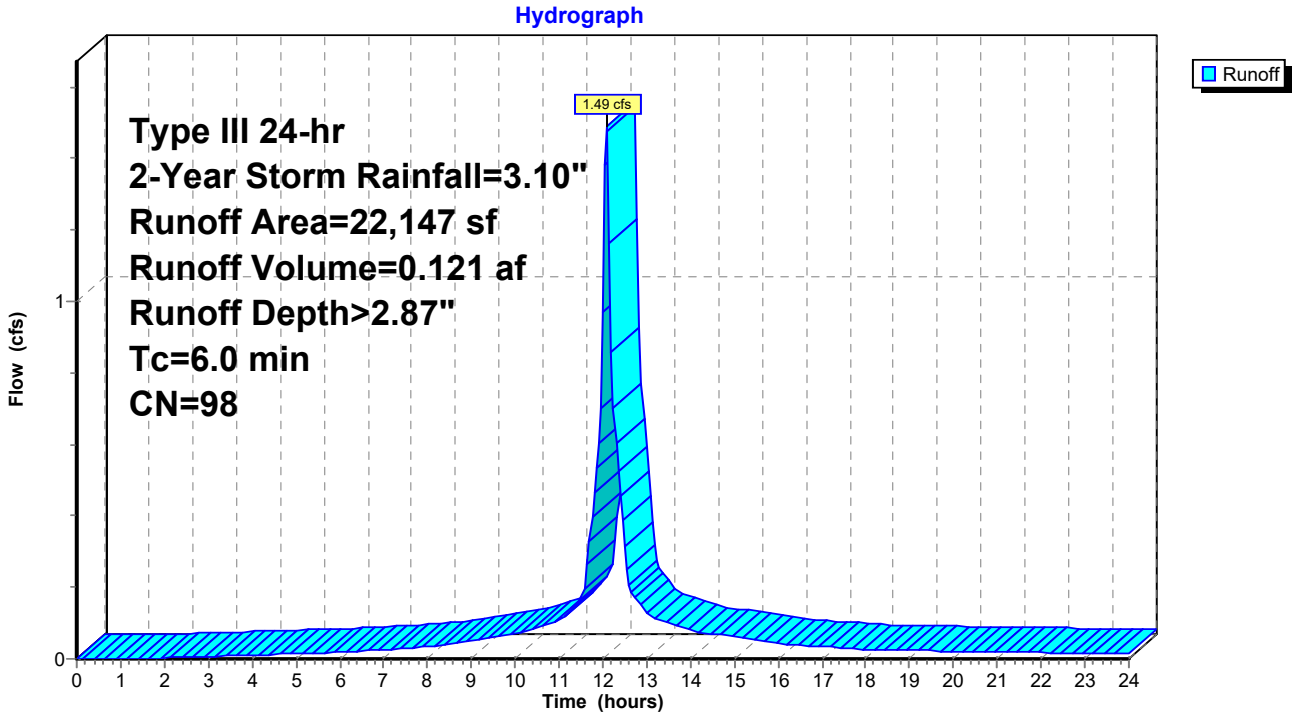
Runoff = 1.49 cfs @ 12.09 hrs, Volume= 0.121 af, Depth> 2.87"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	22,147	98	Roof
	22,147		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Eastern half of Building 1A



Summary for Subcatchment 4S: Shared Street - Trench Drain

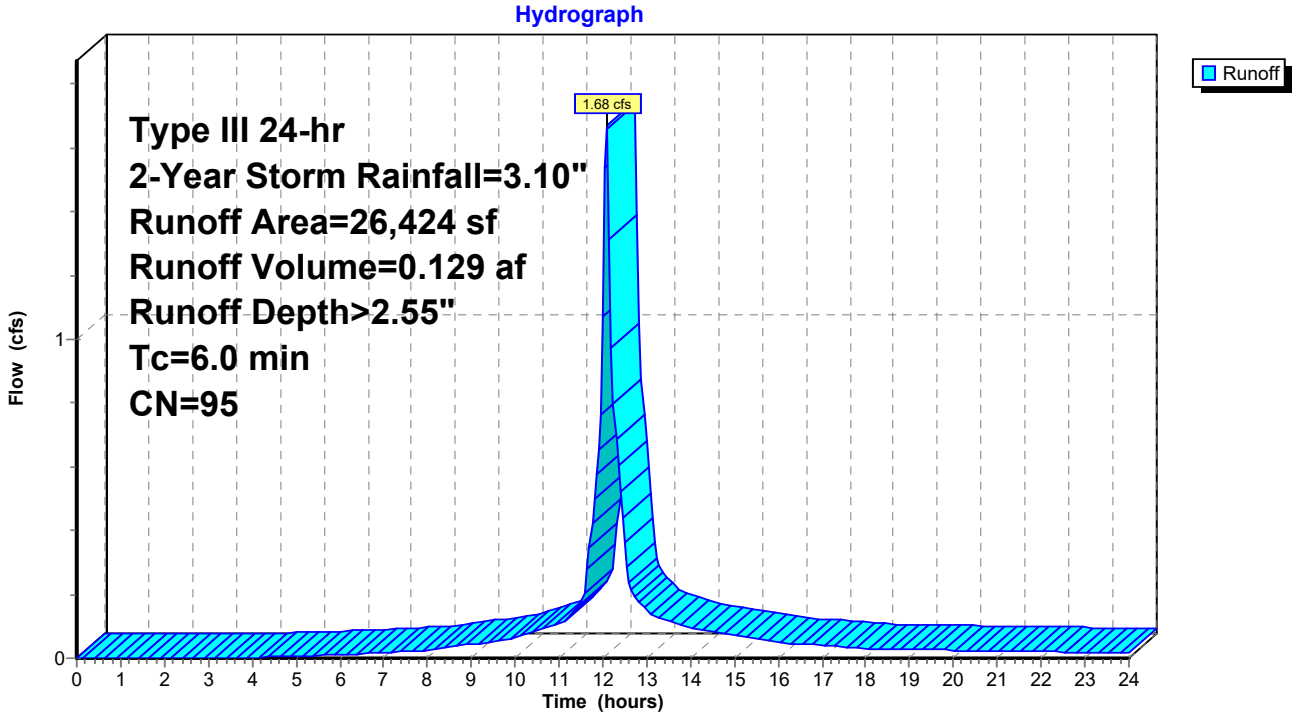
Runoff = 1.68 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 2.55"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
	4,428	80	>75% Grass cover, Good, HSG D
*	21,996	98	Impervious
	26,424	95	Weighted Average
	4,428		16.76% Pervious Area
	21,996		83.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Shared Street - Trench Drain



Summary for Subcatchment 5S: Building 12

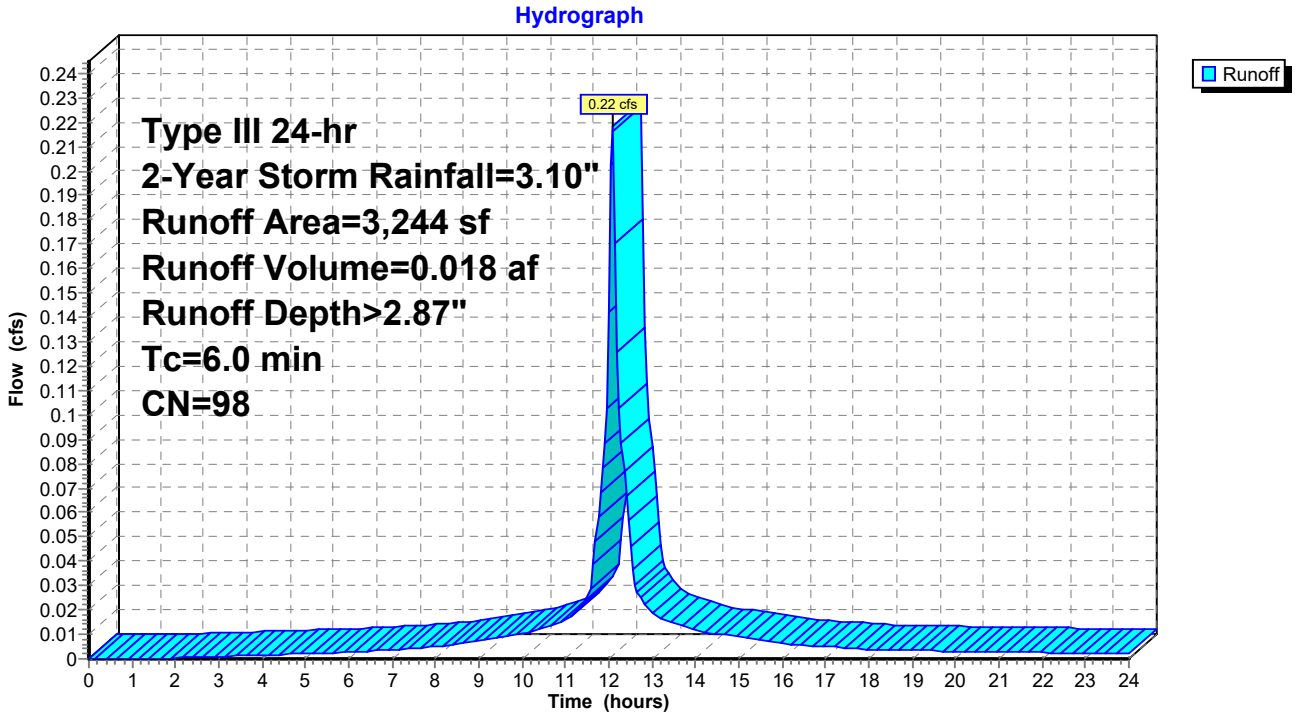
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 2.87"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	3,244	98	Roof
	3,244		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Building 12



Summary for Subcatchment 6S: Plaza between Blocks 1 & 2

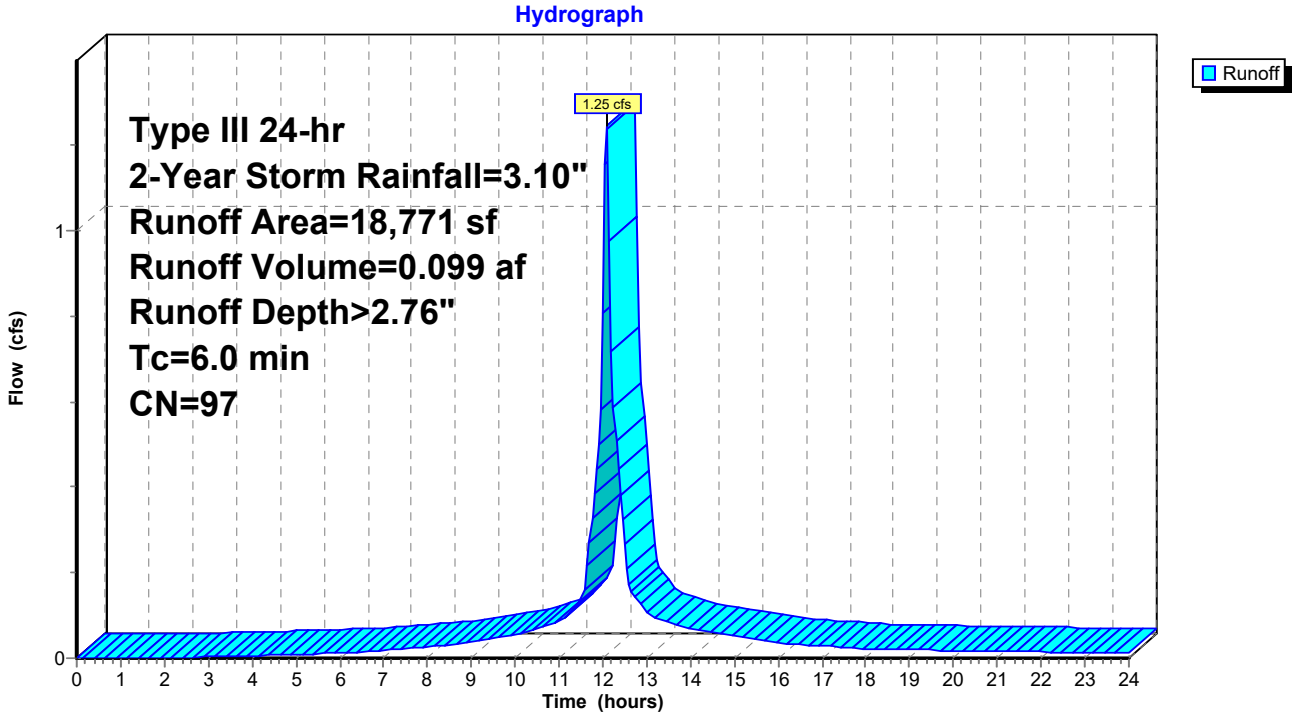
Runoff = 1.25 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 2.76"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	17,972	98	Impervious
	799	80	>75% Grass cover, Good, HSG D
	18,771	97	Weighted Average
	799		4.26% Pervious Area
	17,972		95.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: Plaza between Blocks 1 & 2



Summary for Subcatchment 7S: Building 14

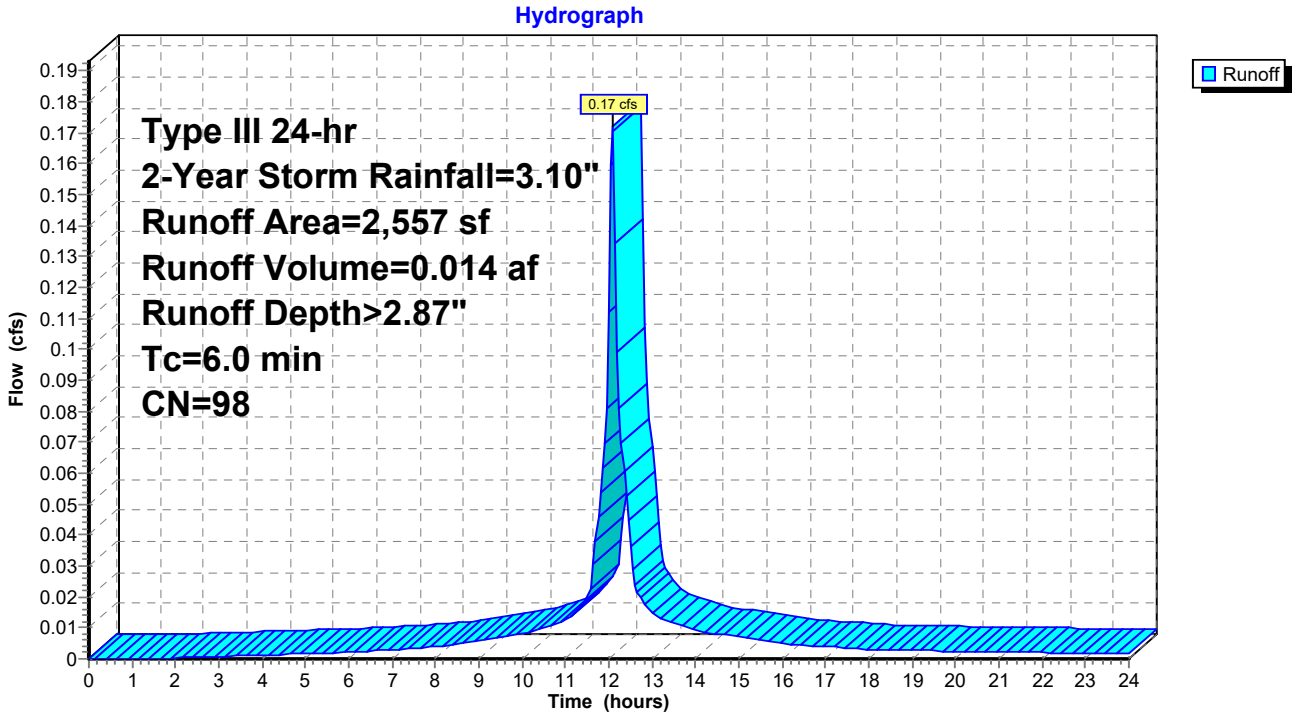
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 2.87"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,557	98	Roof
	2,557		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 7S: Building 14



Summary for Subcatchment 8S: Building 15

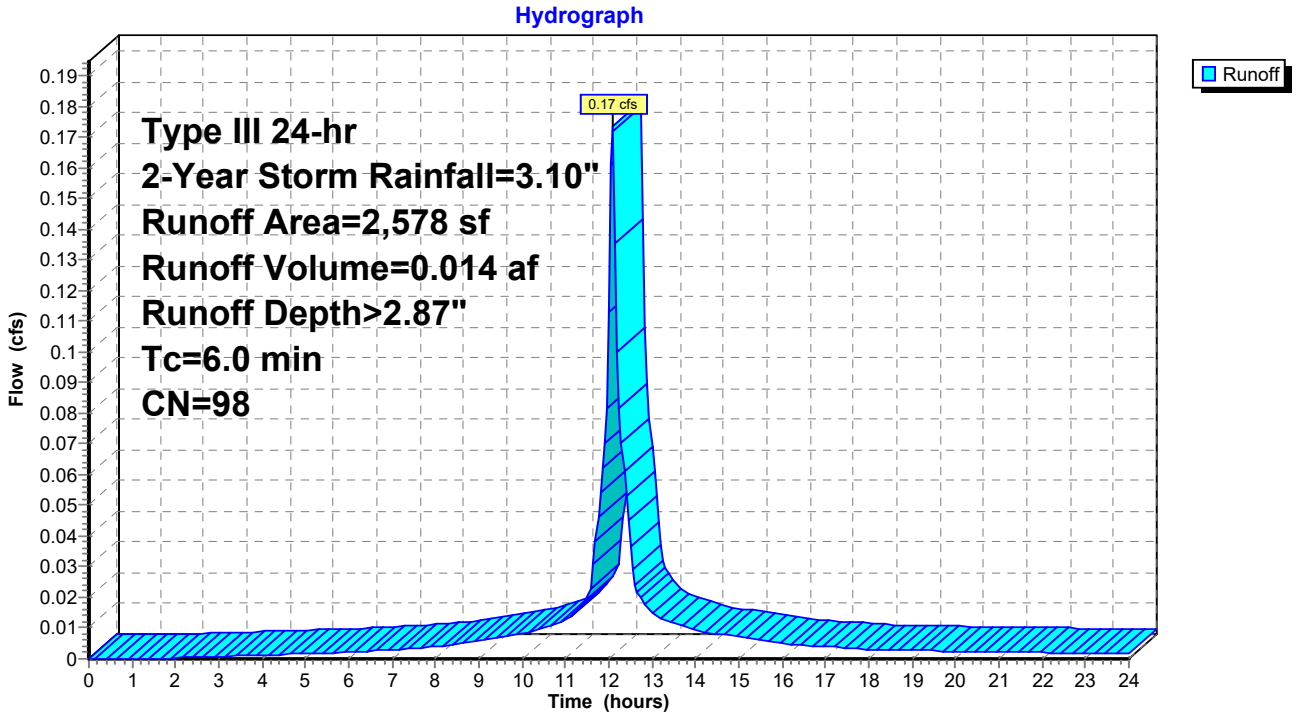
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,578	98	Roof
	2,578		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 8S: Building 15



Summary for Subcatchment 9S: Building 2 North

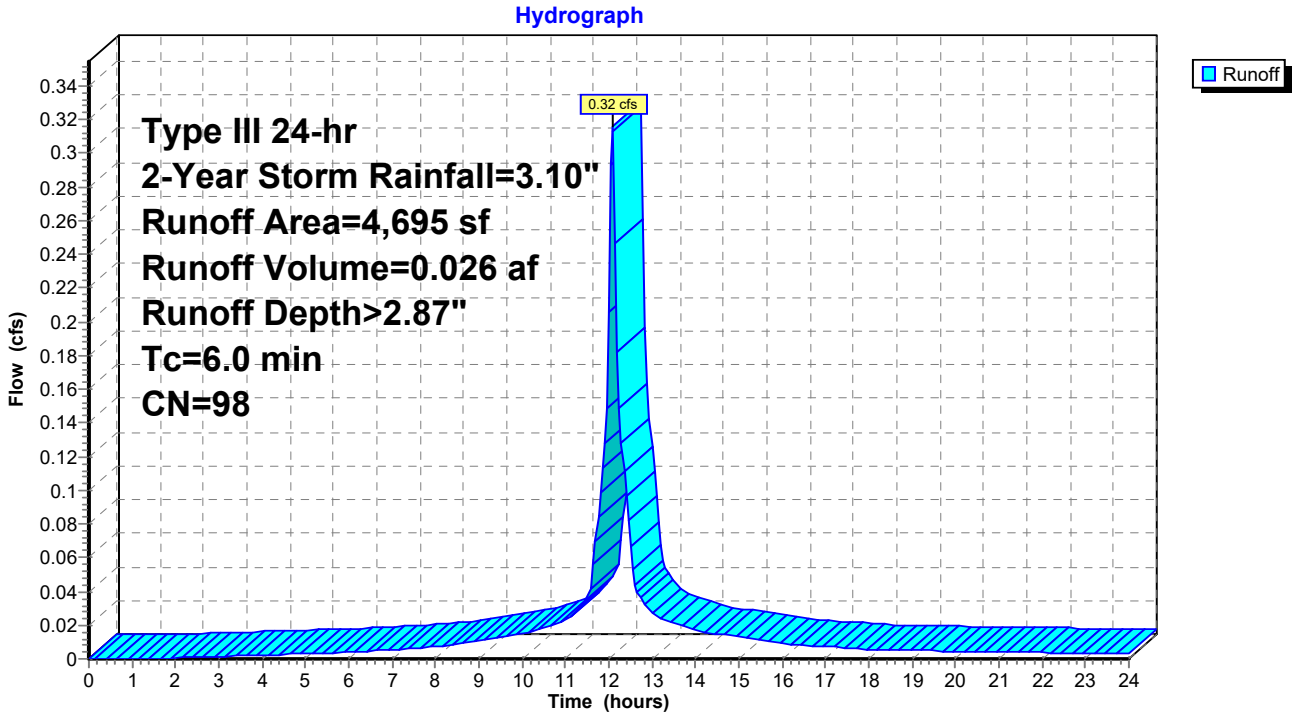
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.026 af, Depth> 2.87"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	4,695	98	Roof
	4,695		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: Building 2 North



Summary for Subcatchment 10S: Building 3 North

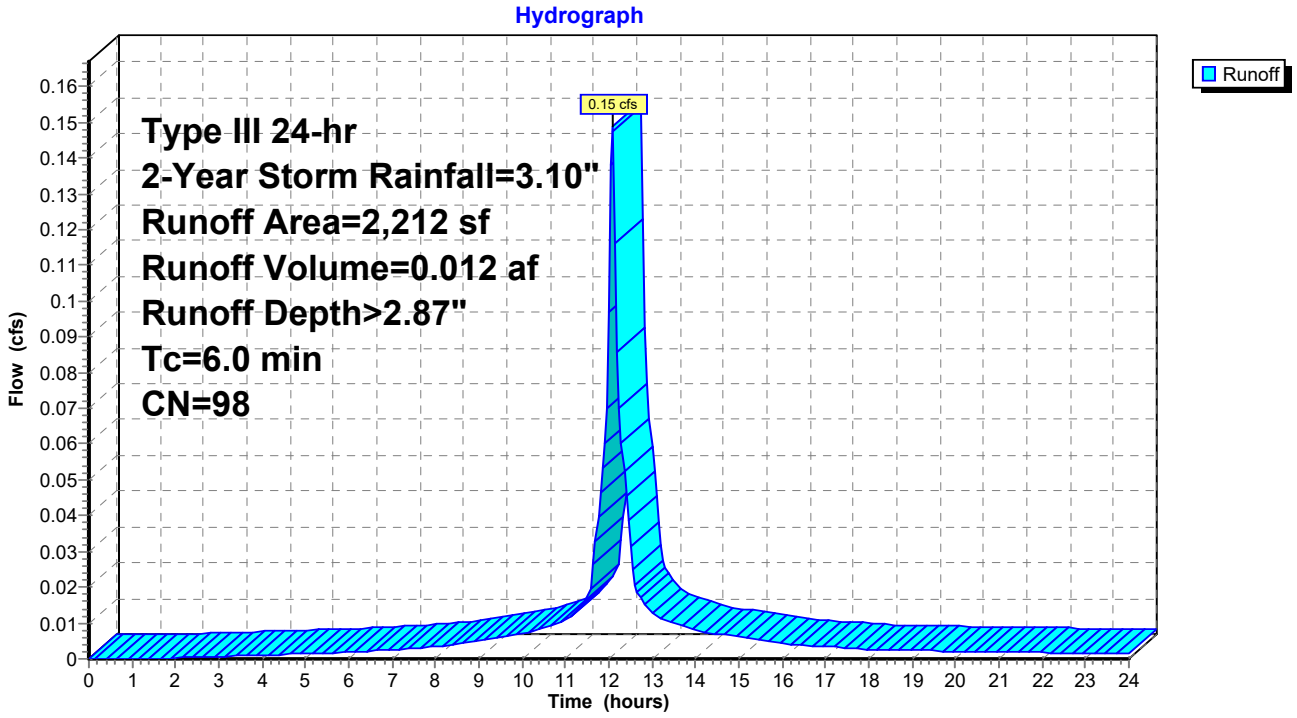
Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,212	98	Roof
	2,212		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 10S: Building 3 North



Summary for Subcatchment 11S: Building 2 South

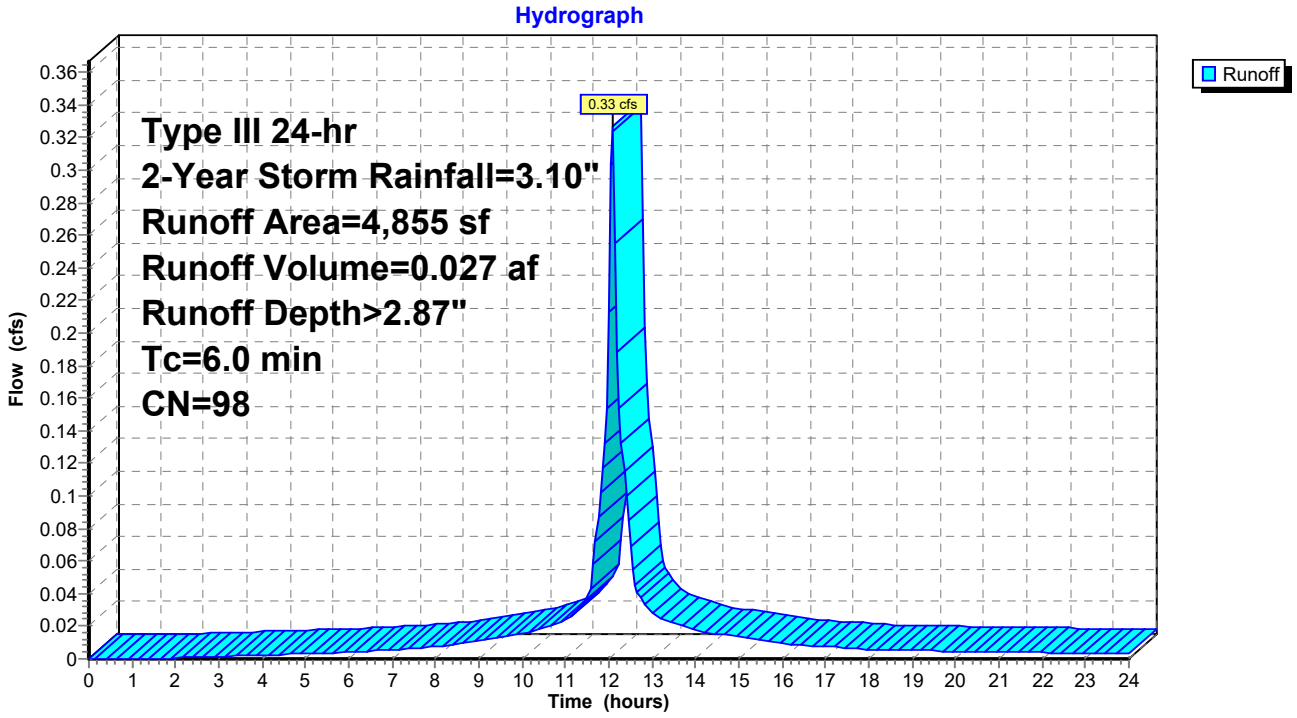
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 2.87"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	4,855	98	Roof
	4,855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 11S: Building 2 South



Summary for Subcatchment 12S: Building 3 South

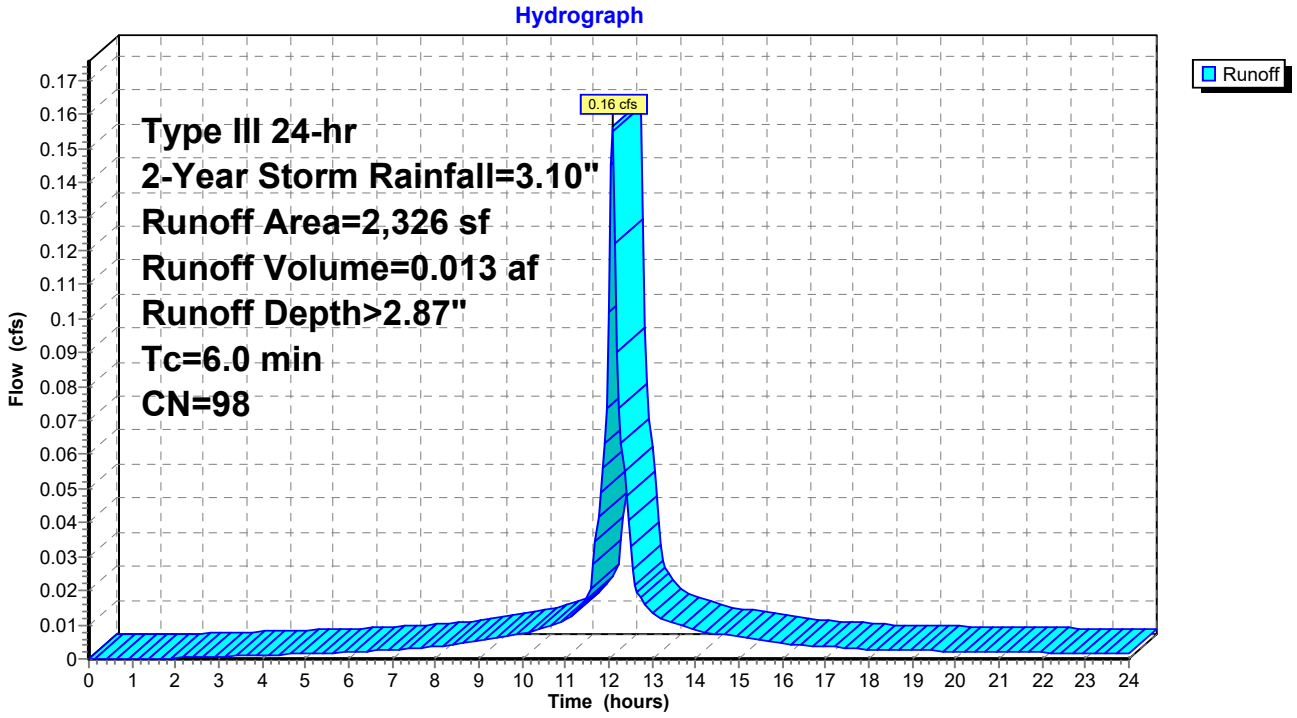
Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,326	98	Roof
	2,326		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 12S: Building 3 South



Summary for Subcatchment 13S: Building 6

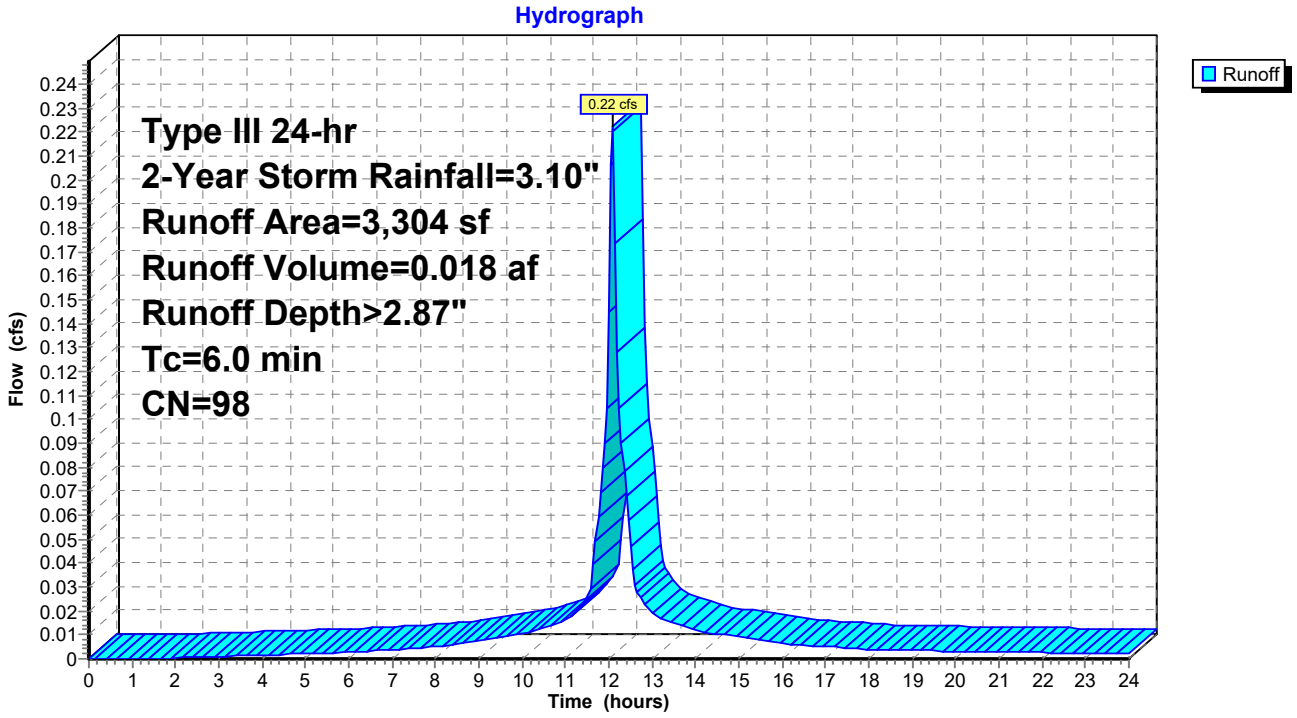
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 2.87"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	3,304	98	Roof
	3,304		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 13S: Building 6



Summary for Subcatchment 14S: Building 6B North

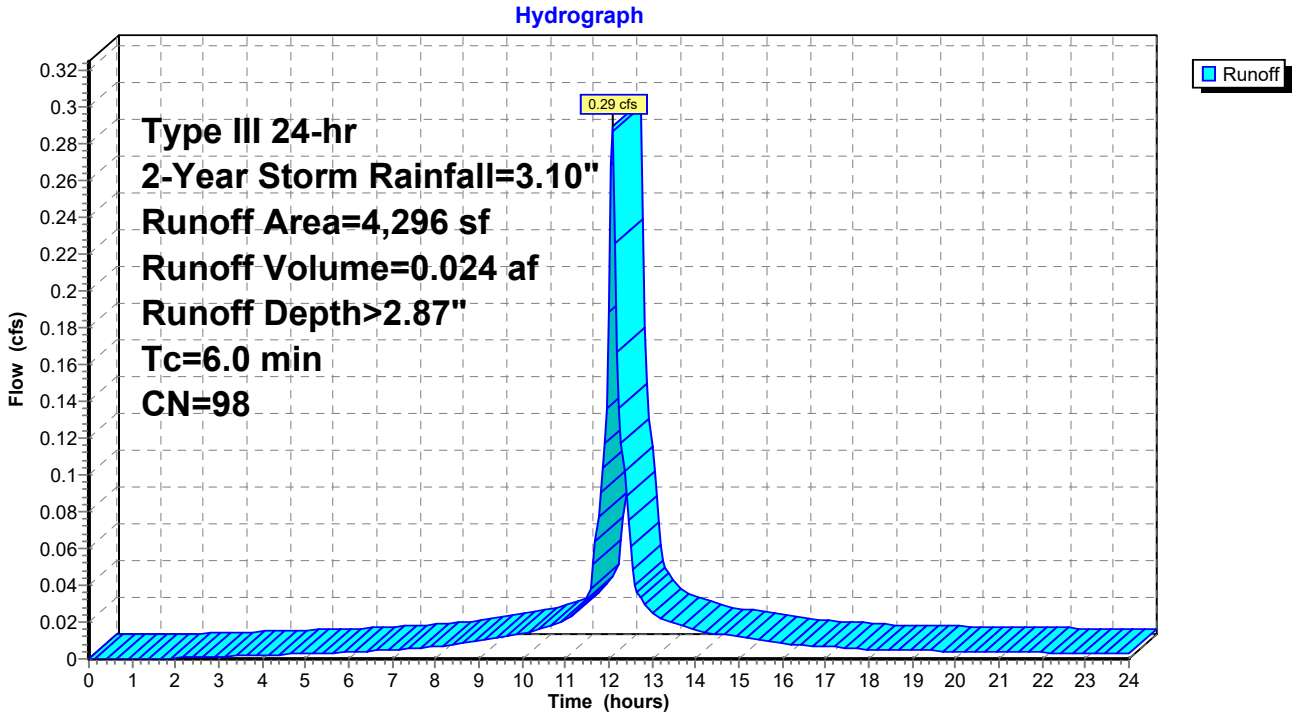
Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.024 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	4,296	98	Roof
	4,296		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 14S: Building 6B North



Summary for Subcatchment 15S: Building 6B South

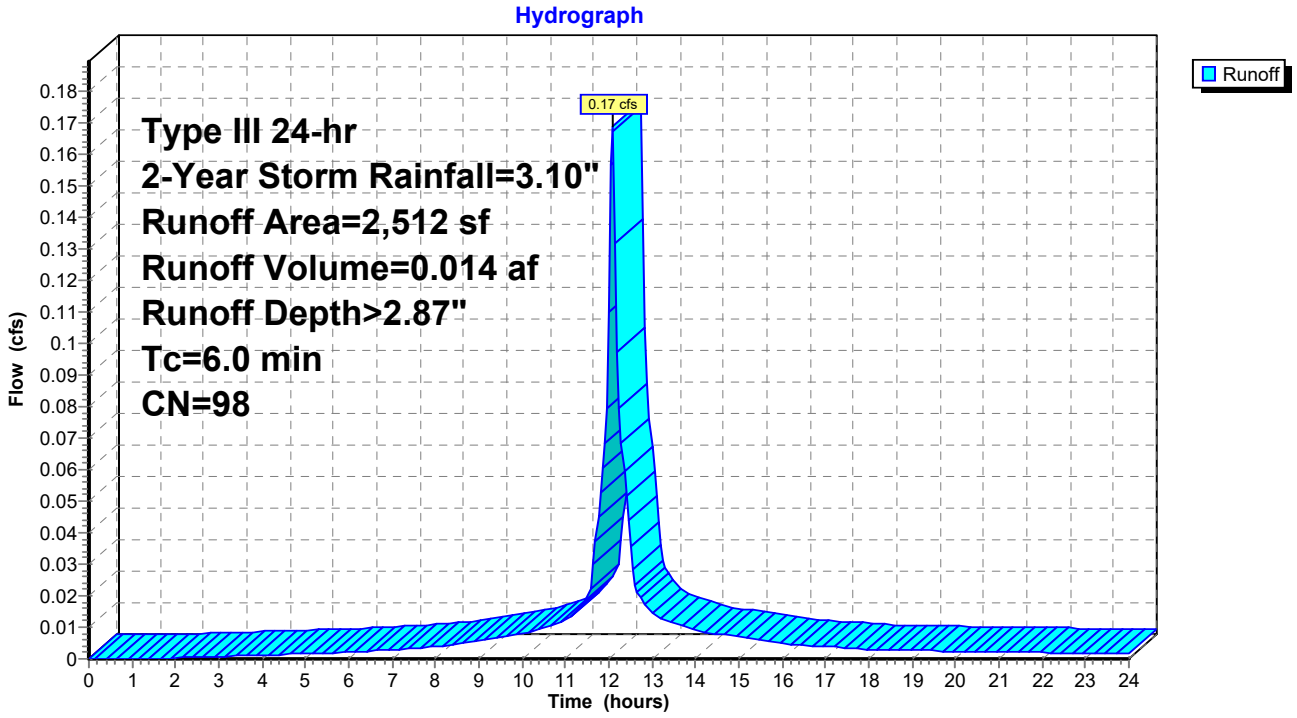
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,512	98	Roof
	2,512		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: Building 6B South



Summary for Subcatchment 16S: Plaza between Blocks 1 & 2

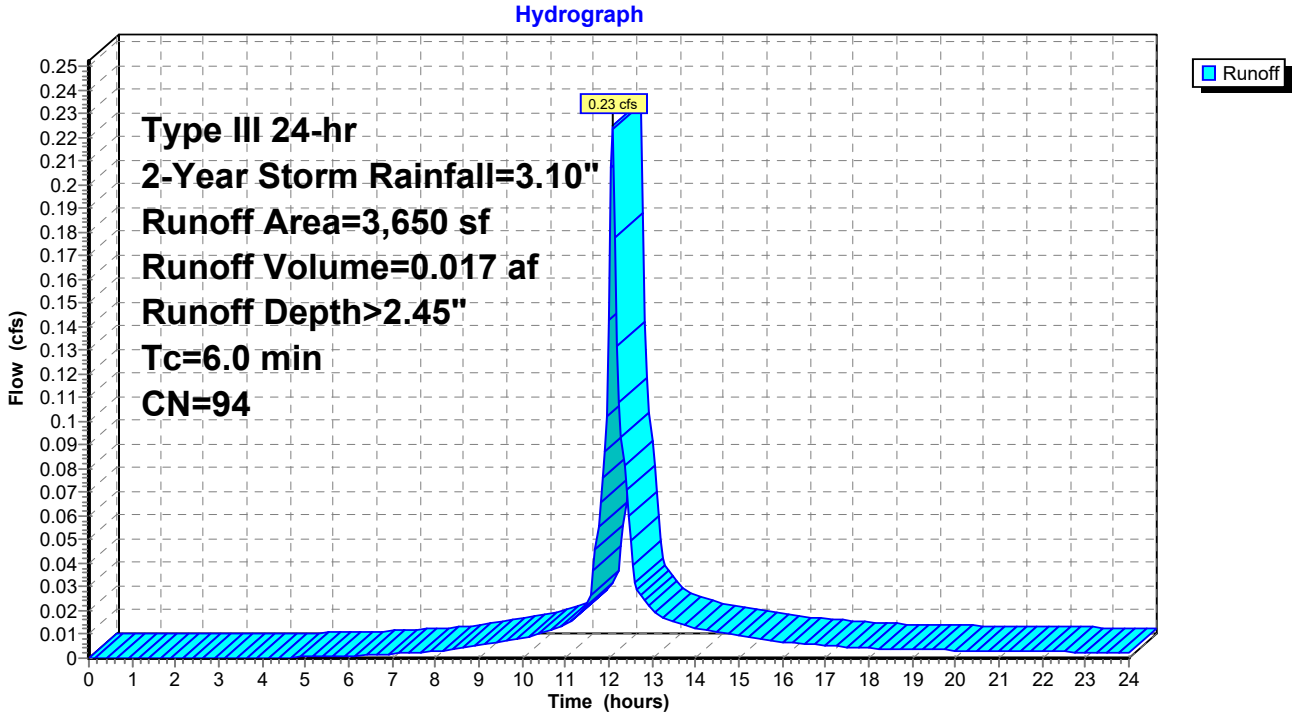
Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 2.45"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,768	98	Impervious
	882	80	>75% Grass cover, Good, HSG D
	3,650	94	Weighted Average
	882		24.16% Pervious Area
	2,768		75.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: Plaza between Blocks 1 & 2



Summary for Subcatchment 17S: Shared Street - Trench Drain

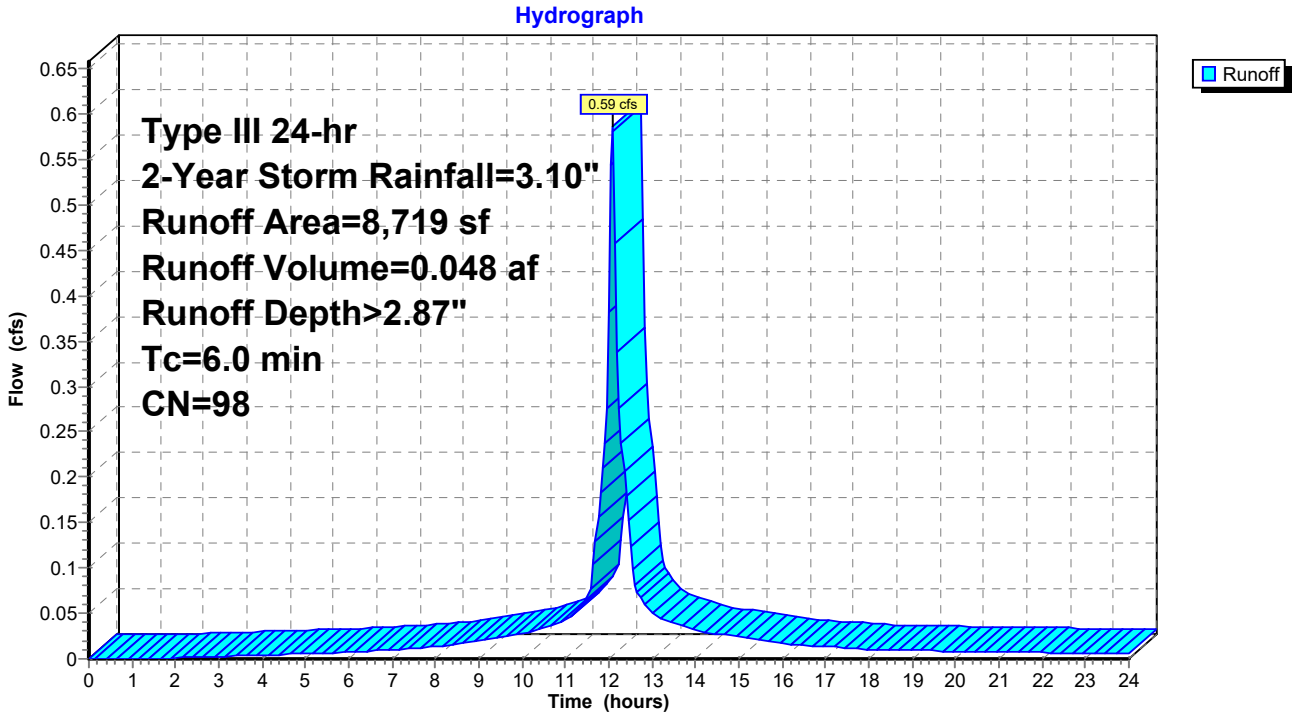
Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.048 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	8,719	98	Impervious
	8,719		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 17S: Shared Street - Trench Drain



Summary for Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St

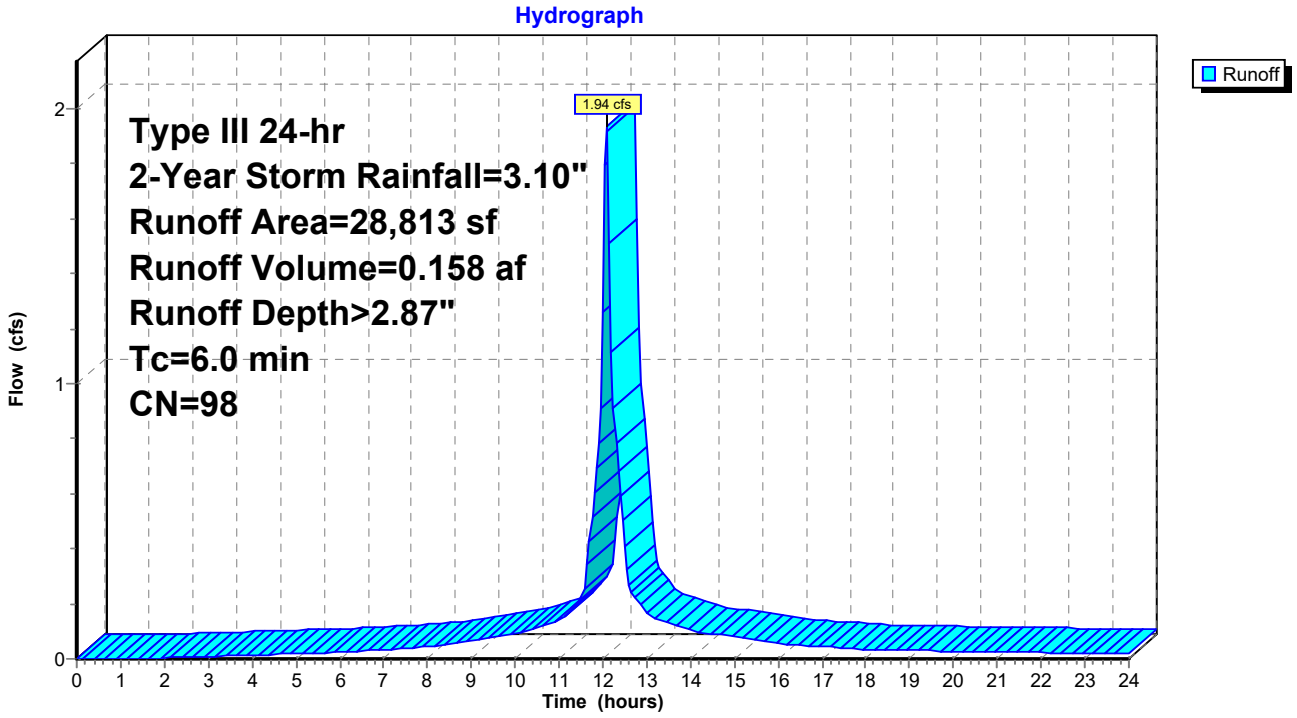
Runoff = 1.94 cfs @ 12.09 hrs, Volume= 0.158 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	28,813	98	Impervious
	28,813		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St



Summary for Subcatchment 19S: Block 4 Building

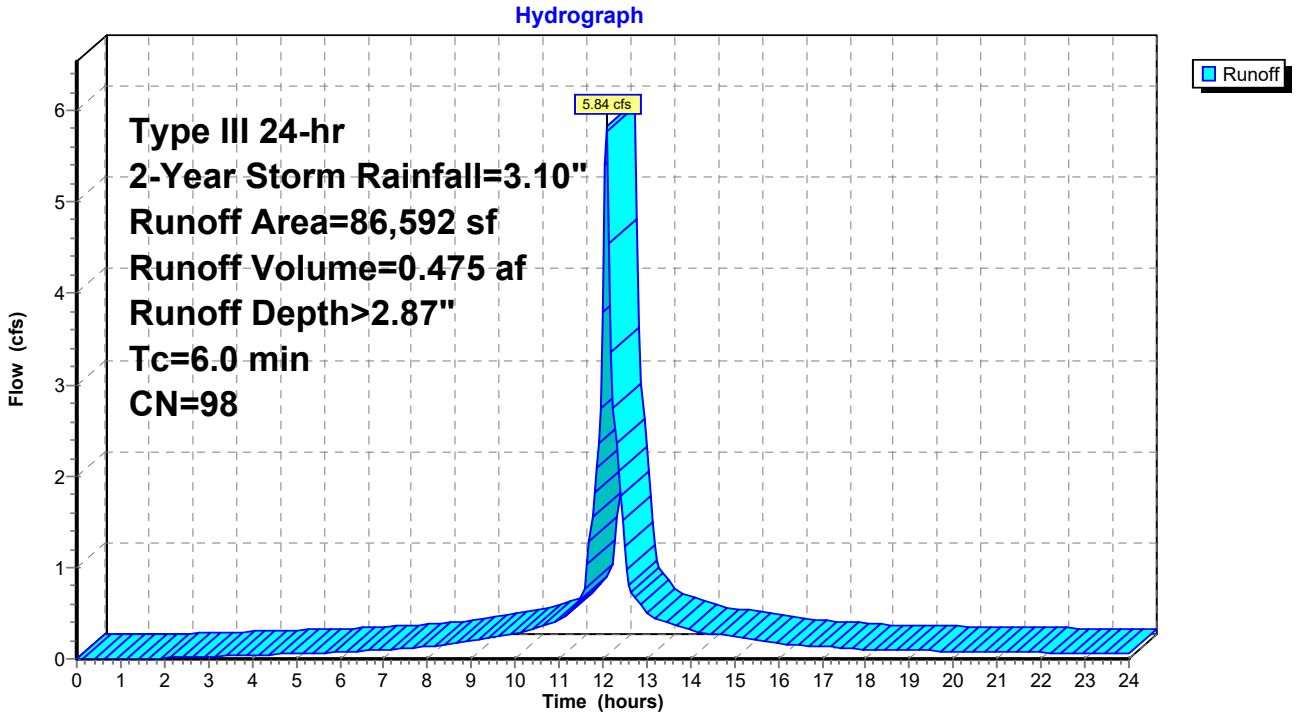
Runoff = 5.84 cfs @ 12.09 hrs, Volume= 0.475 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	86,592	98	Roof
	86,592		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: Block 4 Building



Summary for Subcatchment 20S: Direct to R-Tank

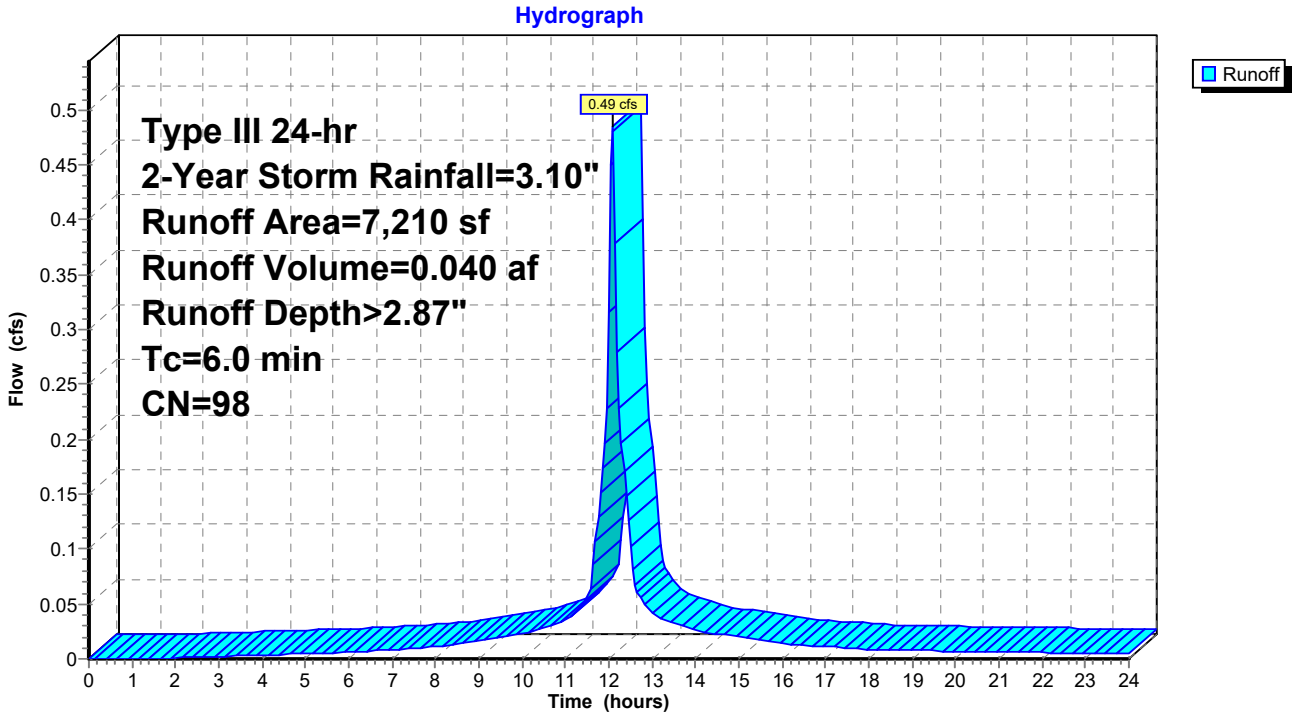
Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.040 af, Depth> 2.87"
Routed to Pond 8P : R-Tank 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	7,210	98	Impervious
	7,210		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 20S: Direct to R-Tank



Summary for Subcatchment 21S: Plaza along Building 4A at Fore Street

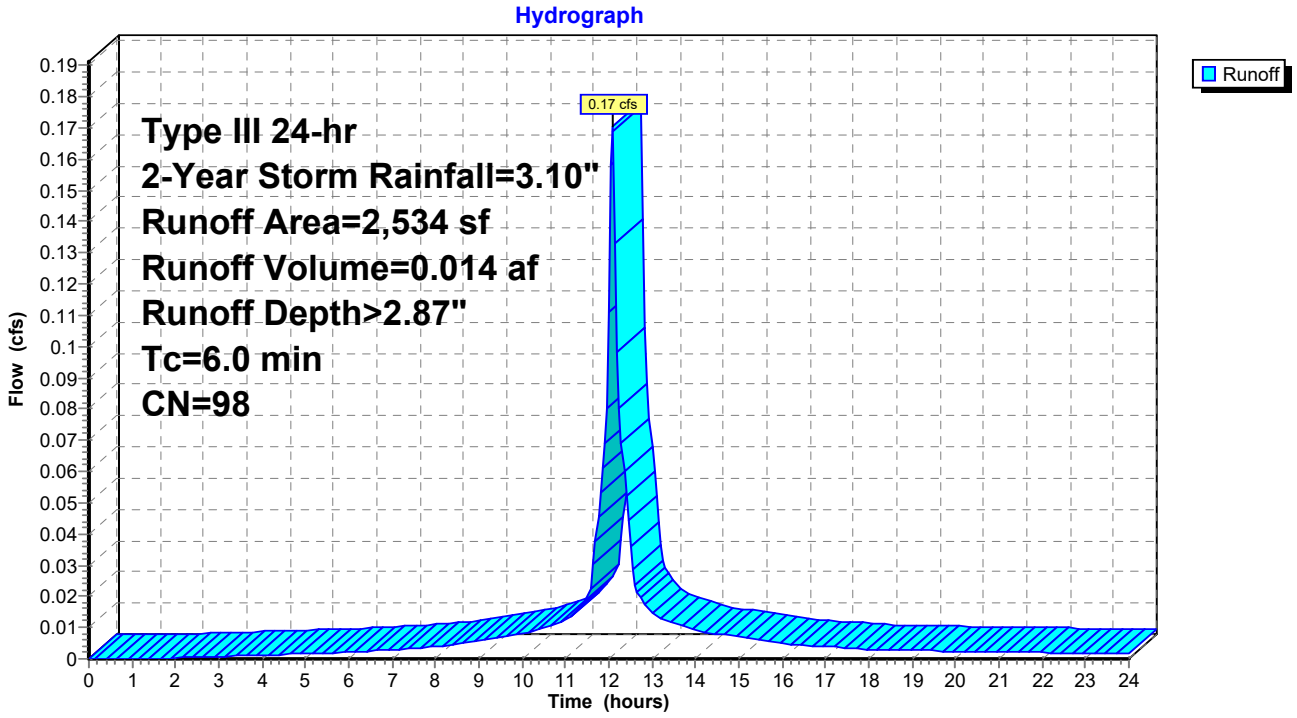
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.014 af, Depth> 2.87"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	2,534	98	Impervious
	2,534		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: Plaza along Building 4A at Fore Street



Summary for Subcatchment 22S: Block 6 Building

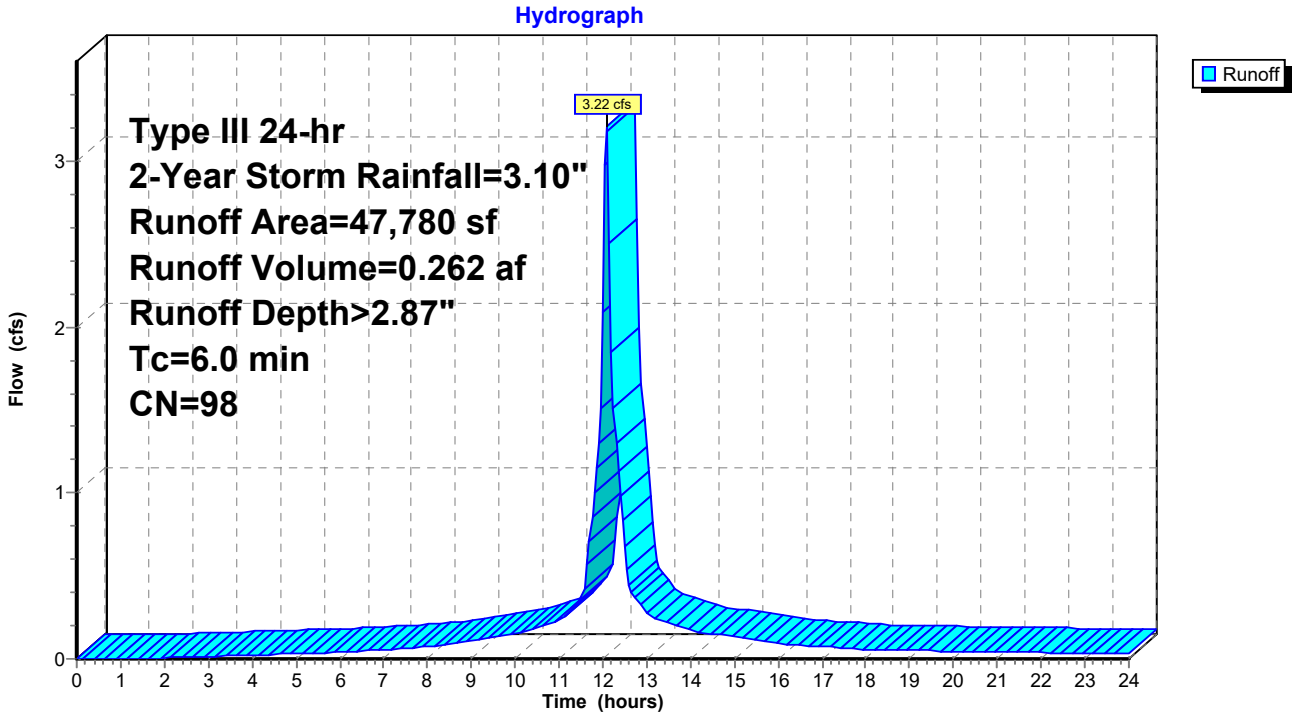
Runoff = 3.22 cfs @ 12.09 hrs, Volume= 0.262 af, Depth> 2.87"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	47,780	98	Roof
	47,780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 22S: Block 6 Building



Summary for Subcatchment 23S: Block 5 Building to R-Tank

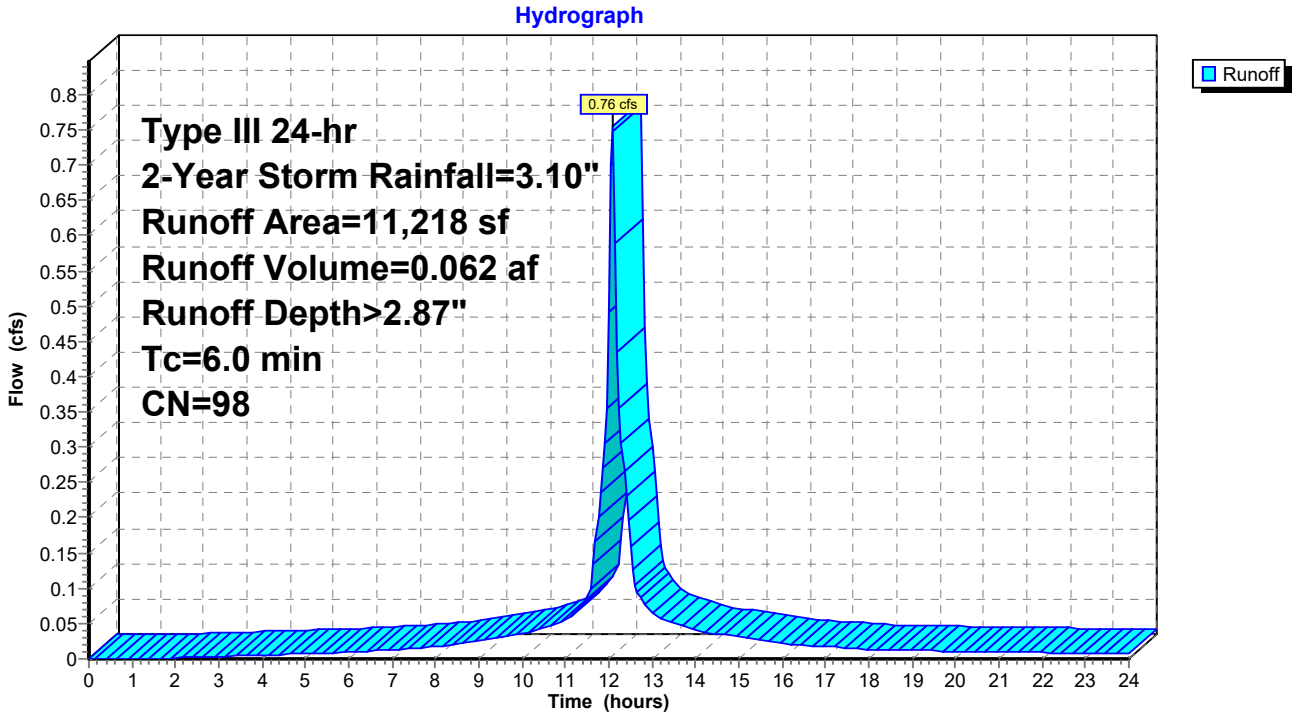
Runoff = 0.76 cfs @ 12.09 hrs, Volume= 0.062 af, Depth> 2.87"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	11,218	98	Impervious
	11,218		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 23S: Block 5 Building to R-Tank



Summary for Subcatchment 24S: Block 5 Building

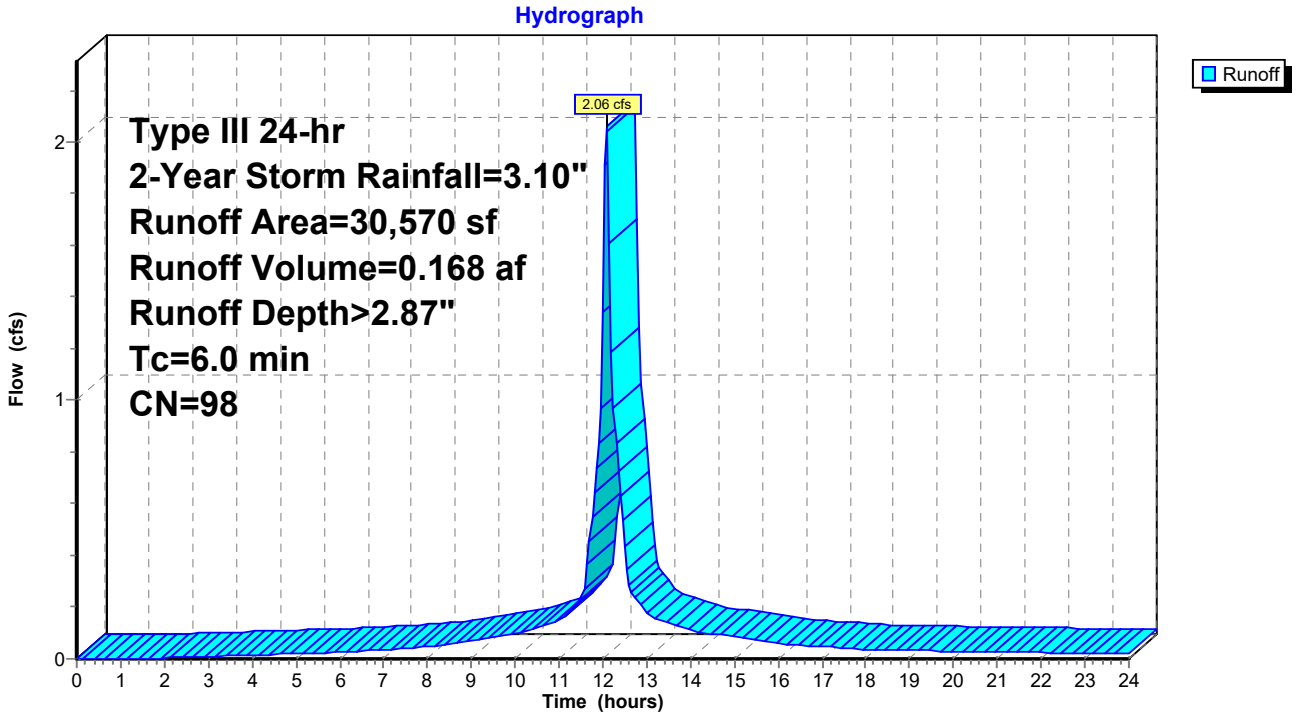
Runoff = 2.06 cfs @ 12.09 hrs, Volume= 0.168 af, Depth> 2.87"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	30,570	98	Impervious
	30,570		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 24S: Block 5 Building



Summary for Subcatchment 25S: Southern Plaza

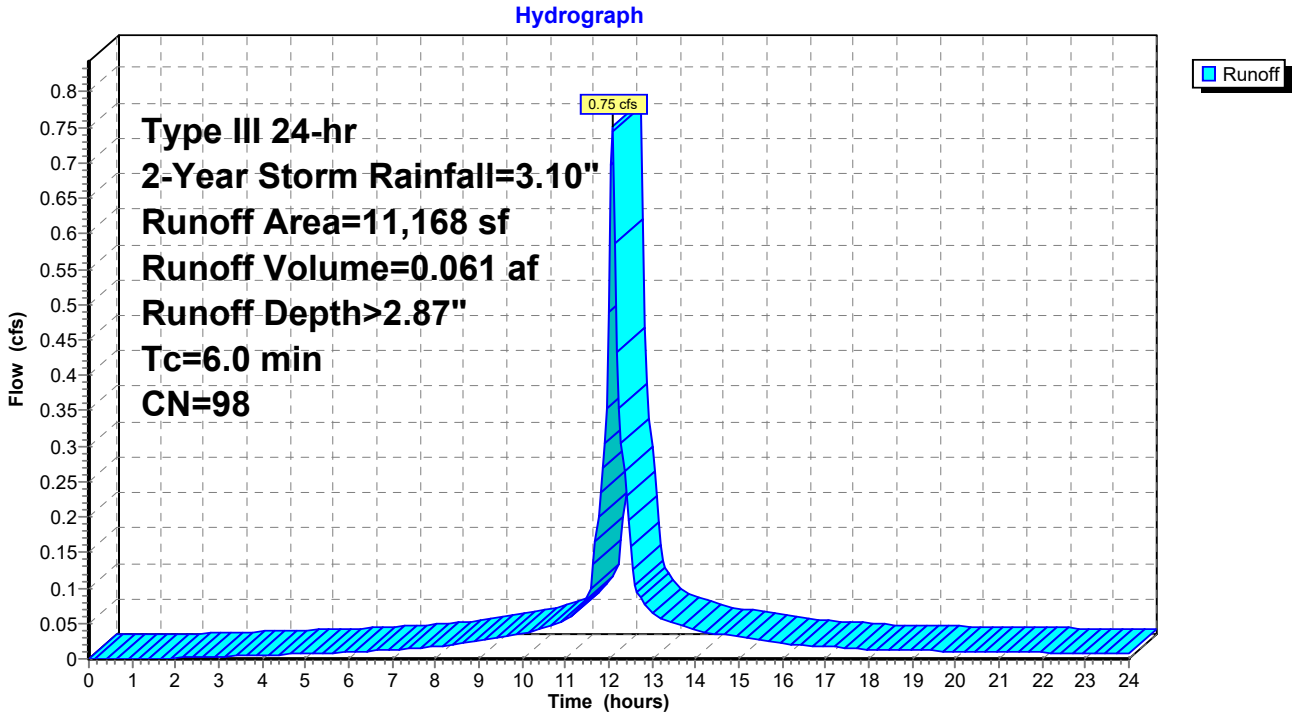
Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.061 af, Depth> 2.87"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	11,168	98	Impervious
	11,168		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 25S: Southern Plaza



Summary for Subcatchment 26S: Plaza along Townhouse at Fore Street

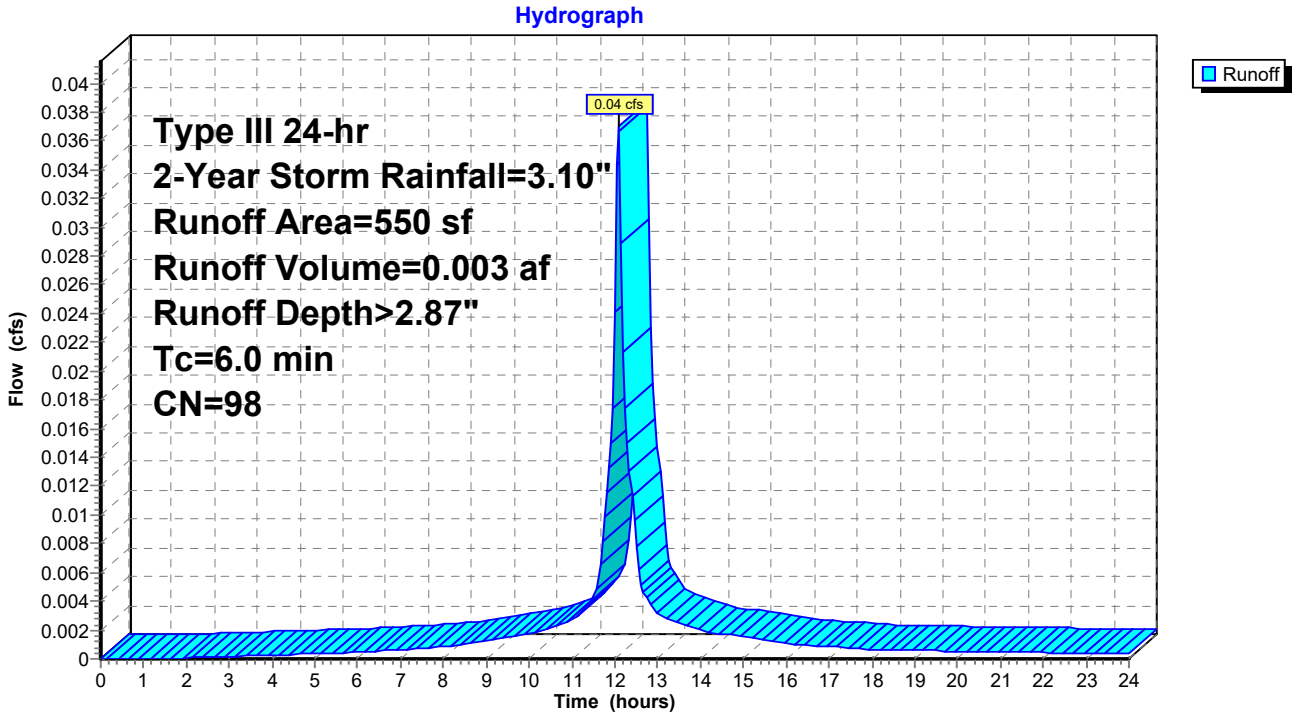
Runoff = 0.04 cfs @ 12.09 hrs, Volume= 0.003 af, Depth> 2.87"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	550	98	Impervious
	550		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 26S: Plaza along Townhouse at Fore Street



Summary for Subcatchment 27S: Drainage from off-site residential

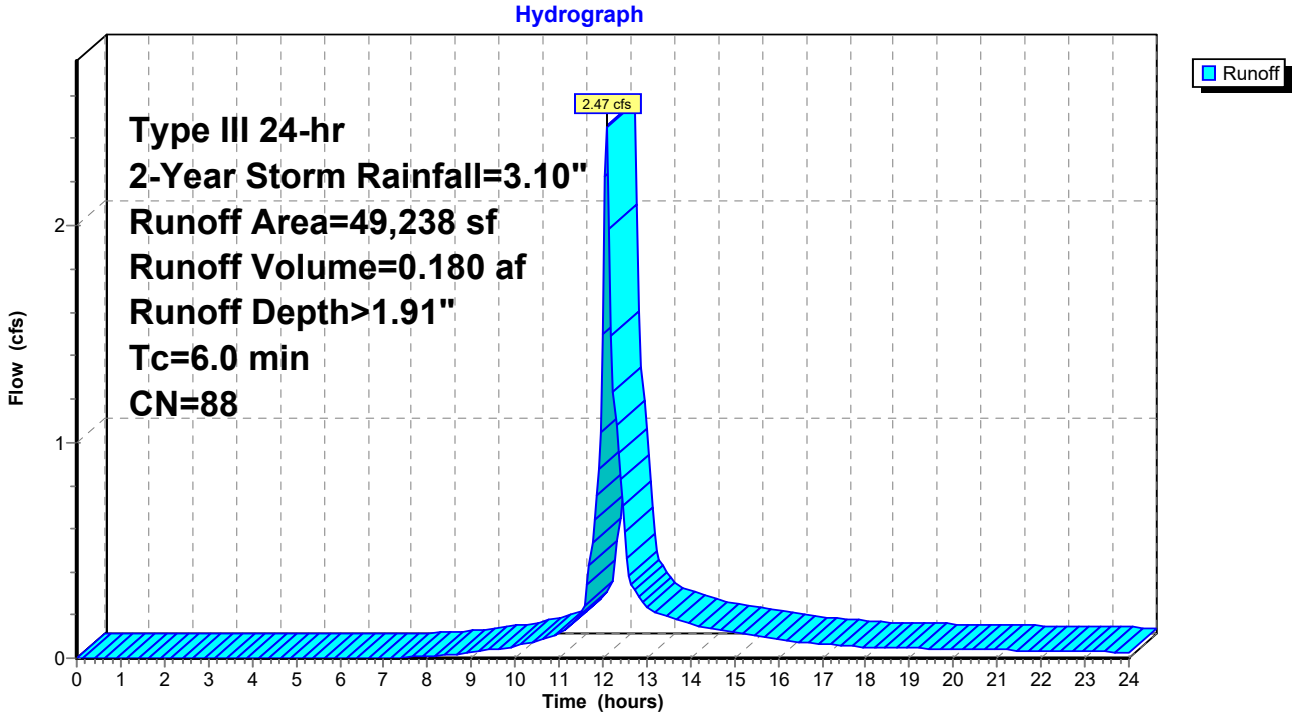
Runoff = 2.47 cfs @ 12.09 hrs, Volume= 0.180 af, Depth> 1.91"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	21,588	98	Impervious
	27,650	80	>75% Grass cover, Good, HSG D
	49,238	88	Weighted Average
	27,650		56.16% Pervious Area
	21,588		43.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 27S: Drainage from off-site residential



Summary for Subcatchment 28S: Waterfront

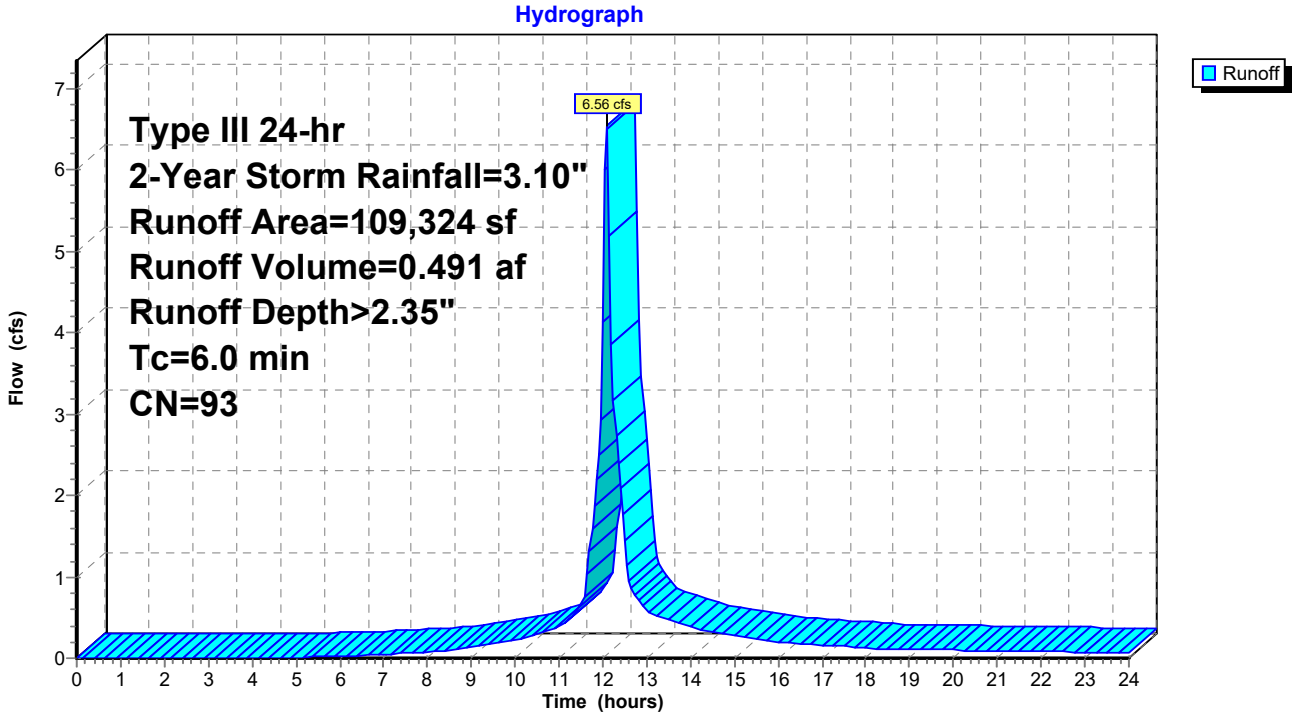
Runoff = 6.56 cfs @ 12.09 hrs, Volume= 0.491 af, Depth> 2.35"
Routed to Link 2L : Fore River

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	78,916	98	Impervious
	30,408	80	>75% Grass cover, Good, HSG D
	109,324	93	Weighted Average
	30,408		27.81% Pervious Area
	78,916		72.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 28S: Waterfront



Summary for Subcatchment 29S: Block 6 Building

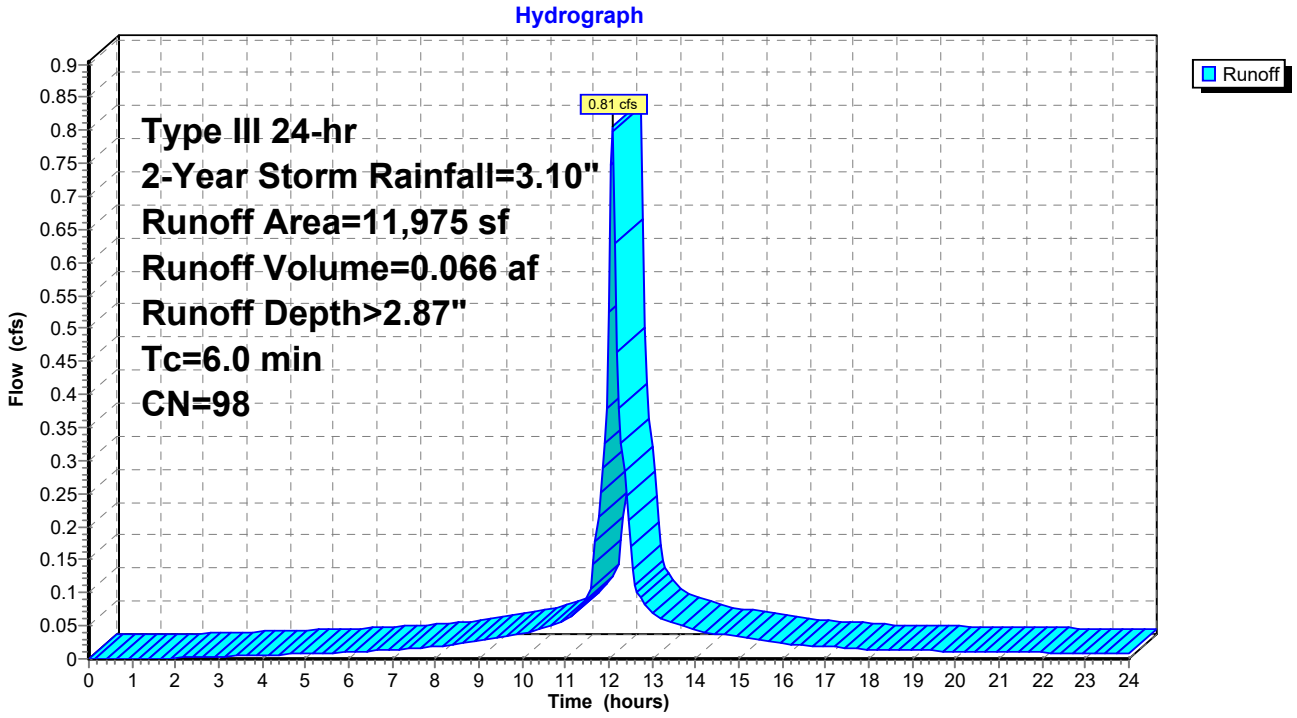
Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af, Depth> 2.87"
Routed to Pond 24P : Filterra 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 29S: Block 6 Building



Summary for Subcatchment 30S: Block 6 Building

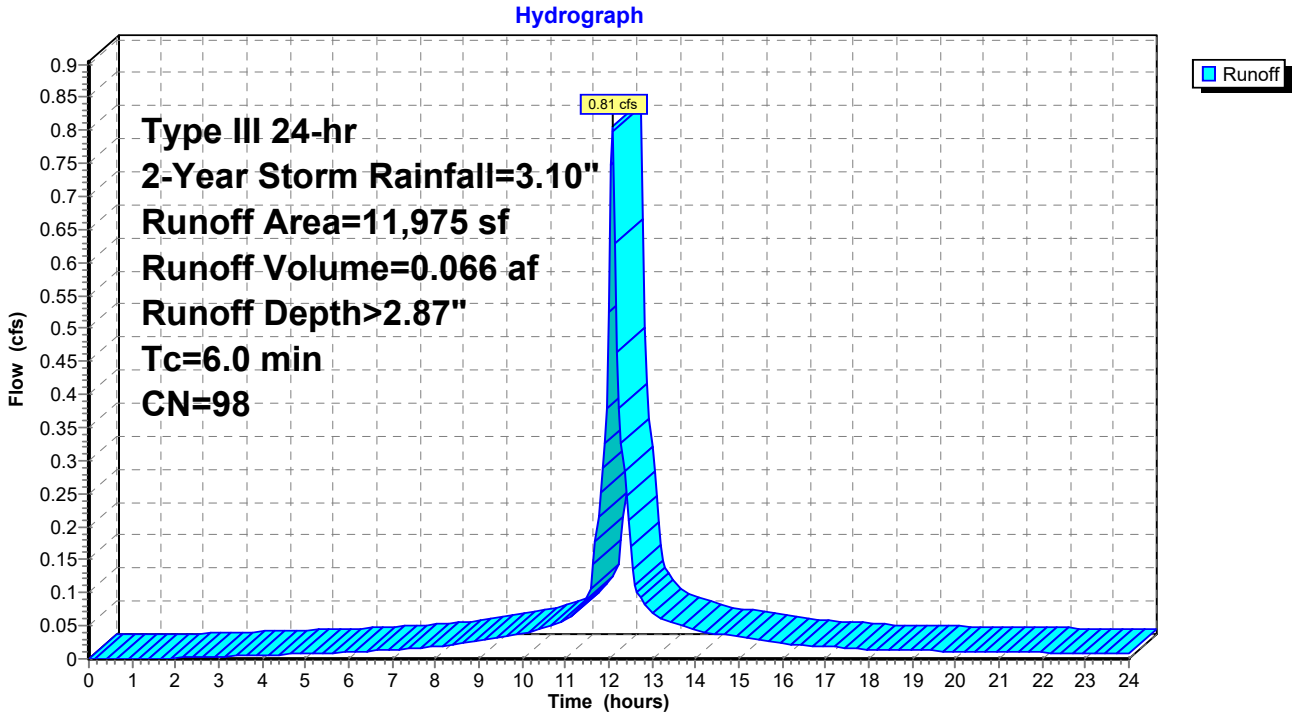
Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af, Depth> 2.87"
Routed to Pond 28P : Filterra 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 30S: Block 6 Building



Summary for Pond 1P: DMH 1

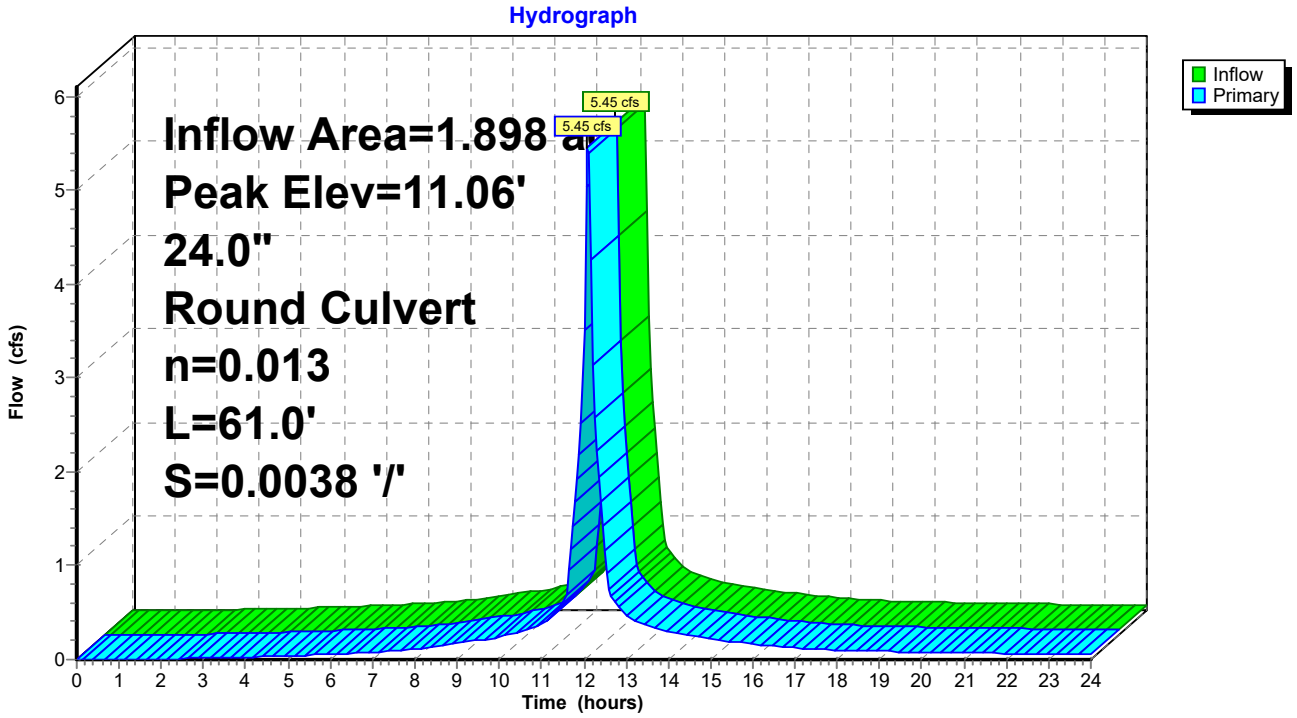
Inflow Area = 1.898 ac, 93.68% Impervious, Inflow Depth > 2.74" for 2-Year Storm event
Inflow = 5.45 cfs @ 12.09 hrs, Volume= 0.433 af
Outflow = 5.45 cfs @ 12.09 hrs, Volume= 0.433 af, Atten= 0%, Lag= 0.0 min
Primary = 5.45 cfs @ 12.09 hrs, Volume= 0.433 af
Routed to Pond 2P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.06' @ 12.09 hrs
Flood Elev= 14.71'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.77'	**24.0" Round Culvert** L= 61.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.77' / 9.54' S= 0.0038 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.31 cfs @ 12.09 hrs HW=11.04' (Free Discharge)
1=Culvert (Barrel Controls 5.31 cfs @ 3.61 fps)

Pond 1P: DMH 1



Summary for Pond 2P: DMH 2

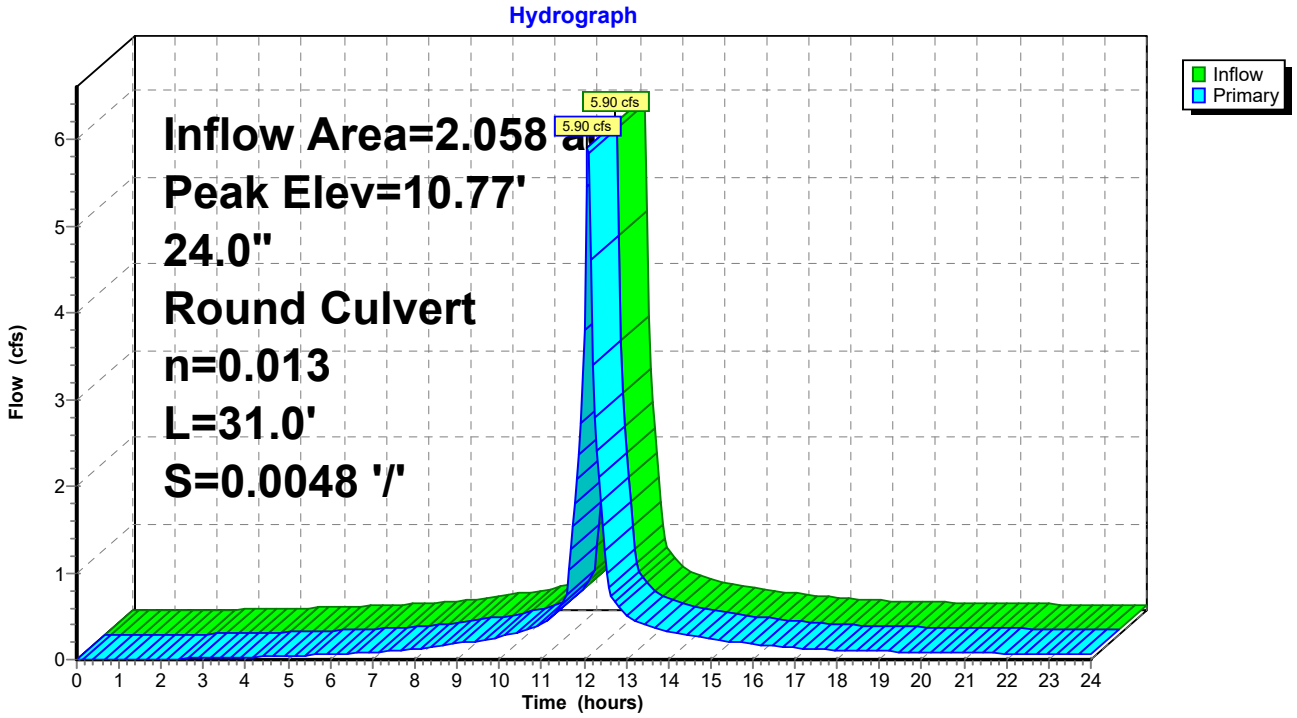
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 2.73" for 2-Year Storm event
Inflow = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af
Outflow = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min
Primary = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af
Routed to Pond 3P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.77' @ 12.09 hrs
Flood Elev= 14.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.50'	**24.0" Round Culvert** L= 31.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.35' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.74 cfs @ 12.09 hrs HW=10.75' (Free Discharge)
1=Culvert (Barrel Controls 5.74 cfs @ 3.96 fps)

Pond 2P: DMH 2



Summary for Pond 3P: Storm Structure

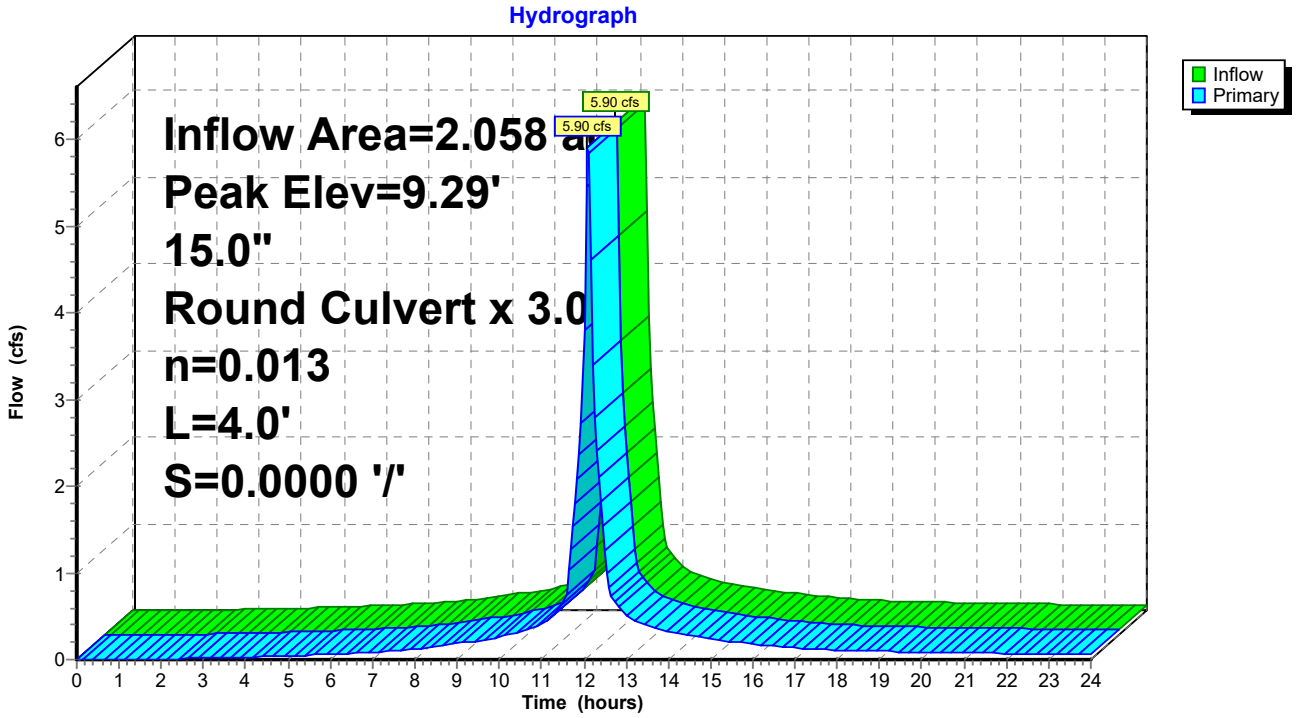
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 2.73" for 2-Year Storm event
Inflow = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af
Outflow = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min
Primary = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af
Routed to Pond 4P : R-Tank 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.29' @ 12.09 hrs
Flood Elev= 14.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.35'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.35' / 8.35' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=5.74 cfs @ 12.09 hrs HW=9.27' (Free Discharge)
1=Culvert (Barrel Controls 5.74 cfs @ 2.74 fps)

Pond 3P: Storm Structure



Summary for Pond 4P: R-Tank 1

Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 2.73" for 2-Year Storm event
Inflow = 5.90 cfs @ 12.09 hrs, Volume= 0.468 af
Outflow = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af, Atten= 10%, Lag= 2.4 min
Primary = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af
Routed to Pond 10P : DMH 4

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.32' @ 12.13 hrs Surf.Area= 1,162 sf Storage= 1,608 cf
Flood Elev= 12.00' Surf.Area= 1,162 sf Storage= 3,266 cf

Plug-Flow detention time= 24.2 min calculated for 0.461 af (99% of inflow)
Center-of-Mass det. time= 14.9 min (781.5 - 766.7)

Volume	Invert	Avail.Storage	Storage Description
#1	6.50'	892 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 4,729 cf Overall - 2,499 cf Embedded = 2,231 cf x 40.0% Voids
#2	6.75'	2,374 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 2,499 cf Overall x 95.0% Voids
		3,266 cf	Total Available Storage

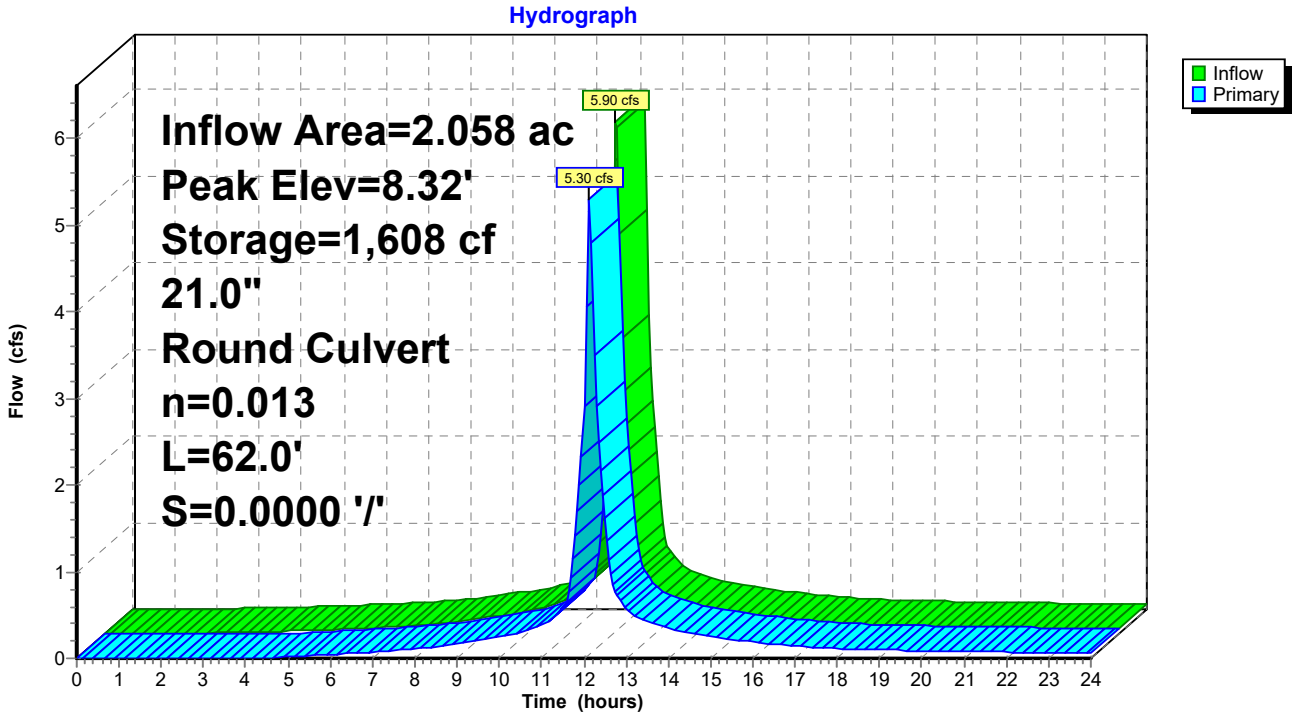
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.50	1,162	0	0
10.57	1,162	4,729	4,729

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.75	886	0	0
9.57	886	2,499	2,499

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**21.0" Round Culvert to Filter** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf

Primary OutFlow Max=5.19 cfs @ 12.13 hrs HW=8.30' (Free Discharge)
↑—**1=Culvert to Filter** (Barrel Controls 5.19 cfs @ 3.06 fps)

Pond 4P: R-Tank 1



Summary for Pond 5P: DMH-11

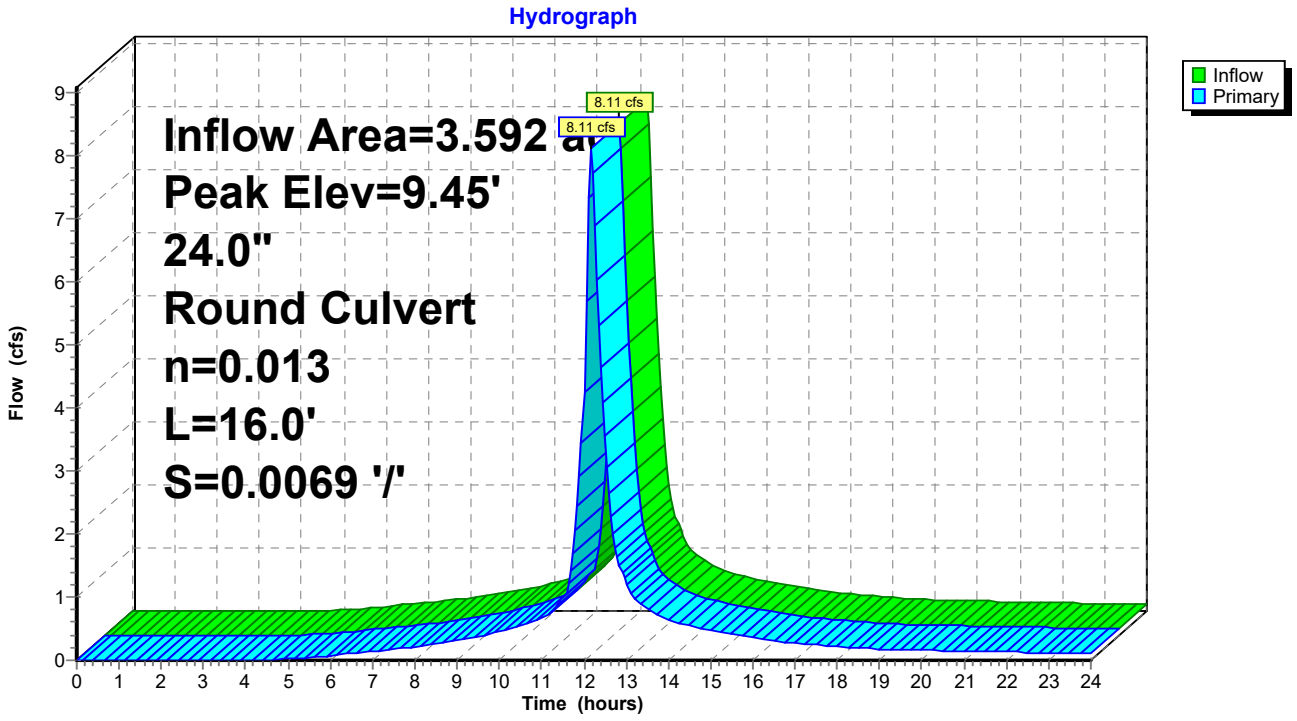
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 2.79" for 2-Year Storm event
Inflow = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af
Outflow = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af, Atten= 0%, Lag= 0.0 min
Primary = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af
Routed to Pond 12P : Jellyfish 2 JFPD0806-7-2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.45' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.71' S= 0.0069 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.02 cfs @ 12.16 hrs HW=9.44' (Free Discharge)
1=Culvert (Barrel Controls 8.02 cfs @ 4.01 fps)

Pond 5P: DMH-11



Summary for Pond 6P: CB27

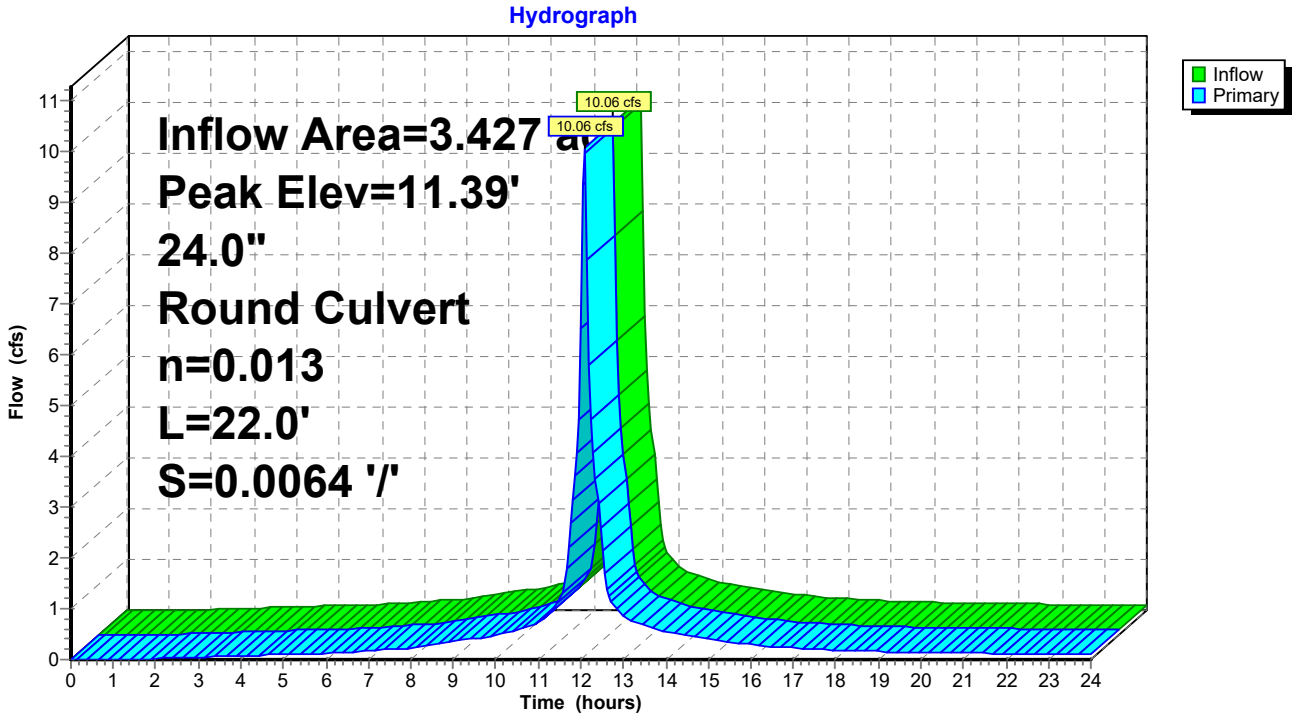
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 10.06 cfs @ 12.09 hrs, Volume= 0.818 af
Outflow = 10.06 cfs @ 12.09 hrs, Volume= 0.818 af, Atten= 0%, Lag= 0.0 min
Primary = 10.06 cfs @ 12.09 hrs, Volume= 0.818 af
Routed to Pond 7P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.39' @ 12.09 hrs
Flood Elev= 14.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.53'	**24.0" Round Culvert** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.53' / 9.39' S= 0.0064 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.79 cfs @ 12.09 hrs HW=11.36' (Free Discharge)
1=Culvert (Barrel Controls 9.79 cfs @ 4.26 fps)

Pond 6P: CB27



Summary for Pond 7P: Storm Structure

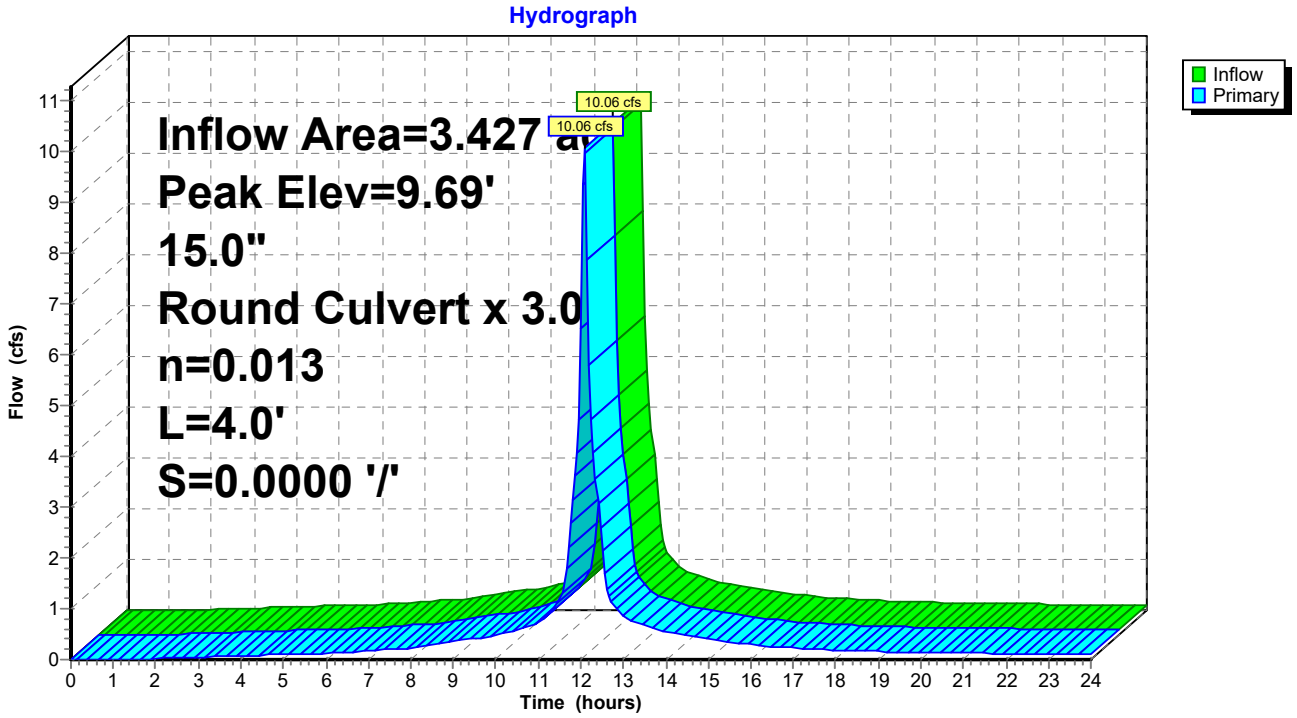
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 10.06 cfs @ 12.09 hrs, Volume= 0.818 af
Outflow = 10.06 cfs @ 12.09 hrs, Volume= 0.818 af, Atten= 0%, Lag= 0.0 min
Primary = 10.06 cfs @ 12.09 hrs, Volume= 0.818 af
Routed to Pond 8P : R-Tank 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.69' @ 12.09 hrs
Flood Elev= 14.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.39'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.39' / 8.39' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=9.79 cfs @ 12.09 hrs HW=9.67' (Free Discharge)
1=Culvert (Barrel Controls 9.79 cfs @ 3.23 fps)

Pond 7P: Storm Structure



Summary for Pond 8P: R-Tank 2

Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 10.55 cfs @ 12.09 hrs, Volume= 0.858 af
Outflow = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af, Atten= 23%, Lag= 4.3 min
Primary = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af
Routed to Pond 5P : DMH-11

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.70' @ 12.16 hrs Surf.Area= 3,128 sf Storage= 5,443 cf
Flood Elev= 12.71' Surf.Area= 3,128 sf Storage= 8,290 cf

Plug-Flow detention time= 44.5 min calculated for 0.835 af (97% of inflow)
Center-of-Mass det. time= 28.2 min (784.9 - 756.6)

Volume	Invert	Avail.Storage	Storage Description
#1	7.57'	2,767 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 12,731 cf Overall - 5,813 cf Embedded = 6,918 cf x 40.0% Voids
#2	7.82'	5,523 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 5,813 cf Overall x 95.0% Voids
		8,290 cf	Total Available Storage

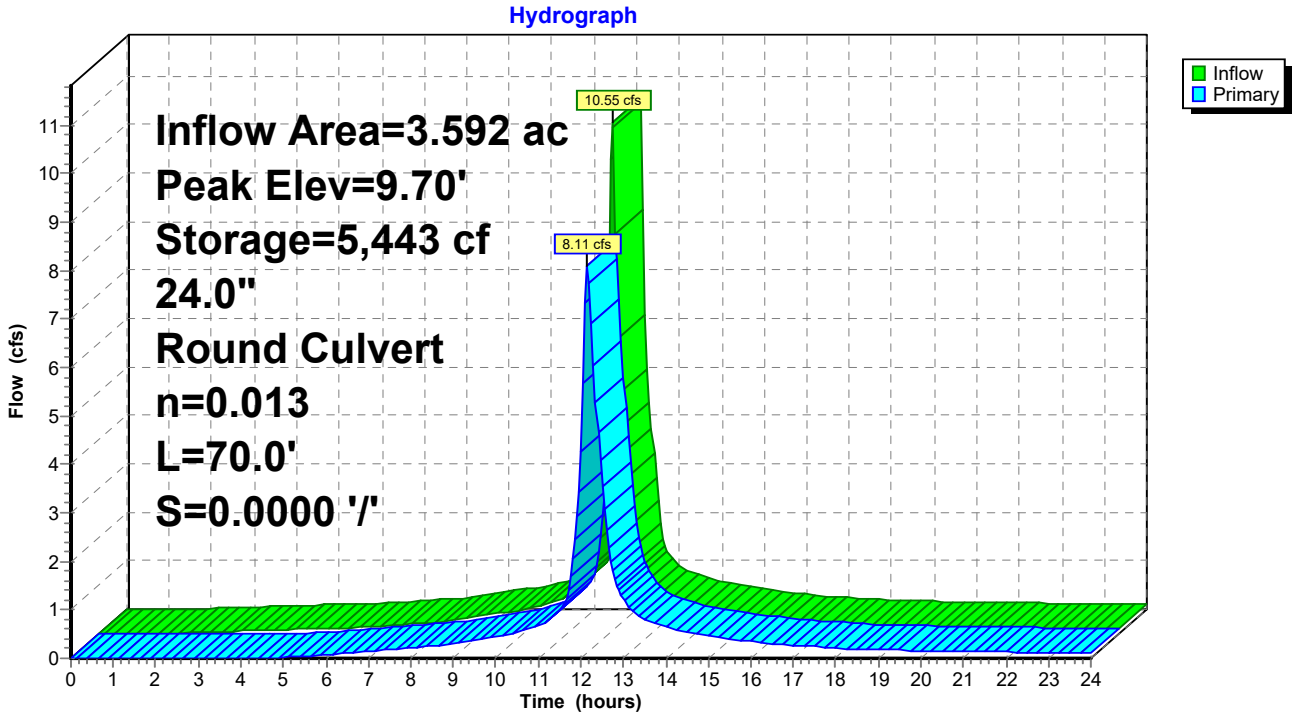
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.57	3,128	0	0
11.64	3,128	12,731	12,731

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.82	2,679	0	0
9.99	2,679	5,813	5,813

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.82' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.02 cfs @ 12.16 hrs HW=9.69' (Free Discharge)
1=Culvert (Barrel Controls 8.02 cfs @ 3.41 fps)

Pond 8P: R-Tank 2



Summary for Pond 9P: DMH-8 (Outfall #1)

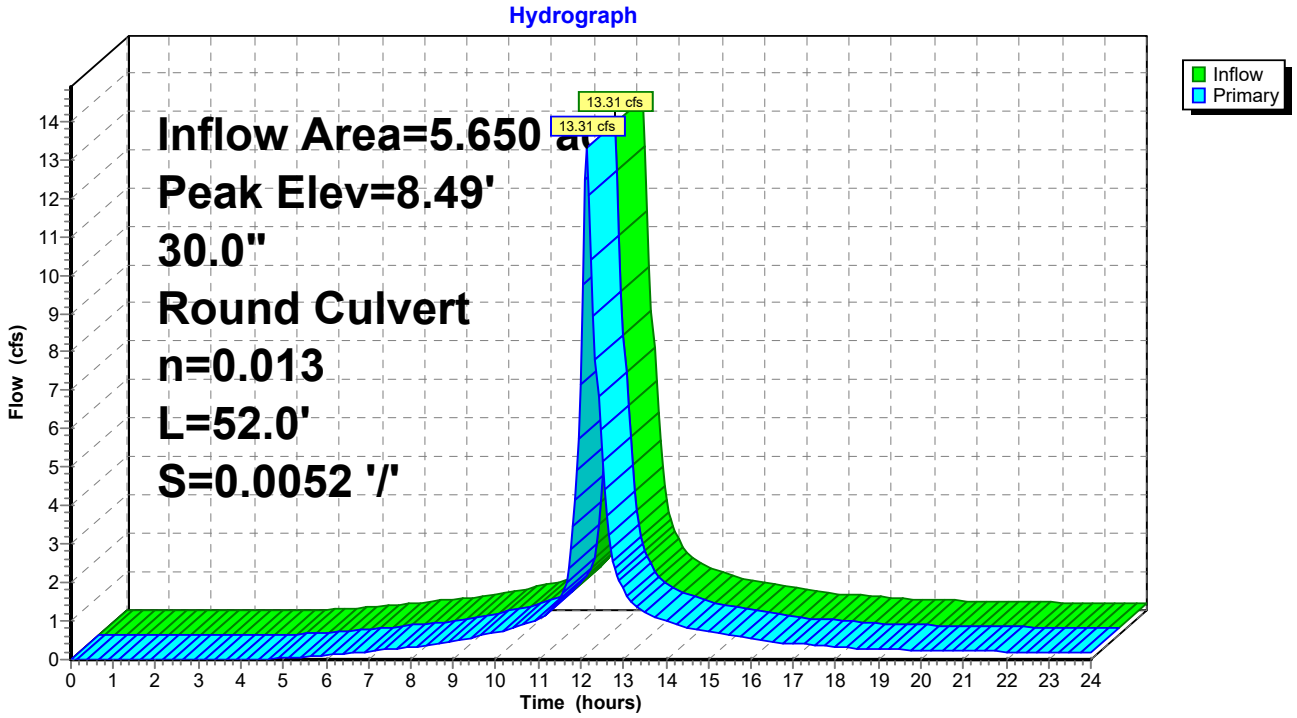
Inflow Area = 5.650 ac, 97.52% Impervious, Inflow Depth > 2.75" for 2-Year Storm event
Inflow = 13.31 cfs @ 12.15 hrs, Volume= 1.297 af
Outflow = 13.31 cfs @ 12.15 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min
Primary = 13.31 cfs @ 12.15 hrs, Volume= 1.297 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.49' @ 12.15 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.57'	**30.0" Round Culvert** L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.57' / 6.30' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=13.22 cfs @ 12.15 hrs HW=8.48' (Free Discharge)
1=Culvert (Barrel Controls 13.22 cfs @ 4.54 fps)

Pond 9P: DMH-8 (Outfall #1)



Summary for Pond 10P: DMH 4

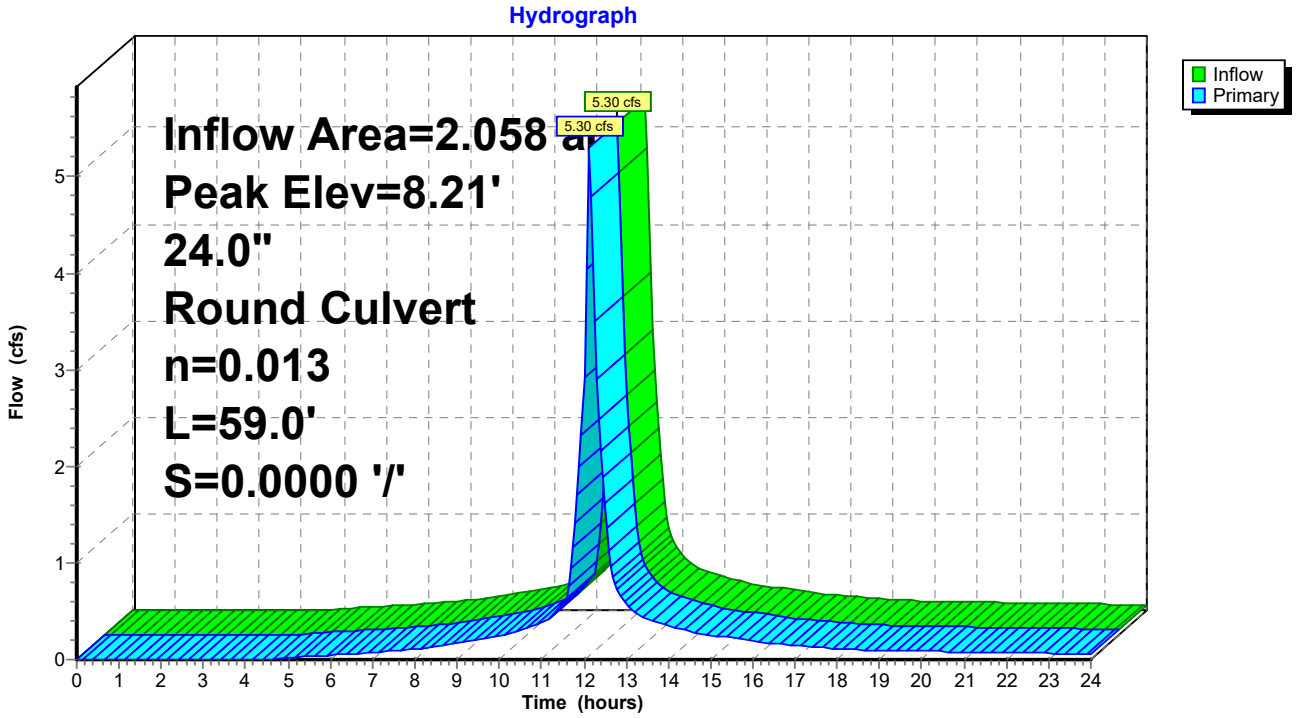
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 2.69" for 2-Year Storm event
Inflow = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af
Outflow = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af, Atten= 0%, Lag= 0.0 min
Primary = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af
Routed to Pond 11P : Jellyfish 1 JFPD0806-4-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.21' @ 12.13 hrs
Flood Elev= 13.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Culvert** L= 59.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.19 cfs @ 12.13 hrs HW=8.19' (Free Discharge)
1=Culvert (Barrel Controls 5.19 cfs @ 2.99 fps)

Pond 10P: DMH 4



Summary for Pond 11P: Jellyfish 1 JFPD0806-4-1

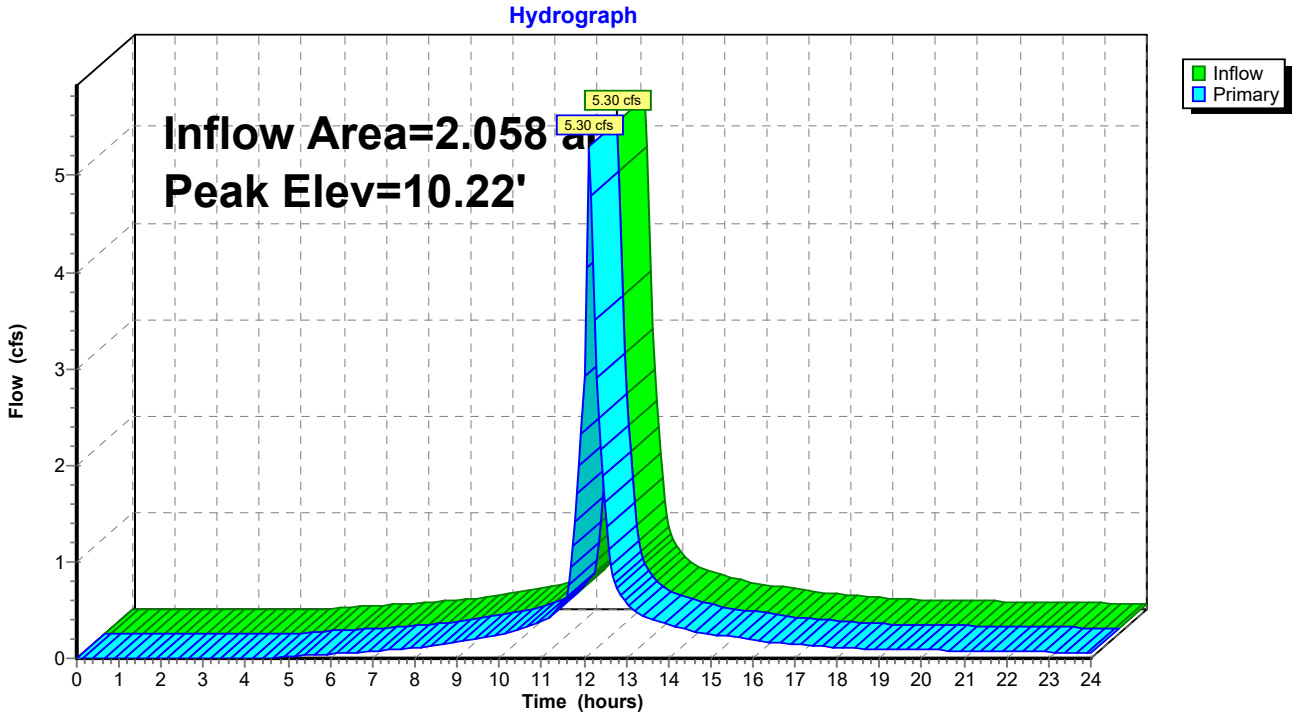
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 2.69" for 2-Year Storm event
Inflow = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af
Outflow = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af, Atten= 0%, Lag= 0.0 min
Primary = 5.30 cfs @ 12.13 hrs, Volume= 0.461 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.22' @ 12.13 hrs
Flood Elev= 12.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Filter Culvert Out** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.67' S= 0.0160 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	6.75'	**JF Filter-1 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.129 0.198 0.267 0.337 0.406 0.475 0.545 0.614 0.683 0.753 0.822 0.891
#3	Device 1	9.59'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=5.18 cfs @ 12.13 hrs HW=10.21' (Free Discharge)
└**1=Filter Culvert Out** (Passes 5.18 cfs of 18.75 cfs potential flow)
  ├**2=JF Filter-1 CSV File** (Custom Controls 0.89 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 4.29 cfs @ 2.45 fps)

Pond 11P: Jellyfish 1 JFPD0806-4-1



Summary for Pond 12P: Jellyfish 2 JFPD0806-7-2

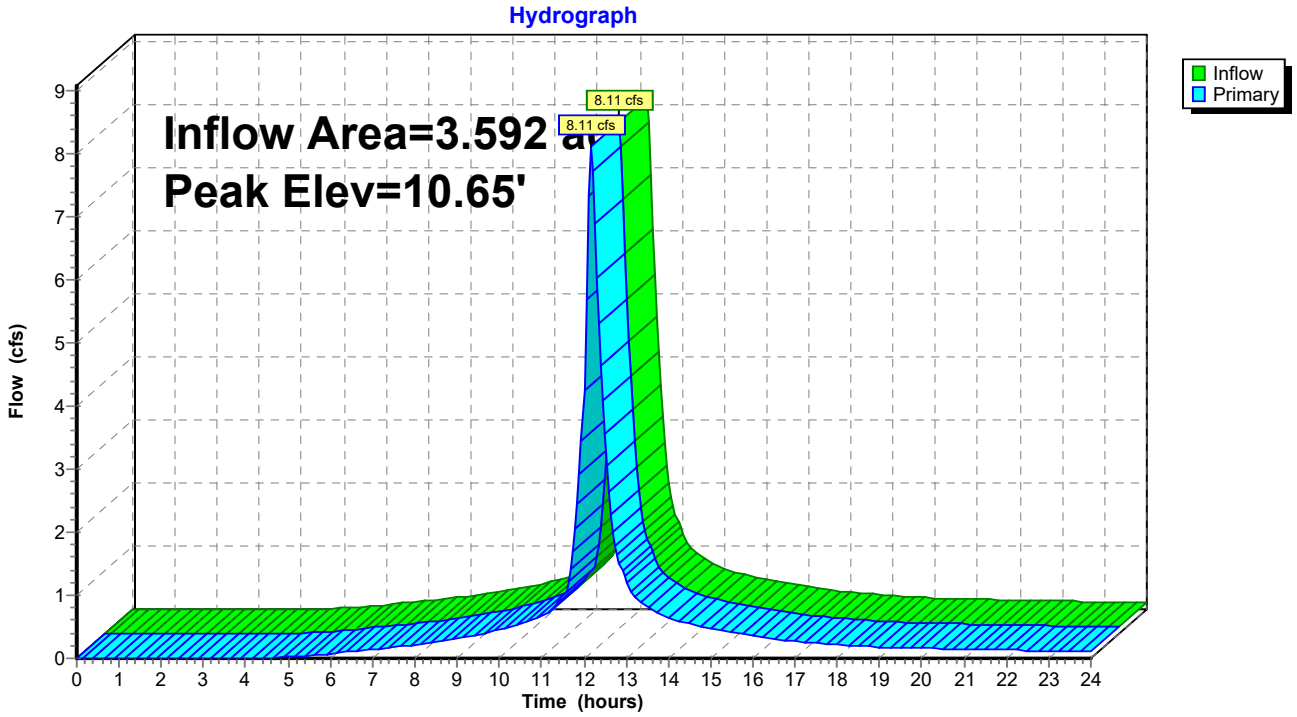
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 2.79" for 2-Year Storm event
Inflow = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af
Outflow = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af, Atten= 0%, Lag= 0.0 min
Primary = 8.11 cfs @ 12.16 hrs, Volume= 0.835 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.65' @ 12.16 hrs
Flood Elev= 11.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.71'	**24.0" Round Filter Culvert Out** L= 125.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.71' / 6.92' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	7.71'	**JF Filter-2 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.173 0.287 0.401 0.515 0.629 0.743 0.857 0.970 1.084 1.198 1.312 1.426
#3	Device 1	9.84'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=8.04 cfs @ 12.16 hrs HW=10.64' (Free Discharge)
└**1=Filter Culvert Out** (Passes 8.04 cfs of 16.59 cfs potential flow)
  ├**2=JF Filter-2 CSV File** (Custom Controls 1.43 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 6.61 cfs @ 2.95 fps)

Pond 12P: Jellyfish 2 JFPD0806-7-2



Summary for Pond 13P: DMH-13 (Outfall #2)

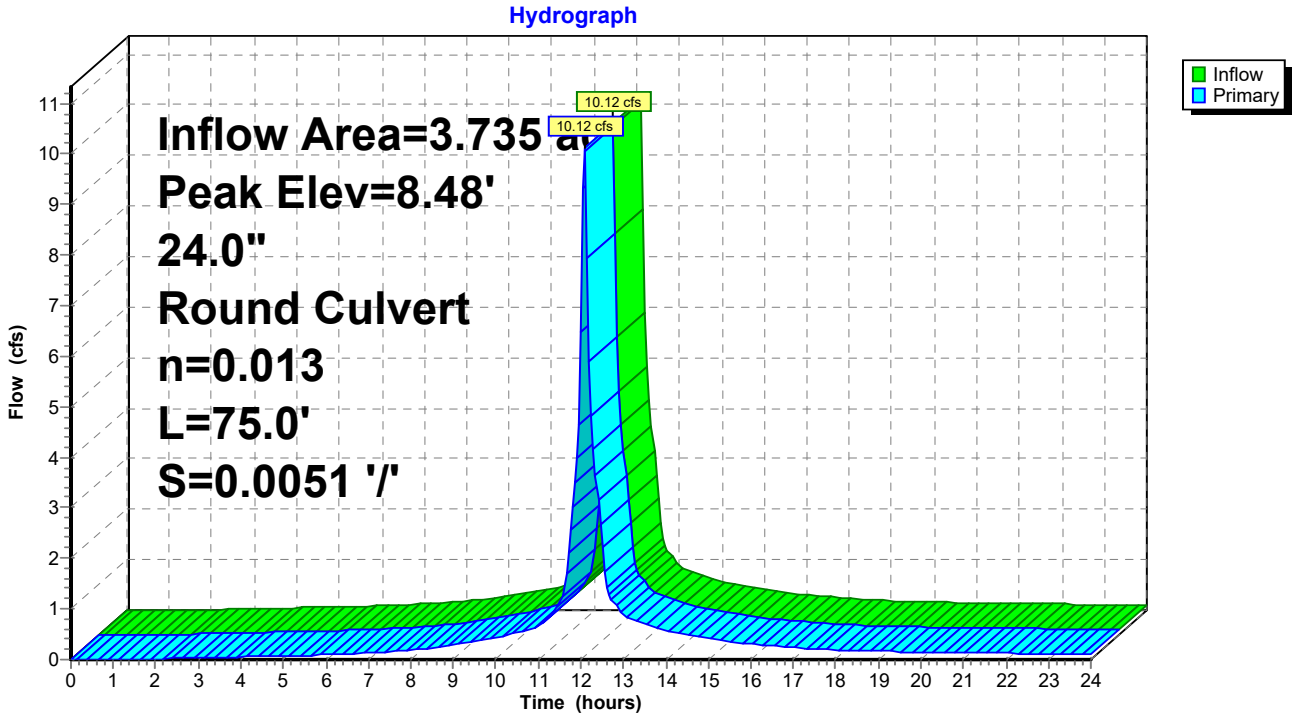
Inflow Area = 3.735 ac, 83.01% Impervious, Inflow Depth > 2.58" for 2-Year Storm event
Inflow = 10.12 cfs @ 12.09 hrs, Volume= 0.802 af
Outflow = 10.12 cfs @ 12.09 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 10.12 cfs @ 12.09 hrs, Volume= 0.802 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.48' @ 12.09 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.68'	**24.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.68' / 6.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.86 cfs @ 12.09 hrs HW=8.45' (Free Discharge)
1=Culvert (Barrel Controls 9.86 cfs @ 4.46 fps)

Pond 13P: DMH-13 (Outfall #2)



Summary for Pond 24P: Filterra 1

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af
Outflow = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

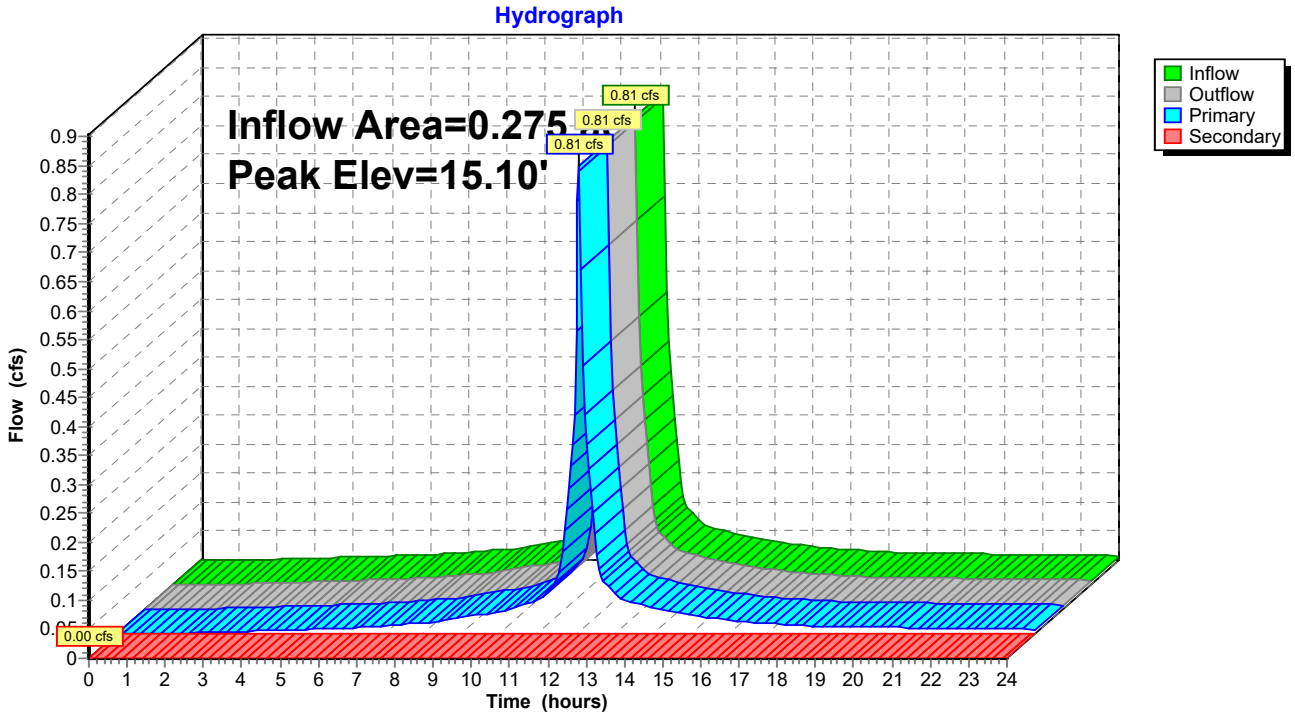
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.10' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.79 cfs @ 12.09 hrs HW=15.09' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.79 cfs @ 2.36 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 24P: Filterra 1



Summary for Pond 27P: AD49

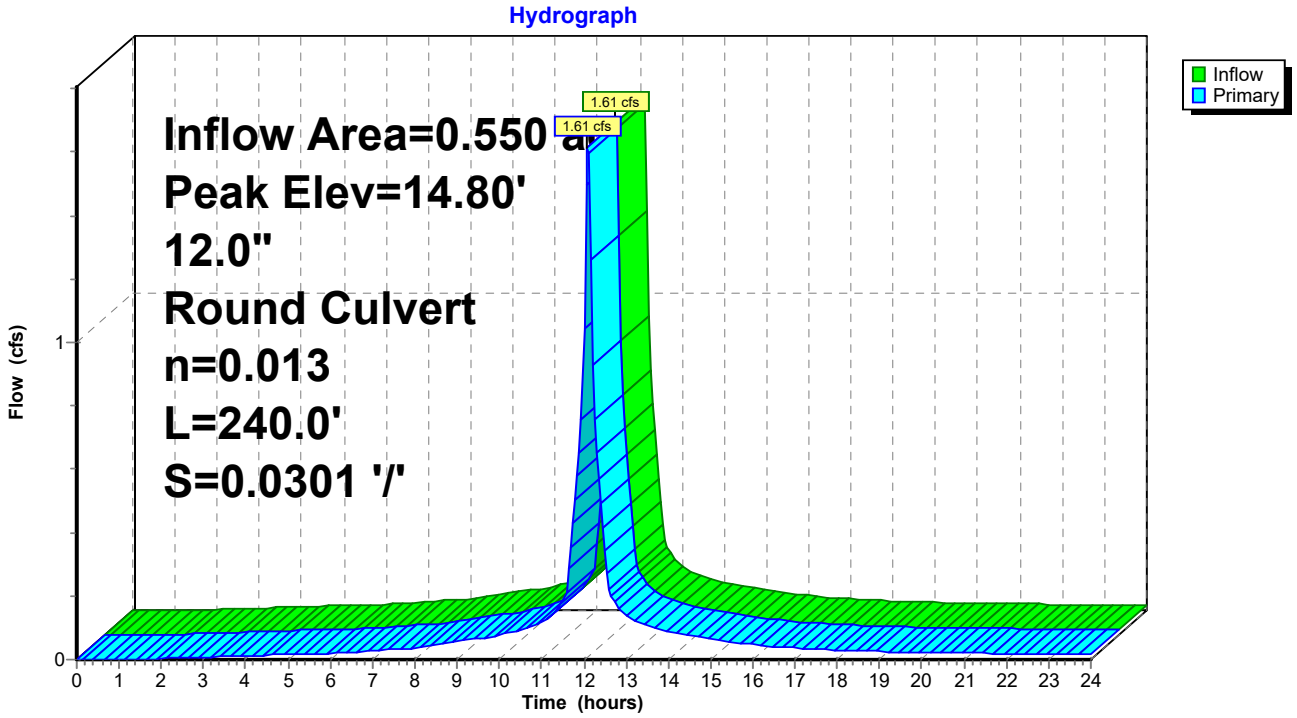
Inflow Area = 0.550 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 1.61 cfs @ 12.09 hrs, Volume= 0.131 af
Outflow = 1.61 cfs @ 12.09 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.09 hrs, Volume= 0.131 af
Routed to Pond 13P : DMH-13 (Outfall #2)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 14.80' @ 12.09 hrs
Flood Elev= 12.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 240.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.00' / 6.78' S= 0.0301 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.57 cfs @ 12.09 hrs HW=14.78' (Free Discharge)
1=Culvert (Inlet Controls 1.57 cfs @ 2.38 fps)

Pond 27P: AD49



Summary for Pond 28P: Filterra 2

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af
Outflow = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.09 hrs, Volume= 0.066 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

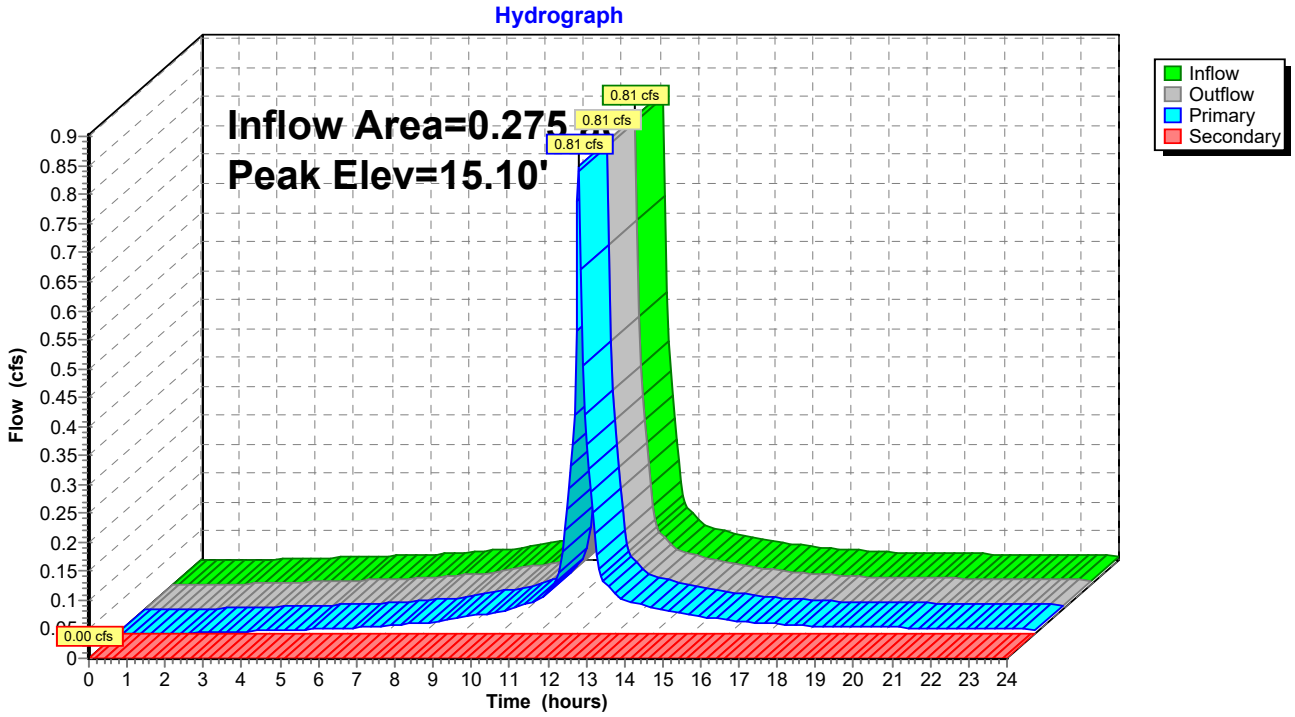
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.10' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.79 cfs @ 12.09 hrs HW=15.09' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.79 cfs @ 2.36 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 28P: Filterra 2

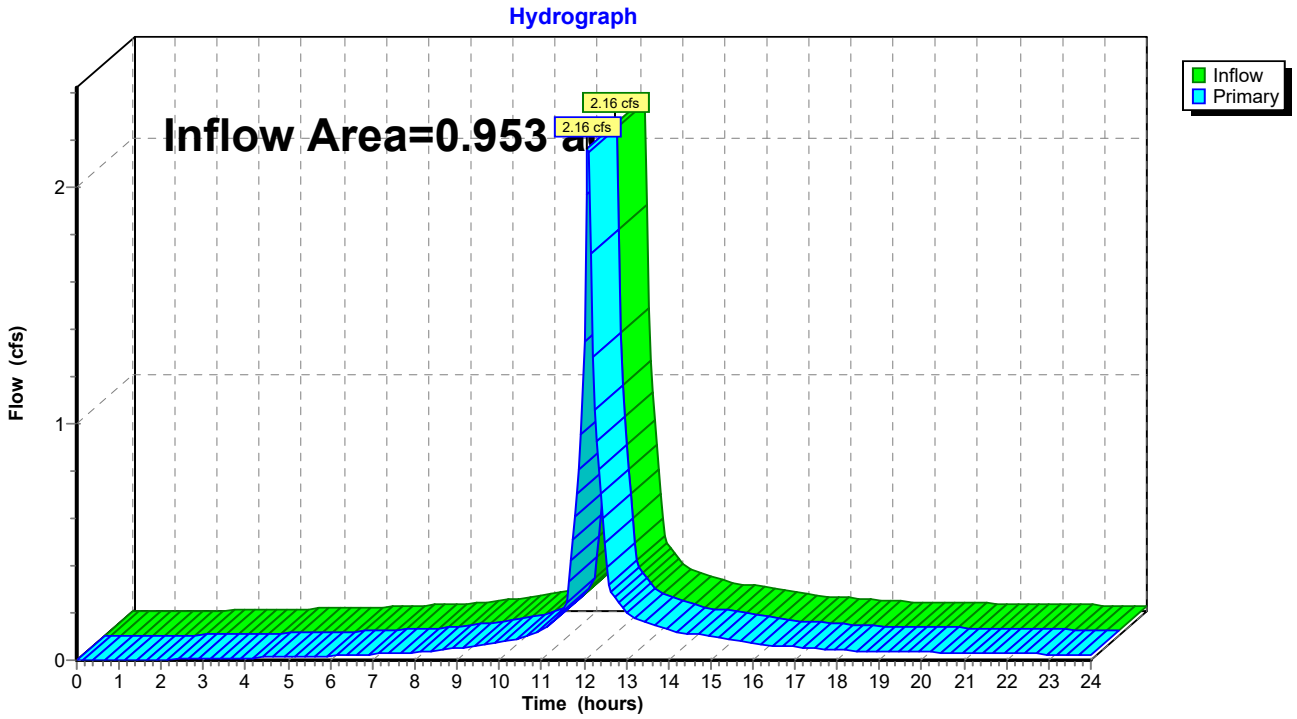


Summary for Link 1L: Freedom Way

Inflow Area = 0.953 ac, 53.78% Impervious, Inflow Depth > 2.15" for 2-Year Storm event
Inflow = 2.16 cfs @ 12.09 hrs, Volume= 0.170 af
Primary = 2.16 cfs @ 12.09 hrs, Volume= 0.170 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 1L: Freedom Way

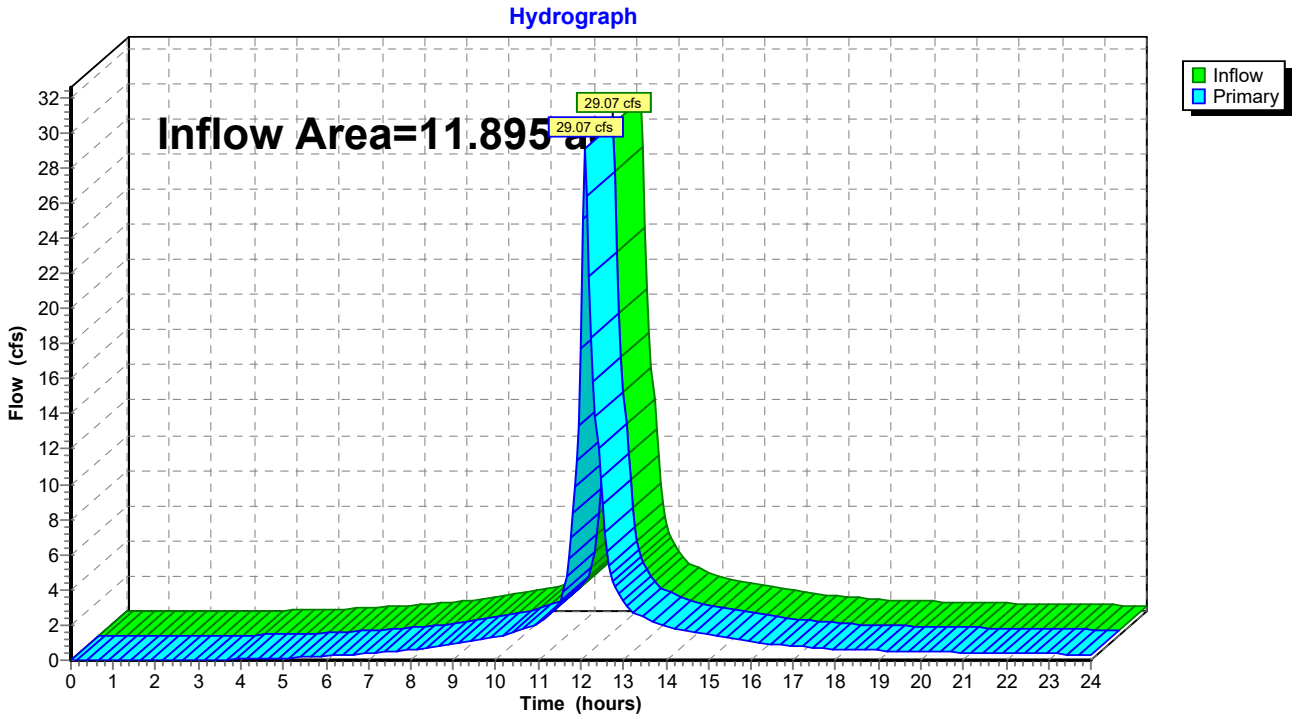


Summary for Link 2L: Fore River

Inflow Area = 11.895 ac, 87.62% Impervious, Inflow Depth > 2.61" for 2-Year Storm event
Inflow = 29.07 cfs @ 12.11 hrs, Volume= 2.590 af
Primary = 29.07 cfs @ 12.11 hrs, Volume= 2.590 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 2L: Fore River

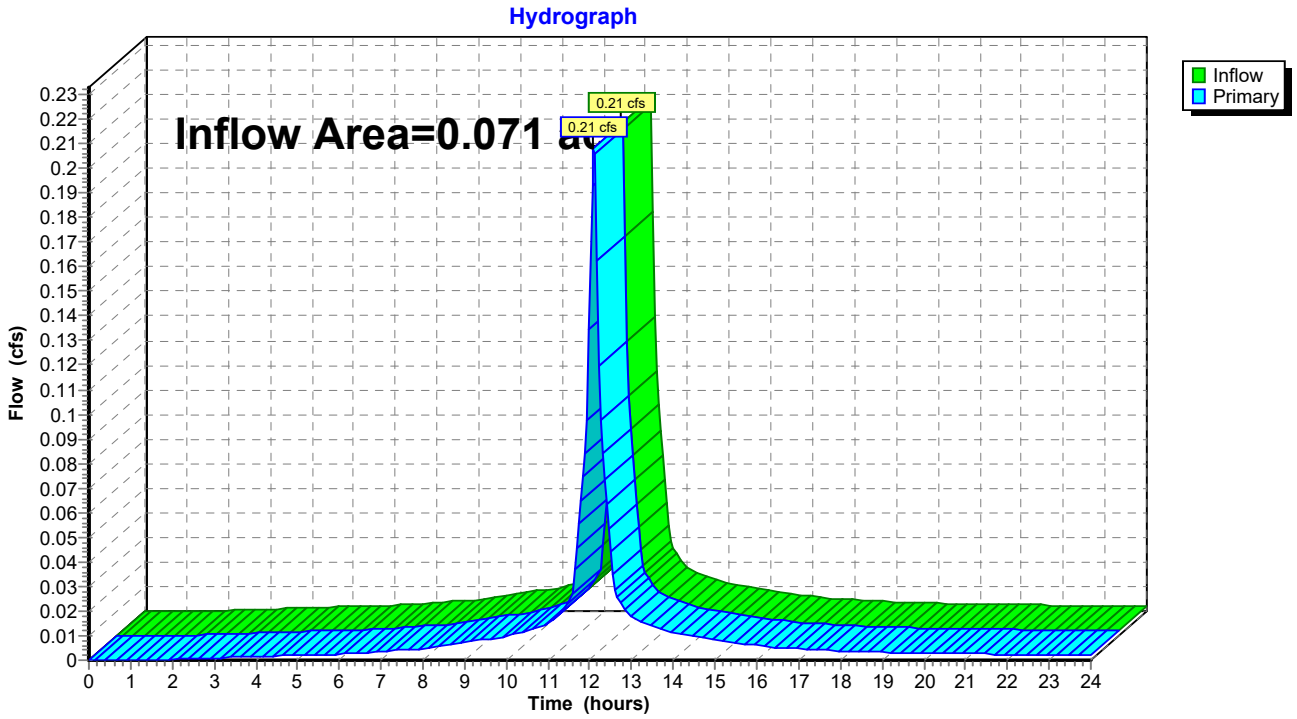


Summary for Link 3L: Fore Street

Inflow Area = 0.071 ac,100.00% Impervious, Inflow Depth > 2.87" for 2-Year Storm event
Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af
Primary = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: Fore Street



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Block 1B Runoff Area=19,389 sf 1.02% Impervious Runoff Depth>2.54"
Tc=6.0 min CN=80 Runoff=1.30 cfs 0.094 af

Subcatchment2S: Western half of Runoff Area=22,128 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=2.23 cfs 0.185 af

Subcatchment3S: Eastern half of Runoff Area=22,147 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=2.23 cfs 0.185 af

Subcatchment4S: Shared Street - Trench Runoff Area=26,424 sf 83.24% Impervious Runoff Depth>4.02"
Tc=6.0 min CN=95 Runoff=2.58 cfs 0.203 af

Subcatchment5S: Building 12 Runoff Area=3,244 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af

Subcatchment6S: Plaza between Blocks 1 Runoff Area=18,771 sf 95.74% Impervious Runoff Depth>4.25"
Tc=6.0 min CN=97 Runoff=1.88 cfs 0.152 af

Subcatchment7S: Building 14 Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.26 cfs 0.021 af

Subcatchment8S: Building 15 Runoff Area=2,578 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.26 cfs 0.022 af

Subcatchment9S: Building 2 North Runoff Area=4,695 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af

Subcatchment10S: Building 3 North Runoff Area=2,212 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment11S: Building 2 South Runoff Area=4,855 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.49 cfs 0.041 af

Subcatchment12S: Building 3 South Runoff Area=2,326 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af

Subcatchment13S: Building 6 Runoff Area=3,304 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.028 af

Subcatchment14S: Building 6B North Runoff Area=4,296 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.43 cfs 0.036 af

Subcatchment15S: Building 6B South Runoff Area=2,512 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af

Subcatchment16S: Plaza between Blocks 1 Runoff Area=3,650 sf 75.84% Impervious Runoff Depth>3.91"
Tc=6.0 min CN=94 Runoff=0.35 cfs 0.027 af

Subcatchment17S: Shared Street - Trench Runoff Area=8,719 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.88 cfs 0.073 af

Subcatchment18S: Plaza between Runoff Area=28,813 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=2.90 cfs 0.240 af

Subcatchment19S: Block 4 Building Runoff Area=86,592 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=8.73 cfs 0.722 af

Subcatchment20S: Direct to R-Tank Runoff Area=7,210 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.73 cfs 0.060 af

Subcatchment21S: Plaza along Building Runoff Area=2,534 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.26 cfs 0.021 af

Subcatchment22S: Block 6 Building Runoff Area=47,780 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=4.82 cfs 0.399 af

Subcatchment23S: Block 5 Building to Runoff Area=11,218 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=1.13 cfs 0.094 af

Subcatchment24S: Block 5 Building Runoff Area=30,570 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=3.08 cfs 0.255 af

Subcatchment25S: Southern Plaza Runoff Area=11,168 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=1.13 cfs 0.093 af

Subcatchment26S: Plaza along Townhouse Runoff Area=550 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=0.06 cfs 0.005 af

Subcatchment27S: Drainage from off-site Runoff Area=49,238 sf 43.84% Impervious Runoff Depth>3.29"
Tc=6.0 min CN=88 Runoff=4.19 cfs 0.310 af

Subcatchment28S: Waterfront Runoff Area=109,324 sf 72.19% Impervious Runoff Depth>3.80"
Tc=6.0 min CN=93 Runoff=10.34 cfs 0.795 af

Subcatchment29S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=1.21 cfs 0.100 af

Subcatchment30S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>4.36"
Tc=6.0 min CN=98 Runoff=1.21 cfs 0.100 af

Pond 1P: DMH 1 Peak Elev=11.42' Inflow=8.24 cfs 0.669 af
24.0" Round Culvert n=0.013 L=61.0' S=0.0038 '/' Outflow=8.24 cfs 0.669 af

Pond 2P: DMH 2 Peak Elev=11.13' Inflow=8.92 cfs 0.723 af
24.0" Round Culvert n=0.013 L=31.0' S=0.0048 '/' Outflow=8.92 cfs 0.723 af

Pond 3P: Storm Structure Peak Elev=9.55' Inflow=8.92 cfs 0.723 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=8.92 cfs 0.723 af

Pond 4P: R-Tank 1 Peak Elev=8.81' Storage=2,076 cf Inflow=8.92 cfs 0.723 af
21.0" Round Culvert n=0.013 L=62.0' S=0.0000 '/' Outflow=8.00 cfs 0.716 af

Pond 5P: DMH-11 Peak Elev=10.03' Inflow=12.72 cfs 1.280 af
24.0" Round Culvert n=0.013 L=16.0' S=0.0069 '/' Outflow=12.72 cfs 1.280 af

Pond 6P: CB27 Peak Elev=12.10' Inflow=15.04 cfs 1.245 af
24.0" Round Culvert n=0.013 L=22.0' S=0.0064 '/' Outflow=15.04 cfs 1.245 af

Pond 7P: Storm Structure Peak Elev=10.17' Inflow=15.04 cfs 1.245 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=15.04 cfs 1.245 af

Pond 8P: R-Tank 2 Peak Elev=10.53' Storage=6,896 cf Inflow=15.77 cfs 1.306 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0000 '/' Outflow=12.72 cfs 1.280 af

Pond 9P: DMH-8 (Outfall #1) Peak Elev=9.14' Inflow=20.64 cfs 1.996 af
30.0" Round Culvert n=0.013 L=52.0' S=0.0052 '/' Outflow=20.64 cfs 1.996 af

Pond 10P: DMH 4 Peak Elev=8.59' Inflow=8.00 cfs 0.716 af
24.0" Round Culvert n=0.013 L=59.0' S=0.0000 '/' Outflow=8.00 cfs 0.716 af

Pond 11P: Jellyfish 1 JFPD0806-4-1 Peak Elev=10.43' Inflow=8.00 cfs 0.716 af
Outflow=8.00 cfs 0.716 af

Pond 12P: Jellyfish 2 JFPD0806-7-2 Peak Elev=10.98' Inflow=12.72 cfs 1.280 af
Outflow=12.72 cfs 1.280 af

Pond 13P: DMH-13 (Outfall #2) Peak Elev=9.38' Inflow=15.62 cfs 1.256 af
24.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=15.62 cfs 1.256 af

Pond 24P: Filterra 1 Peak Elev=15.25' Inflow=1.21 cfs 0.100 af
Primary=1.21 cfs 0.100 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.100 af

Pond 27P: AD49 Peak Elev=15.15' Inflow=2.41 cfs 0.200 af
12.0" Round Culvert n=0.013 L=240.0' S=0.0301 '/' Outflow=2.41 cfs 0.200 af

Pond 28P: Filterra 2 Peak Elev=15.25' Inflow=1.21 cfs 0.100 af
Primary=1.21 cfs 0.100 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.100 af

Link 1L: Freedom Way Inflow=3.53 cfs 0.279 af
Primary=3.53 cfs 0.279 af

Link 2L: Fore River Inflow=45.43 cfs 4.048 af
Primary=45.43 cfs 4.048 af

Link 3L: Fore Street Inflow=0.31 cfs 0.026 af
Primary=0.31 cfs 0.026 af

Total Runoff Area = 12.919 ac Runoff Volume = 4.386 af Average Runoff Depth = 4.07"
14.81% Pervious = 1.914 ac 85.19% Impervious = 11.005 ac

Summary for Subcatchment 1S: Block 1B

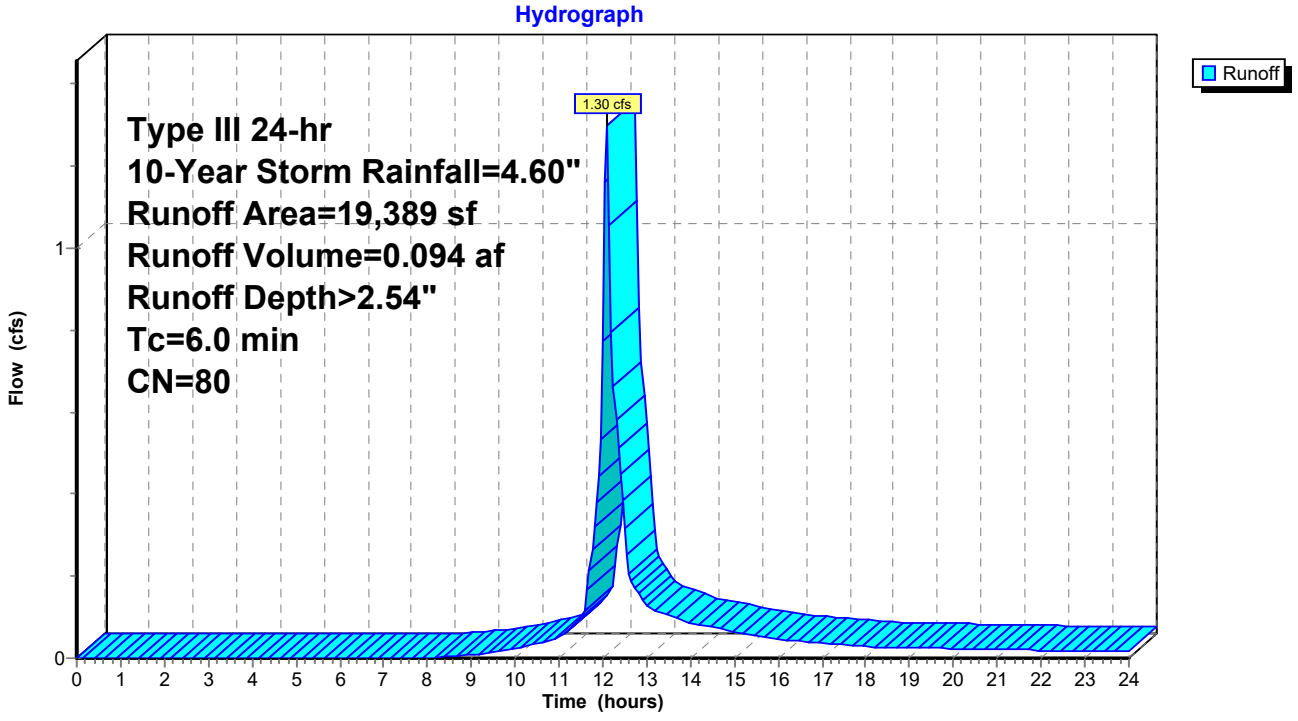
Runoff = 1.30 cfs @ 12.09 hrs, Volume= 0.094 af, Depth> 2.54"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	198	98	Impervious
	19,191	80	>75% Grass cover, Good, HSG D
	19,389	80	Weighted Average
	19,191		98.98% Pervious Area
	198		1.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Block 1B



Summary for Subcatchment 2S: Western half of Building 1A

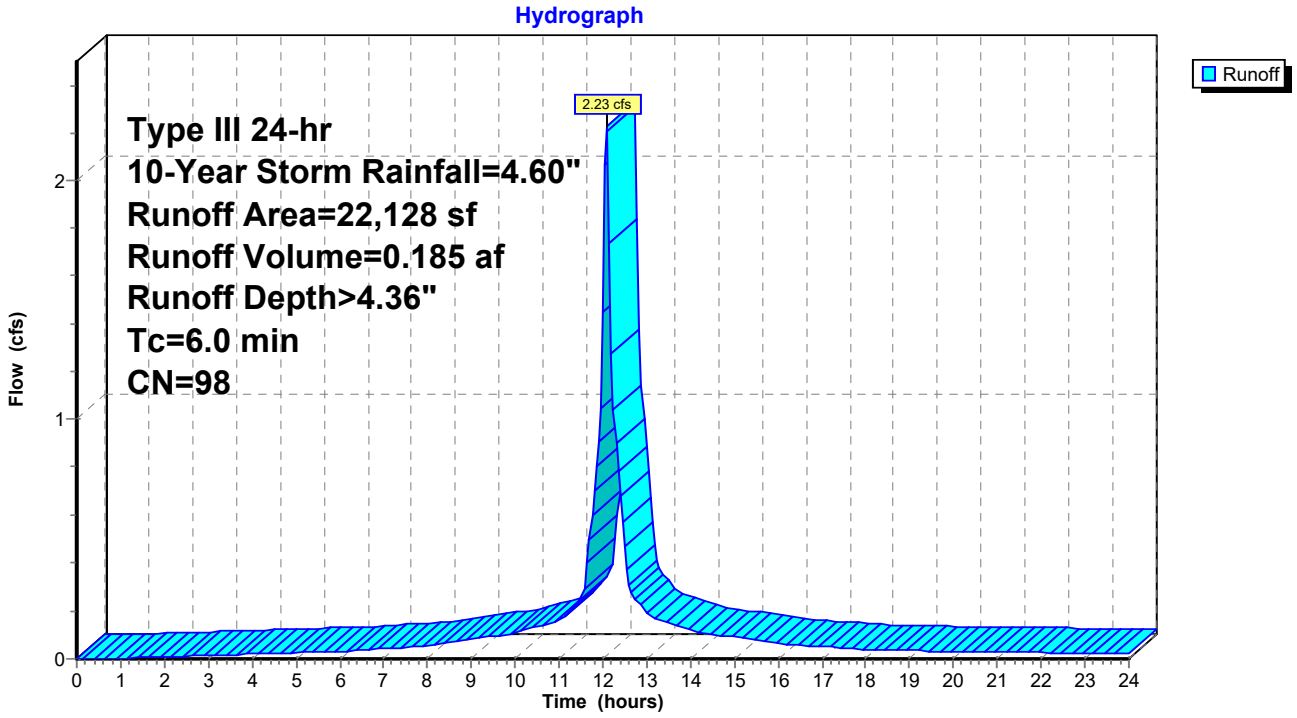
Runoff = 2.23 cfs @ 12.09 hrs, Volume= 0.185 af, Depth> 4.36"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	22,128	98	Roof
	22,128		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Western half of Building 1A



Summary for Subcatchment 3S: Eastern half of Building 1A

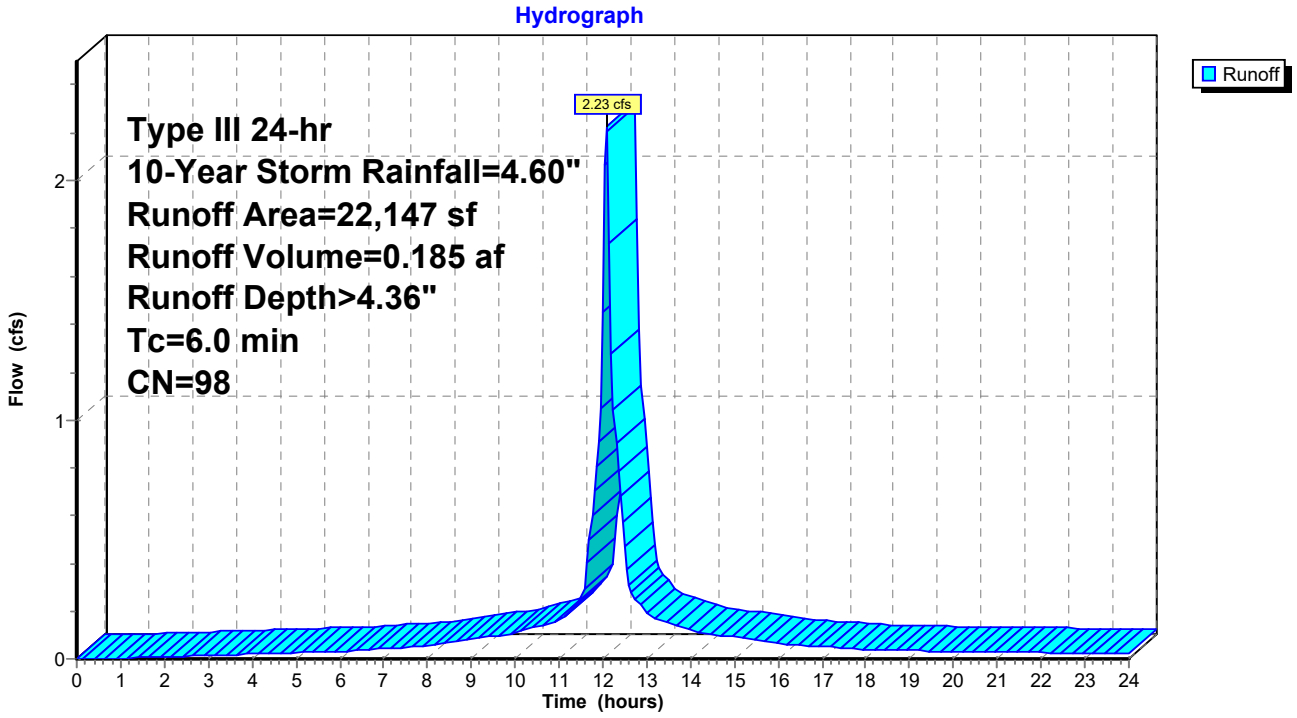
Runoff = 2.23 cfs @ 12.09 hrs, Volume= 0.185 af, Depth> 4.36"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	22,147	98	Roof
	22,147		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Eastern half of Building 1A



Summary for Subcatchment 4S: Shared Street - Trench Drain

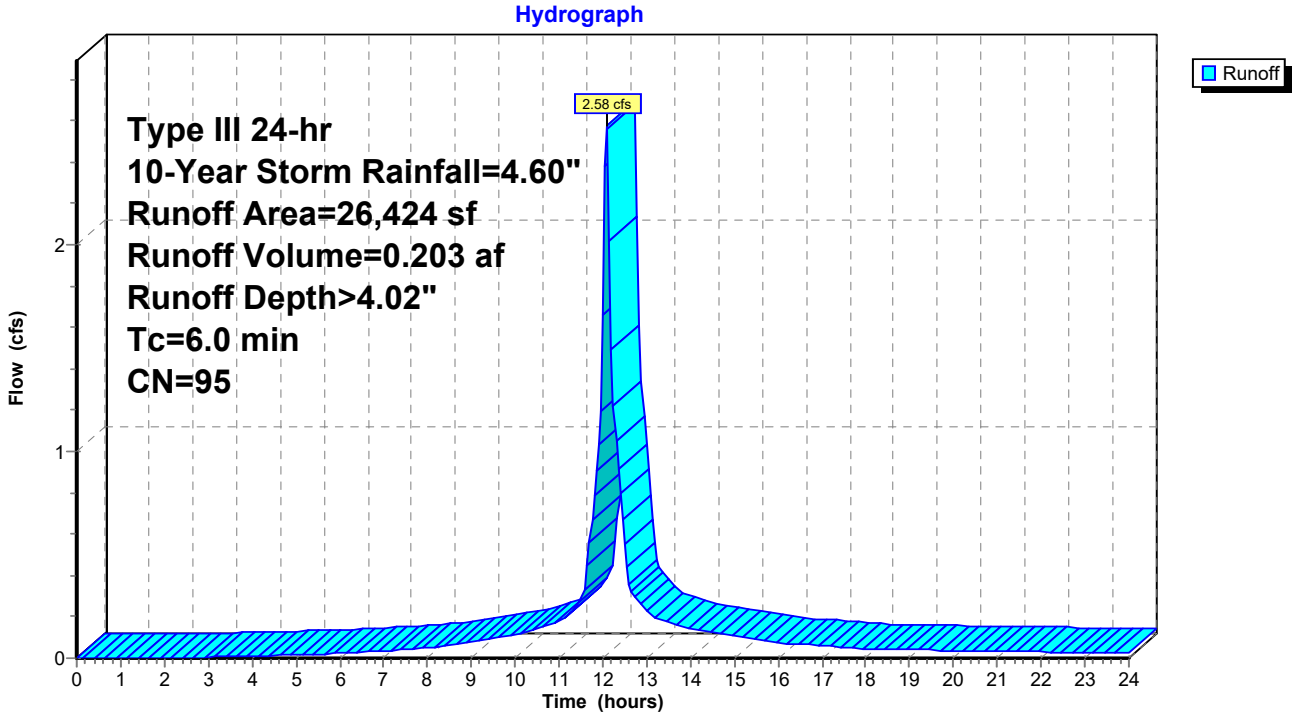
Runoff = 2.58 cfs @ 12.09 hrs, Volume= 0.203 af, Depth> 4.02"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
	4,428	80	>75% Grass cover, Good, HSG D
*	21,996	98	Impervious
	26,424	95	Weighted Average
	4,428		16.76% Pervious Area
	21,996		83.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Shared Street - Trench Drain



Summary for Subcatchment 5S: Building 12

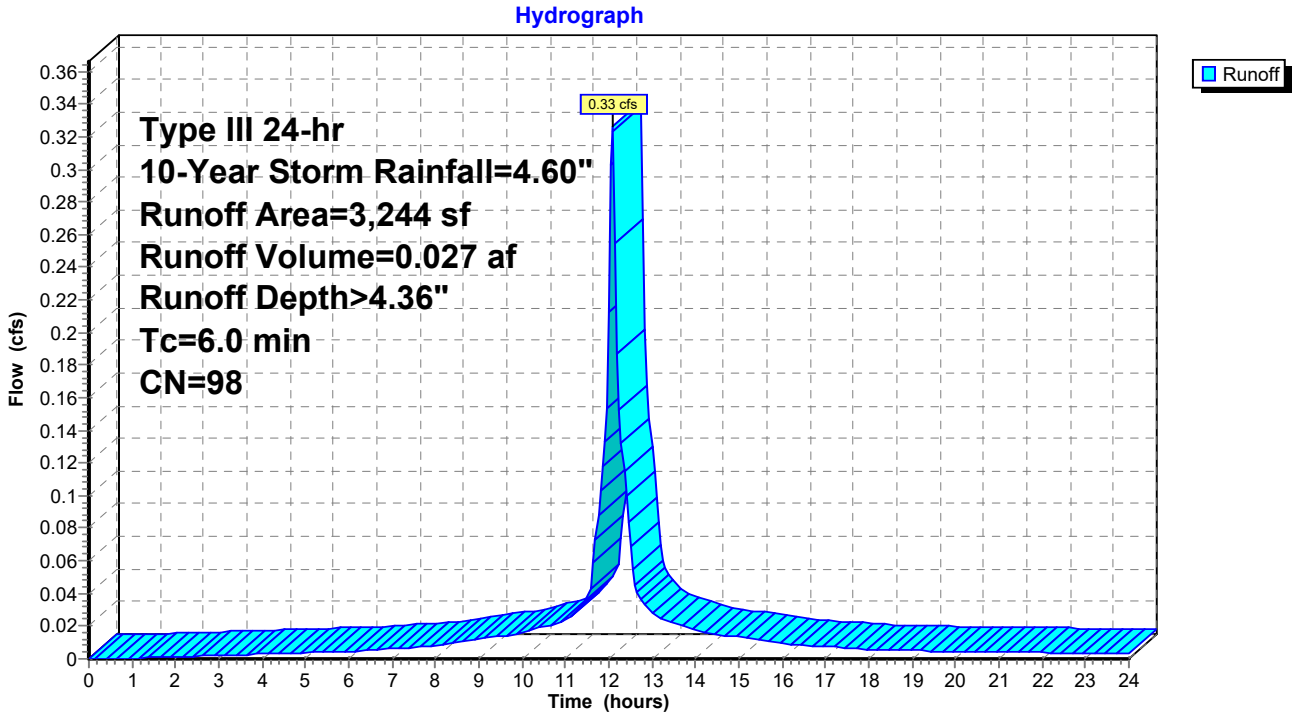
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 4.36"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	3,244	98	Roof
	3,244		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Building 12



Summary for Subcatchment 6S: Plaza between Blocks 1 & 2

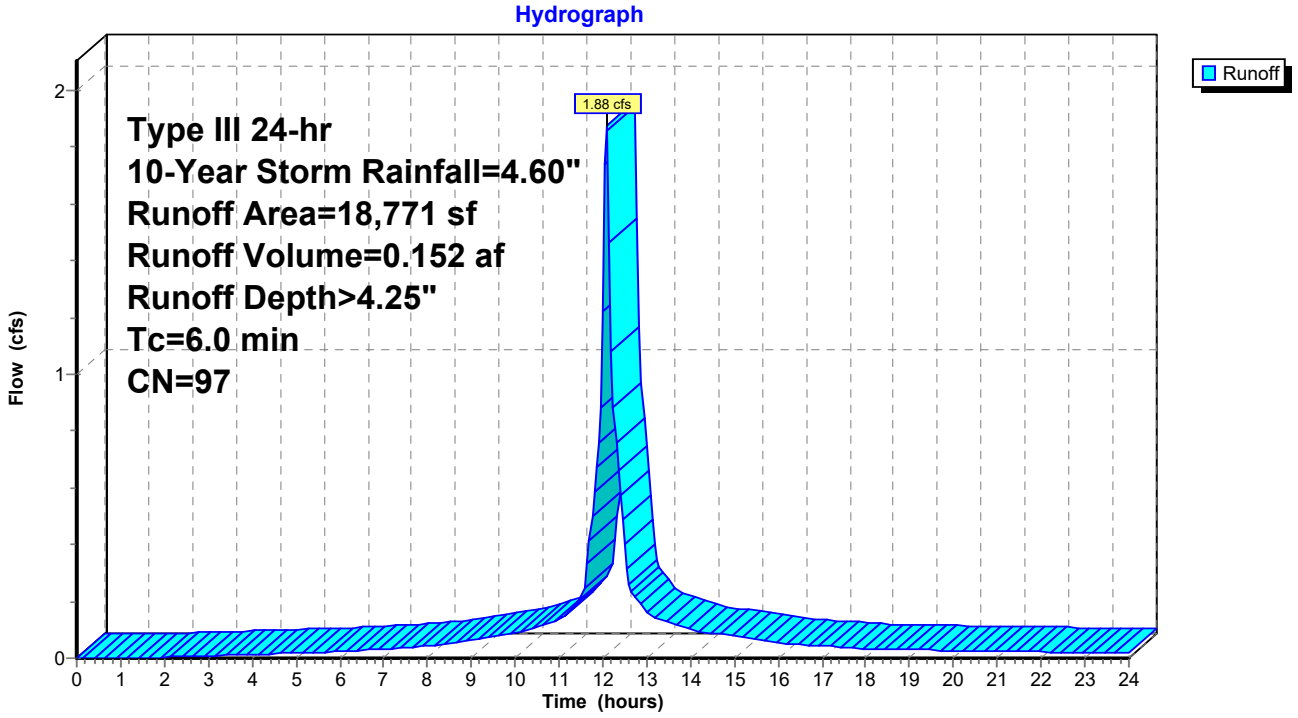
Runoff = 1.88 cfs @ 12.09 hrs, Volume= 0.152 af, Depth> 4.25"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	17,972	98	Impervious
	799	80	>75% Grass cover, Good, HSG D
	18,771	97	Weighted Average
	799		4.26% Pervious Area
	17,972		95.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: Plaza between Blocks 1 & 2



Summary for Subcatchment 7S: Building 14

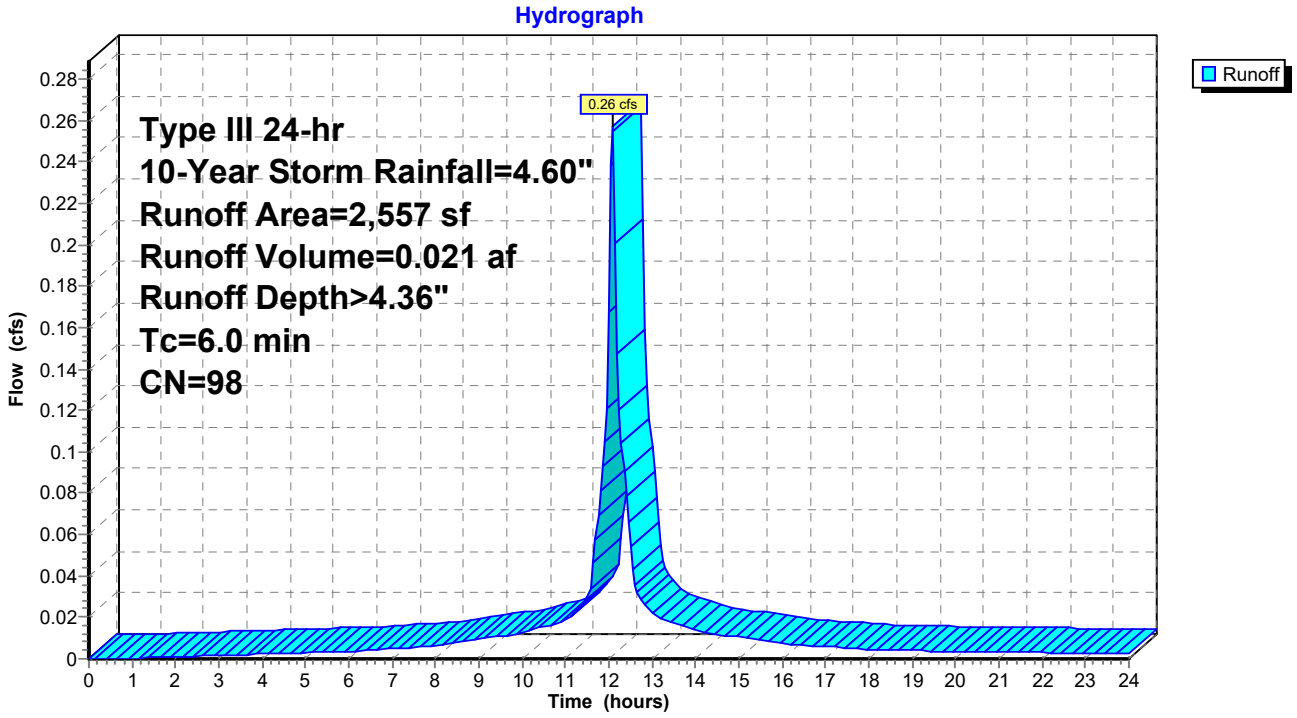
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 4.36"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,557	98	Roof
	2,557		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 7S: Building 14



Summary for Subcatchment 8S: Building 15

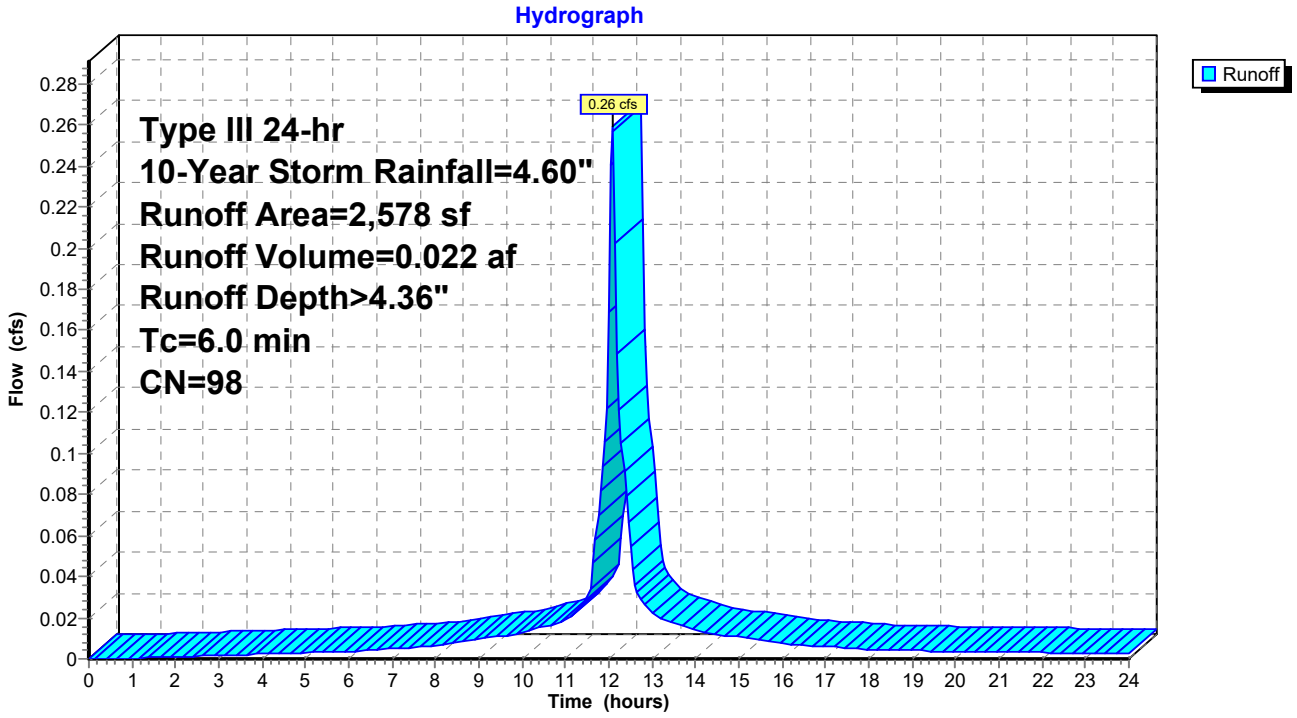
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,578	98	Roof
	2,578		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 8S: Building 15



Summary for Subcatchment 9S: Building 2 North

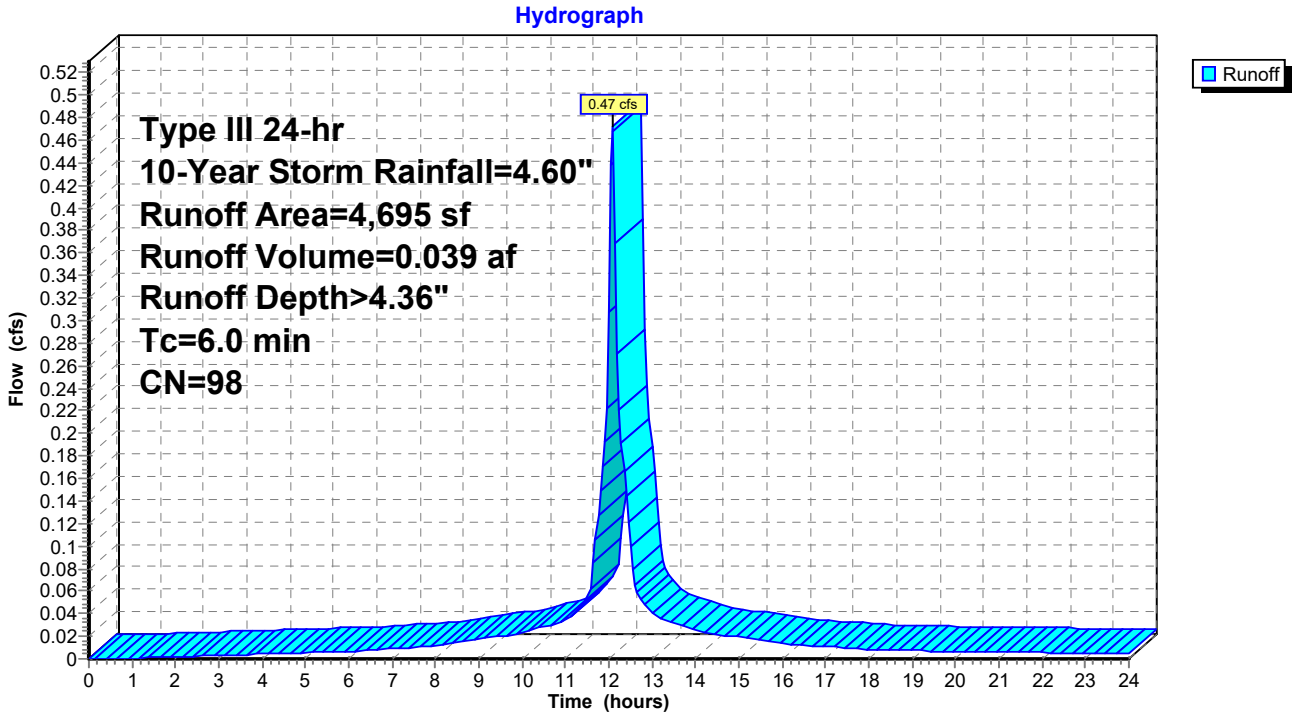
Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.039 af, Depth> 4.36"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	4,695	98	Roof
	4,695		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: Building 2 North



Summary for Subcatchment 10S: Building 3 North

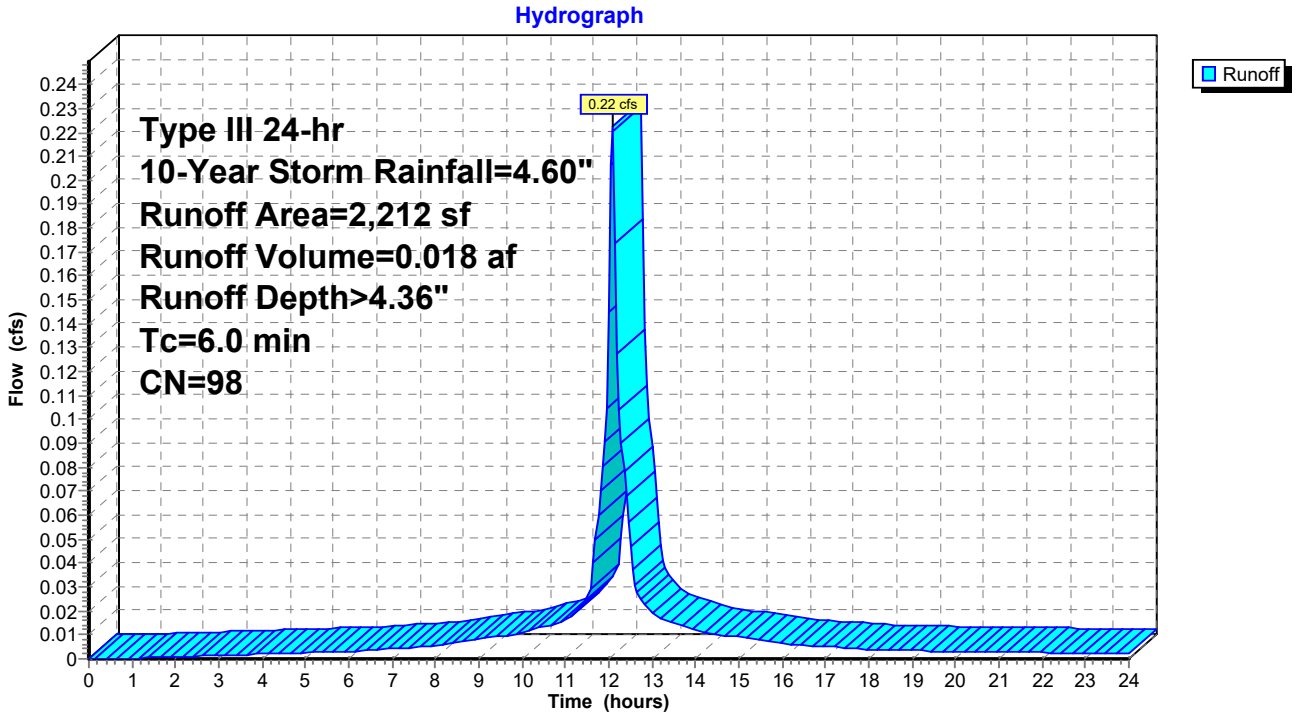
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,212	98	Roof
	2,212		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 10S: Building 3 North



Summary for Subcatchment 11S: Building 2 South

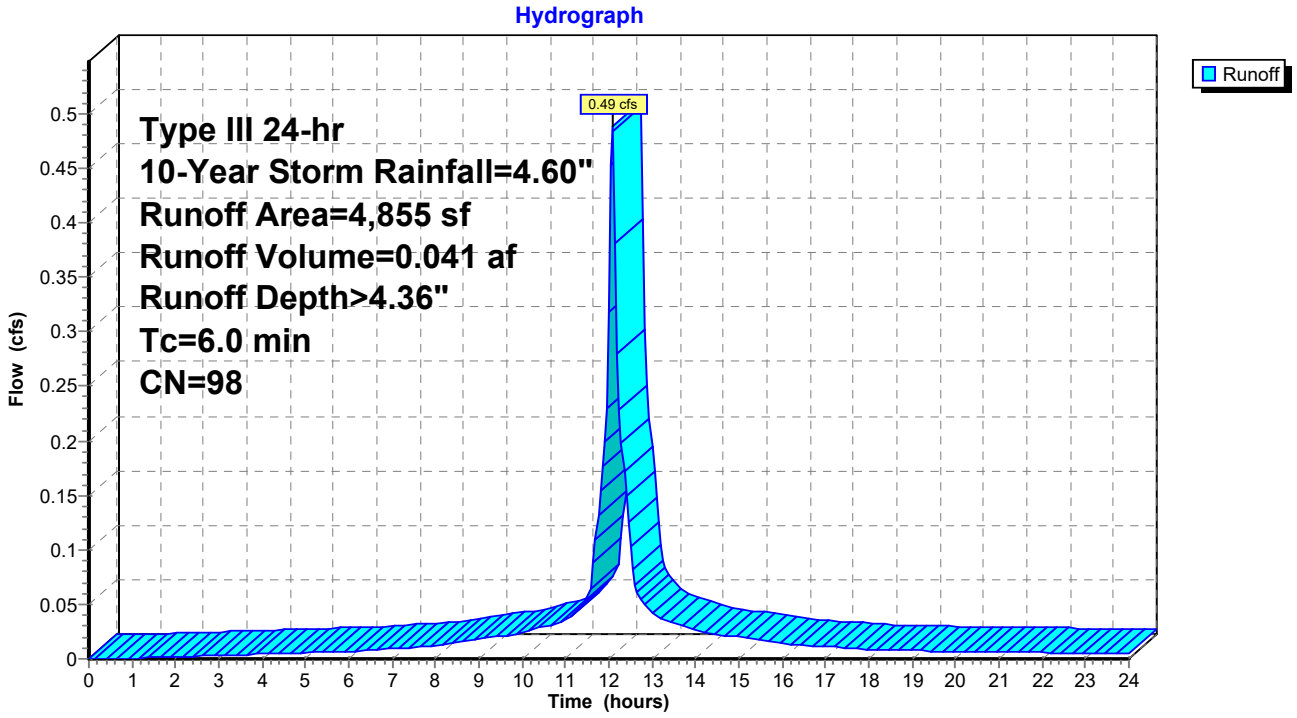
Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 4.36"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	4,855	98	Roof
	4,855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 11S: Building 2 South



Summary for Subcatchment 12S: Building 3 South

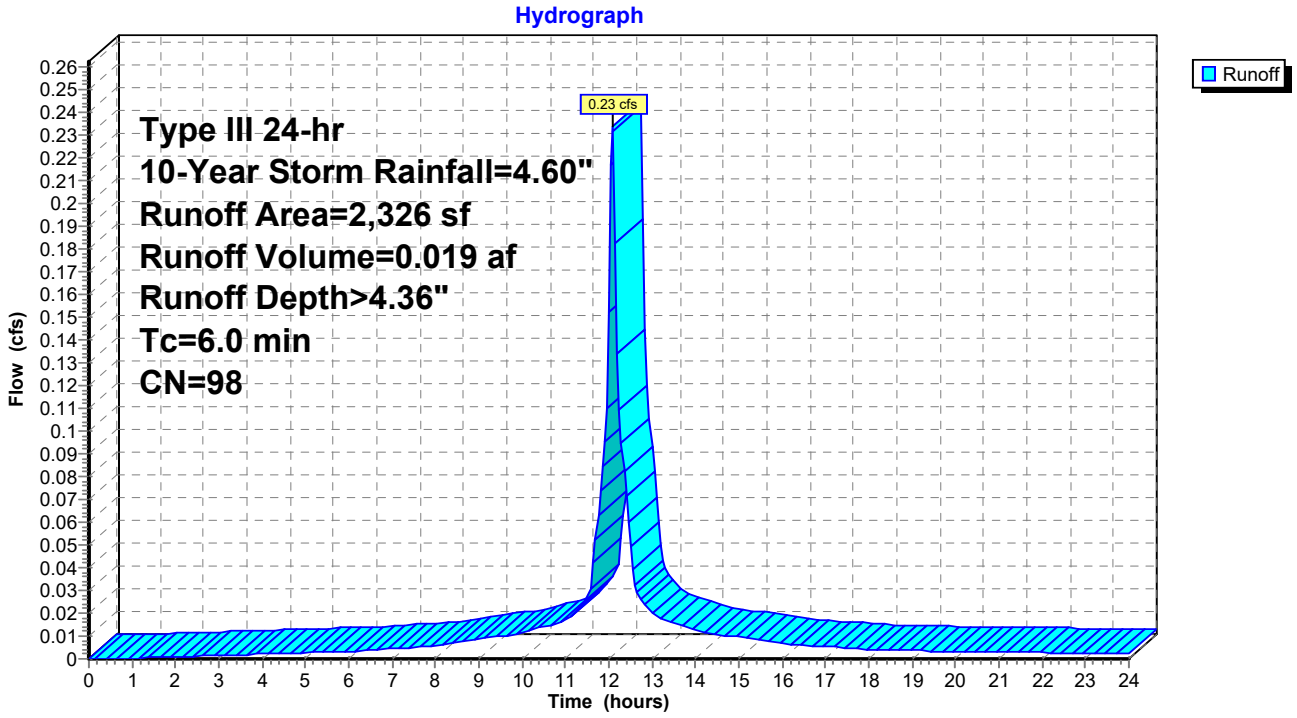
Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.019 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,326	98	Roof
	2,326		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 12S: Building 3 South



Summary for Subcatchment 13S: Building 6

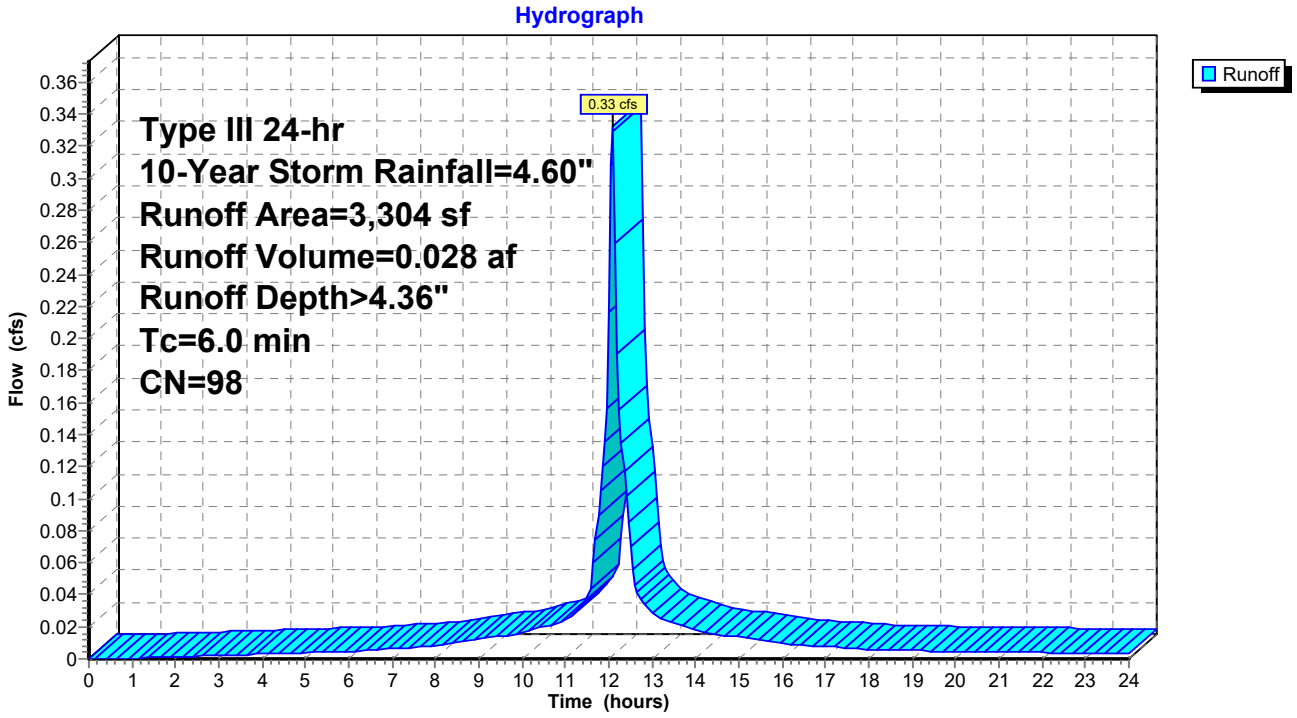
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 4.36"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	3,304	98	Roof
	3,304		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 13S: Building 6



Summary for Subcatchment 14S: Building 6B North

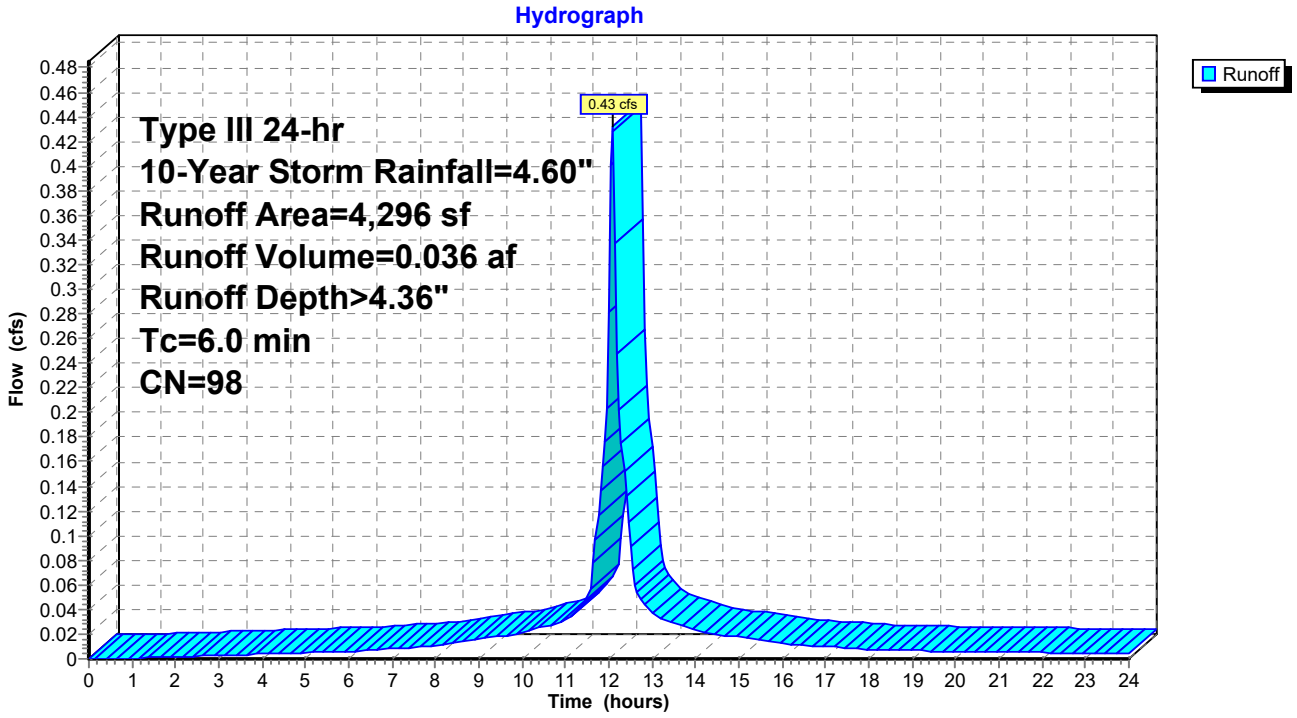
Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.036 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	4,296	98	Roof
	4,296		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 14S: Building 6B North



Summary for Subcatchment 15S: Building 6B South

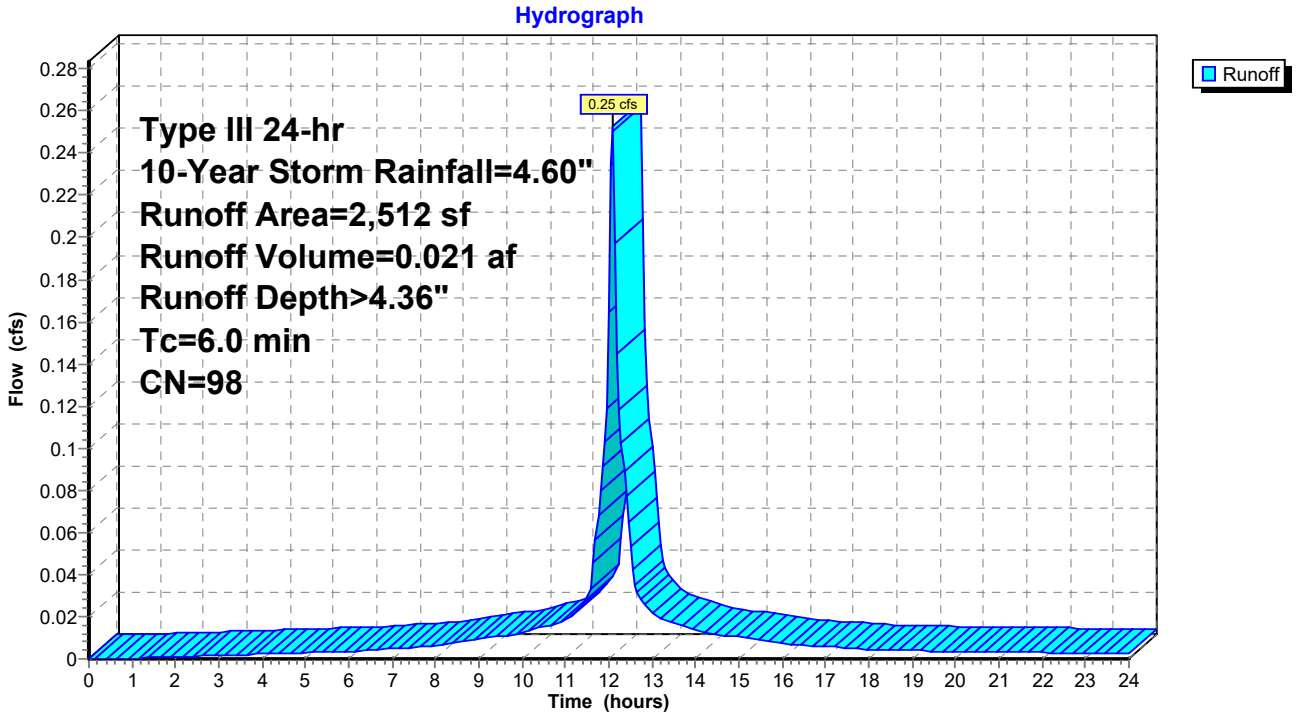
Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,512	98	Roof
	2,512		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: Building 6B South



Summary for Subcatchment 16S: Plaza between Blocks 1 & 2

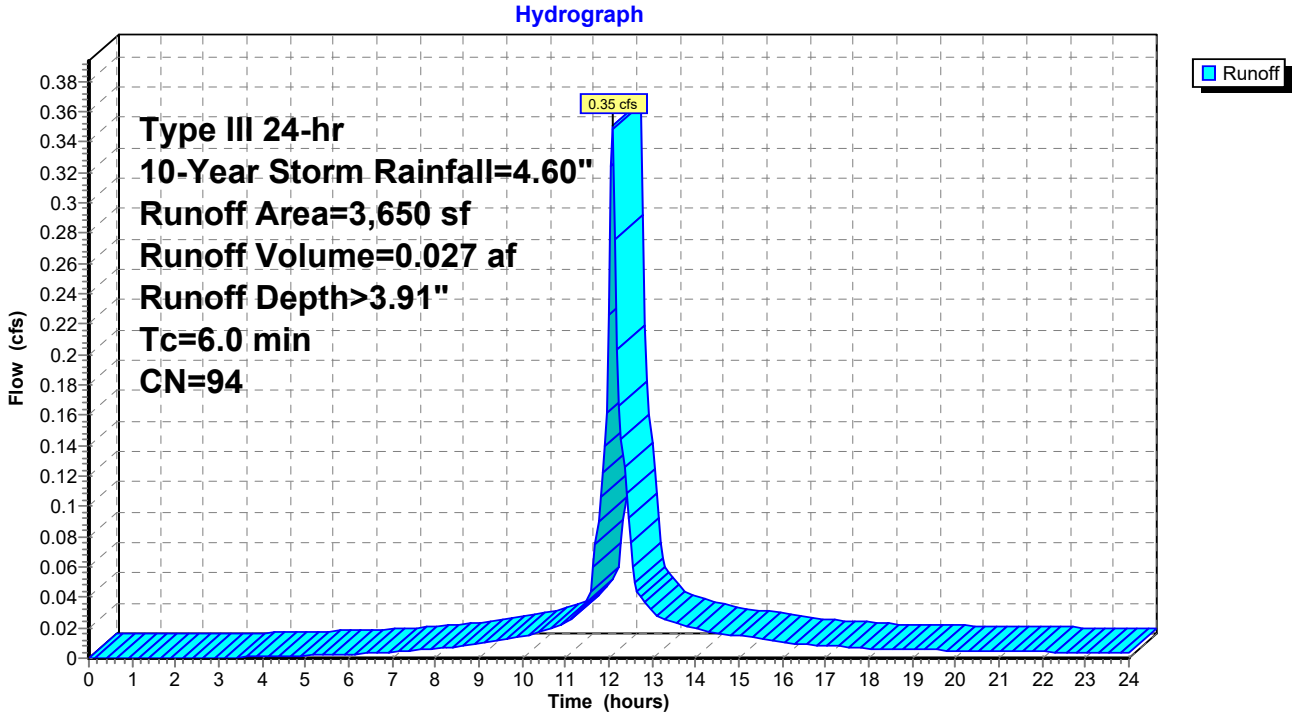
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 3.91"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,768	98	Impervious
	882	80	>75% Grass cover, Good, HSG D
	3,650	94	Weighted Average
	882		24.16% Pervious Area
	2,768		75.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: Plaza between Blocks 1 & 2



Summary for Subcatchment 17S: Shared Street - Trench Drain

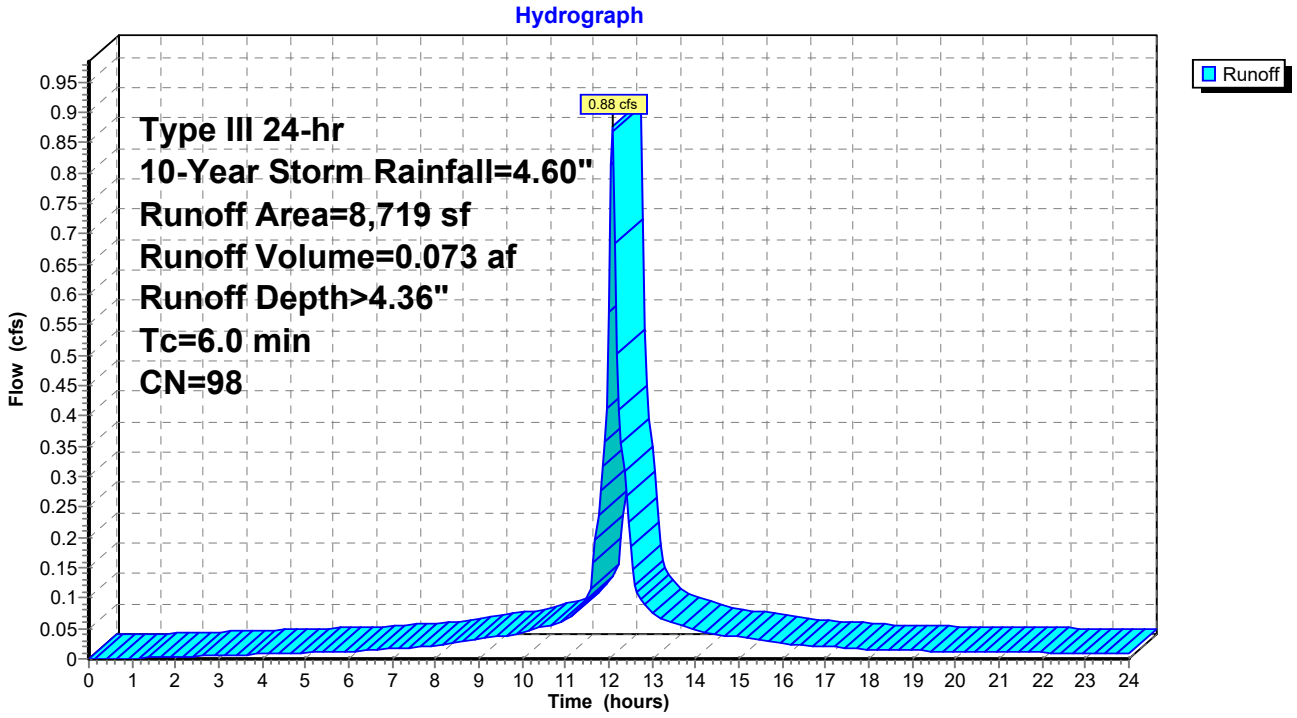
Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	8,719	98	Impervious
	8,719		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 17S: Shared Street - Trench Drain



Summary for Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St

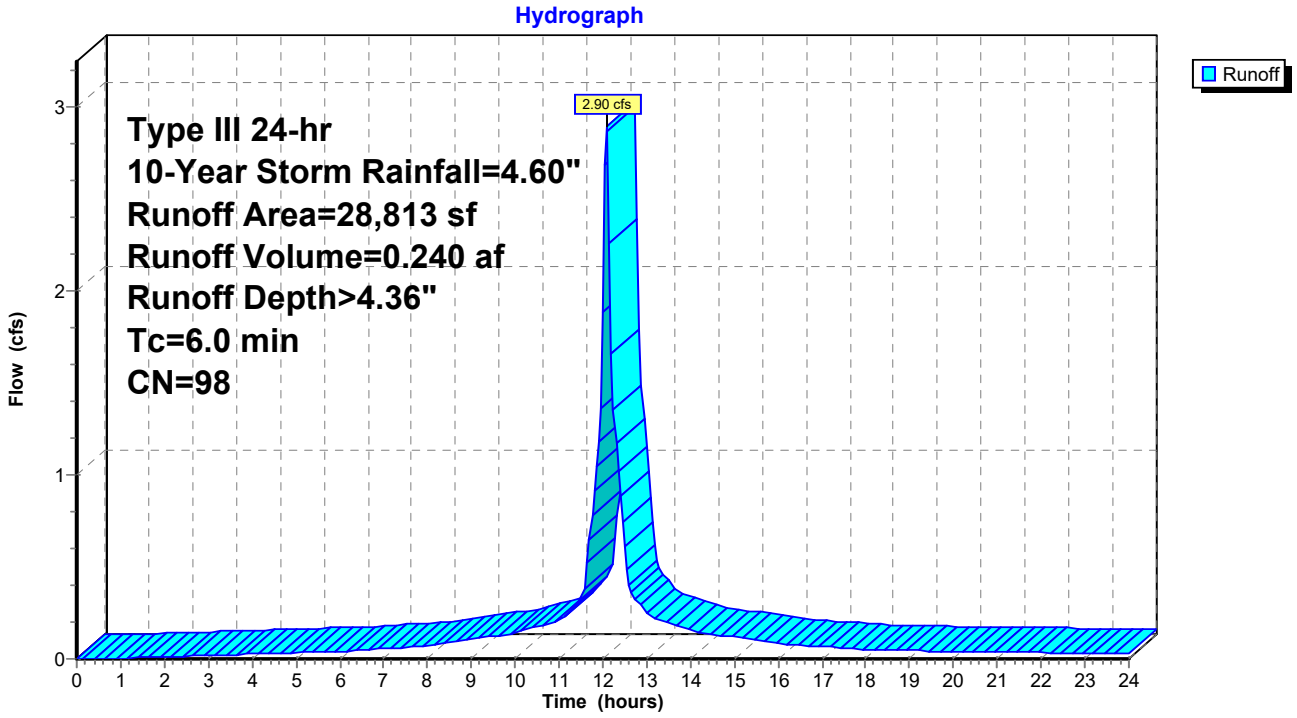
Runoff = 2.90 cfs @ 12.09 hrs, Volume= 0.240 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	28,813	98	Impervious
	28,813		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St



Summary for Subcatchment 19S: Block 4 Building

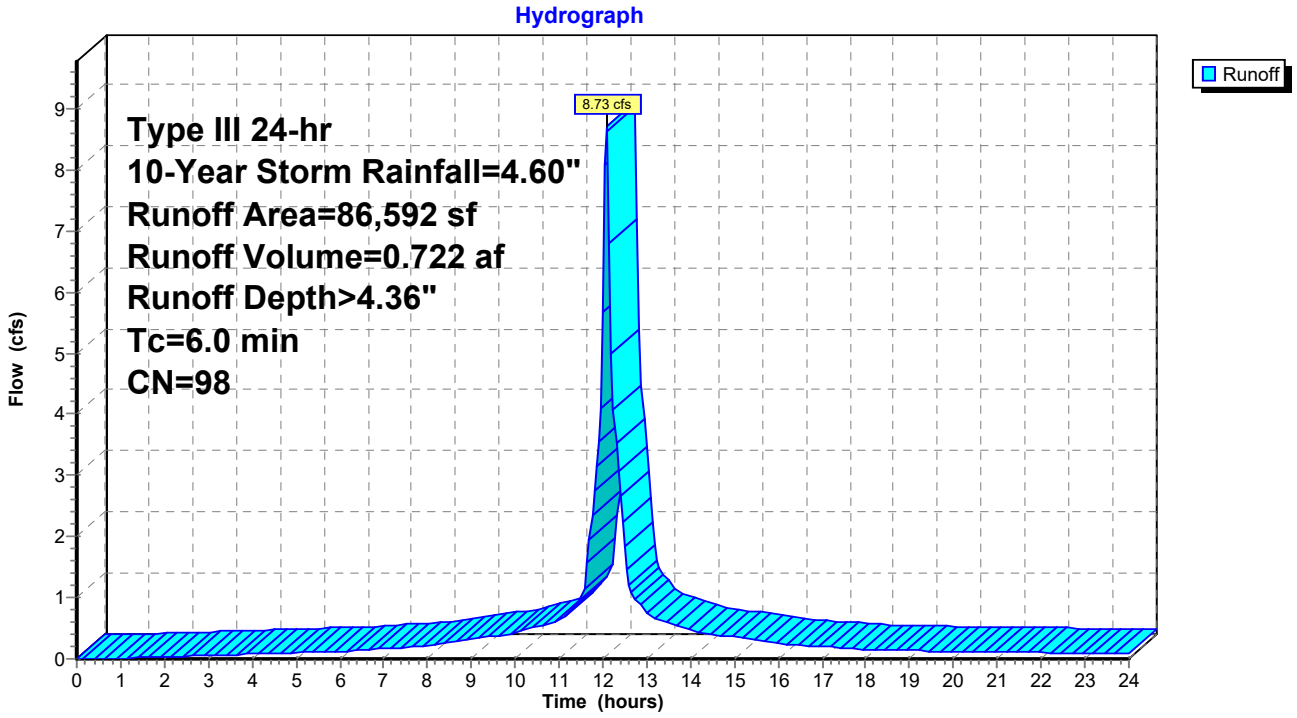
Runoff = 8.73 cfs @ 12.09 hrs, Volume= 0.722 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	86,592	98	Roof
	86,592		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: Block 4 Building



Summary for Subcatchment 20S: Direct to R-Tank

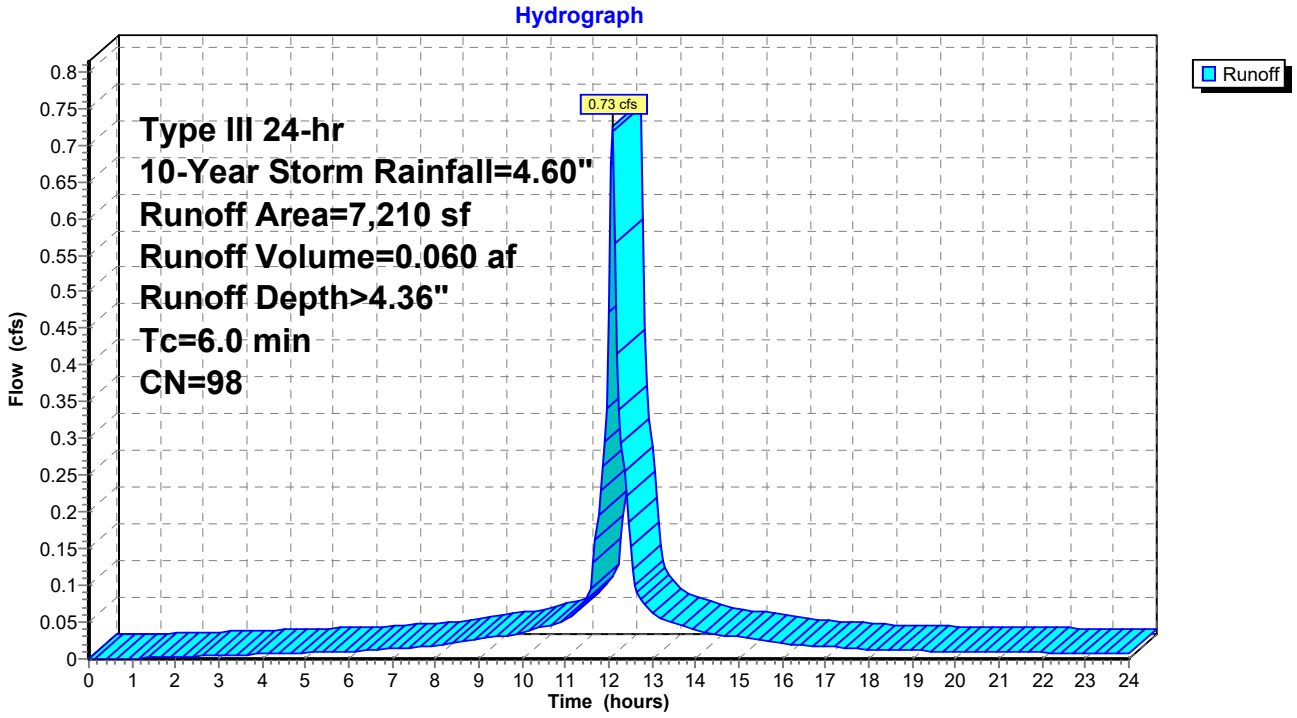
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.060 af, Depth> 4.36"
Routed to Pond 8P : R-Tank 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	7,210	98	Impervious
	7,210		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 20S: Direct to R-Tank



Summary for Subcatchment 21S: Plaza along Building 4A at Fore Street

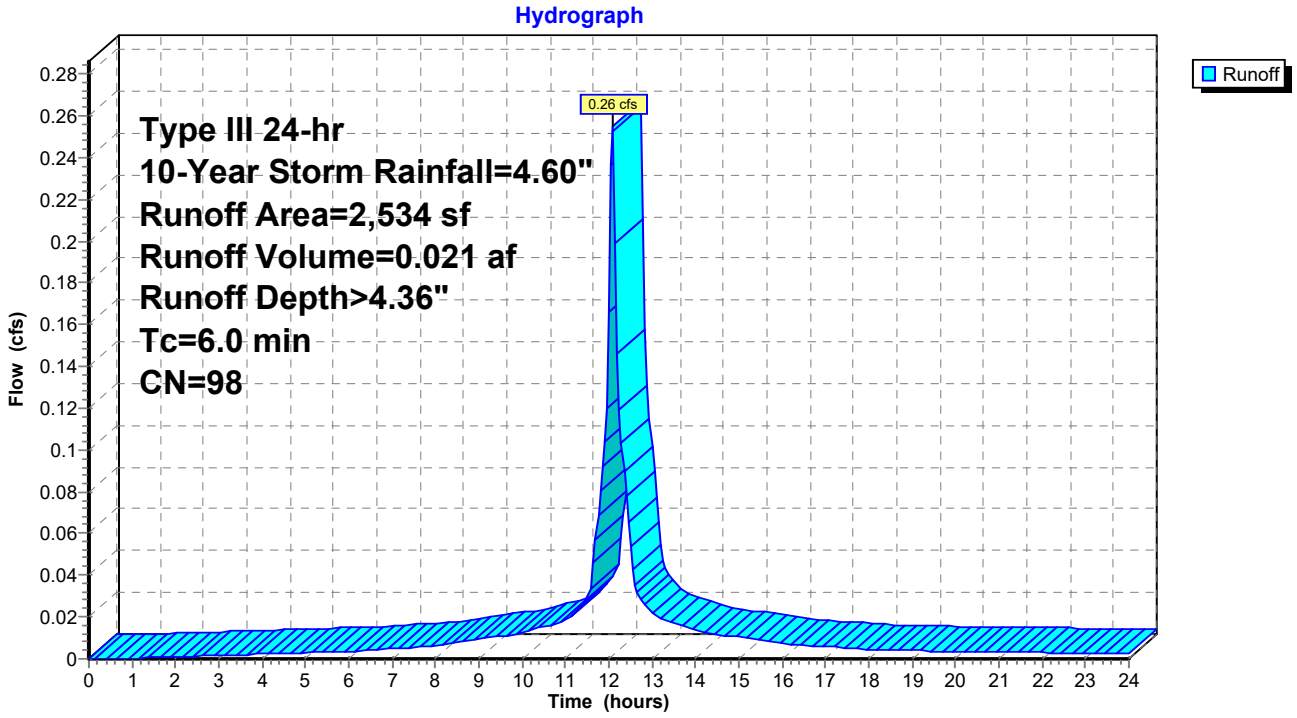
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 4.36"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	2,534	98	Impervious
	2,534		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: Plaza along Building 4A at Fore Street



Summary for Subcatchment 22S: Block 6 Building

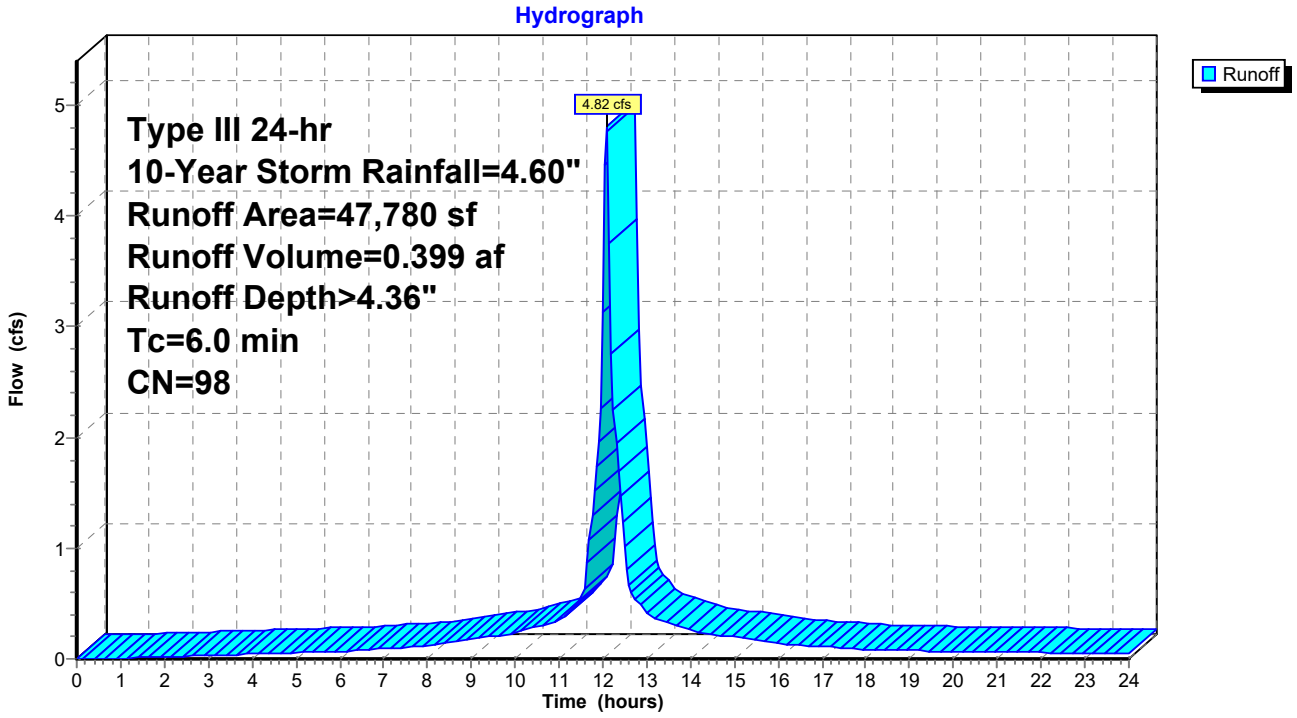
Runoff = 4.82 cfs @ 12.09 hrs, Volume= 0.399 af, Depth> 4.36"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	47,780	98	Roof
	47,780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 22S: Block 6 Building



Summary for Subcatchment 23S: Block 5 Building to R-Tank

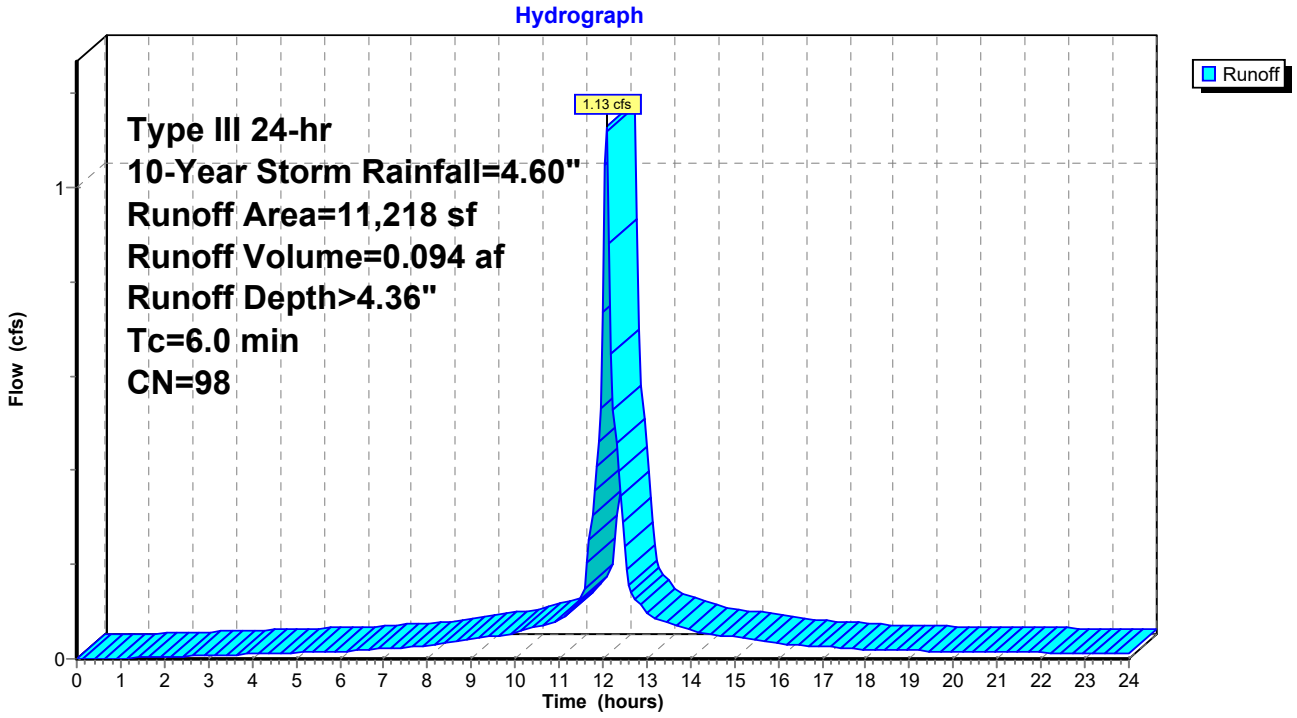
Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.094 af, Depth> 4.36"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	11,218	98	Impervious
	11,218		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 23S: Block 5 Building to R-Tank



Summary for Subcatchment 24S: Block 5 Building

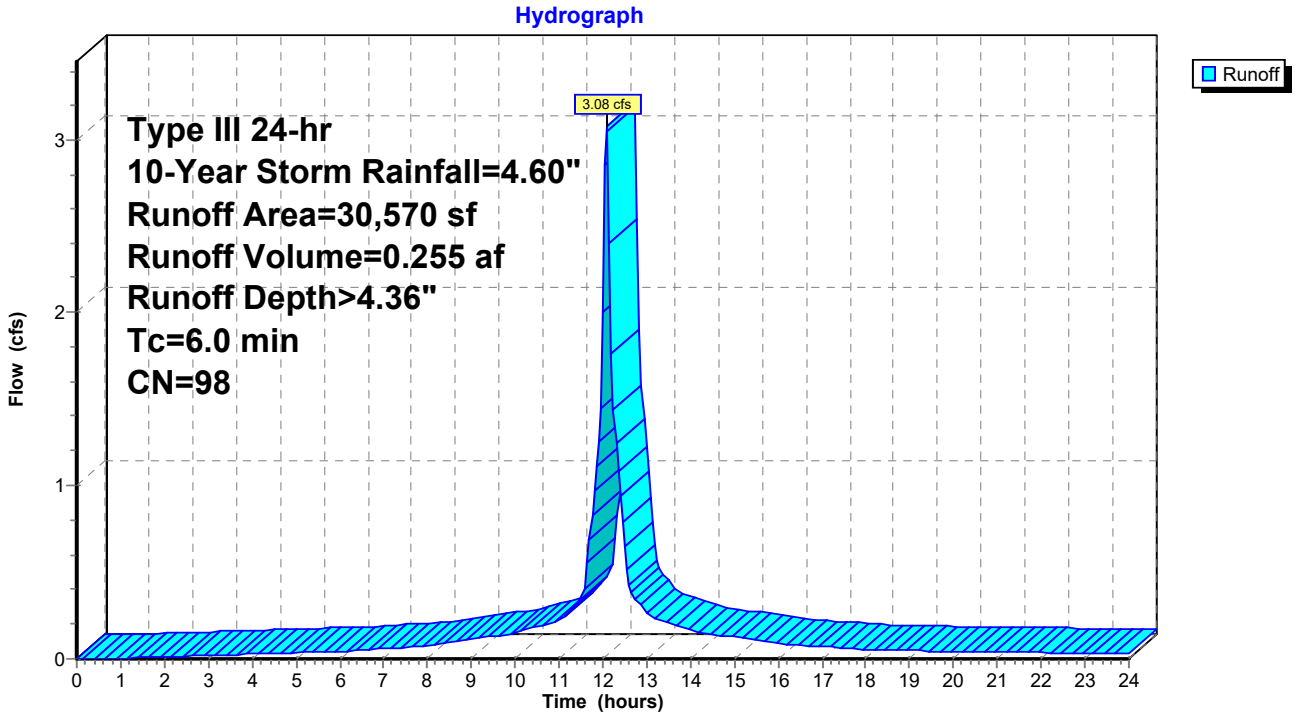
Runoff = 3.08 cfs @ 12.09 hrs, Volume= 0.255 af, Depth> 4.36"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	30,570	98	Impervious
	30,570		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 24S: Block 5 Building



Summary for Subcatchment 25S: Southern Plaza

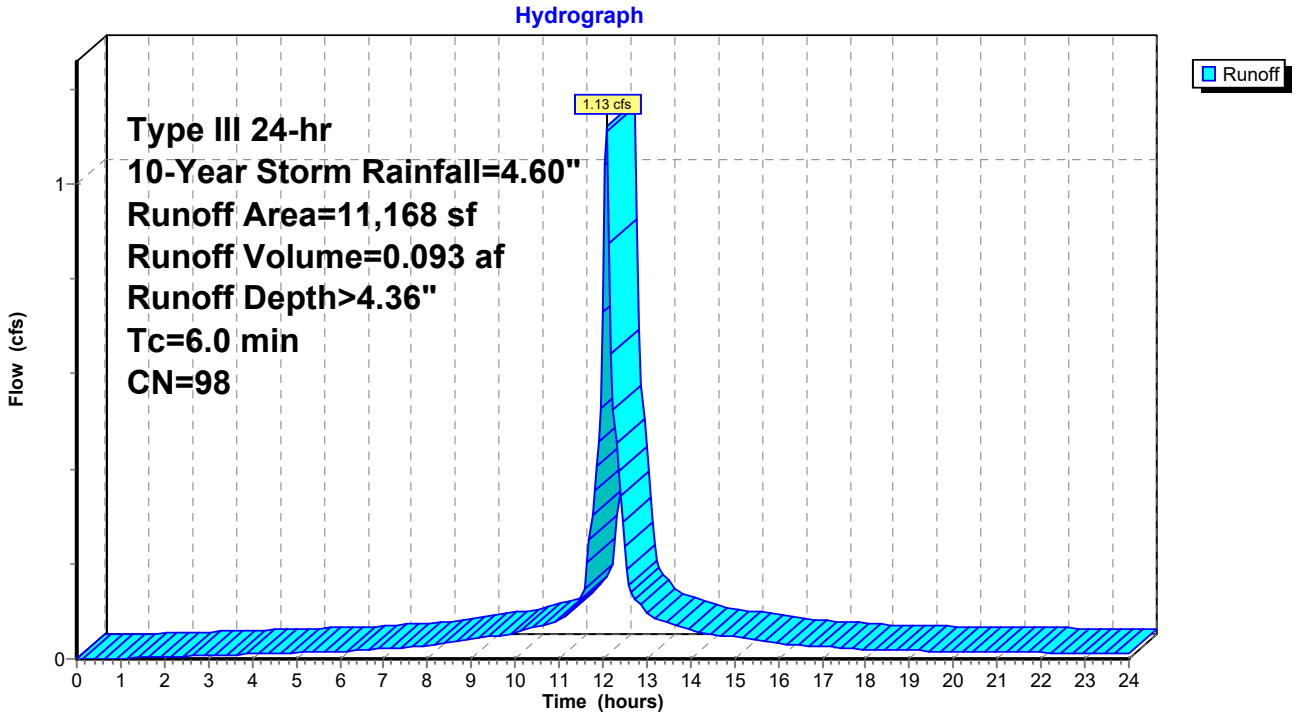
Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.093 af, Depth> 4.36"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	11,168	98	Impervious
	11,168		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 25S: Southern Plaza



Summary for Subcatchment 26S: Plaza along Townhouse at Fore Street

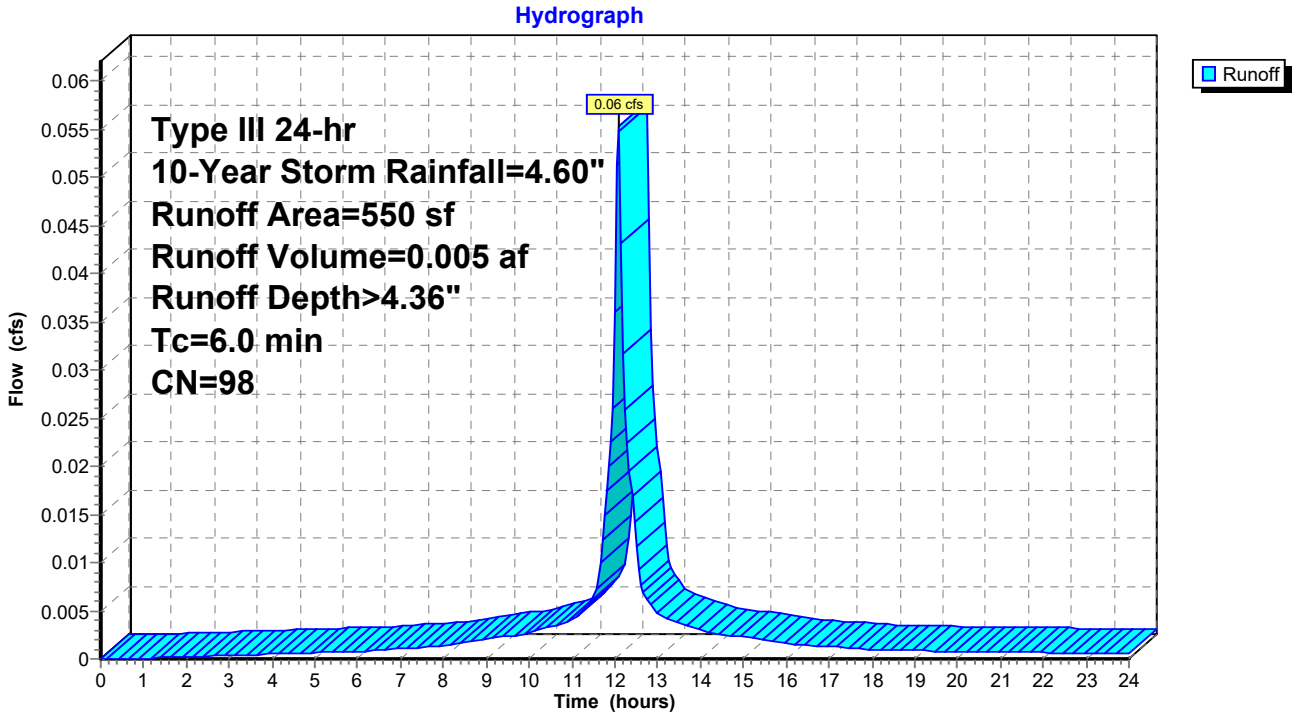
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth> 4.36"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	550	98	Impervious
	550		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 26S: Plaza along Townhouse at Fore Street



Summary for Subcatchment 27S: Drainage from off-site residential

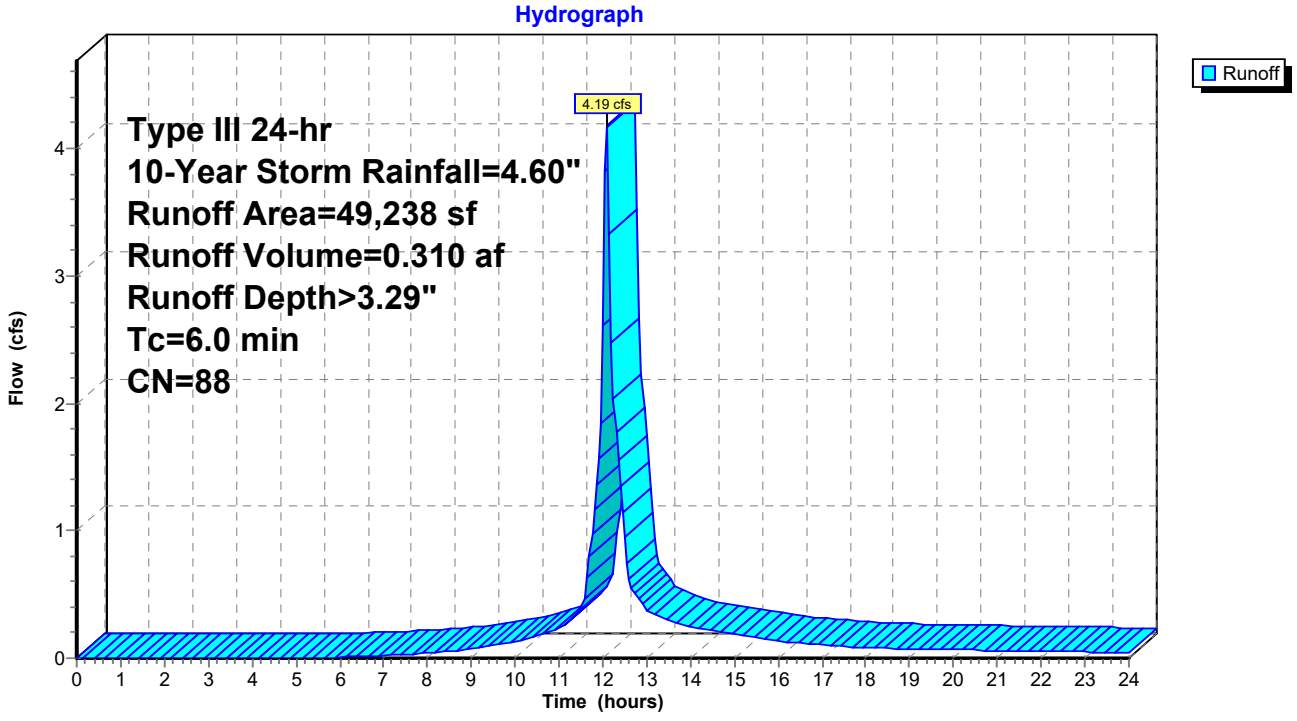
Runoff = 4.19 cfs @ 12.09 hrs, Volume= 0.310 af, Depth> 3.29"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	21,588	98	Impervious
	27,650	80	>75% Grass cover, Good, HSG D
	49,238	88	Weighted Average
	27,650		56.16% Pervious Area
	21,588		43.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 27S: Drainage from off-site residential



Summary for Subcatchment 28S: Waterfront

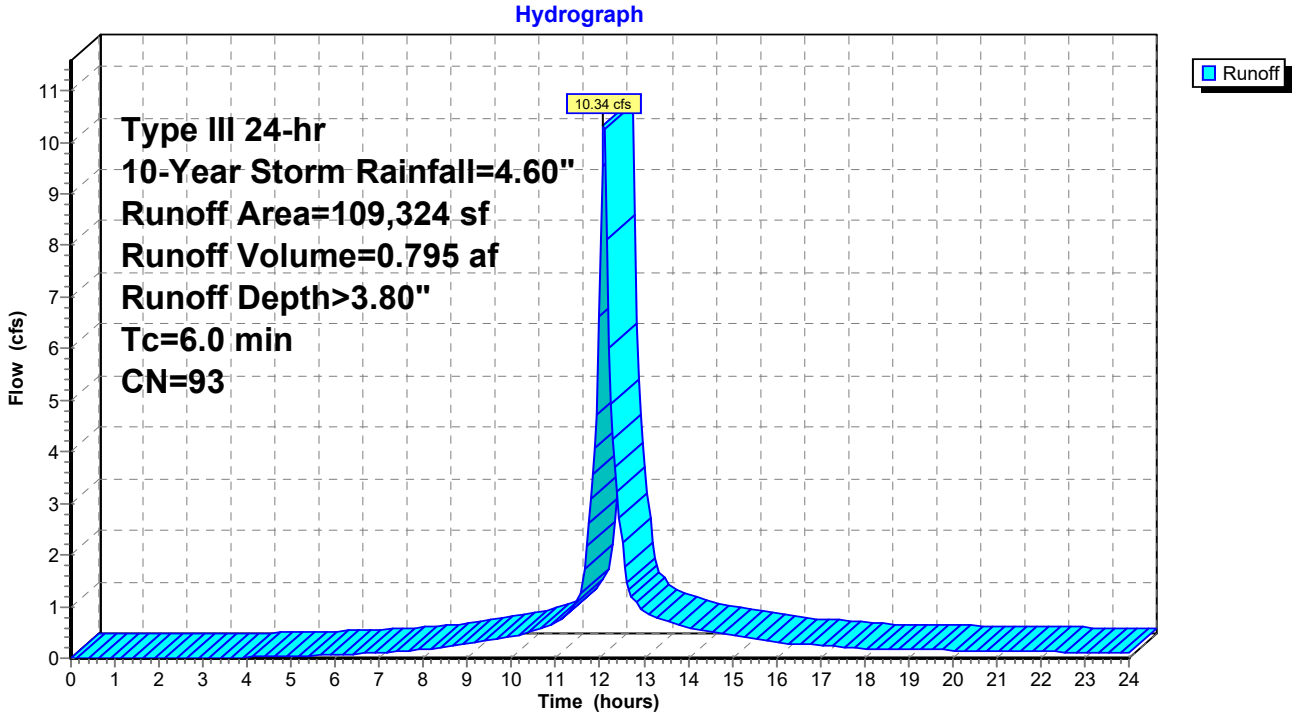
Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.795 af, Depth> 3.80"
Routed to Link 2L : Fore River

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	78,916	98	Impervious
	30,408	80	>75% Grass cover, Good, HSG D
	109,324	93	Weighted Average
	30,408		27.81% Pervious Area
	78,916		72.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 28S: Waterfront



Summary for Subcatchment 29S: Block 6 Building

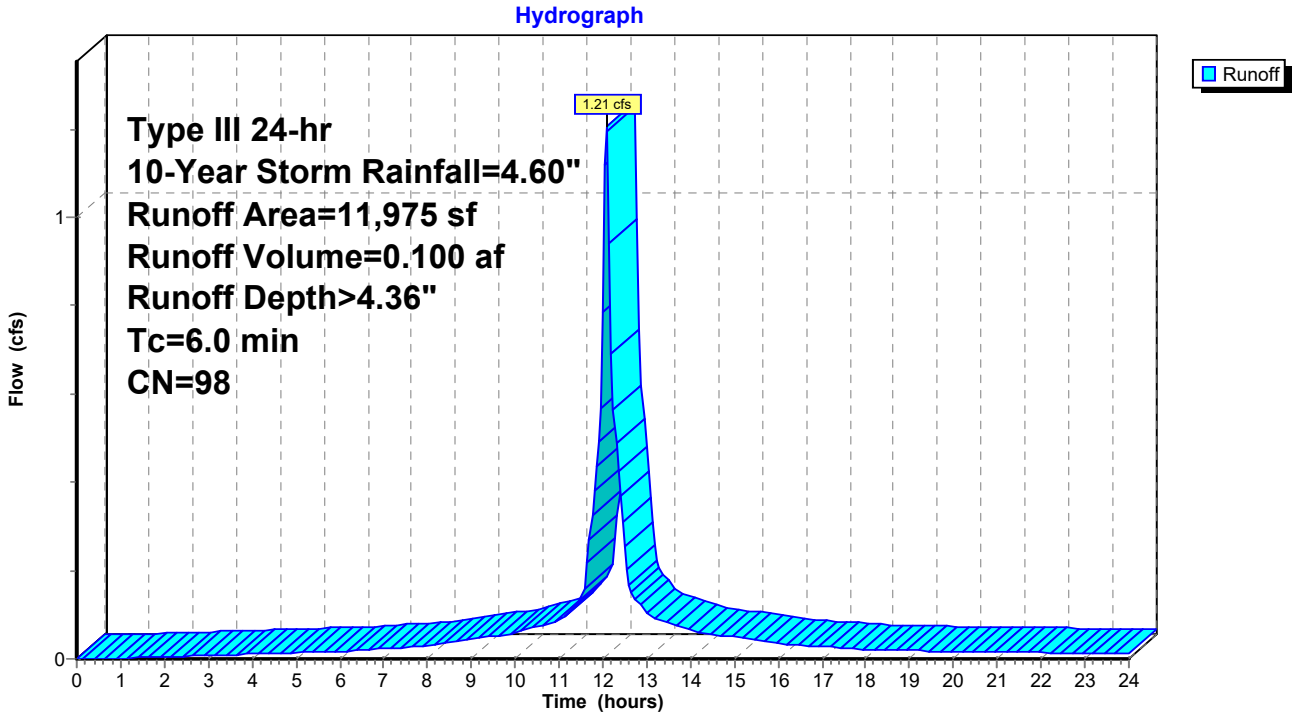
Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af, Depth> 4.36"
Routed to Pond 24P : Filterra 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 29S: Block 6 Building



Summary for Subcatchment 30S: Block 6 Building

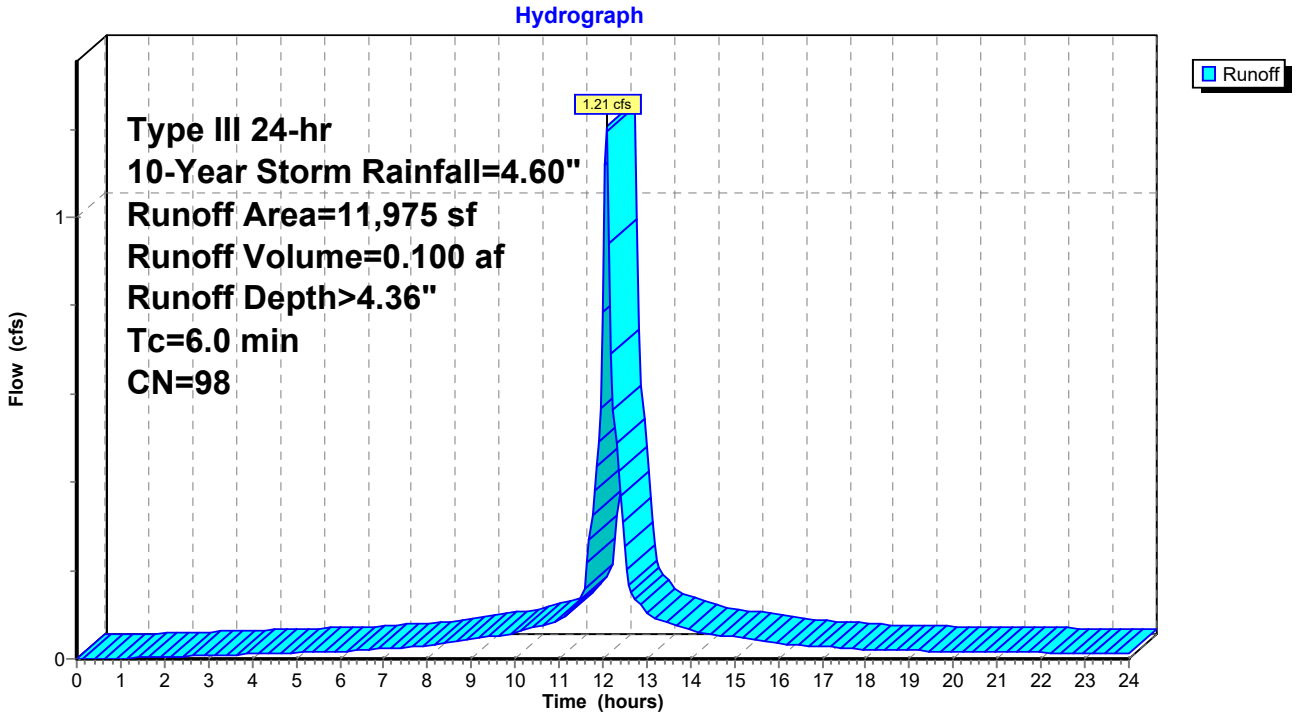
Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af, Depth> 4.36"
Routed to Pond 28P : Filterra 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 30S: Block 6 Building



Summary for Pond 1P: DMH 1

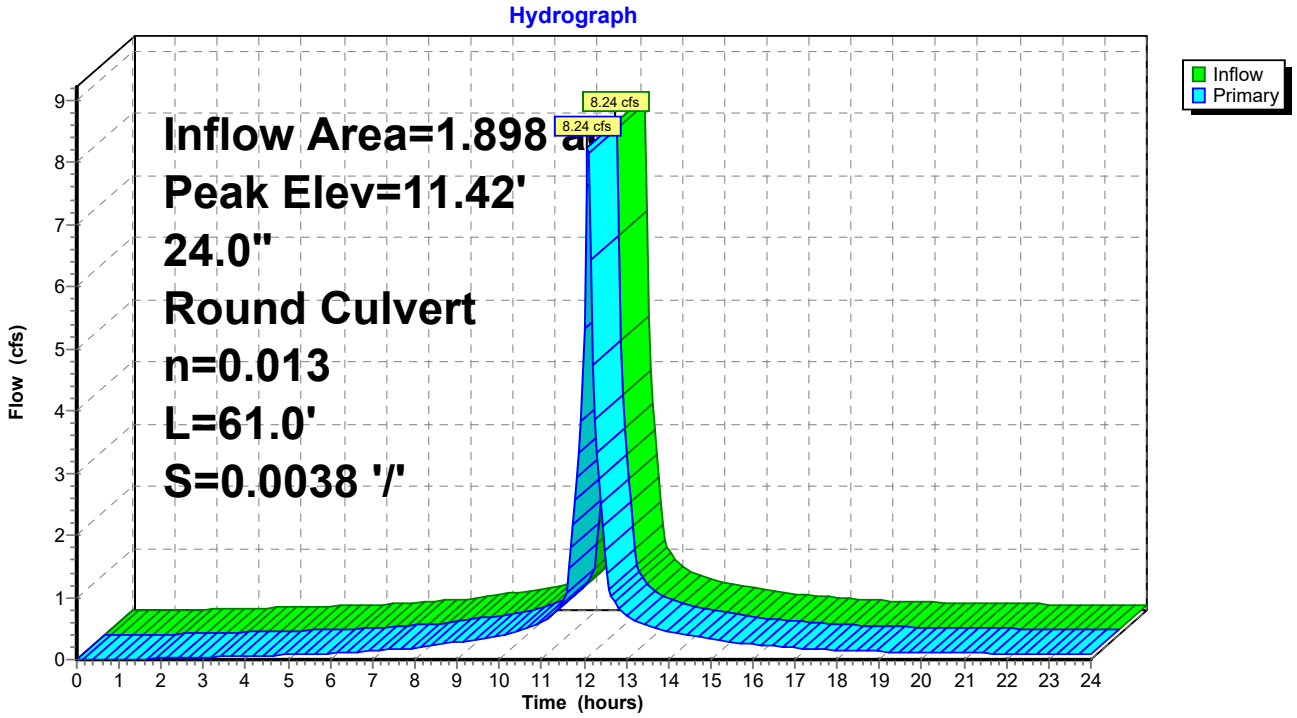
Inflow Area = 1.898 ac, 93.68% Impervious, Inflow Depth > 4.23" for 10-Year Storm event
Inflow = 8.24 cfs @ 12.09 hrs, Volume= 0.669 af
Outflow = 8.24 cfs @ 12.09 hrs, Volume= 0.669 af, Atten= 0%, Lag= 0.0 min
Primary = 8.24 cfs @ 12.09 hrs, Volume= 0.669 af
Routed to Pond 2P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.42' @ 12.09 hrs
Flood Elev= 14.71'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.77'	**24.0" Round Culvert** L= 61.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.77' / 9.54' S= 0.0038 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.01 cfs @ 12.09 hrs HW=11.39' (Free Discharge)
1=Culvert (Barrel Controls 8.01 cfs @ 4.00 fps)

Pond 1P: DMH 1



Summary for Pond 2P: DMH 2

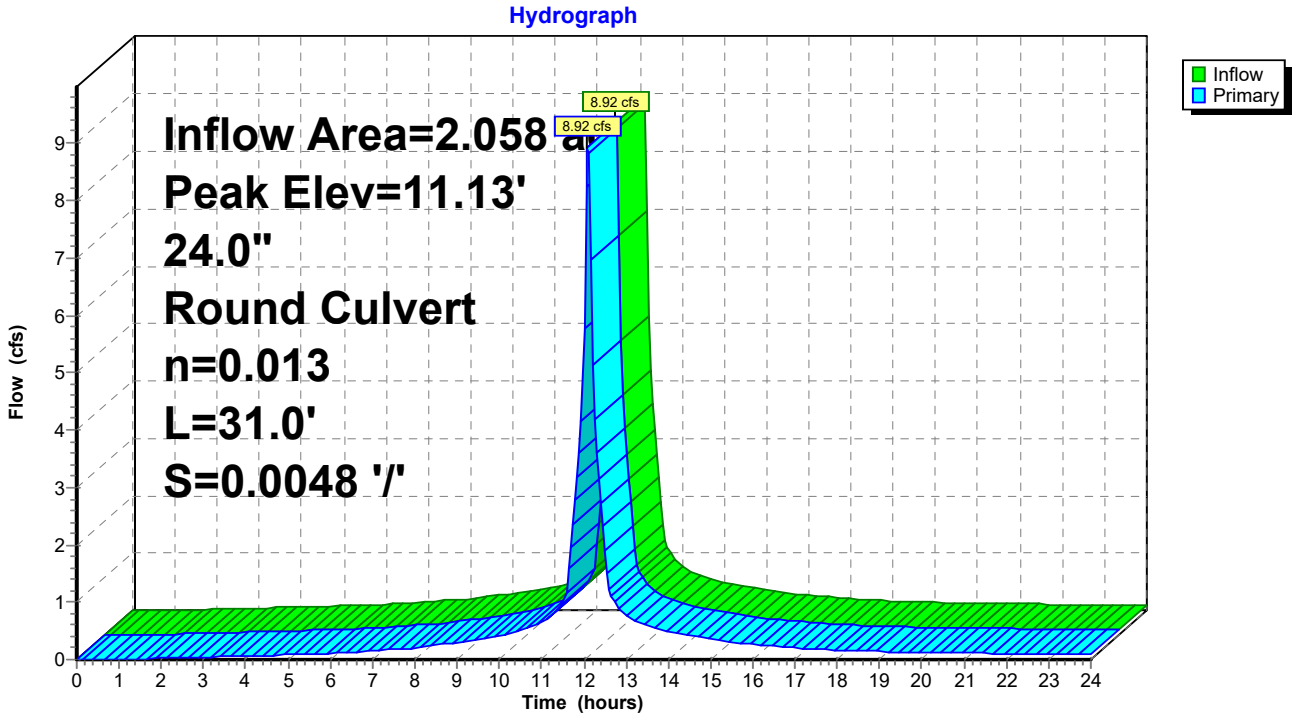
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 4.22" for 10-Year Storm event
Inflow = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af
Outflow = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af, Atten= 0%, Lag= 0.0 min
Primary = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af
Routed to Pond 3P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.13' @ 12.09 hrs
Flood Elev= 14.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.50'	**24.0" Round Culvert** L= 31.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.35' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.68 cfs @ 12.09 hrs HW=11.10' (Free Discharge)
1=Culvert (Barrel Controls 8.68 cfs @ 4.40 fps)

Pond 2P: DMH 2



Summary for Pond 3P: Storm Structure

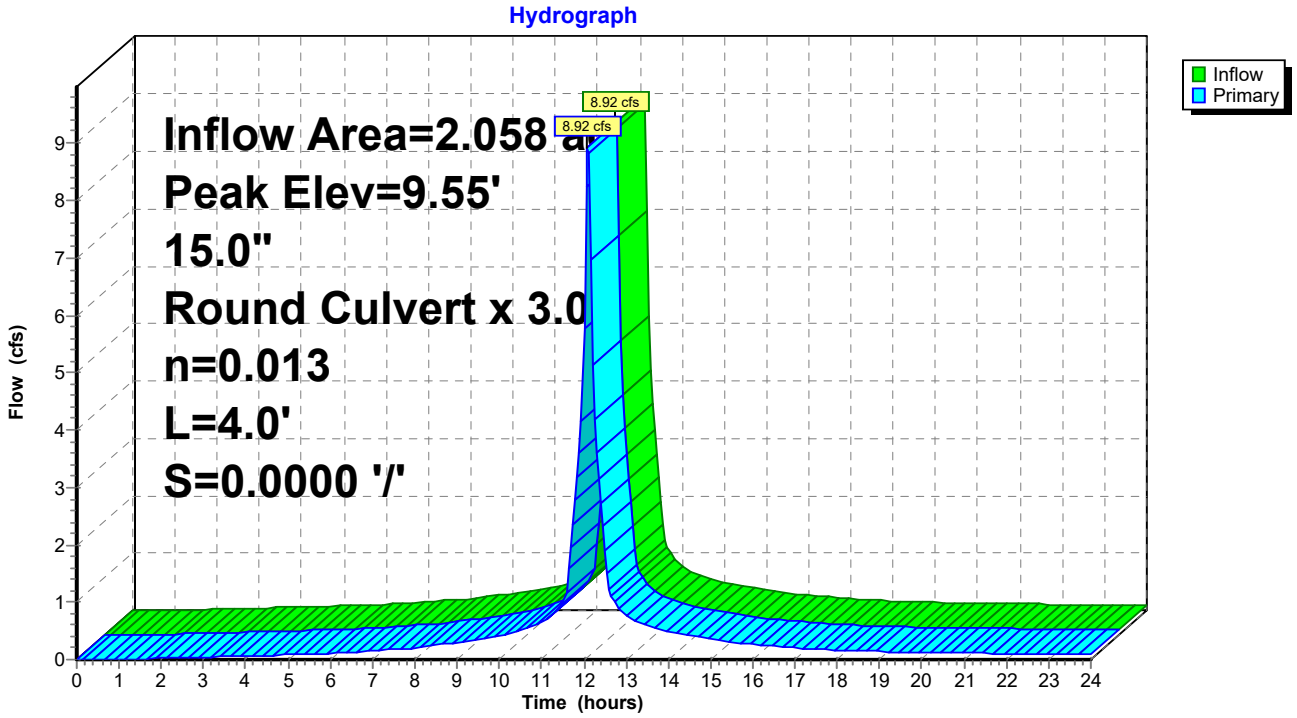
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 4.22" for 10-Year Storm event
Inflow = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af
Outflow = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af, Atten= 0%, Lag= 0.0 min
Primary = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af
Routed to Pond 4P : R-Tank 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.55' @ 12.09 hrs
Flood Elev= 14.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.35'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.35' / 8.35' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=8.68 cfs @ 12.09 hrs HW=9.53' (Free Discharge)
1=Culvert (Barrel Controls 8.68 cfs @ 3.11 fps)

Pond 3P: Storm Structure



Summary for Pond 4P: R-Tank 1

Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 4.22" for 10-Year Storm event
Inflow = 8.92 cfs @ 12.09 hrs, Volume= 0.723 af
Outflow = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af, Atten= 10%, Lag= 2.4 min
Primary = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af
Routed to Pond 10P : DMH 4

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.81' @ 12.13 hrs Surf.Area= 1,162 sf Storage= 2,076 cf
Flood Elev= 12.00' Surf.Area= 1,162 sf Storage= 3,266 cf

Plug-Flow detention time= 18.7 min calculated for 0.714 af (99% of inflow)
Center-of-Mass det. time= 12.0 min (769.6 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1	6.50'	892 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 4,729 cf Overall - 2,499 cf Embedded = 2,231 cf x 40.0% Voids
#2	6.75'	2,374 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 2,499 cf Overall x 95.0% Voids
		3,266 cf	Total Available Storage

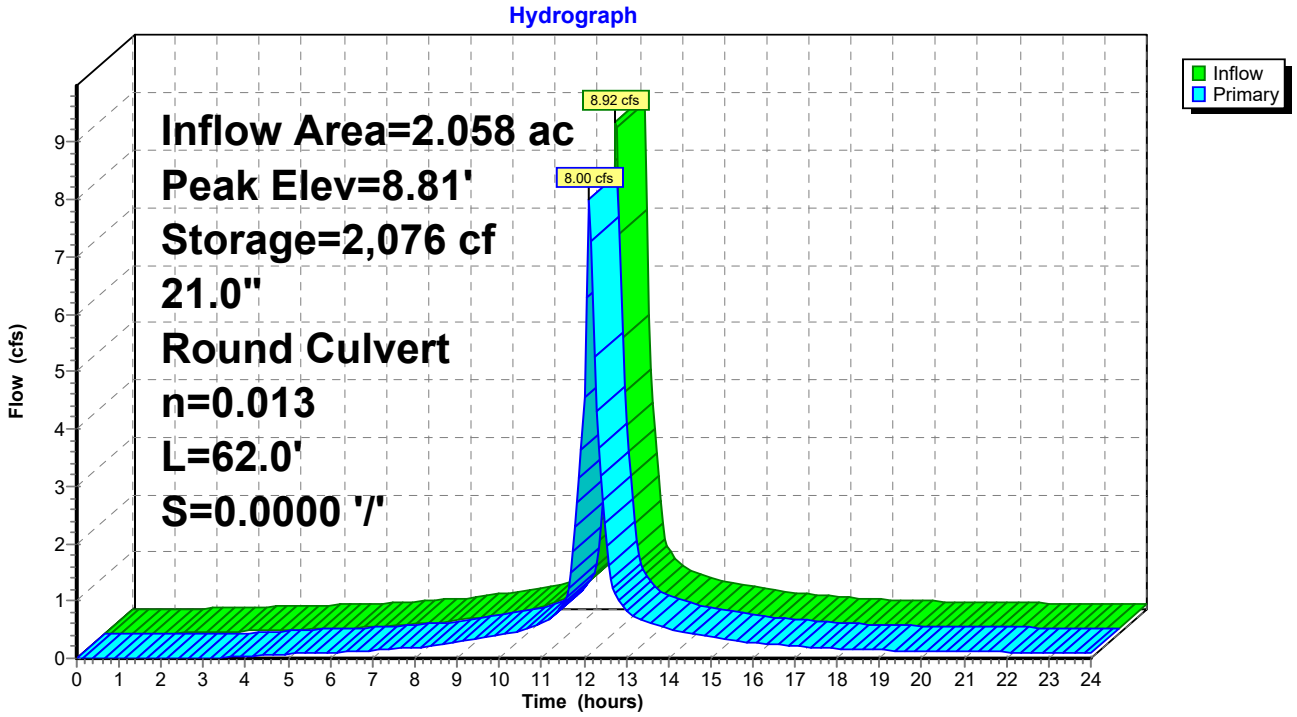
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.50	1,162	0	0
10.57	1,162	4,729	4,729

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.75	886	0	0
9.57	886	2,499	2,499

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**21.0" Round Culvert to Filter** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf

Primary OutFlow Max=7.84 cfs @ 12.13 hrs HW=8.78' (Free Discharge)
1=Culvert to Filter (Barrel Controls 7.84 cfs @ 3.53 fps)

Pond 4P: R-Tank 1



Summary for Pond 5P: DMH-11

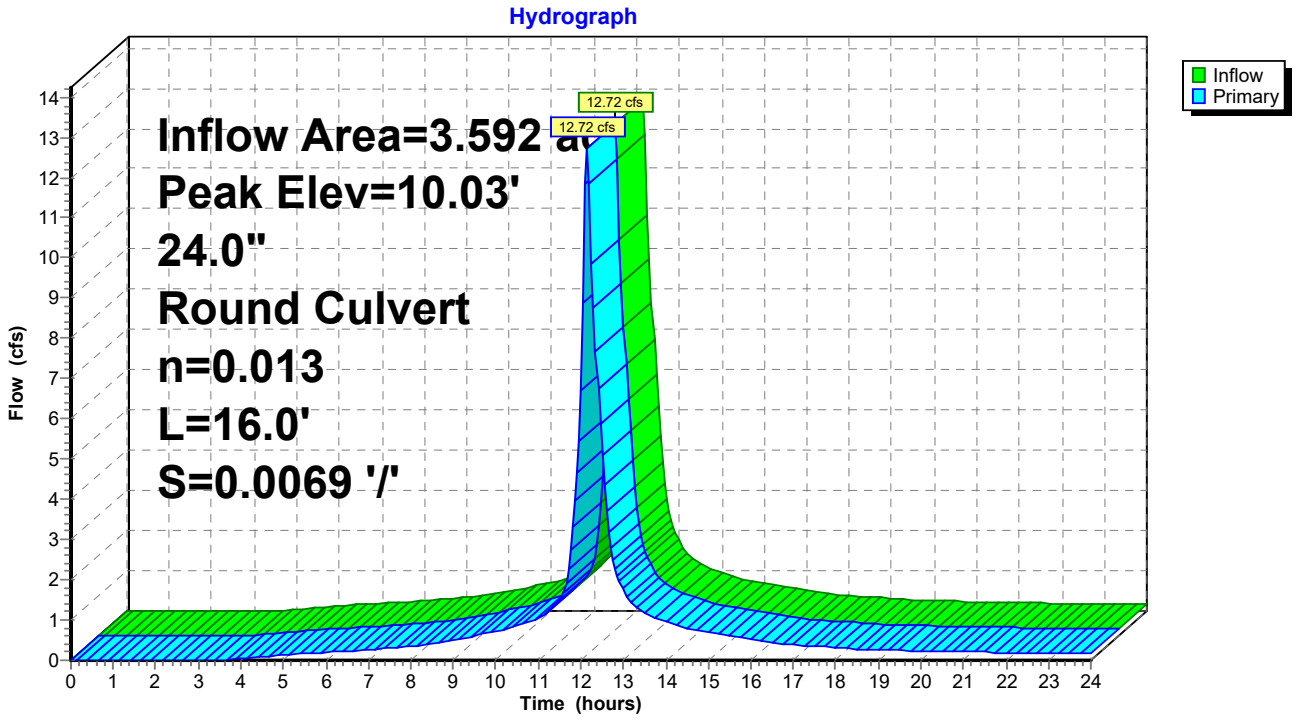
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 4.28" for 10-Year Storm event
Inflow = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af
Outflow = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af, Atten= 0%, Lag= 0.0 min
Primary = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af
Routed to Pond 12P : Jellyfish 2 JFPD0806-7-2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.03' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.71' S= 0.0069 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.71 cfs @ 12.15 hrs HW=10.03' (Free Discharge)
1=Culvert (Barrel Controls 12.71 cfs @ 4.56 fps)

Pond 5P: DMH-11



Summary for Pond 6P: CB27

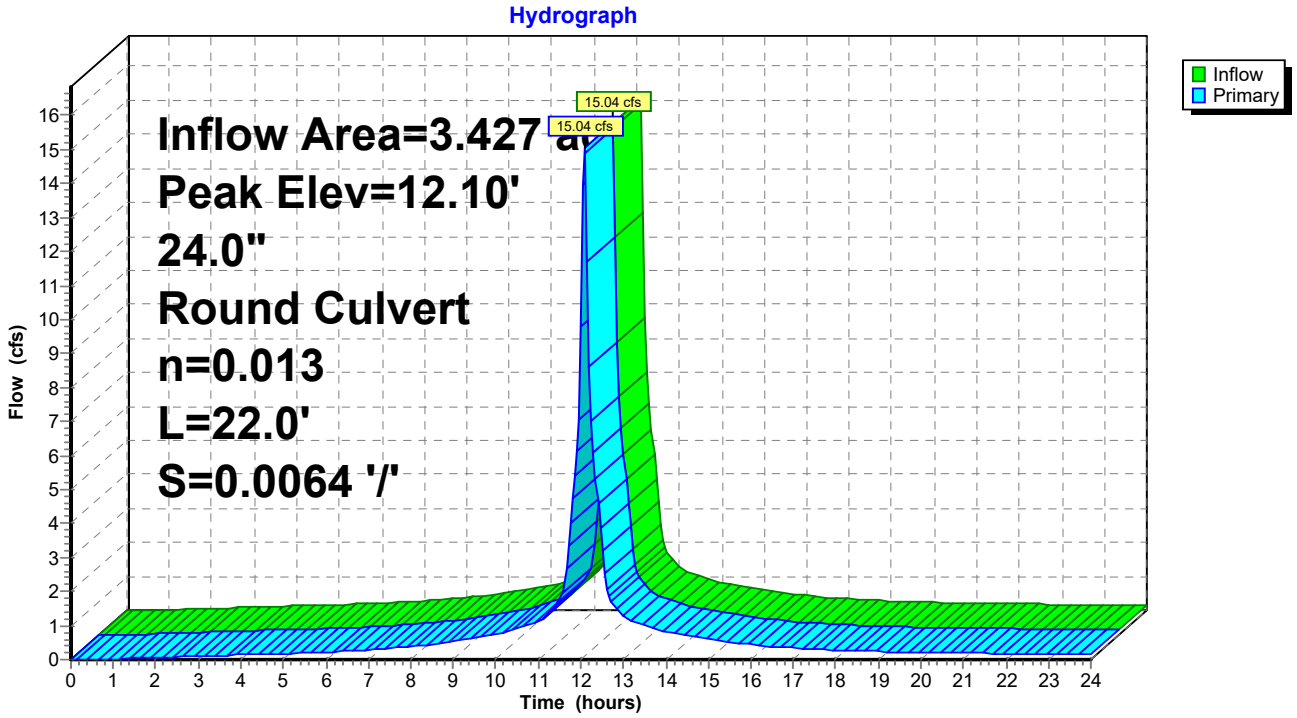
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 15.04 cfs @ 12.09 hrs, Volume= 1.245 af
Outflow = 15.04 cfs @ 12.09 hrs, Volume= 1.245 af, Atten= 0%, Lag= 0.0 min
Primary = 15.04 cfs @ 12.09 hrs, Volume= 1.245 af
Routed to Pond 7P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 12.10' @ 12.09 hrs
Flood Elev= 14.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.53'	**24.0" Round Culvert** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.53' / 9.39' S= 0.0064 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.65 cfs @ 12.09 hrs HW=12.04' (Free Discharge)
1=Culvert (Inlet Controls 14.65 cfs @ 4.66 fps)

Pond 6P: CB27



Summary for Pond 7P: Storm Structure

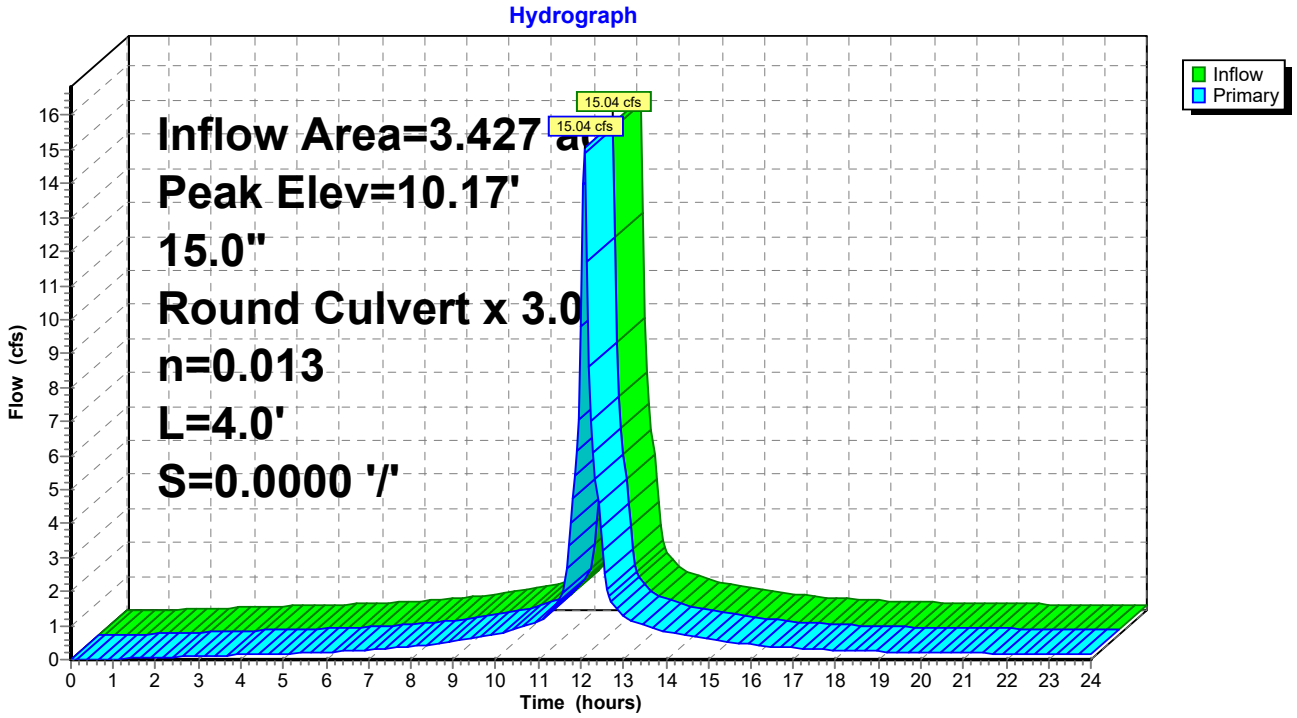
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 15.04 cfs @ 12.09 hrs, Volume= 1.245 af
Outflow = 15.04 cfs @ 12.09 hrs, Volume= 1.245 af, Atten= 0%, Lag= 0.0 min
Primary = 15.04 cfs @ 12.09 hrs, Volume= 1.245 af
Routed to Pond 8P : R-Tank 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.17' @ 12.08 hrs
Flood Elev= 14.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.39'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.39' / 8.39' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=14.65 cfs @ 12.09 hrs HW=10.13' (Free Discharge)
1=Culvert (Barrel Controls 14.65 cfs @ 3.98 fps)

Pond 7P: Storm Structure



Summary for Pond 8P: R-Tank 2

Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 15.77 cfs @ 12.09 hrs, Volume= 1.306 af
Outflow = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af, Atten= 19%, Lag= 3.8 min
Primary = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af
Routed to Pond 5P : DMH-11

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.53' @ 12.15 hrs Surf.Area= 3,128 sf Storage= 6,896 cf
Flood Elev= 12.71' Surf.Area= 3,128 sf Storage= 8,290 cf

Plug-Flow detention time= 35.4 min calculated for 1.280 af (98% of inflow)
Center-of-Mass det. time= 23.1 min (772.1 - 749.0)

Volume	Invert	Avail.Storage	Storage Description
#1	7.57'	2,767 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 12,731 cf Overall - 5,813 cf Embedded = 6,918 cf x 40.0% Voids
#2	7.82'	5,523 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 5,813 cf Overall x 95.0% Voids
		8,290 cf	Total Available Storage

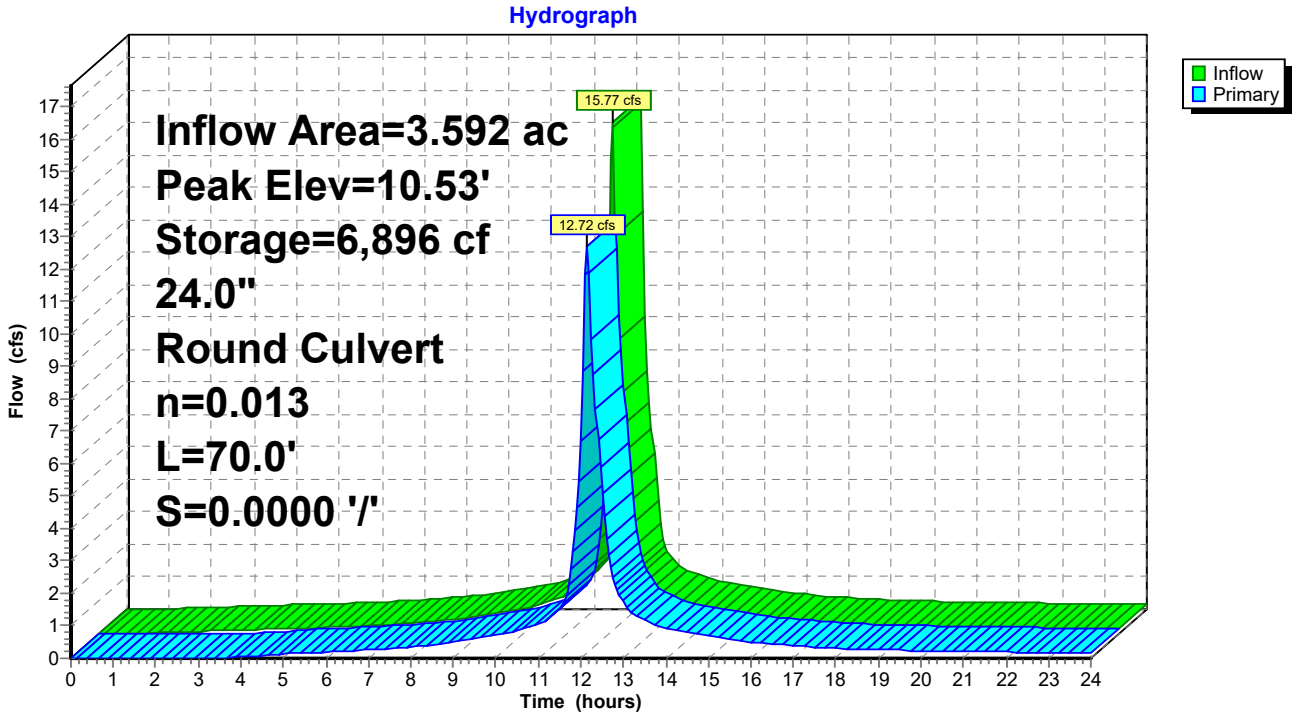
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.57	3,128	0	0
11.64	3,128	12,731	12,731

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.82	2,679	0	0
9.99	2,679	5,813	5,813

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.82' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.70 cfs @ 12.15 hrs HW=10.52' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 12.70 cfs @ 4.04 fps)

Pond 8P: R-Tank 2



Summary for Pond 9P: DMH-8 (Outfall #1)

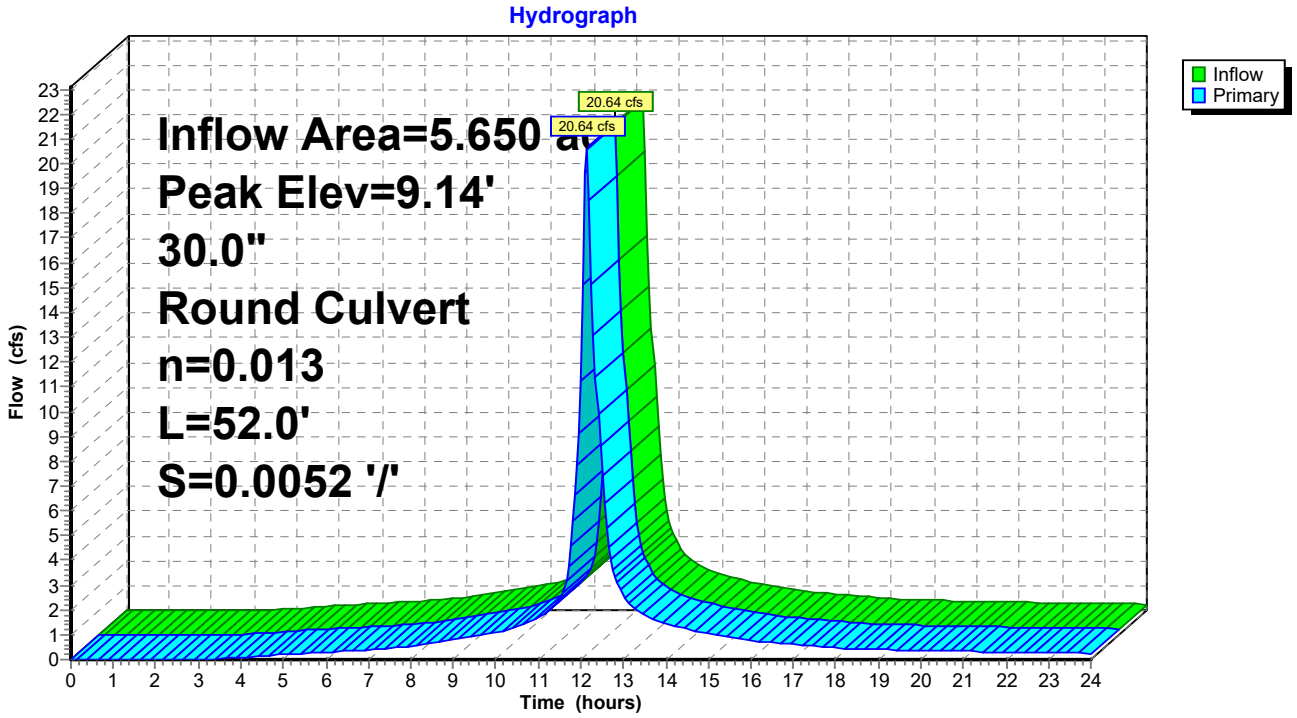
Inflow Area = 5.650 ac, 97.52% Impervious, Inflow Depth > 4.24" for 10-Year Storm event
Inflow = 20.64 cfs @ 12.14 hrs, Volume= 1.996 af
Outflow = 20.64 cfs @ 12.14 hrs, Volume= 1.996 af, Atten= 0%, Lag= 0.0 min
Primary = 20.64 cfs @ 12.14 hrs, Volume= 1.996 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.14' @ 12.14 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.57'	**30.0" Round Culvert** L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.57' / 6.30' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=20.41 cfs @ 12.14 hrs HW=9.12' (Free Discharge)
1=Culvert (Barrel Controls 20.41 cfs @ 5.07 fps)

Pond 9P: DMH-8 (Outfall #1)



Summary for Pond 10P: DMH 4

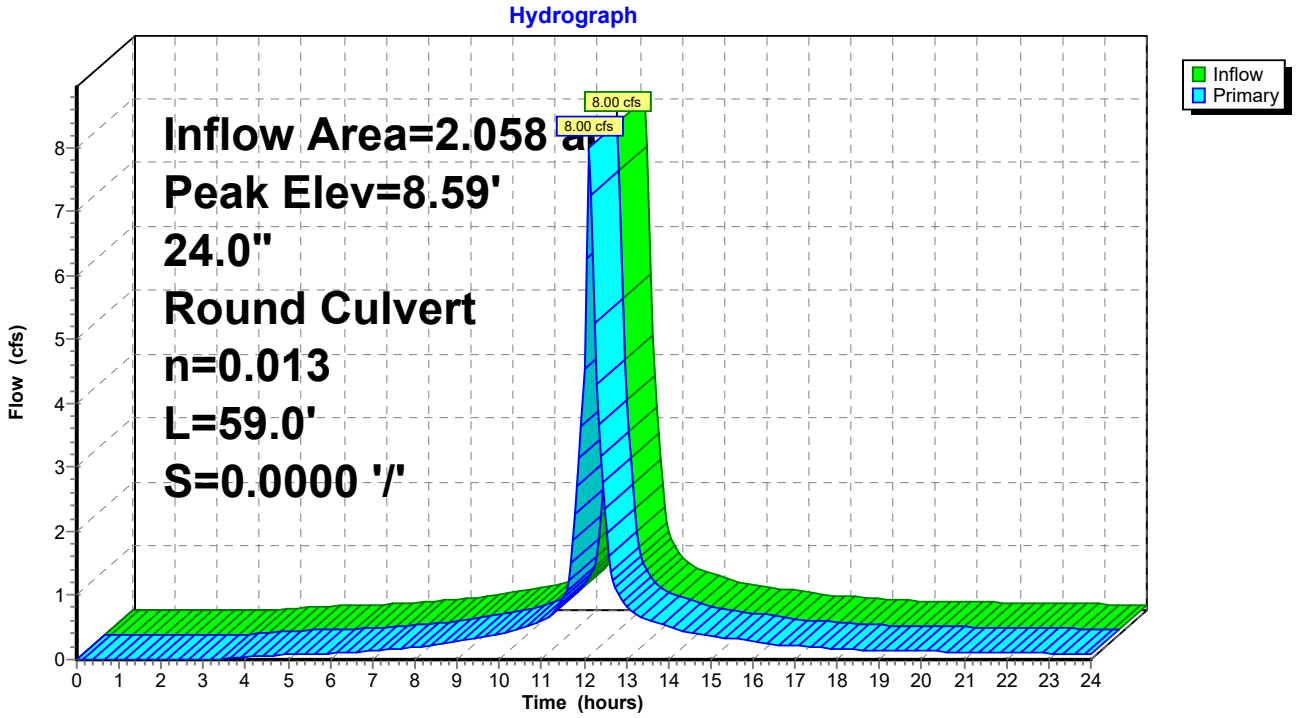
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 4.17" for 10-Year Storm event
Inflow = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af
Outflow = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af, Atten= 0%, Lag= 0.0 min
Primary = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af
Routed to Pond 11P : Jellyfish 1 JFPD0806-4-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.59' @ 12.13 hrs
Flood Elev= 13.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Culvert** L= 59.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.84 cfs @ 12.13 hrs HW=8.57' (Free Discharge)
1=Culvert (Barrel Controls 7.84 cfs @ 3.43 fps)

Pond 10P: DMH 4



Summary for Pond 11P: Jellyfish 1 JFPD0806-4-1

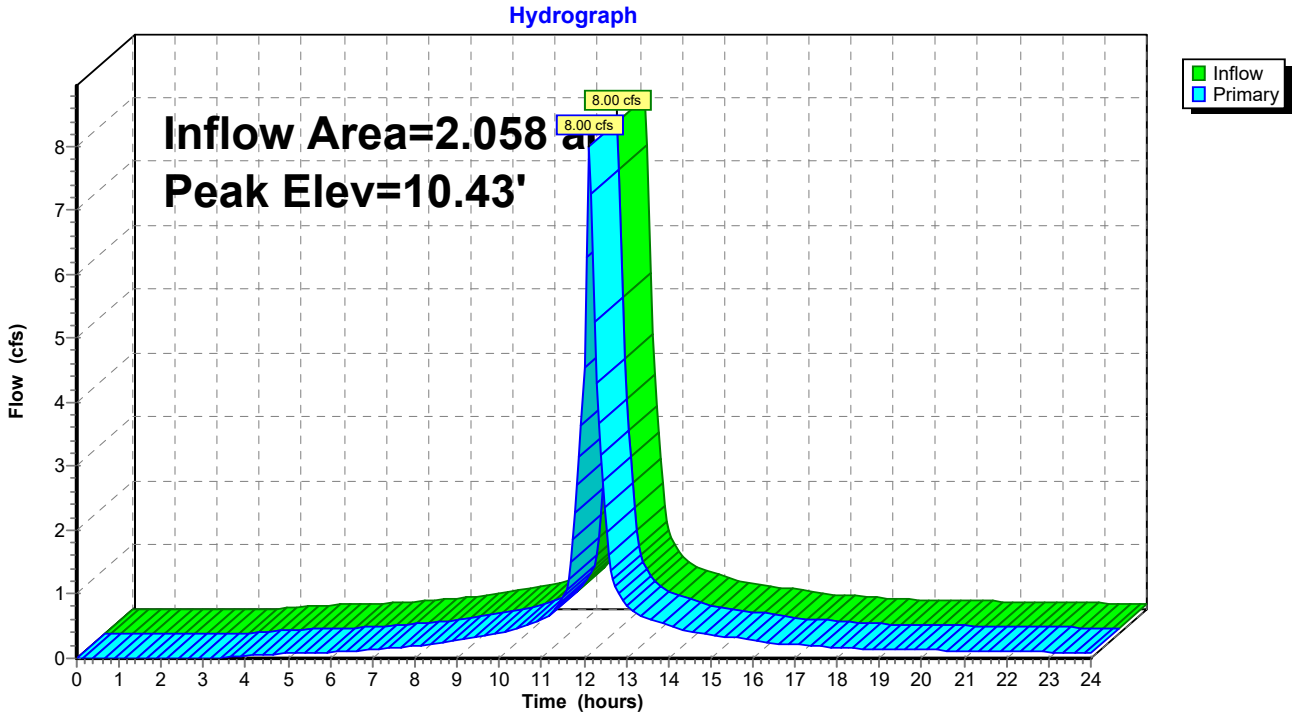
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 4.17" for 10-Year Storm event
Inflow = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af
Outflow = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af, Atten= 0%, Lag= 0.0 min
Primary = 8.00 cfs @ 12.13 hrs, Volume= 0.716 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.43' @ 12.13 hrs
Flood Elev= 12.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Filter Culvert Out** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.67' S= 0.0160 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	6.75'	**JF Filter-1 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.129 0.198 0.267 0.337 0.406 0.475 0.545 0.614 0.683 0.753 0.822 0.891
#3	Device 1	9.59'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=7.85 cfs @ 12.13 hrs HW=10.42' (Free Discharge)
└**1=Filter Culvert Out** (Passes 7.85 cfs of 19.50 cfs potential flow)
  ├**2=JF Filter-1 CSV File** (Custom Controls 0.89 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 6.96 cfs @ 3.00 fps)

Pond 11P: Jellyfish 1 JFPD0806-4-1



Summary for Pond 12P: Jellyfish 2 JFPD0806-7-2

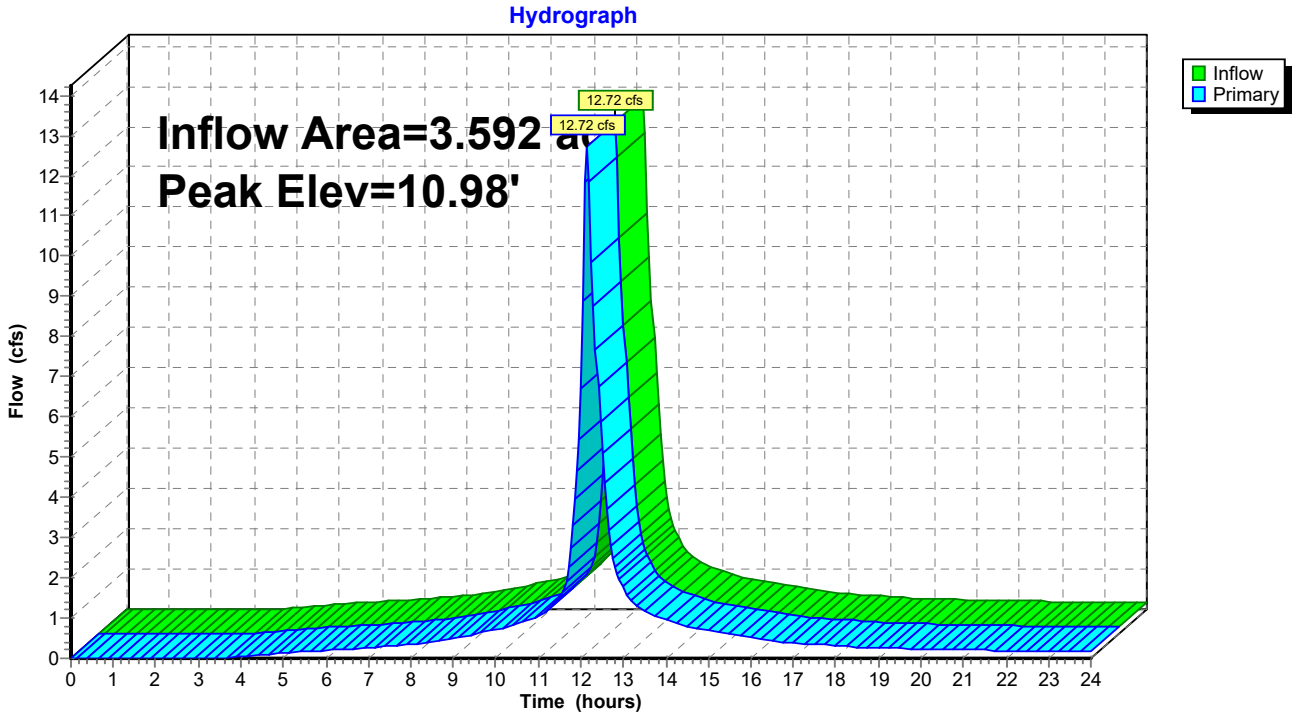
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 4.28" for 10-Year Storm event
Inflow = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af
Outflow = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af, Atten= 0%, Lag= 0.0 min
Primary = 12.72 cfs @ 12.15 hrs, Volume= 1.280 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.98' @ 12.15 hrs
Flood Elev= 11.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.71'	**24.0" Round Filter Culvert Out** L= 125.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.71' / 6.92' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	7.71'	**JF Filter-2 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.173 0.287 0.401 0.515 0.629 0.743 0.857 0.970 1.084 1.198 1.312 1.426
#3	Device 1	9.84'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=12.71 cfs @ 12.15 hrs HW=10.98' (Free Discharge)
└**1=Filter Culvert Out** (Passes 12.71 cfs of 17.98 cfs potential flow)
├**2=JF Filter-2 CSV File** (Custom Controls 1.43 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 11.28 cfs @ 3.54 fps)

Pond 12P: Jellyfish 2 JFPD0806-7-2



Summary for Pond 13P: DMH-13 (Outfall #2)

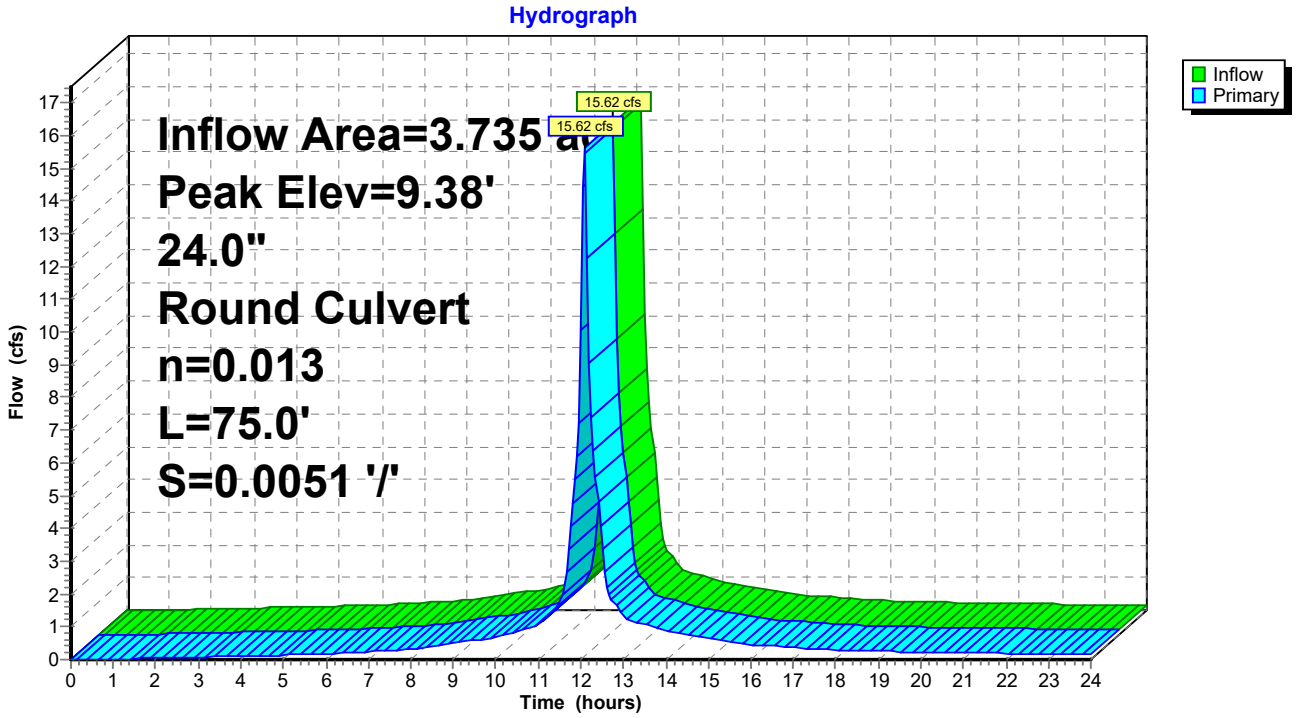
Inflow Area = 3.735 ac, 83.01% Impervious, Inflow Depth > 4.04" for 10-Year Storm event
Inflow = 15.62 cfs @ 12.09 hrs, Volume= 1.256 af
Outflow = 15.62 cfs @ 12.09 hrs, Volume= 1.256 af, Atten= 0%, Lag= 0.0 min
Primary = 15.62 cfs @ 12.09 hrs, Volume= 1.256 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.38' @ 12.09 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.68'	**24.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.68' / 6.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=15.22 cfs @ 12.09 hrs HW=9.30' (Free Discharge)
1=Culvert (Inlet Controls 15.22 cfs @ 4.84 fps)

Pond 13P: DMH-13 (Outfall #2)



Summary for Pond 24P: Filterra 1

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af
Outflow = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

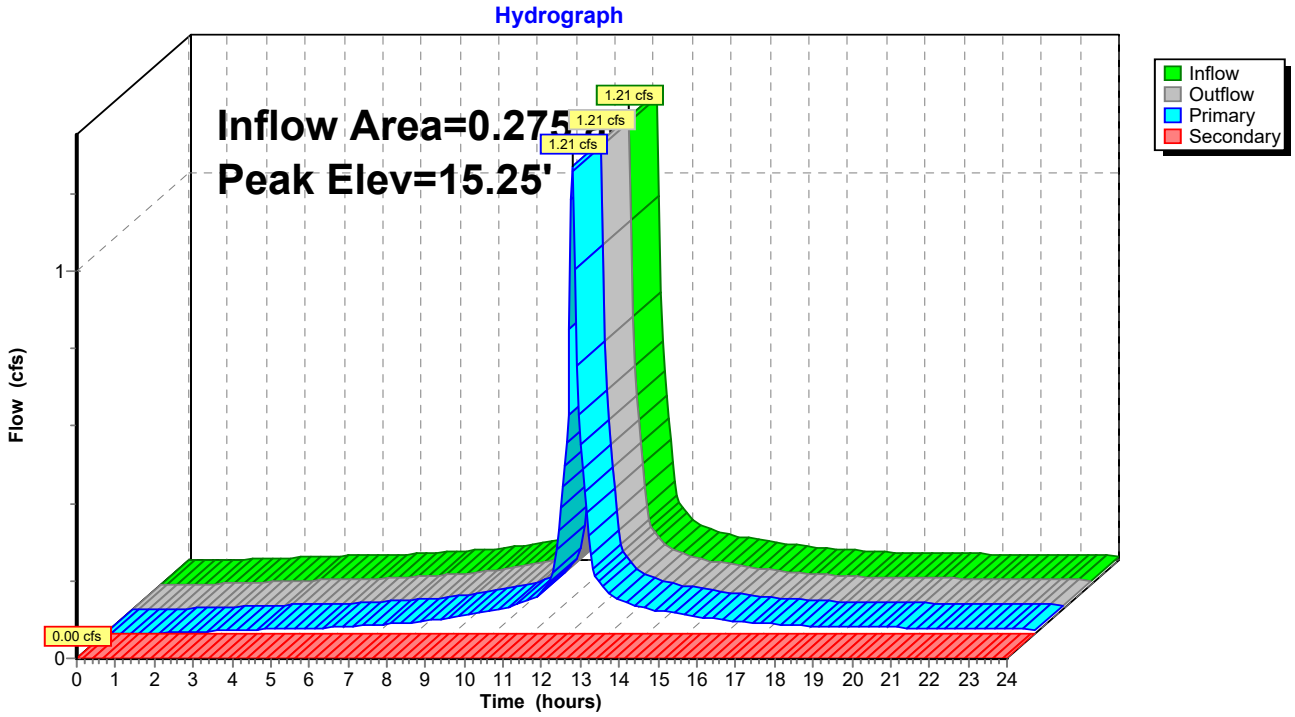
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.25' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.17 cfs @ 12.09 hrs HW=15.24' (Free Discharge)
1=Culvert (Barrel Controls 1.17 cfs @ 2.62 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 24P: Filterra 1



Summary for Pond 27P: AD49

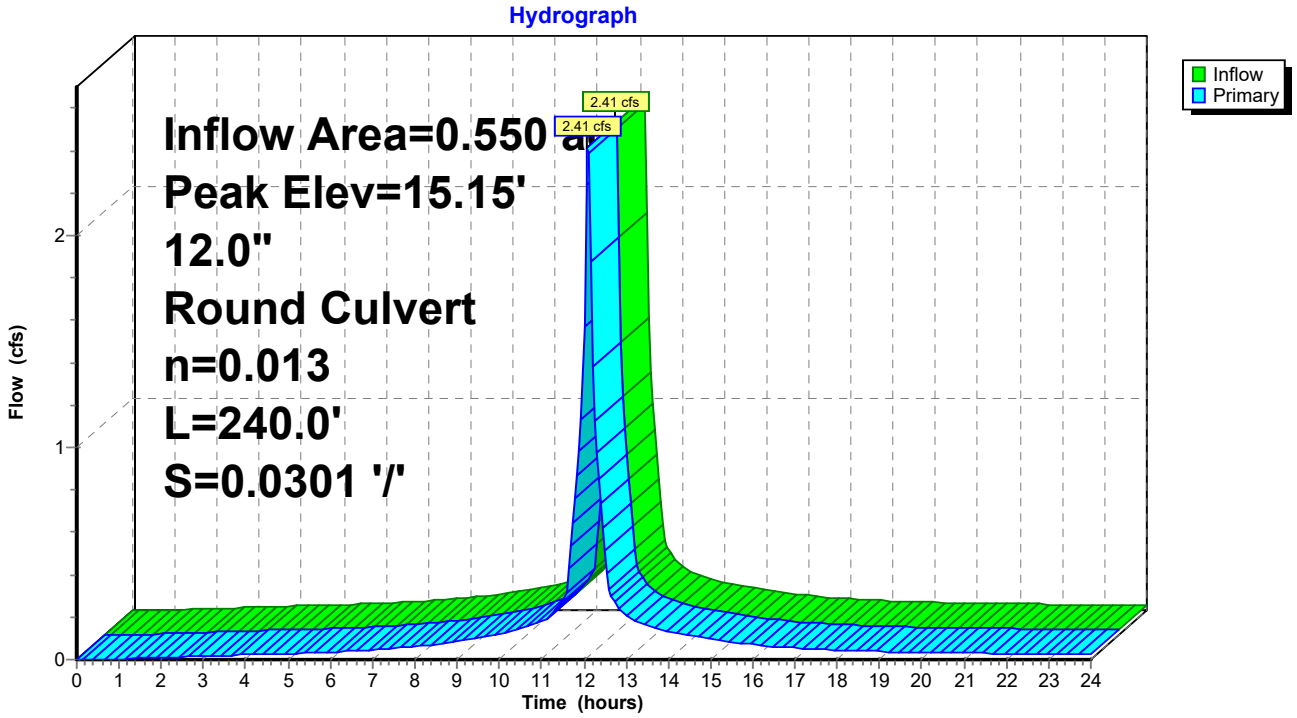
Inflow Area = 0.550 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 2.41 cfs @ 12.09 hrs, Volume= 0.200 af
Outflow = 2.41 cfs @ 12.09 hrs, Volume= 0.200 af, Atten= 0%, Lag= 0.0 min
Primary = 2.41 cfs @ 12.09 hrs, Volume= 0.200 af
Routed to Pond 13P : DMH-13 (Outfall #2)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.15' @ 12.09 hrs
Flood Elev= 12.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 240.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.00' / 6.78' S= 0.0301 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.35 cfs @ 12.09 hrs HW=15.12' (Free Discharge)
1=Culvert (Inlet Controls 2.35 cfs @ 2.99 fps)

Pond 27P: AD49



Summary for Pond 28P: Filterra 2

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af
Outflow = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.21 cfs @ 12.09 hrs, Volume= 0.100 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

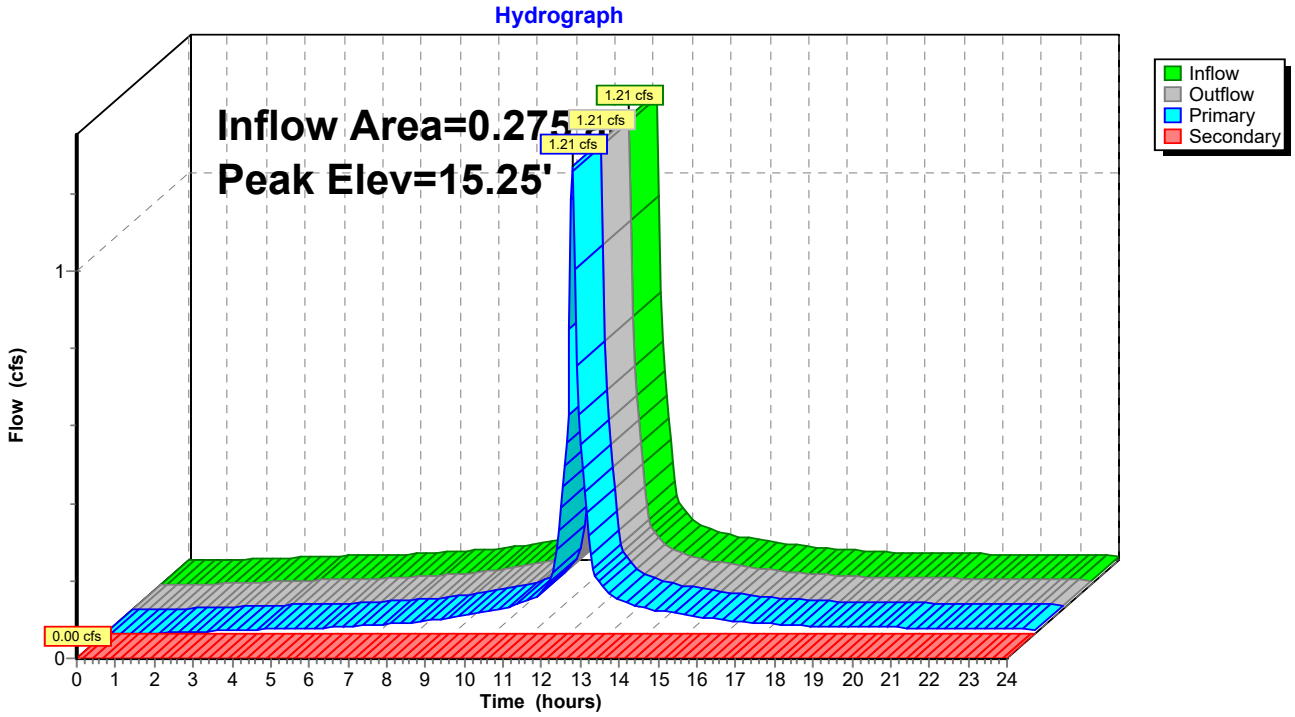
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.25' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.17 cfs @ 12.09 hrs HW=15.24' (Free Discharge)
1=Culvert (Barrel Controls 1.17 cfs @ 2.62 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 28P: Filterra 2

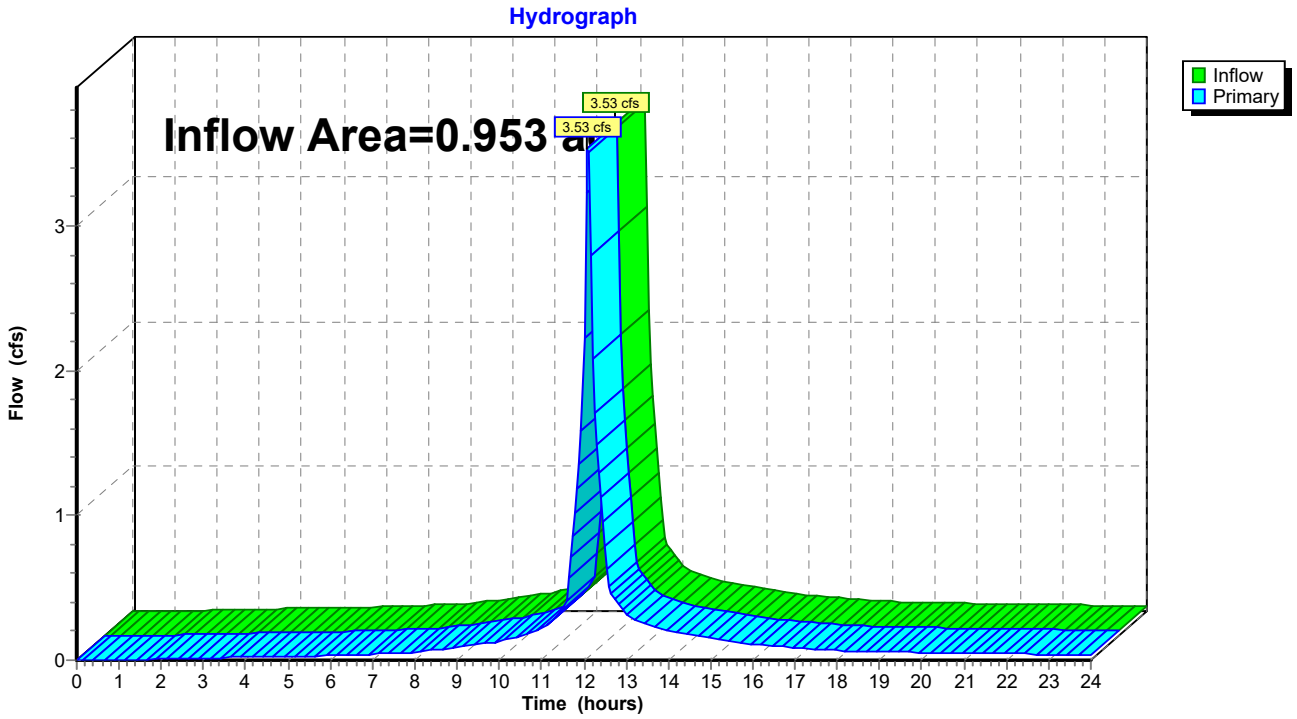


Summary for Link 1L: Freedom Way

Inflow Area = 0.953 ac, 53.78% Impervious, Inflow Depth > 3.51" for 10-Year Storm event
Inflow = 3.53 cfs @ 12.09 hrs, Volume= 0.279 af
Primary = 3.53 cfs @ 12.09 hrs, Volume= 0.279 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 1L: Freedom Way

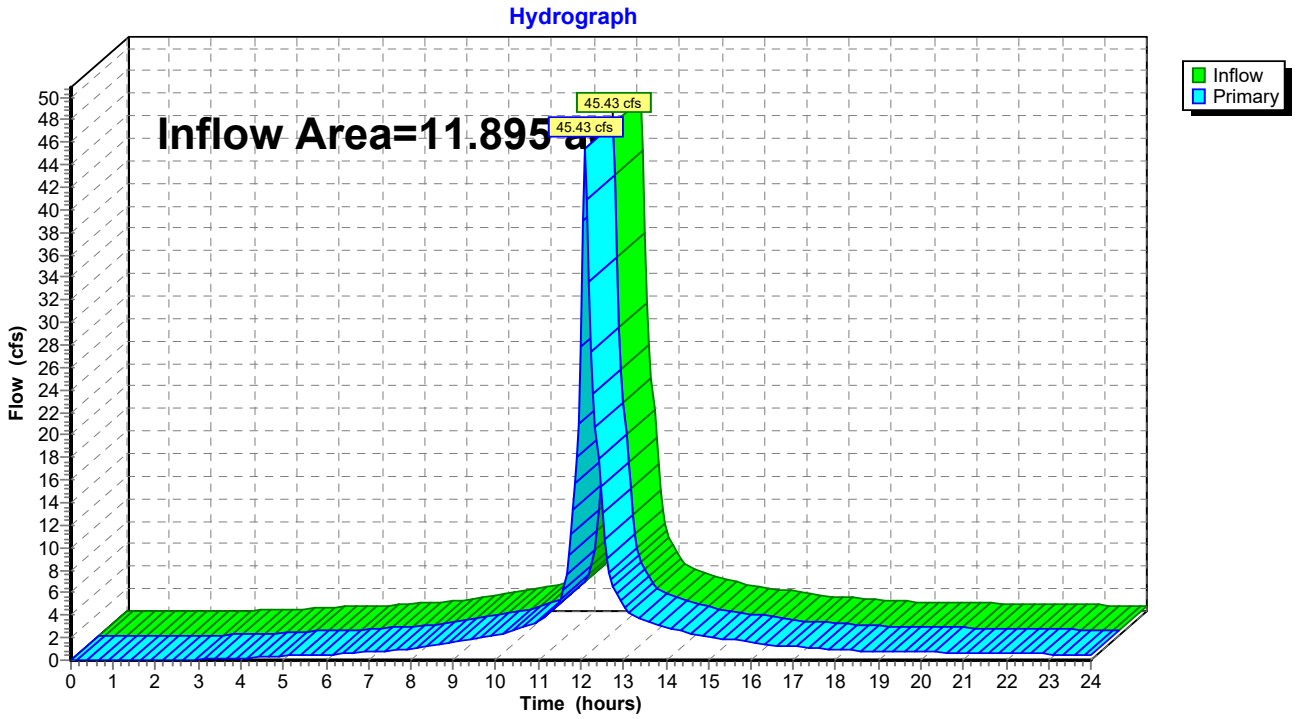


Summary for Link 2L: Fore River

Inflow Area = 11.895 ac, 87.62% Impervious, Inflow Depth > 4.08" for 10-Year Storm event
Inflow = 45.43 cfs @ 12.10 hrs, Volume= 4.048 af
Primary = 45.43 cfs @ 12.10 hrs, Volume= 4.048 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 2L: Fore River

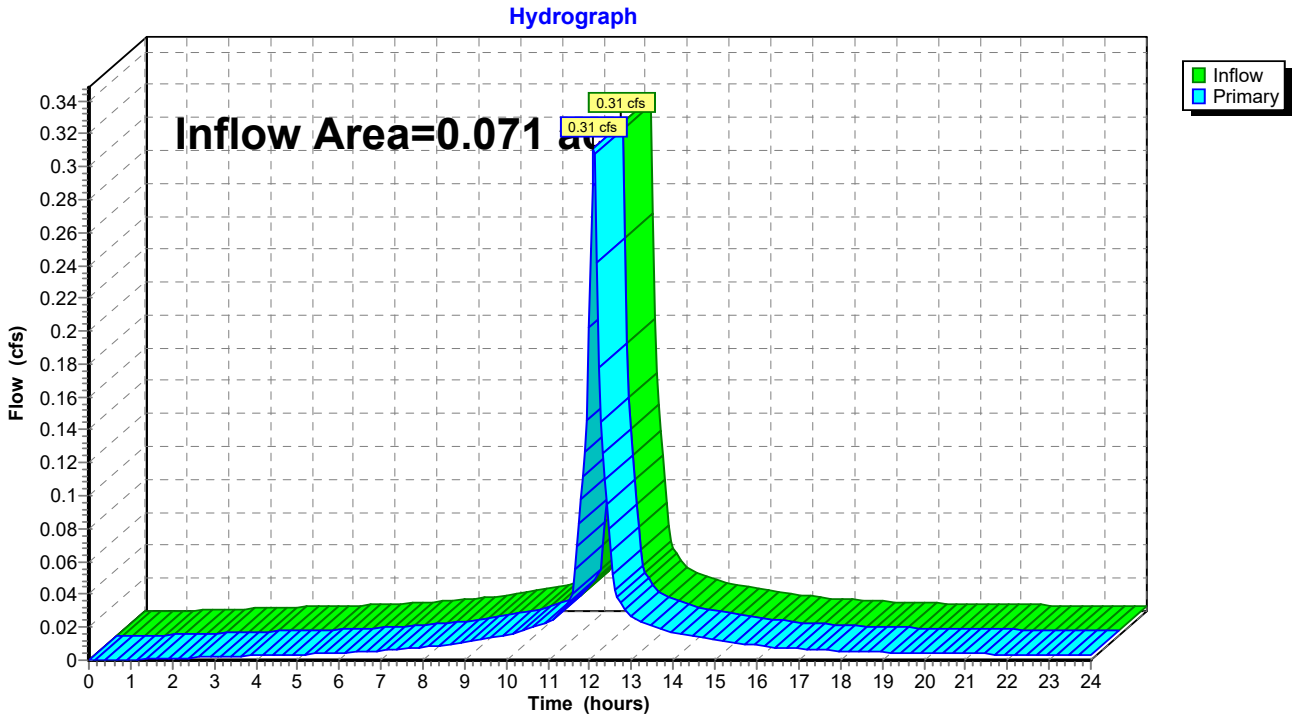


Summary for Link 3L: Fore Street

Inflow Area = 0.071 ac,100.00% Impervious, Inflow Depth > 4.36" for 10-Year Storm event
Inflow = 0.31 cfs @ 12.09 hrs, Volume= 0.026 af
Primary = 0.31 cfs @ 12.09 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: Fore Street



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Block 1B Runoff Area=19,389 sf 1.02% Impervious Runoff Depth>3.60"
Tc=6.0 min CN=80 Runoff=1.83 cfs 0.133 af

Subcatchment2S: Western half of Runoff Area=22,128 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=2.82 cfs 0.235 af

Subcatchment3S: Eastern half of Runoff Area=22,147 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=2.82 cfs 0.236 af

Subcatchment4S: Shared Street - Trench Runoff Area=26,424 sf 83.24% Impervious Runoff Depth>5.21"
Tc=6.0 min CN=95 Runoff=3.30 cfs 0.263 af

Subcatchment5S: Building 12 Runoff Area=3,244 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.41 cfs 0.034 af

Subcatchment6S: Plaza between Blocks 1 Runoff Area=18,771 sf 95.74% Impervious Runoff Depth>5.44"
Tc=6.0 min CN=97 Runoff=2.38 cfs 0.195 af

Subcatchment7S: Building 14 Runoff Area=2,557 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af

Subcatchment8S: Building 15 Runoff Area=2,578 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af

Subcatchment9S: Building 2 North Runoff Area=4,695 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.60 cfs 0.050 af

Subcatchment10S: Building 3 North Runoff Area=2,212 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.28 cfs 0.024 af

Subcatchment11S: Building 2 South Runoff Area=4,855 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.62 cfs 0.052 af

Subcatchment12S: Building 3 South Runoff Area=2,326 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af

Subcatchment13S: Building 6 Runoff Area=3,304 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.42 cfs 0.035 af

Subcatchment14S: Building 6B North Runoff Area=4,296 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.55 cfs 0.046 af

Subcatchment15S: Building 6B South Runoff Area=2,512 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.32 cfs 0.027 af

Subcatchment16S: Plaza between Blocks 1 Runoff Area=3,650 sf 75.84% Impervious Runoff Depth>5.10"
Tc=6.0 min CN=94 Runoff=0.45 cfs 0.036 af

Subcatchment17S: Shared Street - Trench Runoff Area=8,719 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=1.11 cfs 0.093 af

Subcatchment18S: Plaza between Runoff Area=28,813 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=3.67 cfs 0.306 af

Subcatchment19S: Block 4 Building Runoff Area=86,592 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=11.03 cfs 0.921 af

Subcatchment20S: Direct to R-Tank Runoff Area=7,210 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.92 cfs 0.077 af

Subcatchment21S: Plaza along Building Runoff Area=2,534 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.32 cfs 0.027 af

Subcatchment22S: Block 6 Building Runoff Area=47,780 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=6.09 cfs 0.508 af

Subcatchment23S: Block 5 Building to Runoff Area=11,218 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=1.43 cfs 0.119 af

Subcatchment24S: Block 5 Building Runoff Area=30,570 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=3.89 cfs 0.325 af

Subcatchment25S: Southern Plaza Runoff Area=11,168 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=1.42 cfs 0.119 af

Subcatchment26S: Plaza along Townhouse Runoff Area=550 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=0.07 cfs 0.006 af

Subcatchment27S: Drainage from off-site Runoff Area=49,238 sf 43.84% Impervious Runoff Depth>4.43"
Tc=6.0 min CN=88 Runoff=5.56 cfs 0.417 af

Subcatchment28S: Waterfront Runoff Area=109,324 sf 72.19% Impervious Runoff Depth>4.98"
Tc=6.0 min CN=93 Runoff=13.34 cfs 1.042 af

Subcatchment29S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=1.53 cfs 0.127 af

Subcatchment30S: Block 6 Building Runoff Area=11,975 sf 100.00% Impervious Runoff Depth>5.56"
Tc=6.0 min CN=98 Runoff=1.53 cfs 0.127 af

Pond 1P: DMH 1 Peak Elev=11.70' Inflow=10.45 cfs 0.858 af
24.0" Round Culvert n=0.013 L=61.0' S=0.0038 '/' Outflow=10.45 cfs 0.858 af

Pond 2P: DMH 2 Peak Elev=11.40' Inflow=11.32 cfs 0.928 af
24.0" Round Culvert n=0.013 L=31.0' S=0.0048 '/' Outflow=11.32 cfs 0.928 af

Pond 3P: Storm Structure Peak Elev=9.76' Inflow=11.32 cfs 0.928 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=11.32 cfs 0.928 af

Pond 4P: R-Tank 1 Peak Elev=9.27' Storage=2,513 cf Inflow=11.32 cfs 0.928 af
21.0" Round Culvert n=0.013 L=62.0' S=0.0000 '/' Outflow=10.00 cfs 0.920 af

Pond 5P: DMH-11 Peak Elev=10.93' Inflow=17.37 cfs 1.637 af
24.0" Round Culvert n=0.013 L=16.0' S=0.0069 '/' Outflow=17.37 cfs 1.637 af

Pond 6P: CB27 Peak Elev=13.06' Inflow=19.01 cfs 1.587 af
24.0" Round Culvert n=0.013 L=22.0' S=0.0064 '/' Outflow=19.01 cfs 1.587 af

Pond 7P: Storm Structure Peak Elev=10.85' Inflow=19.01 cfs 1.587 af
15.0" Round Culvert x 3.00 n=0.013 L=4.0' S=0.0000 '/' Outflow=19.01 cfs 1.587 af

Pond 8P: R-Tank 2 Peak Elev=11.13' Storage=7,657 cf Inflow=19.93 cfs 1.664 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0000 '/' Outflow=17.37 cfs 1.637 af

Pond 9P: DMH-8 (Outfall #1) Peak Elev=9.97' Inflow=27.37 cfs 2.557 af
30.0" Round Culvert n=0.013 L=52.0' S=0.0052 '/' Outflow=27.37 cfs 2.557 af

Pond 10P: DMH 4 Peak Elev=8.87' Inflow=10.00 cfs 0.920 af
24.0" Round Culvert n=0.013 L=59.0' S=0.0000 '/' Outflow=10.00 cfs 0.920 af

Pond 11P: Jellyfish 1 JFPD0806-4-1 Peak Elev=10.58' Inflow=10.00 cfs 0.920 af
Outflow=10.00 cfs 0.920 af

Pond 12P: Jellyfish 2 JFPD0806-7-2 Peak Elev=11.27' Inflow=17.37 cfs 1.637 af
Outflow=17.37 cfs 1.637 af

Pond 13P: DMH-13 (Outfall #2) Peak Elev=10.48' Inflow=20.01 cfs 1.624 af
24.0" Round Culvert n=0.013 L=75.0' S=0.0051 '/' Outflow=20.01 cfs 1.624 af

Pond 24P: Filterra 1 Peak Elev=15.37' Inflow=1.53 cfs 0.127 af
Primary=1.53 cfs 0.127 af Secondary=0.00 cfs 0.000 af Outflow=1.53 cfs 0.127 af

Pond 27P: AD49 Peak Elev=15.54' Inflow=3.05 cfs 0.255 af
12.0" Round Culvert n=0.013 L=240.0' S=0.0301 '/' Outflow=3.05 cfs 0.255 af

Pond 28P: Filterra 2 Peak Elev=15.37' Inflow=1.53 cfs 0.127 af
Primary=1.53 cfs 0.127 af Secondary=0.00 cfs 0.000 af Outflow=1.53 cfs 0.127 af

Link 1L: Freedom Way Inflow=4.65 cfs 0.369 af
Primary=4.65 cfs 0.369 af

Link 2L: Fore River Inflow=59.19 cfs 5.223 af
Primary=59.19 cfs 5.223 af

Link 3L: Fore Street Inflow=0.39 cfs 0.033 af
Primary=0.39 cfs 0.033 af

Total Runoff Area = 12.919 ac Runoff Volume = 5.660 af Average Runoff Depth = 5.26"
14.81% Pervious = 1.914 ac 85.19% Impervious = 11.005 ac

Summary for Subcatchment 1S: Block 1B

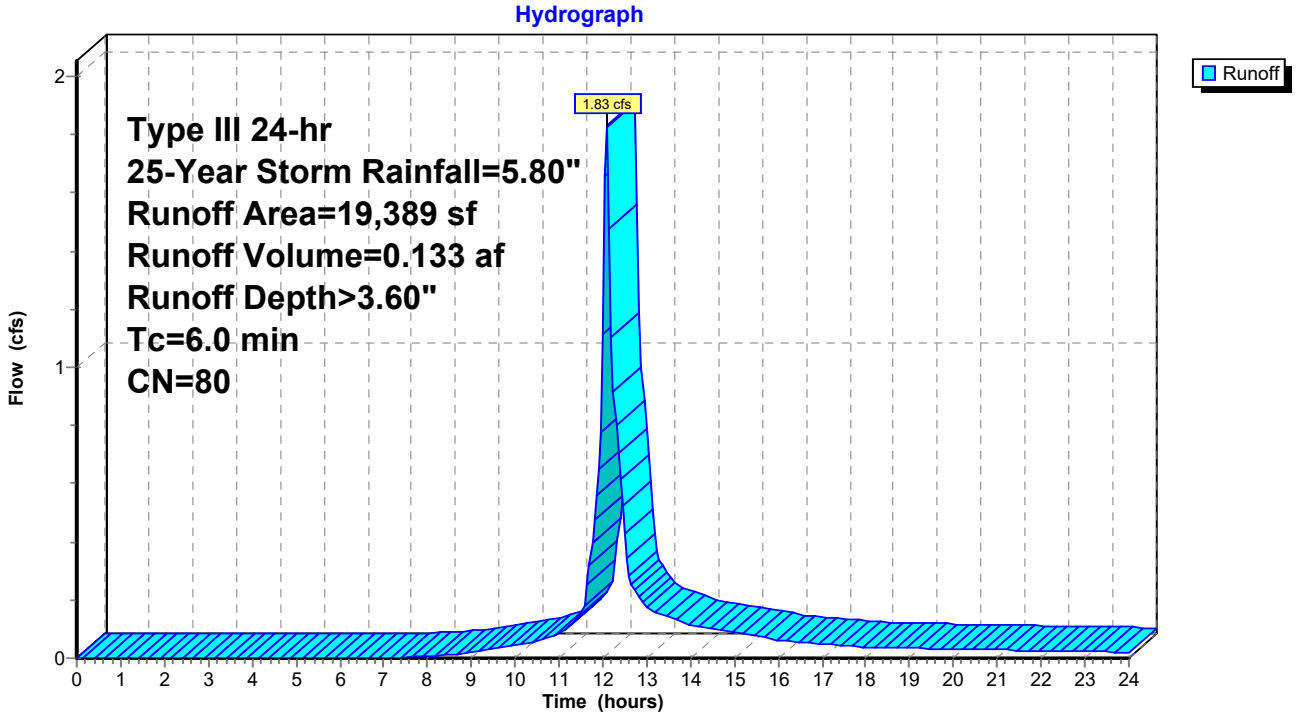
Runoff = 1.83 cfs @ 12.09 hrs, Volume= 0.133 af, Depth> 3.60"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	198	98	Impervious
	19,191	80	>75% Grass cover, Good, HSG D
	19,389	80	Weighted Average
	19,191		98.98% Pervious Area
	198		1.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Block 1B



Summary for Subcatchment 2S: Western half of Building 1A

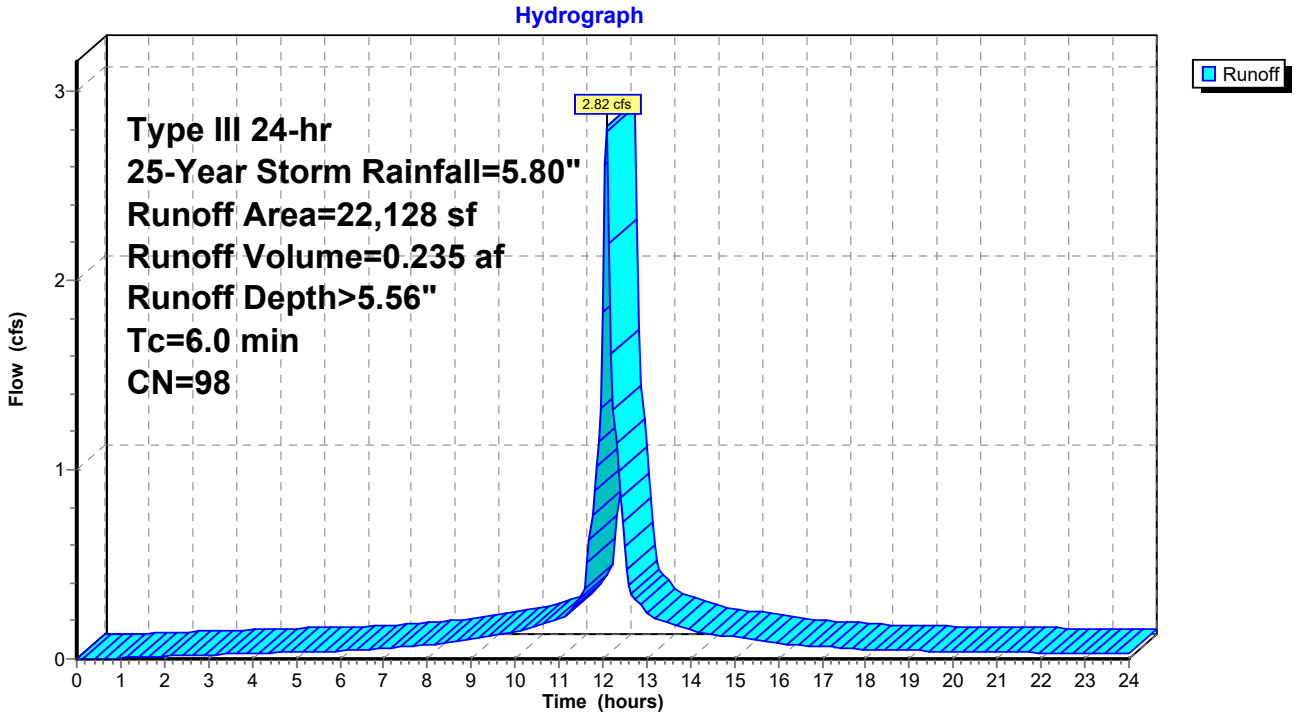
Runoff = 2.82 cfs @ 12.09 hrs, Volume= 0.235 af, Depth> 5.56"
Routed to Link 1L : Freedom Way

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	22,128	98	Roof
	22,128		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Western half of Building 1A



Summary for Subcatchment 3S: Eastern half of Building 1A

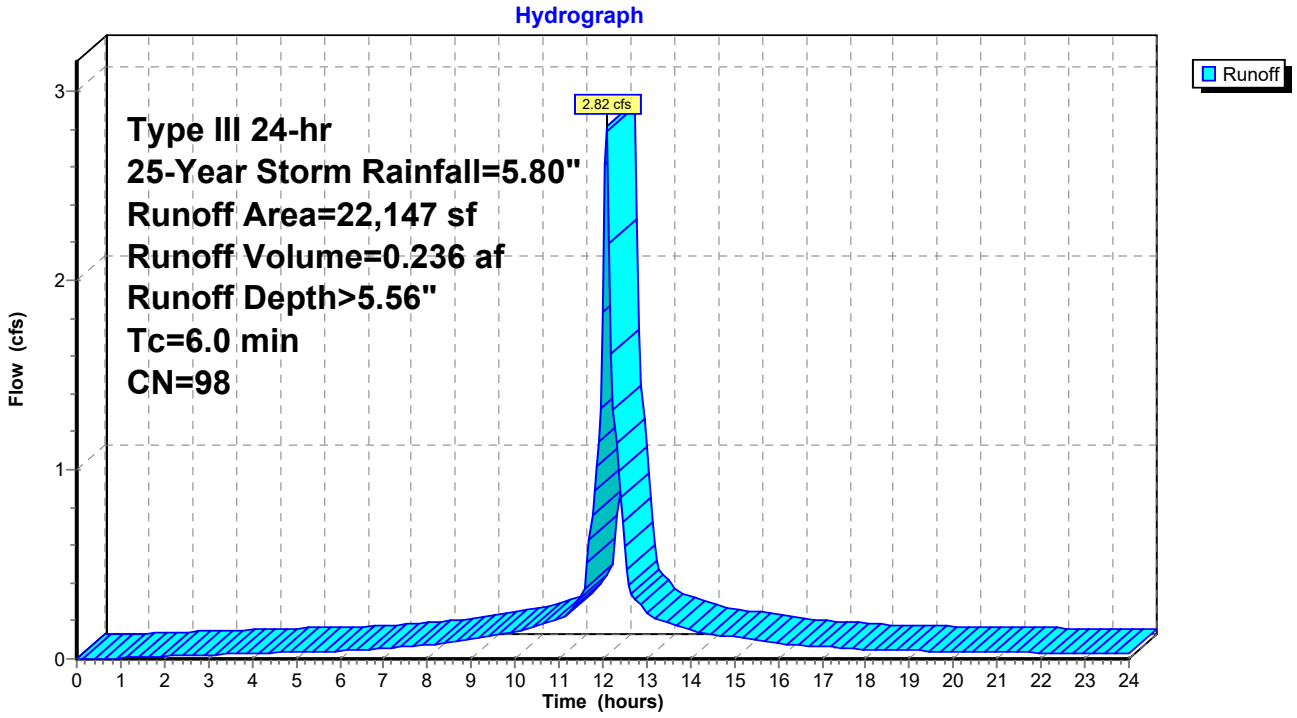
Runoff = 2.82 cfs @ 12.09 hrs, Volume= 0.236 af, Depth> 5.56"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	22,147	98	Roof
	22,147		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Eastern half of Building 1A



Summary for Subcatchment 4S: Shared Street - Trench Drain

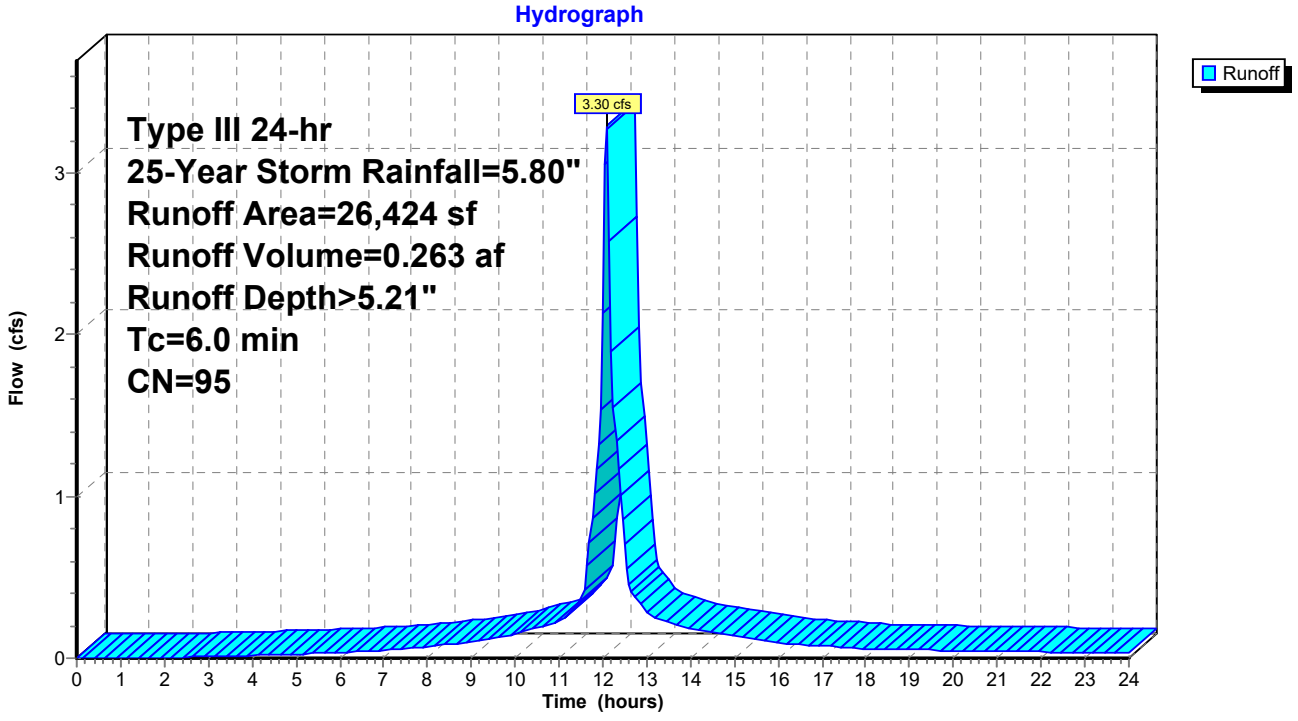
Runoff = 3.30 cfs @ 12.09 hrs, Volume= 0.263 af, Depth> 5.21"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
	4,428	80	>75% Grass cover, Good, HSG D
*	21,996	98	Impervious
	26,424	95	Weighted Average
	4,428		16.76% Pervious Area
	21,996		83.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Shared Street - Trench Drain



Summary for Subcatchment 5S: Building 12

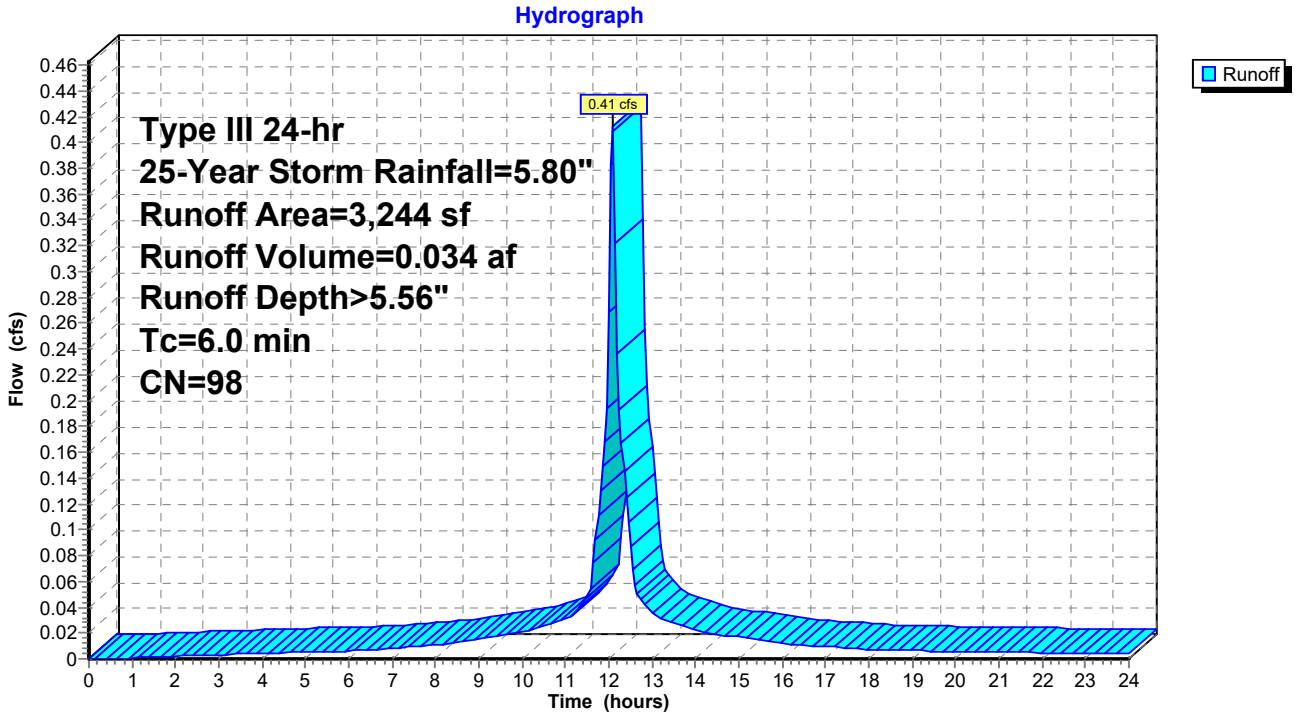
Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.034 af, Depth> 5.56"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	3,244	98	Roof
	3,244		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Building 12



Summary for Subcatchment 6S: Plaza between Blocks 1 & 2

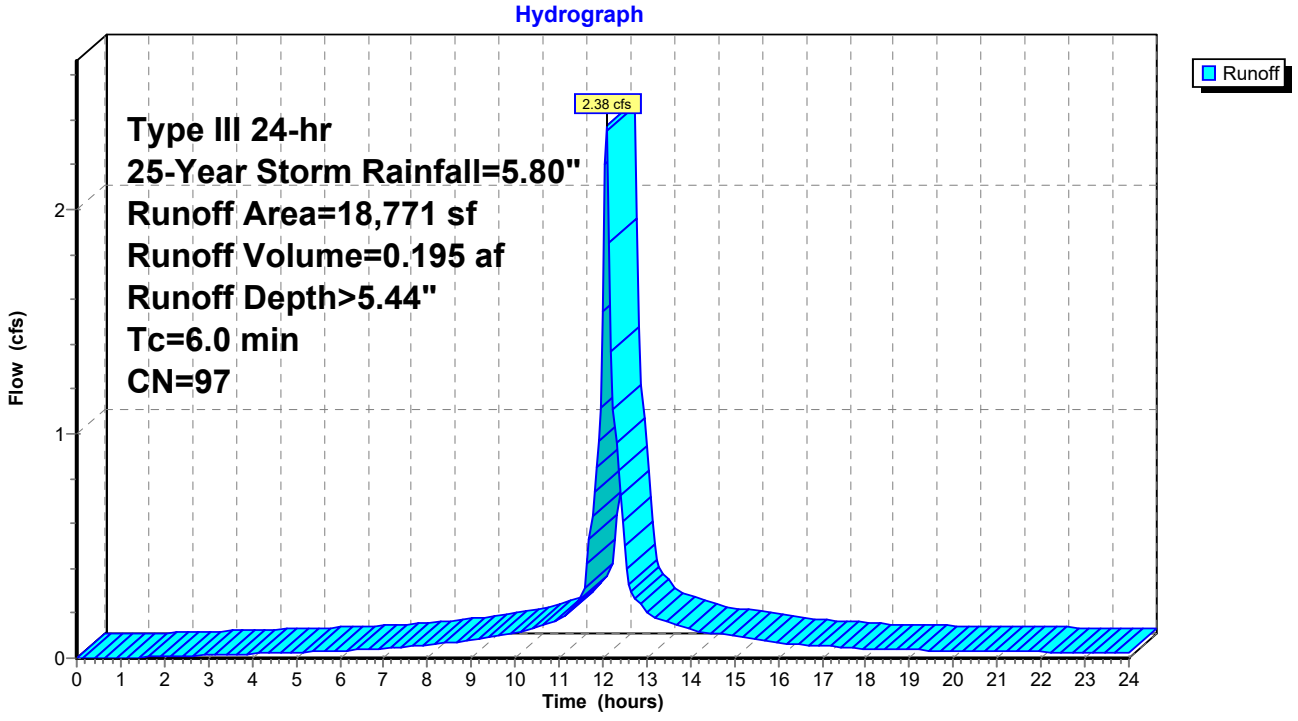
Runoff = 2.38 cfs @ 12.09 hrs, Volume= 0.195 af, Depth> 5.44"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	17,972	98	Impervious
	799	80	>75% Grass cover, Good, HSG D
	18,771	97	Weighted Average
	799		4.26% Pervious Area
	17,972		95.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: Plaza between Blocks 1 & 2



Summary for Subcatchment 7S: Building 14

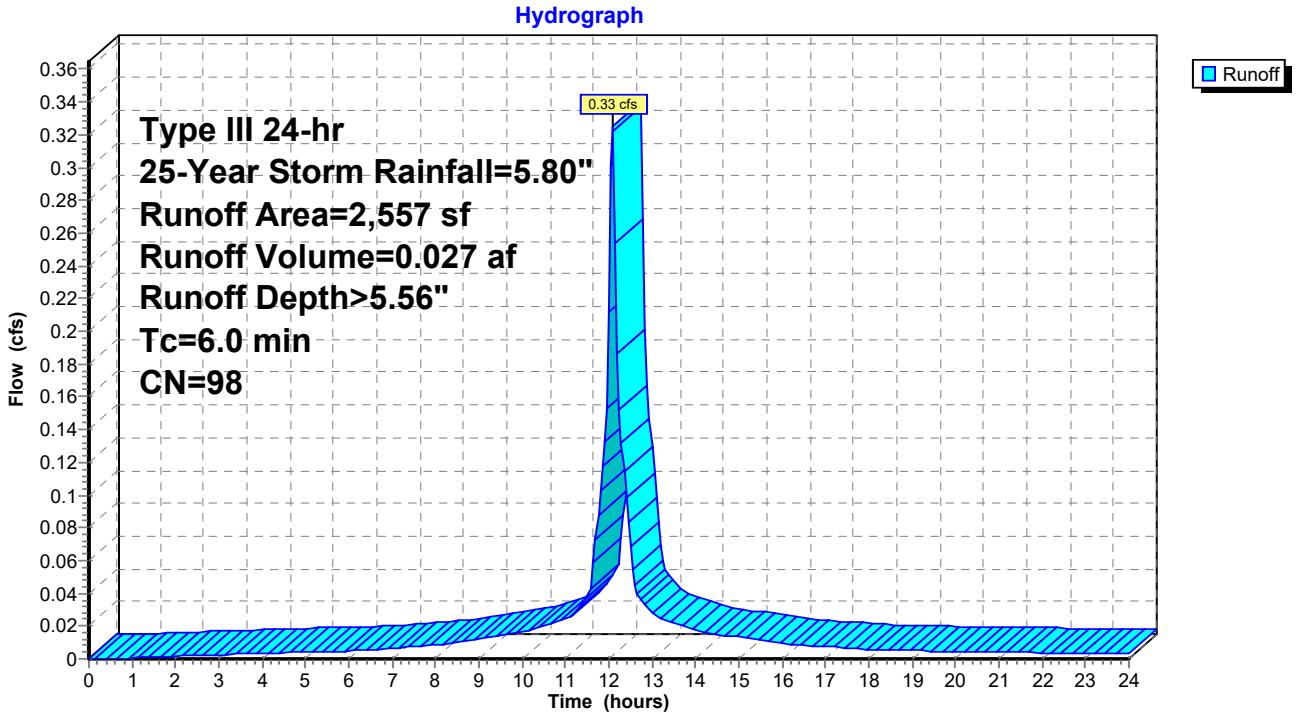
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 5.56"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,557	98	Roof
	2,557		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 7S: Building 14



Summary for Subcatchment 8S: Building 15

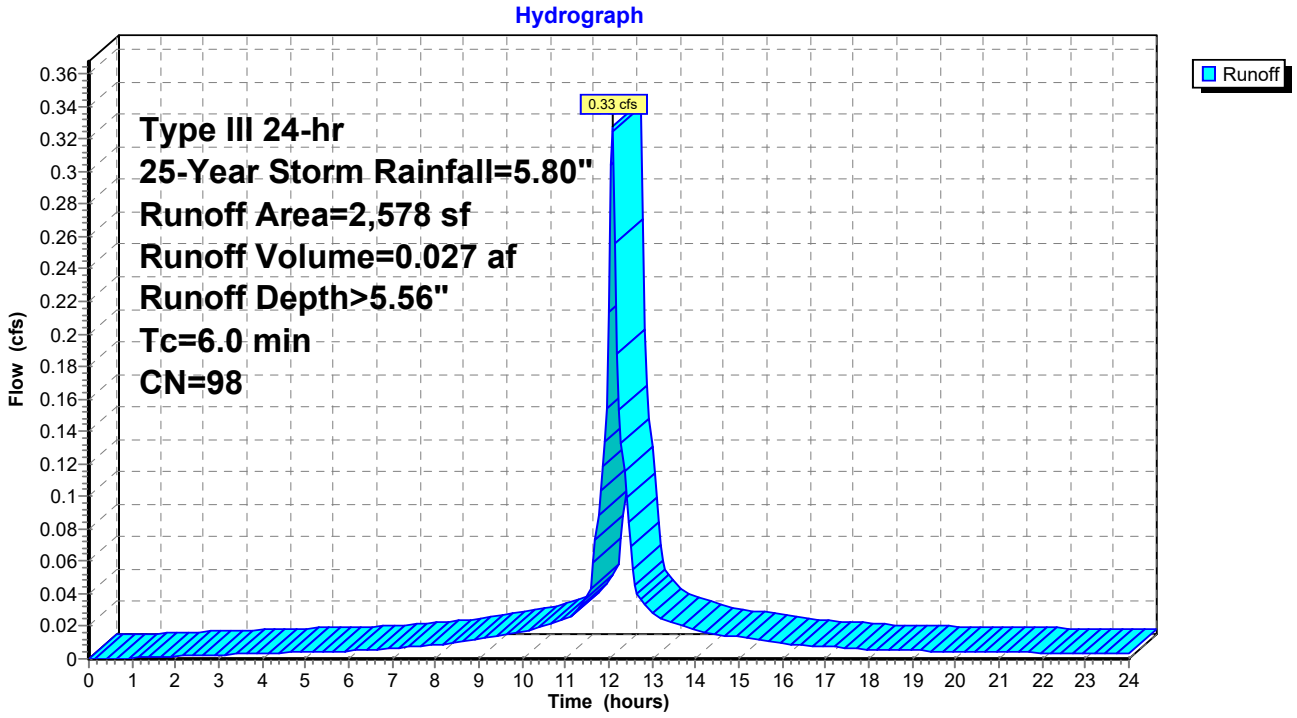
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,578	98	Roof
	2,578		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 8S: Building 15



Summary for Subcatchment 9S: Building 2 North

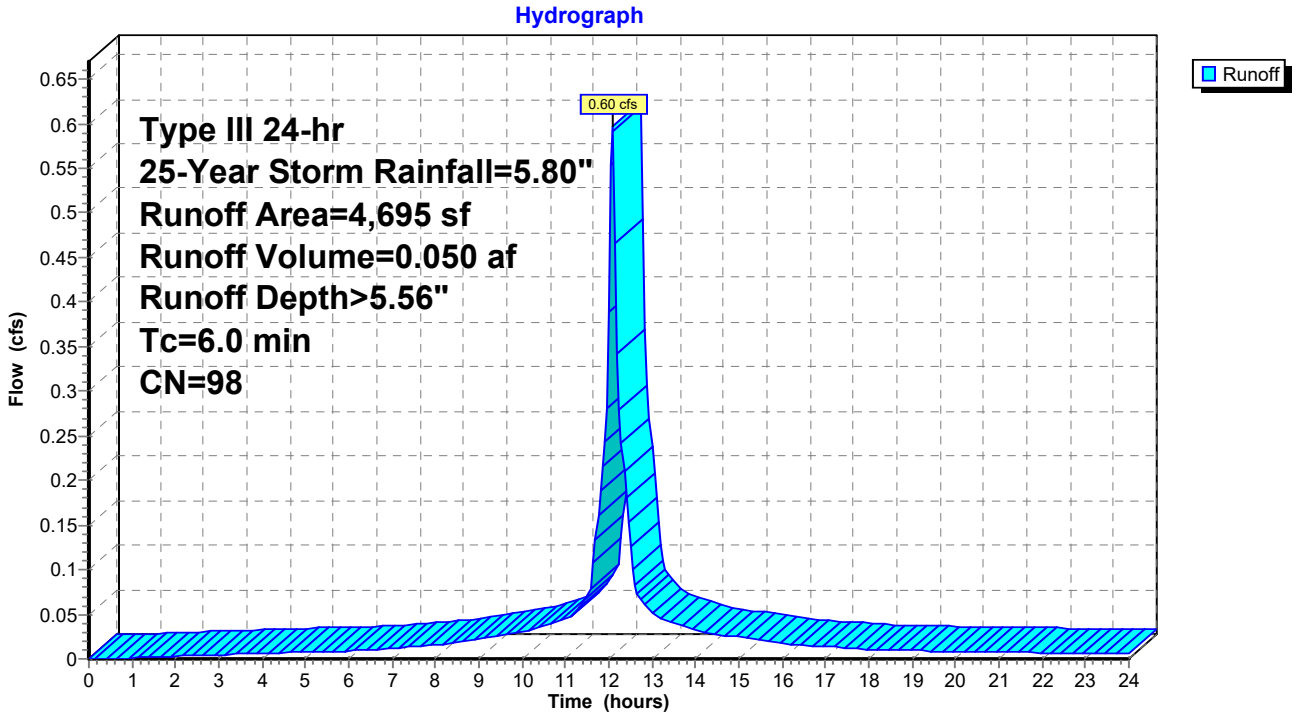
Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 5.56"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	4,695	98	Roof
	4,695		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: Building 2 North



Summary for Subcatchment 10S: Building 3 North

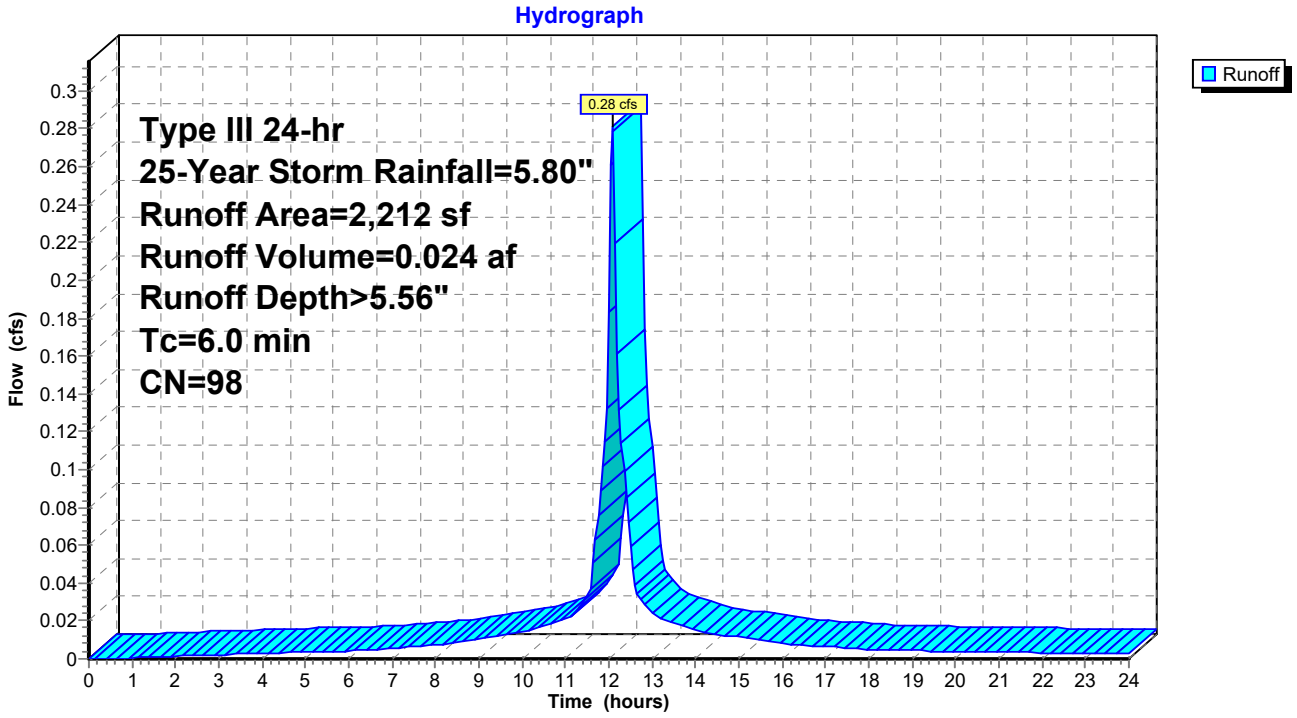
Runoff = 0.28 cfs @ 12.09 hrs, Volume= 0.024 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,212	98	Roof
	2,212		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 10S: Building 3 North



Summary for Subcatchment 11S: Building 2 South

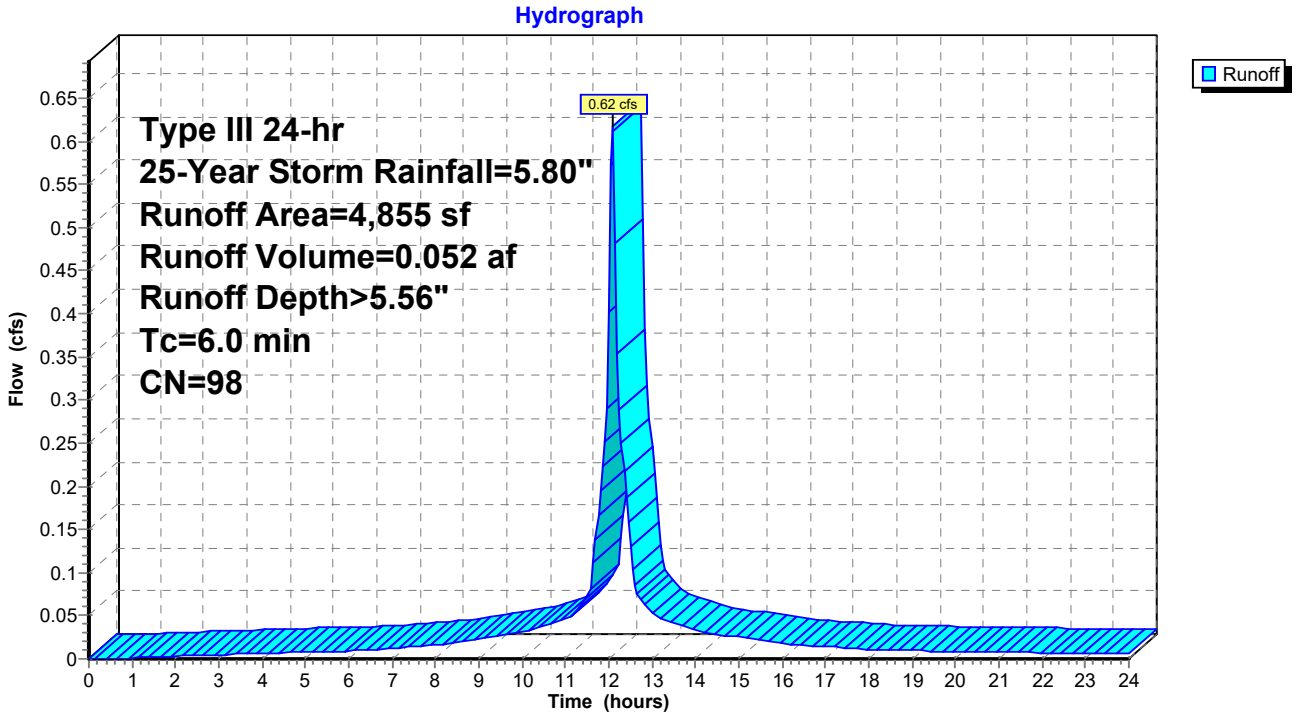
Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.052 af, Depth> 5.56"
Routed to Pond 1P : DMH 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	4,855	98	Roof
	4,855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 11S: Building 2 South



Summary for Subcatchment 12S: Building 3 South

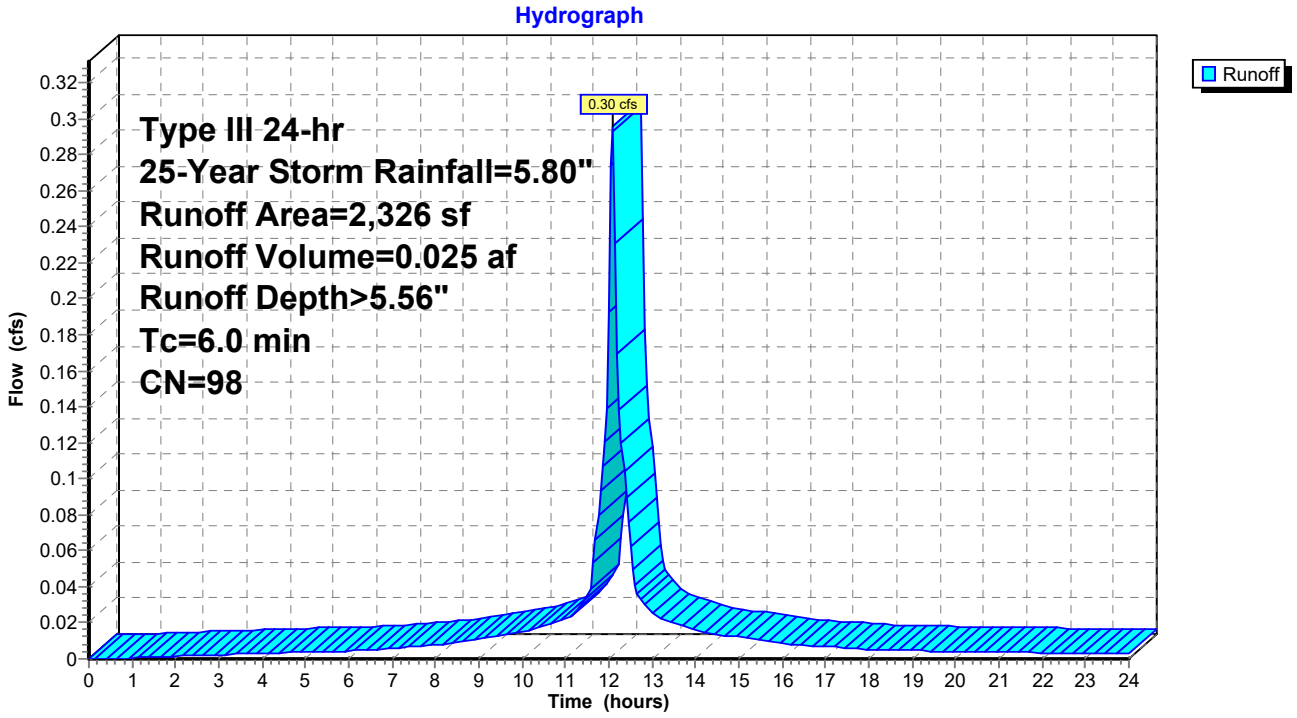
Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,326	98	Roof
	2,326		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 12S: Building 3 South



Summary for Subcatchment 13S: Building 6

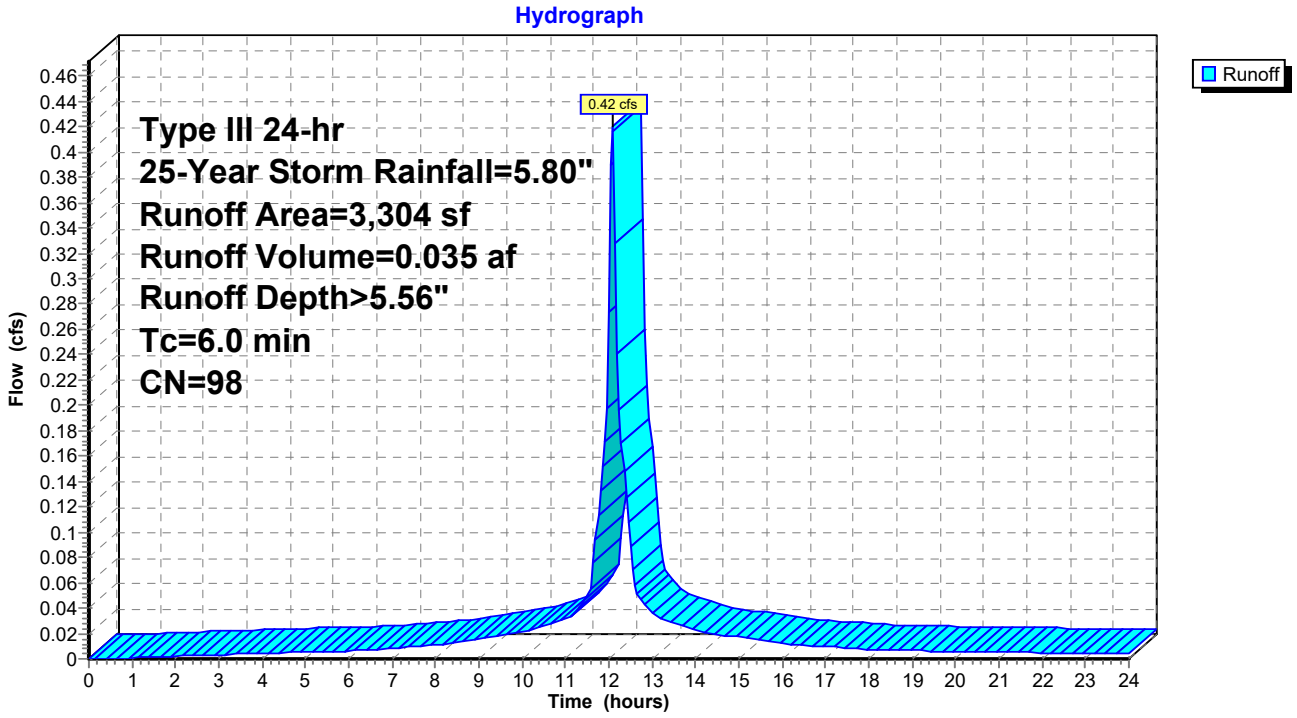
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af, Depth> 5.56"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	3,304	98	Roof
	3,304		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 13S: Building 6



Summary for Subcatchment 14S: Building 6B North

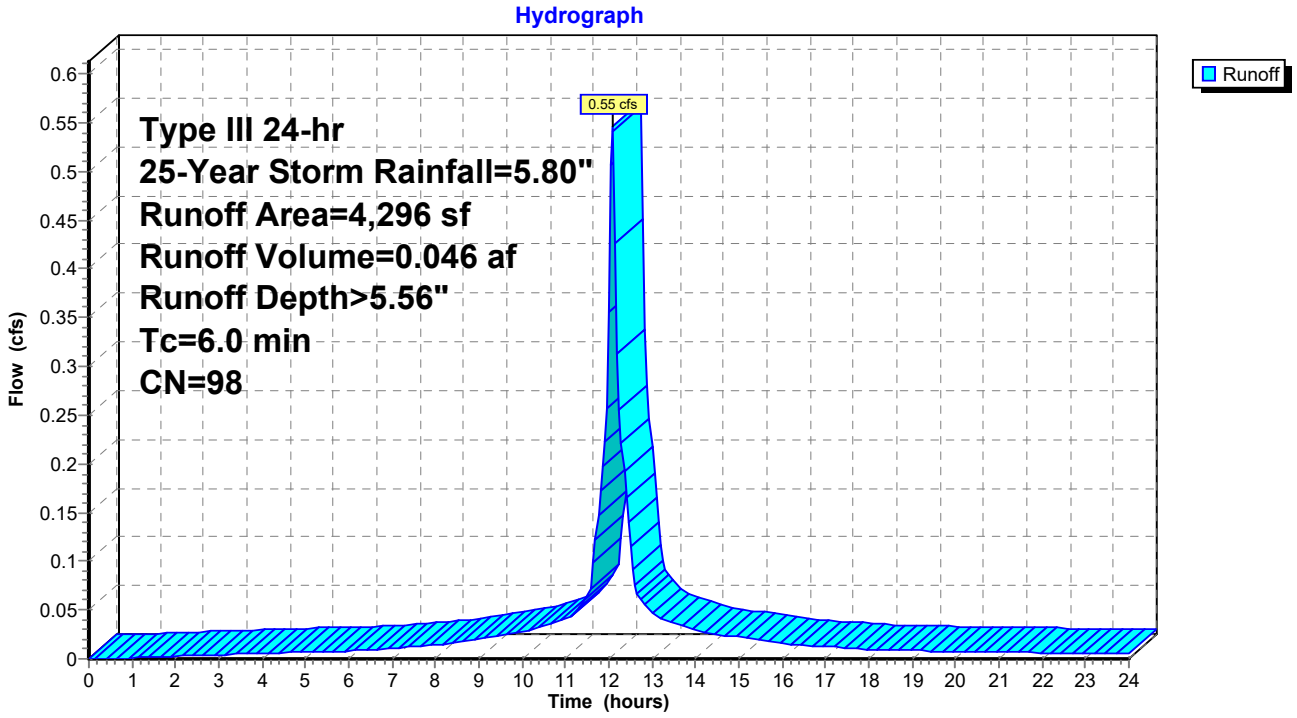
Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.046 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	4,296	98	Roof
	4,296		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 14S: Building 6B North



Summary for Subcatchment 15S: Building 6B South

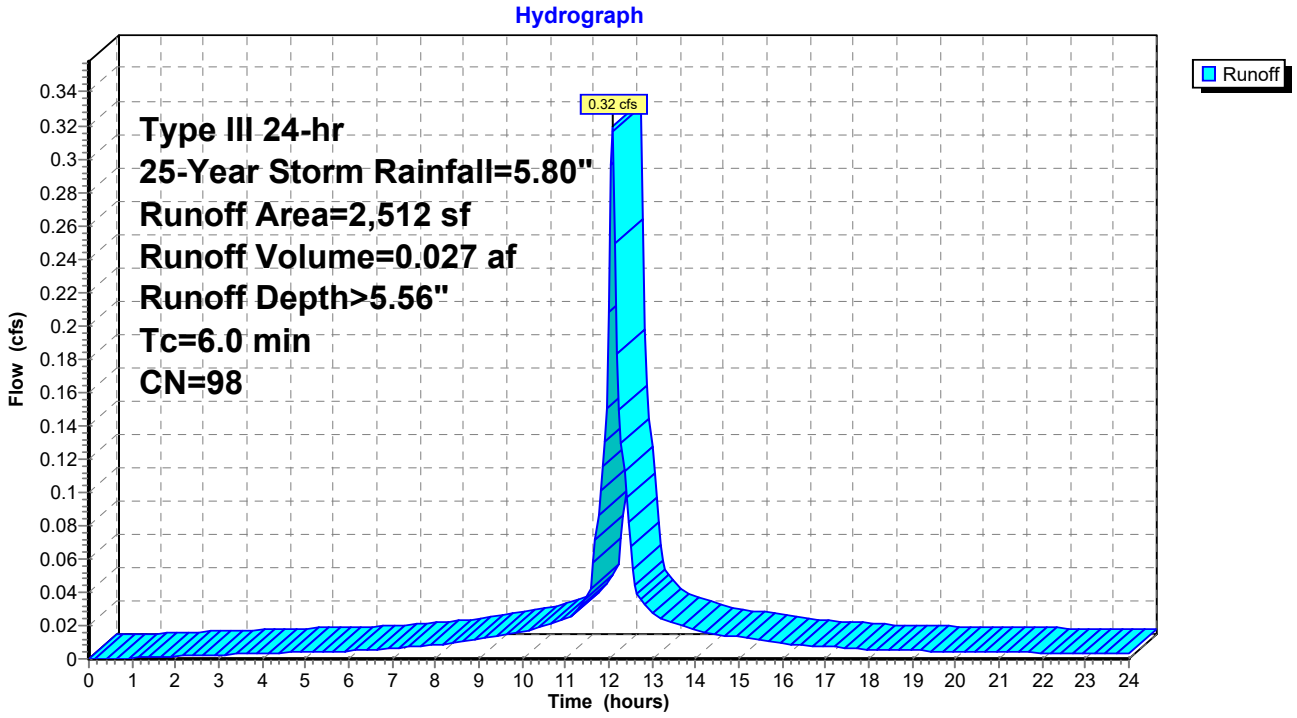
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,512	98	Roof
	2,512		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: Building 6B South



Summary for Subcatchment 16S: Plaza between Blocks 1 & 2

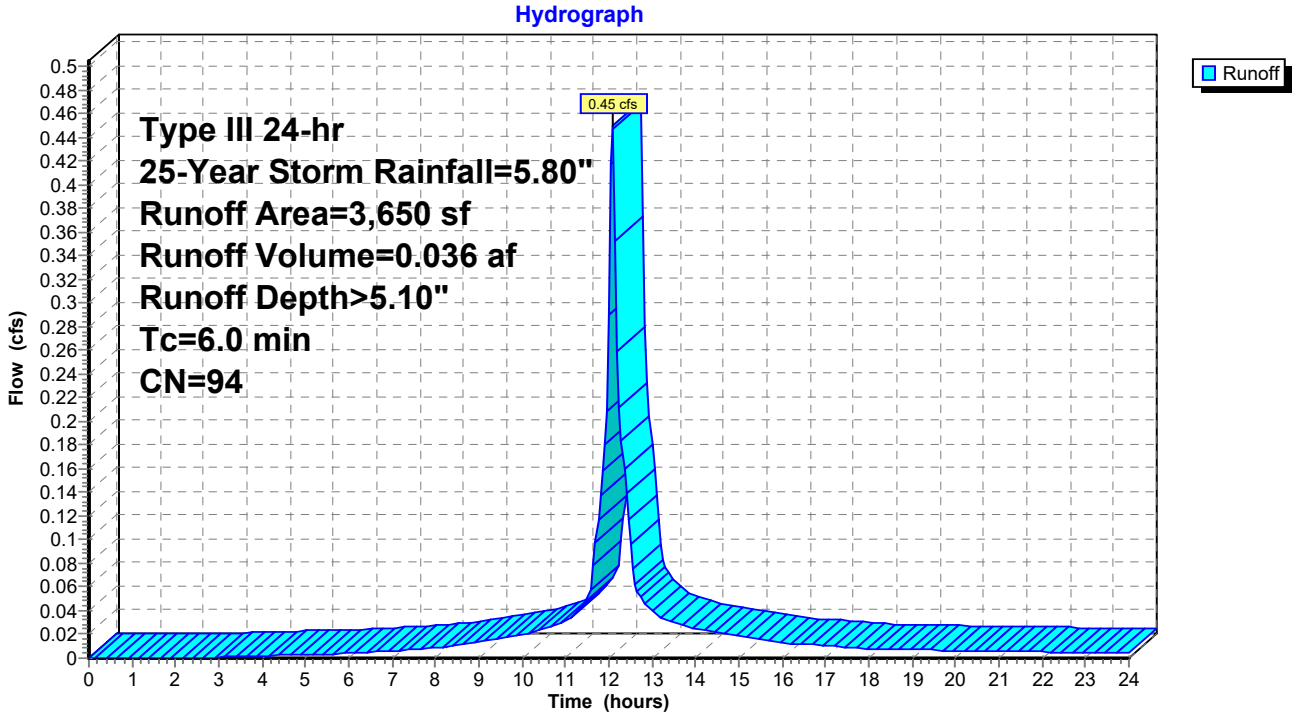
Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.036 af, Depth> 5.10"
Routed to Pond 2P : DMH 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,768	98	Impervious
	882	80	>75% Grass cover, Good, HSG D
	3,650	94	Weighted Average
	882		24.16% Pervious Area
	2,768		75.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: Plaza between Blocks 1 & 2



Summary for Subcatchment 17S: Shared Street - Trench Drain

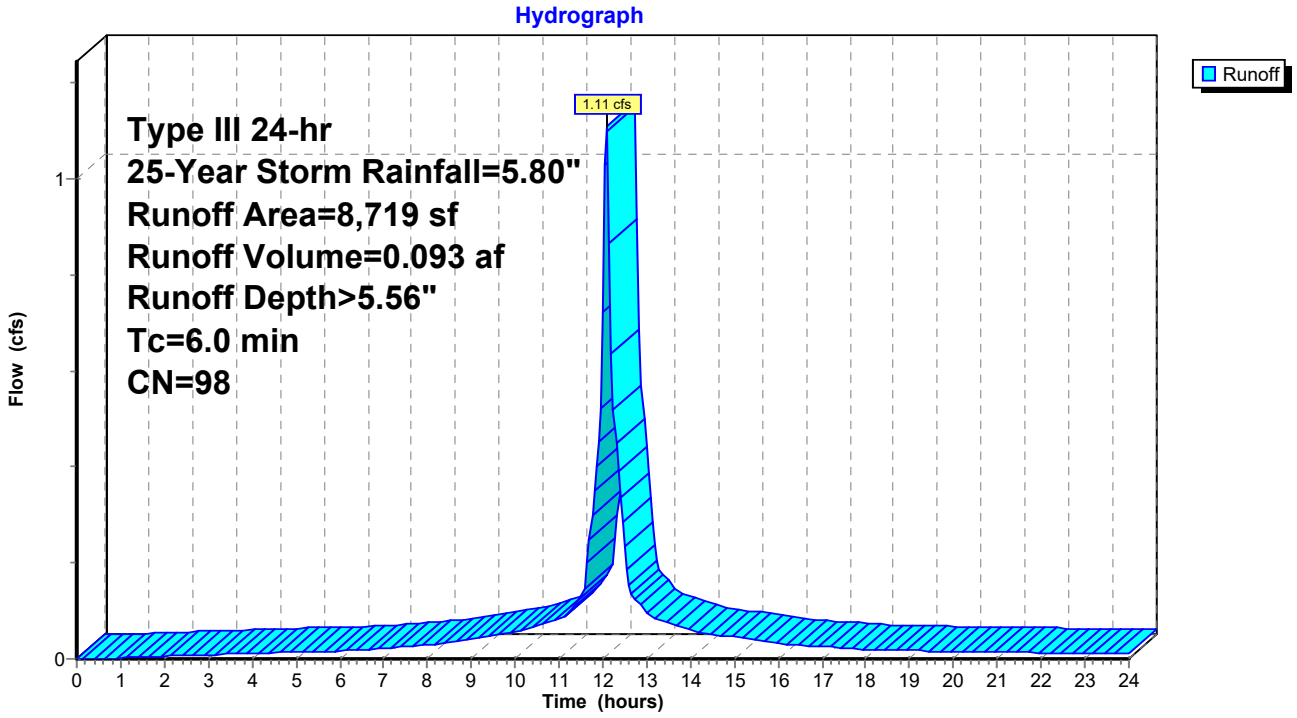
Runoff = 1.11 cfs @ 12.09 hrs, Volume= 0.093 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	8,719	98	Impervious
	8,719		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 17S: Shared Street - Trench Drain



Summary for Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St

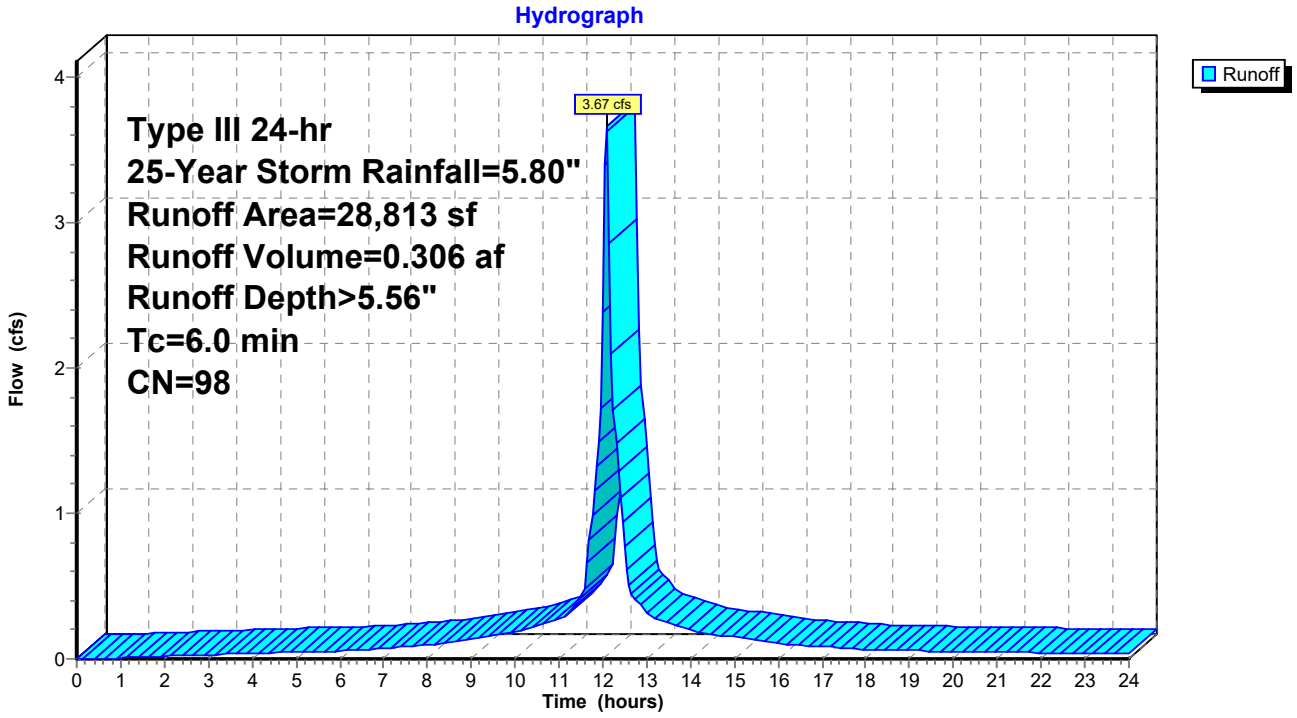
Runoff = 3.67 cfs @ 12.09 hrs, Volume= 0.306 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	28,813	98	Impervious
	28,813		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 18S: Plaza between Blocks 2 & 4 and Upper Thames St



Summary for Subcatchment 19S: Block 4 Building

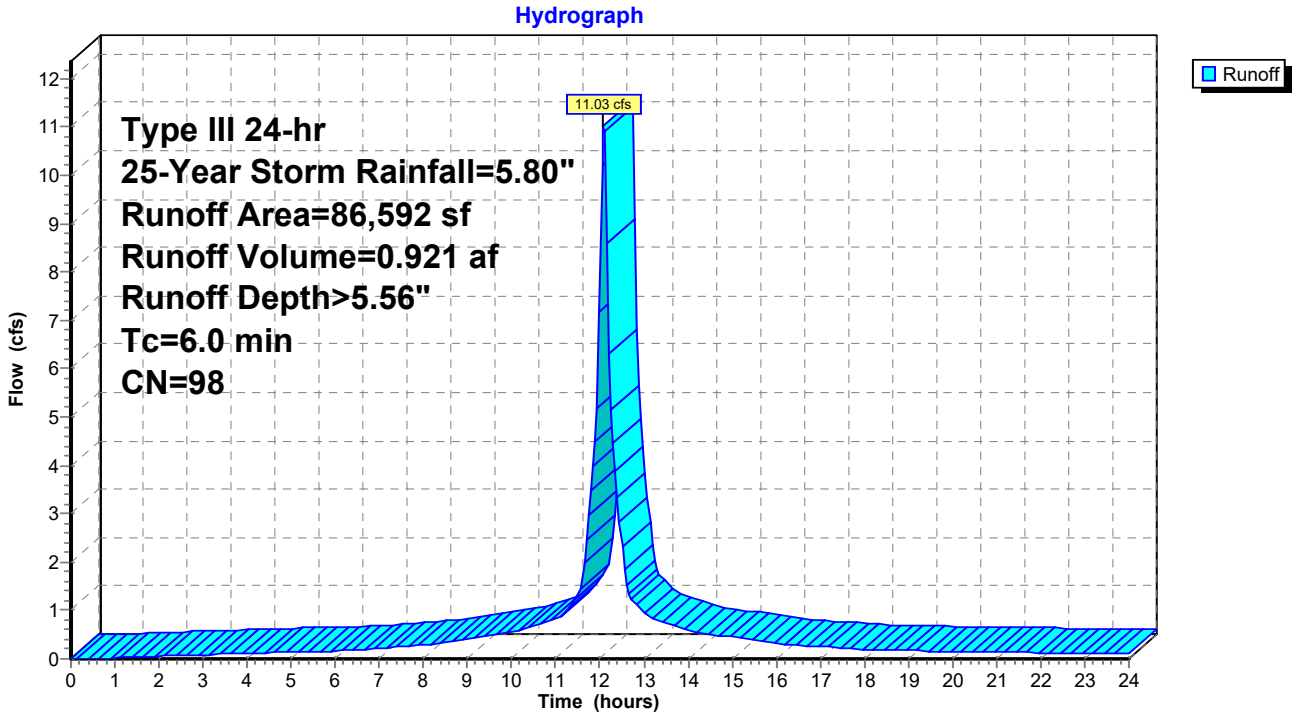
Runoff = 11.03 cfs @ 12.09 hrs, Volume= 0.921 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	86,592	98	Roof
	86,592		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: Block 4 Building



Summary for Subcatchment 20S: Direct to R-Tank

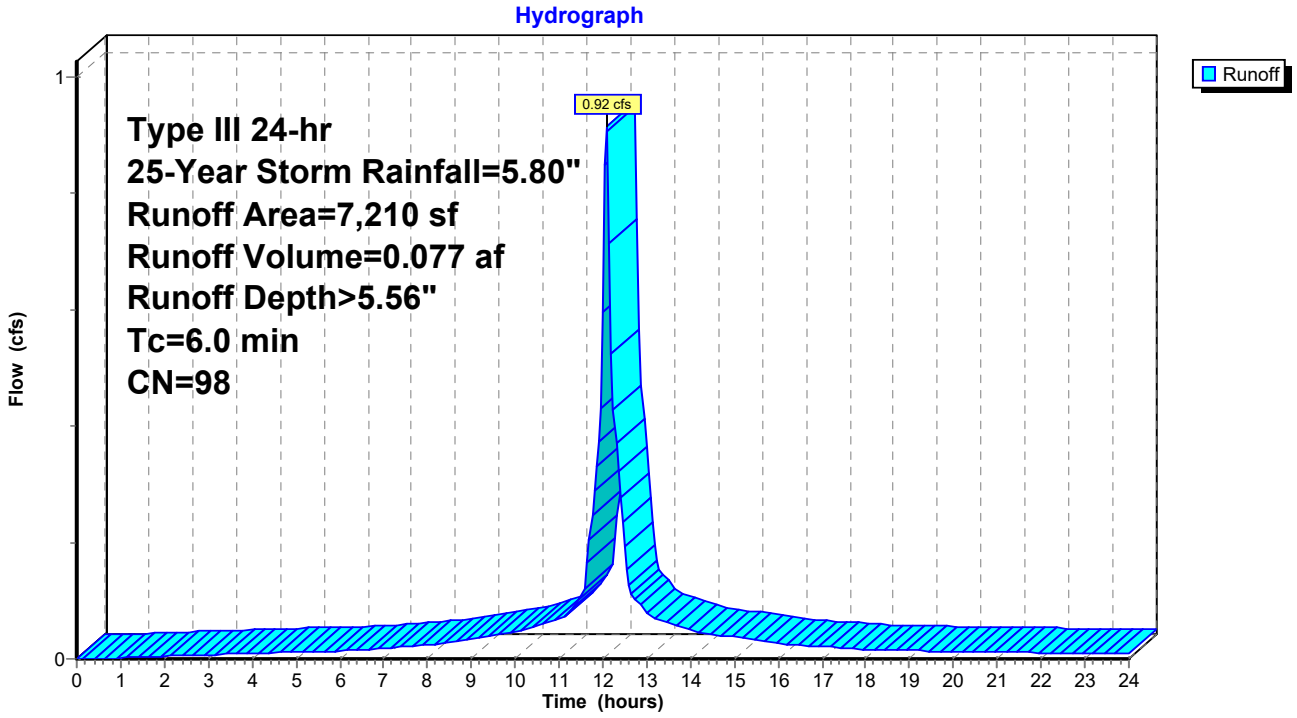
Runoff = 0.92 cfs @ 12.09 hrs, Volume= 0.077 af, Depth> 5.56"
Routed to Pond 8P : R-Tank 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	7,210	98	Impervious
	7,210		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 20S: Direct to R-Tank



Summary for Subcatchment 21S: Plaza along Building 4A at Fore Street

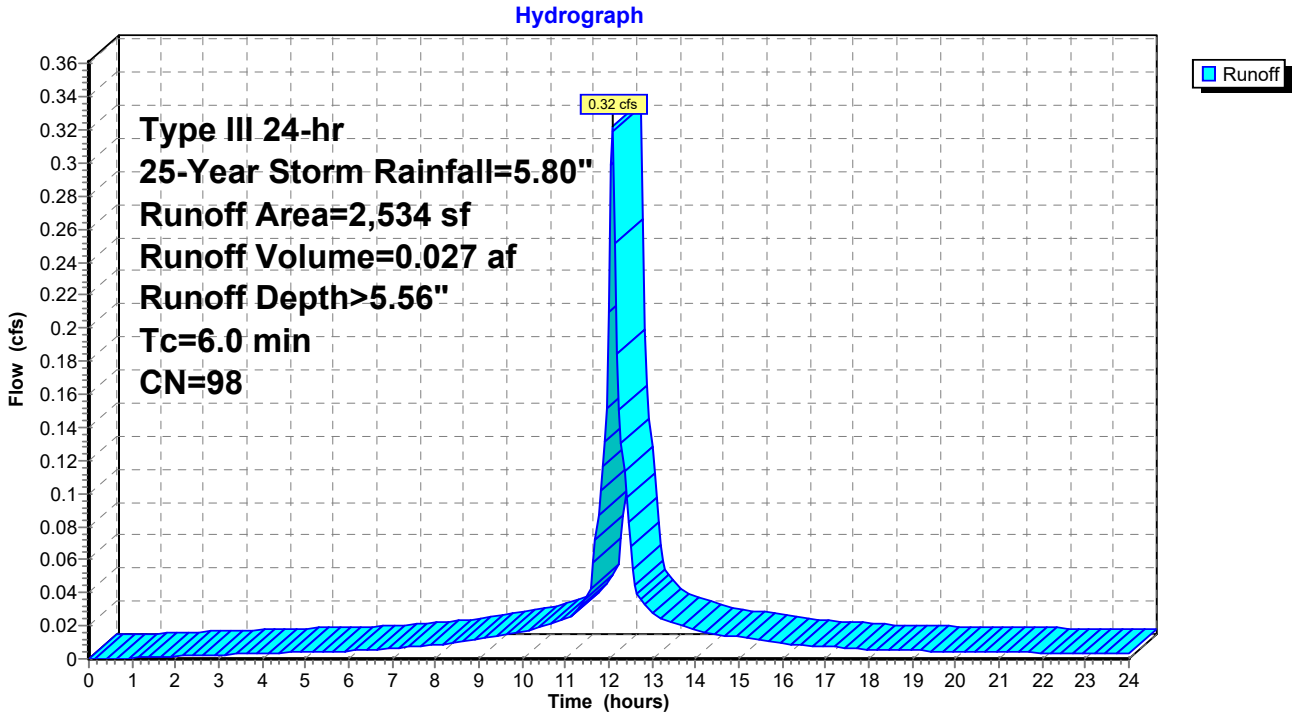
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.027 af, Depth> 5.56"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	2,534	98	Impervious
	2,534		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: Plaza along Building 4A at Fore Street



Summary for Subcatchment 22S: Block 6 Building

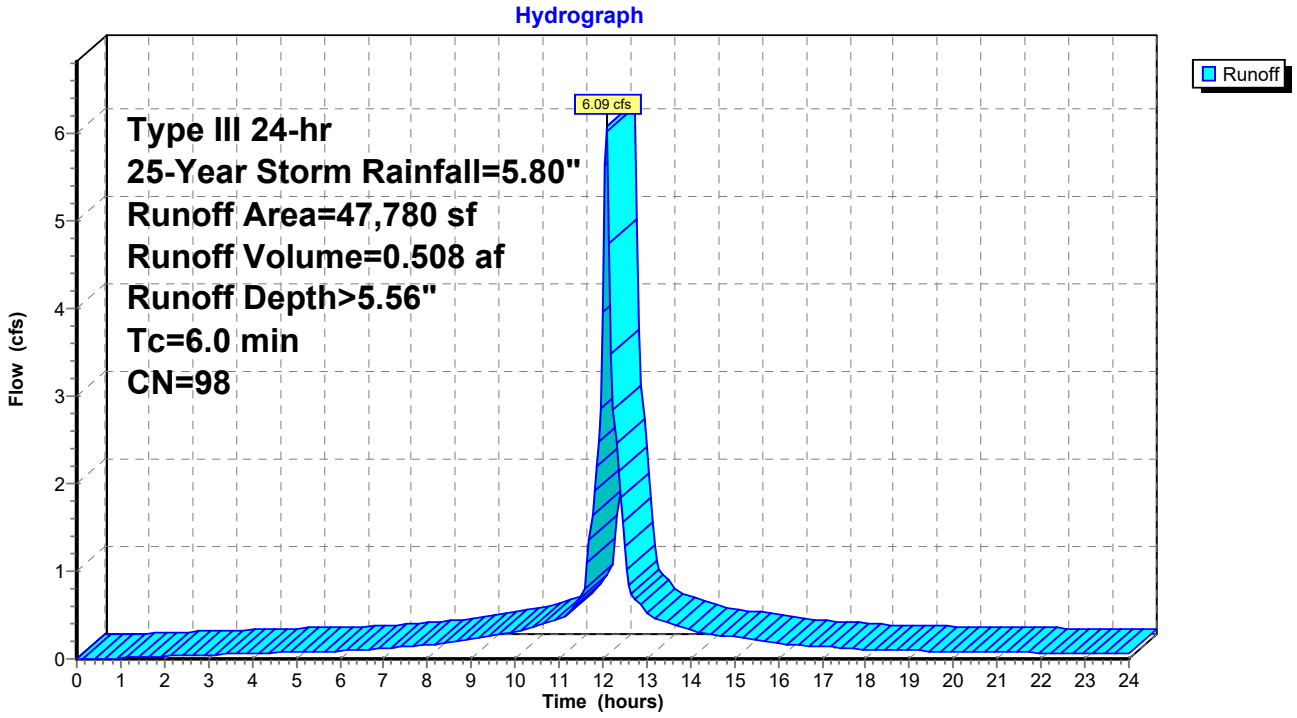
Runoff = 6.09 cfs @ 12.09 hrs, Volume= 0.508 af, Depth> 5.56"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	47,780	98	Roof
	47,780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 22S: Block 6 Building



Summary for Subcatchment 23S: Block 5 Building to R-Tank

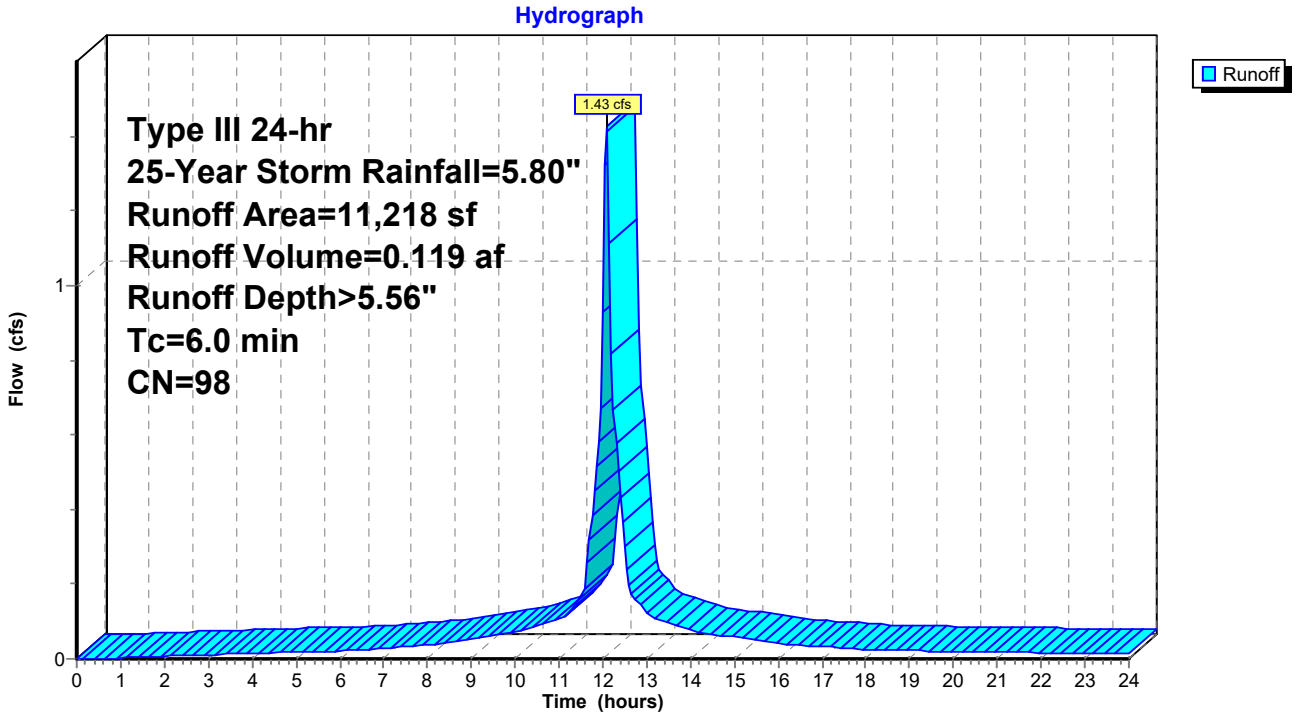
Runoff = 1.43 cfs @ 12.09 hrs, Volume= 0.119 af, Depth> 5.56"
Routed to Pond 6P : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	11,218	98	Impervious
	11,218		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 23S: Block 5 Building to R-Tank



Summary for Subcatchment 24S: Block 5 Building

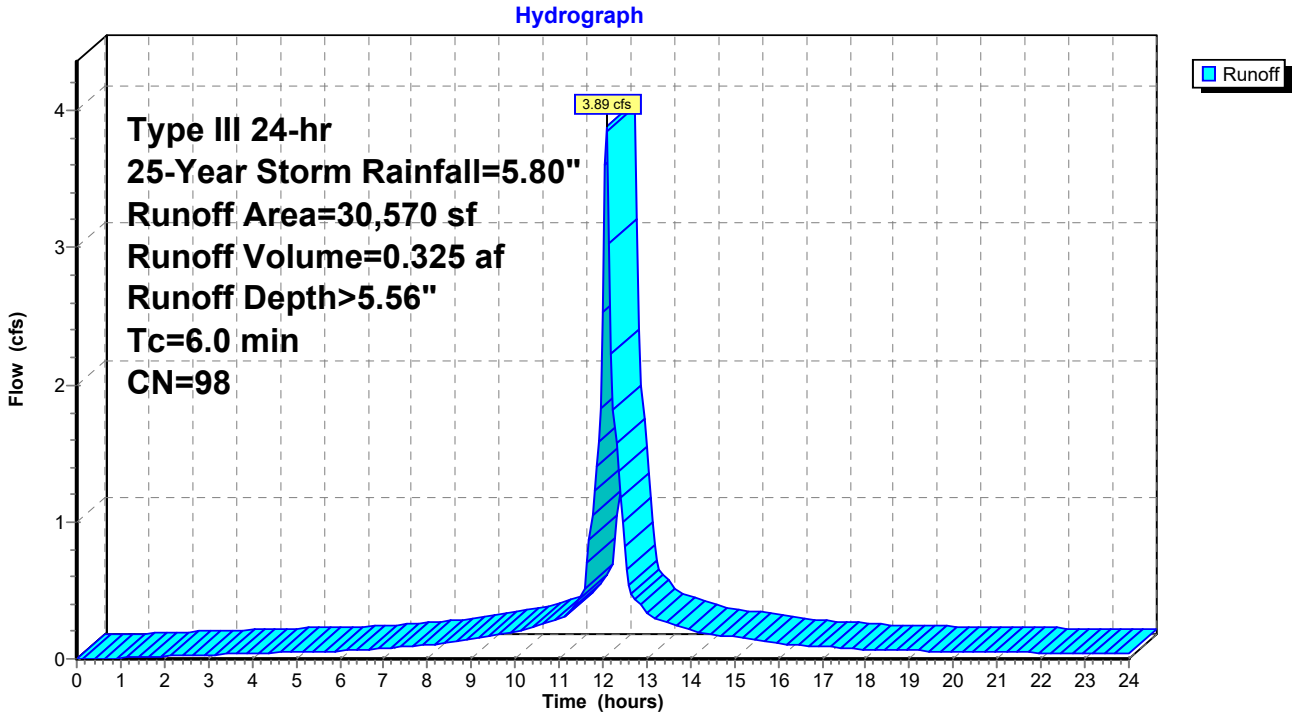
Runoff = 3.89 cfs @ 12.09 hrs, Volume= 0.325 af, Depth> 5.56"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	30,570	98	Impervious
	30,570		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 24S: Block 5 Building



Summary for Subcatchment 25S: Southern Plaza

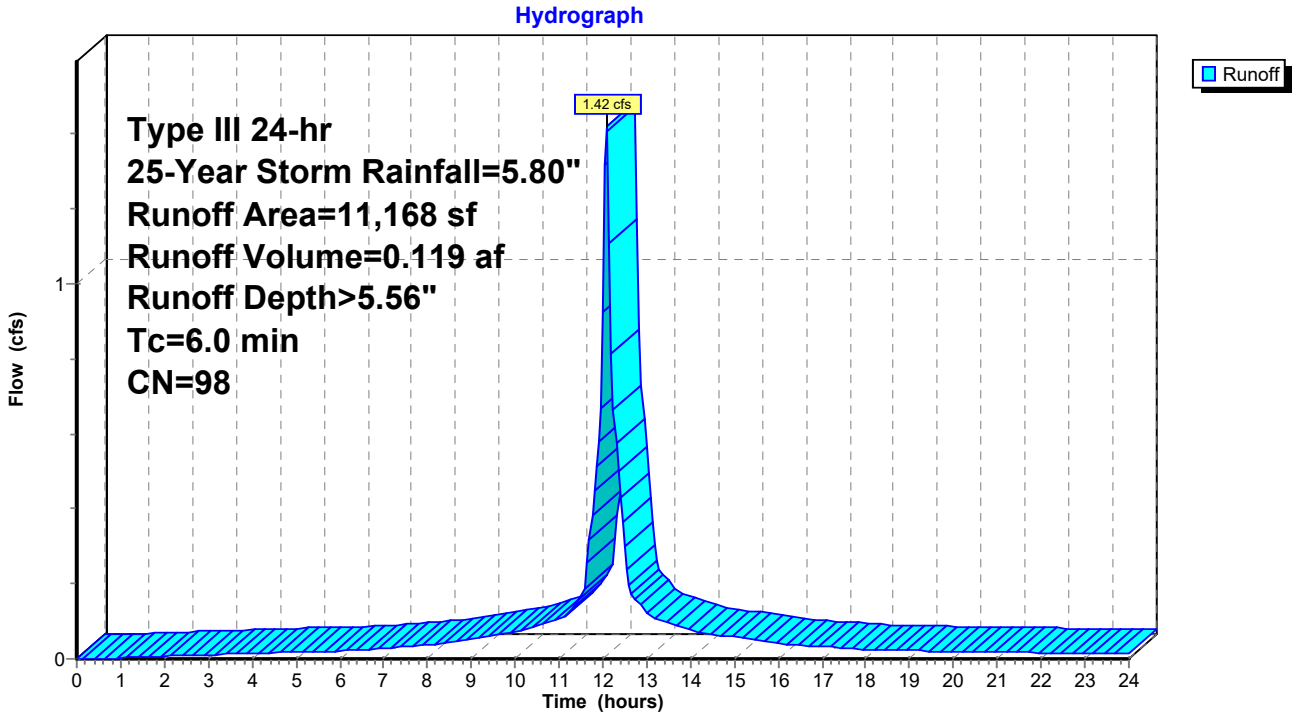
Runoff = 1.42 cfs @ 12.09 hrs, Volume= 0.119 af, Depth> 5.56"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	11,168	98	Impervious
	11,168		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 25S: Southern Plaza



Summary for Subcatchment 26S: Plaza along Townhouse at Fore Street

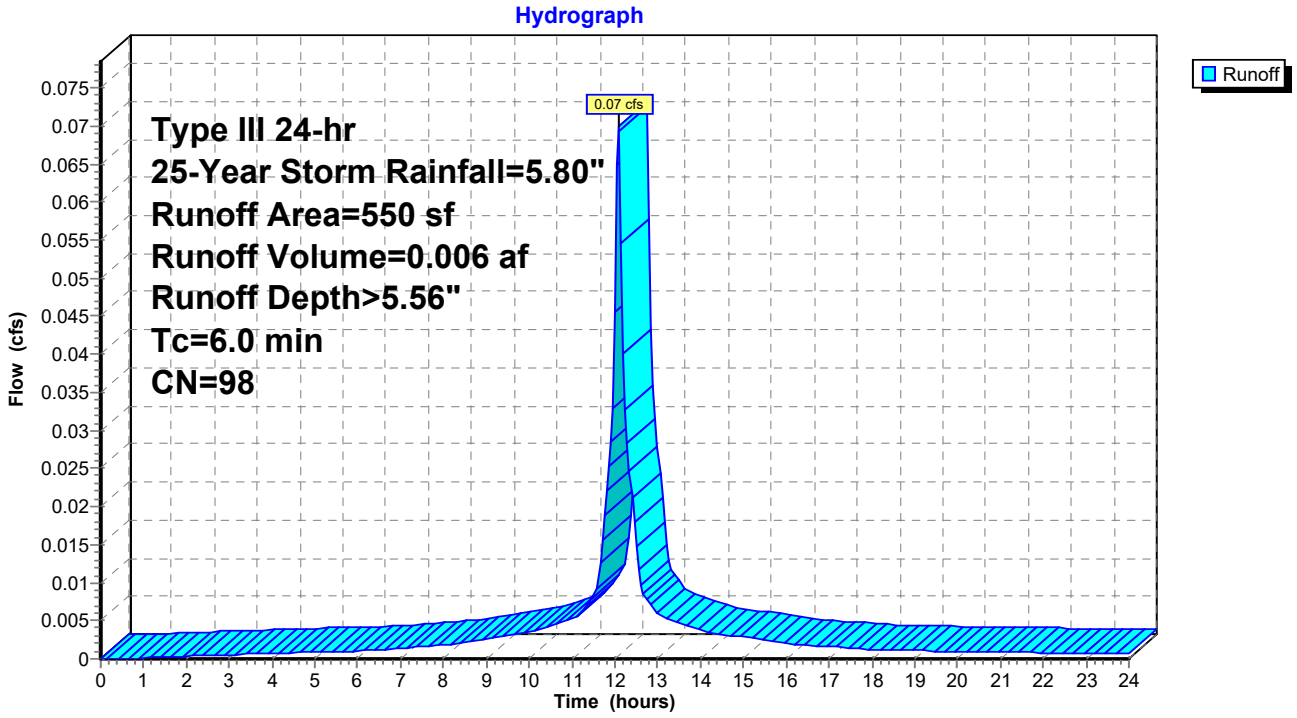
Runoff = 0.07 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 5.56"
Routed to Link 3L : Fore Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	550	98	Impervious
	550		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 26S: Plaza along Townhouse at Fore Street



Summary for Subcatchment 27S: Drainage from off-site residential

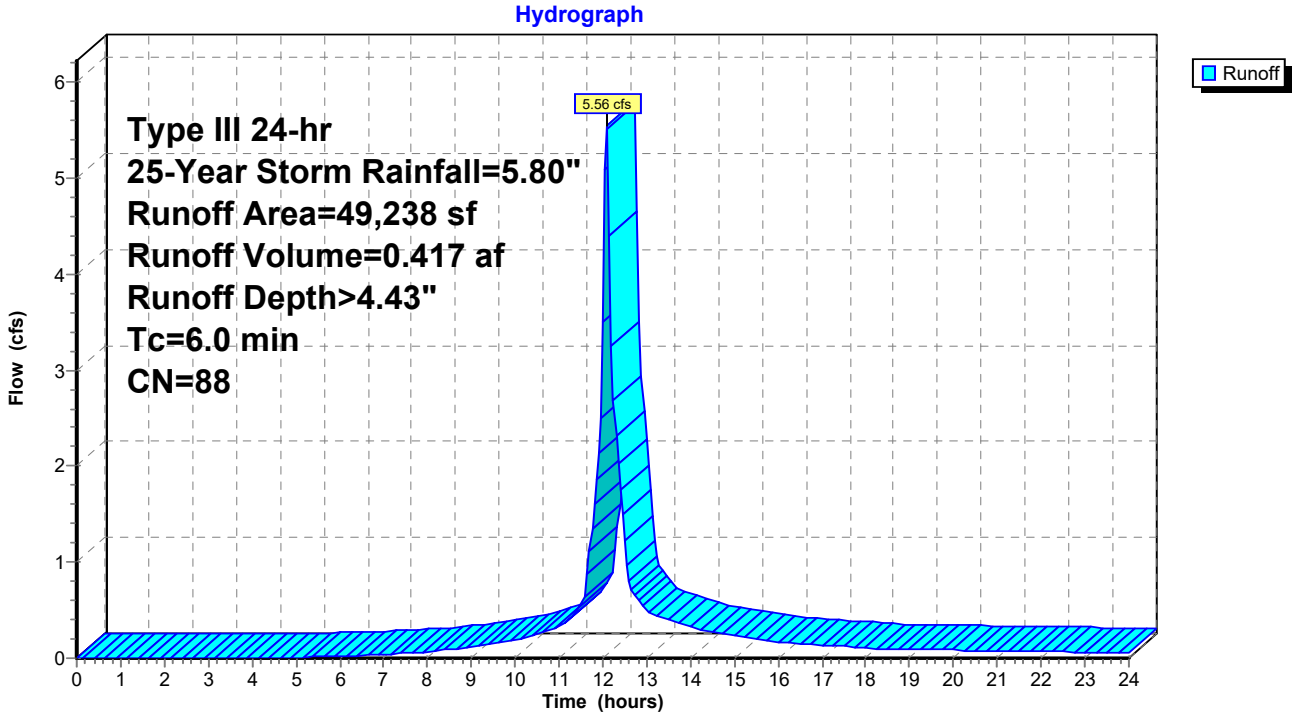
Runoff = 5.56 cfs @ 12.09 hrs, Volume= 0.417 af, Depth> 4.43"
Routed to Pond 13P : DMH-13 (Outfall #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	21,588	98	Impervious
	27,650	80	>75% Grass cover, Good, HSG D
	49,238	88	Weighted Average
	27,650		56.16% Pervious Area
	21,588		43.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 27S: Drainage from off-site residential



Summary for Subcatchment 28S: Waterfront

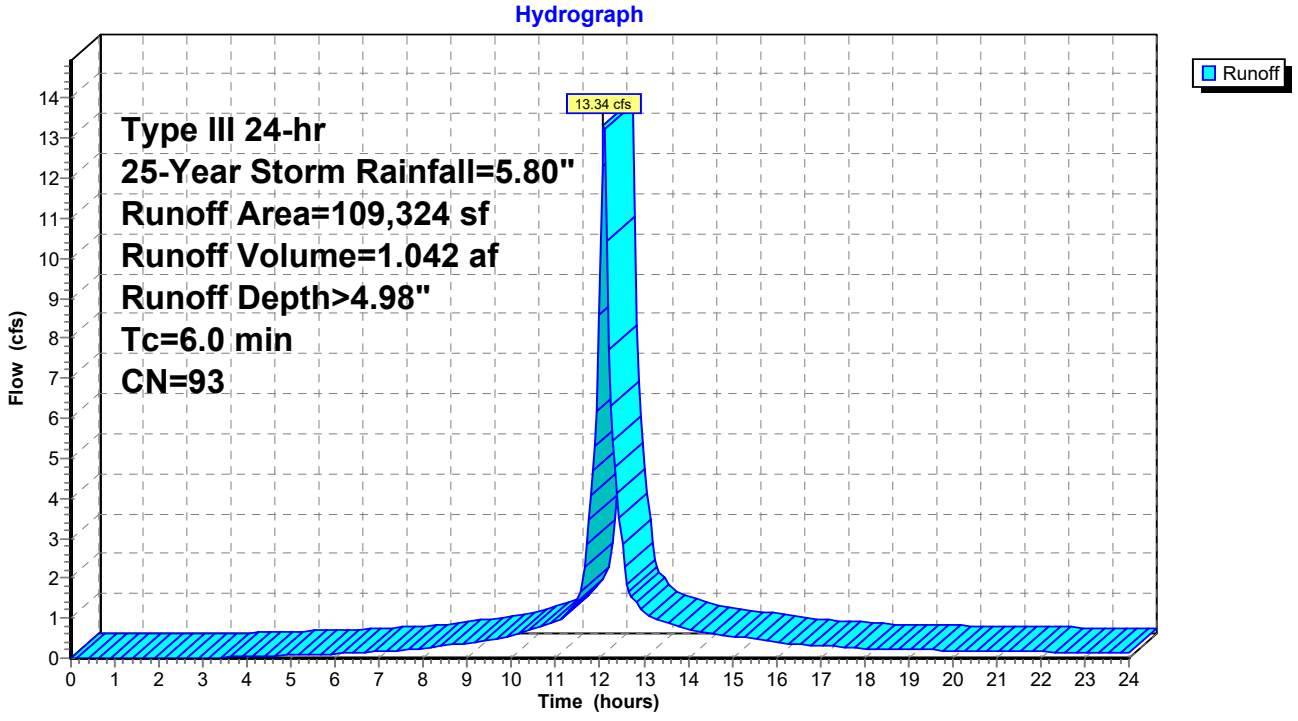
Runoff = 13.34 cfs @ 12.09 hrs, Volume= 1.042 af, Depth> 4.98"
Routed to Link 2L : Fore River

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	78,916	98	Impervious
	30,408	80	>75% Grass cover, Good, HSG D
	109,324	93	Weighted Average
	30,408		27.81% Pervious Area
	78,916		72.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 28S: Waterfront



Summary for Subcatchment 29S: Block 6 Building

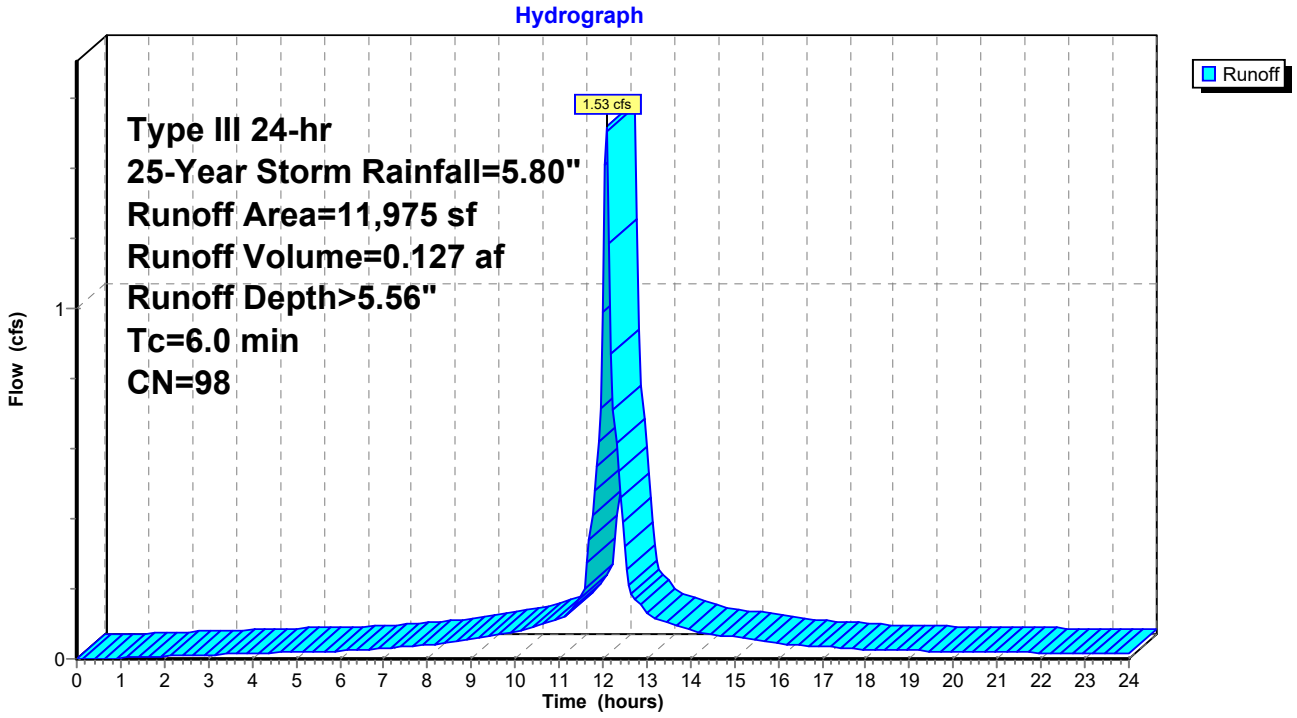
Runoff = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af, Depth> 5.56"
Routed to Pond 24P : Filterra 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 29S: Block 6 Building



Summary for Subcatchment 30S: Block 6 Building

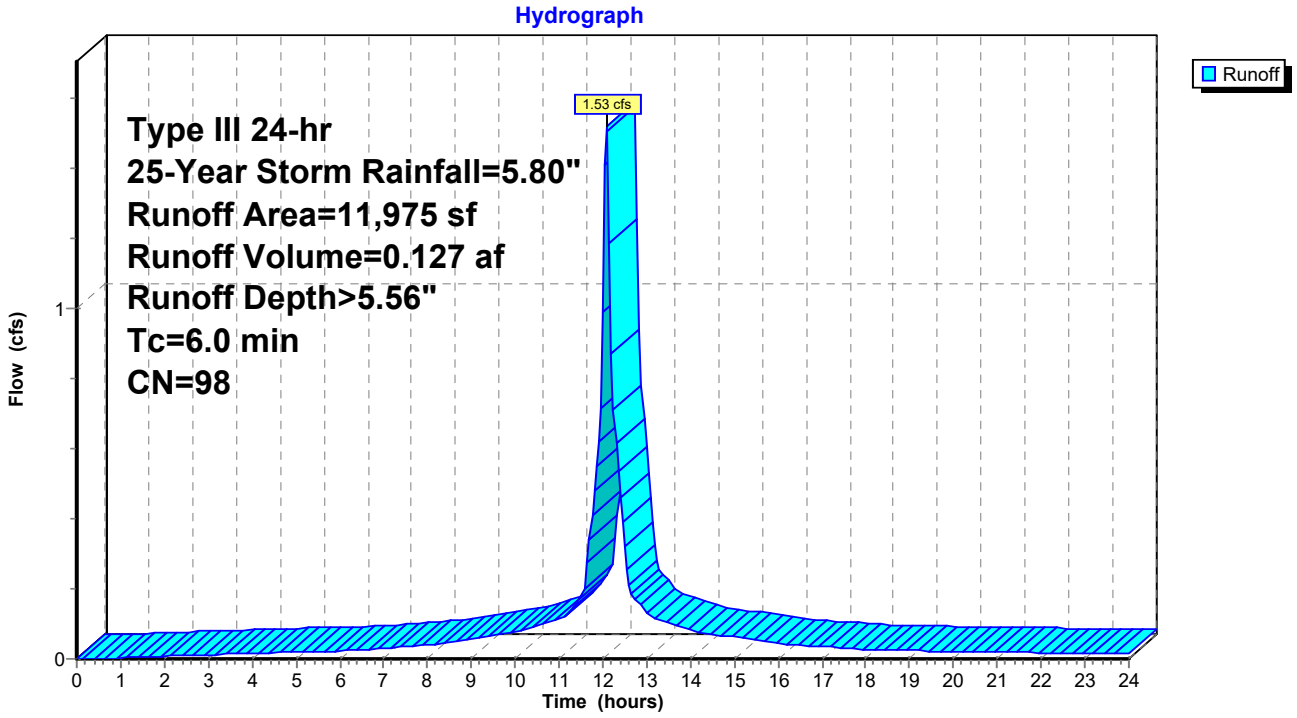
Runoff = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af, Depth> 5.56"
Routed to Pond 28P : Filterra 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	11,975	98	Roof
	11,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 30S: Block 6 Building



Summary for Pond 1P: DMH 1

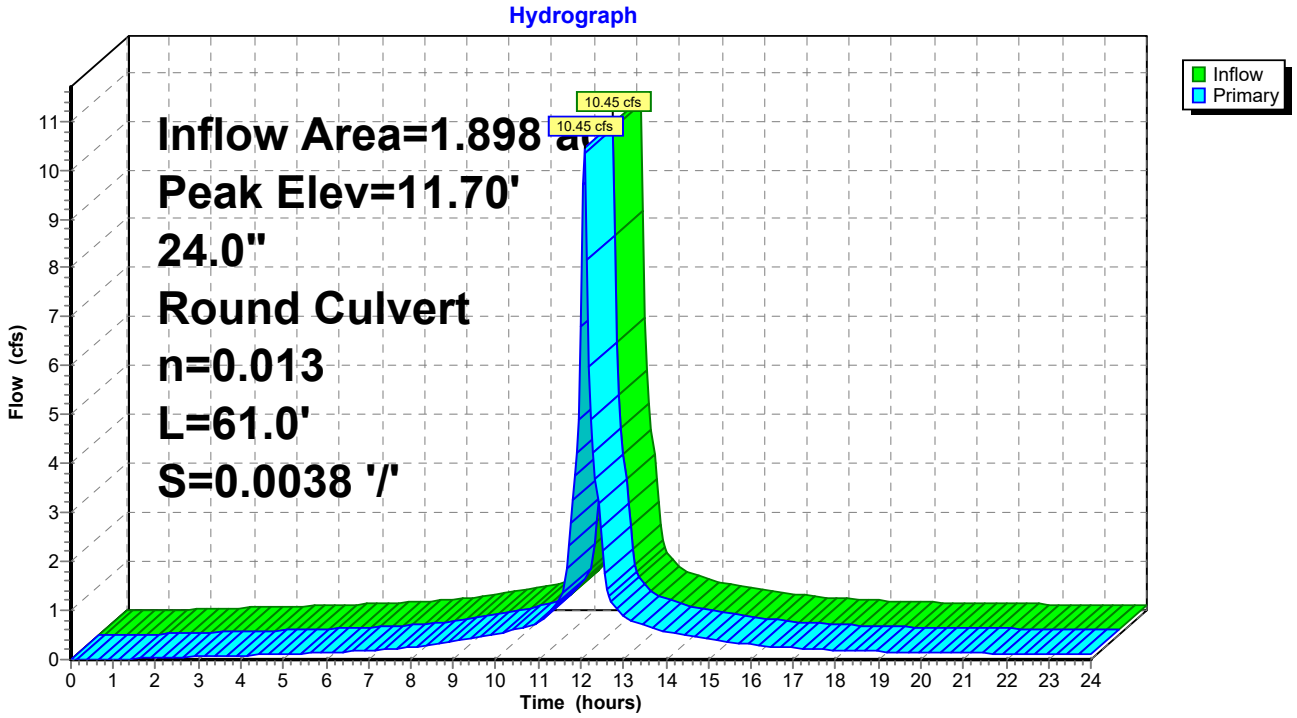
Inflow Area = 1.898 ac, 93.68% Impervious, Inflow Depth > 5.42" for 25-Year Storm event
Inflow = 10.45 cfs @ 12.09 hrs, Volume= 0.858 af
Outflow = 10.45 cfs @ 12.09 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min
Primary = 10.45 cfs @ 12.09 hrs, Volume= 0.858 af
Routed to Pond 2P : DMH 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.70' @ 12.09 hrs
Flood Elev= 14.71'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.77'	**24.0" Round Culvert** L= 61.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.77' / 9.54' S= 0.0038 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=10.17 cfs @ 12.09 hrs HW=11.67' (Free Discharge)
1=Culvert (Barrel Controls 10.17 cfs @ 4.26 fps)

Pond 1P: DMH 1



Summary for Pond 2P: DMH 2

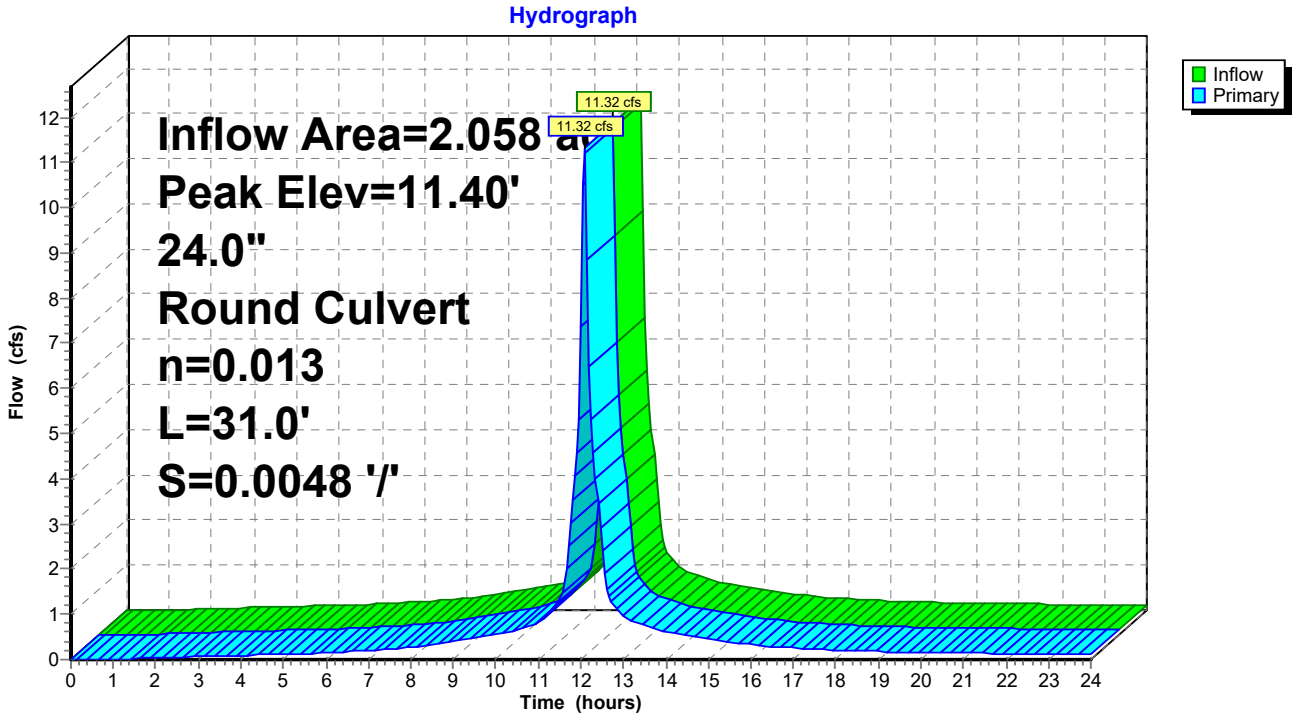
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 5.41" for 25-Year Storm event
Inflow = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af
Outflow = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af, Atten= 0%, Lag= 0.0 min
Primary = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af
Routed to Pond 3P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.40' @ 12.09 hrs
Flood Elev= 14.63'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.50'	**24.0" Round Culvert** L= 31.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.35' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.02 cfs @ 12.09 hrs HW=11.37' (Free Discharge)
1=Culvert (Barrel Controls 11.02 cfs @ 4.69 fps)

Pond 2P: DMH 2



Summary for Pond 3P: Storm Structure

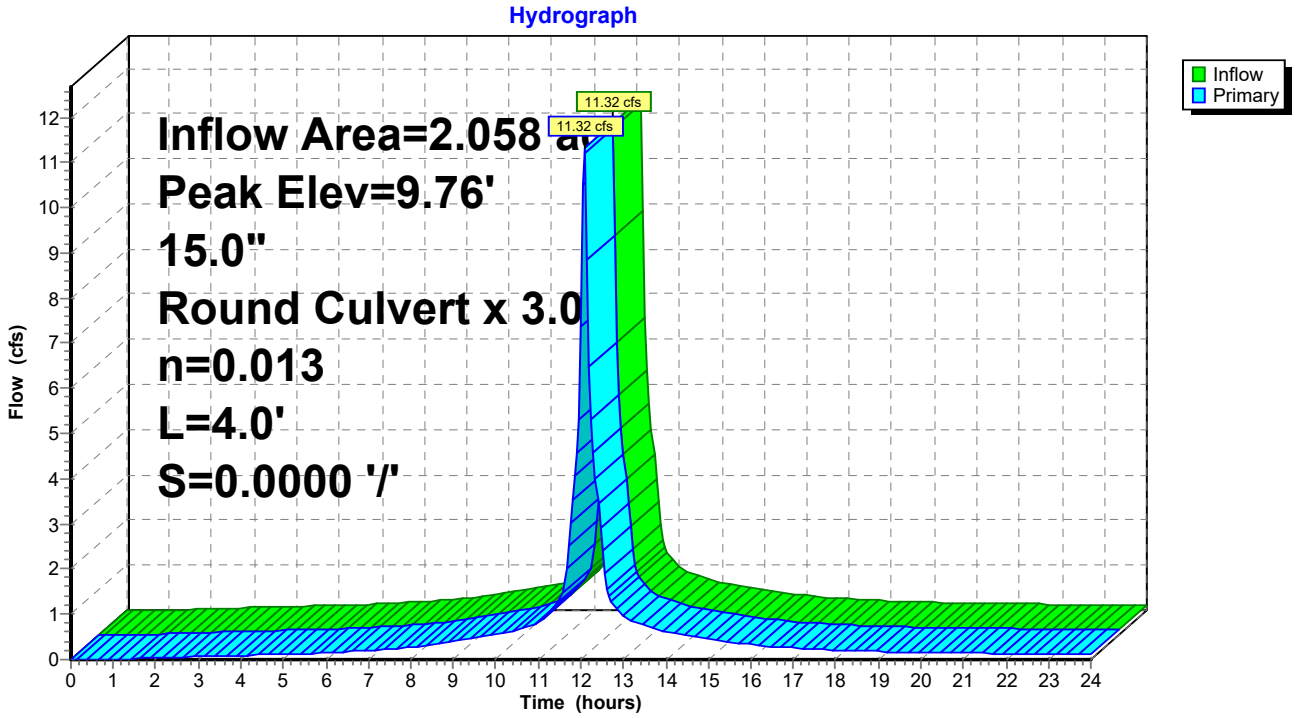
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 5.41" for 25-Year Storm event
Inflow = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af
Outflow = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af, Atten= 0%, Lag= 0.0 min
Primary = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af
Routed to Pond 4P : R-Tank 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.76' @ 12.09 hrs
Flood Elev= 14.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.35'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.35' / 8.35' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=11.02 cfs @ 12.09 hrs HW=9.74' (Free Discharge)
1=Culvert (Barrel Controls 11.02 cfs @ 3.37 fps)

Pond 3P: Storm Structure



Summary for Pond 4P: R-Tank 1

Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 5.41" for 25-Year Storm event
Inflow = 11.32 cfs @ 12.09 hrs, Volume= 0.928 af
Outflow = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af, Atten= 12%, Lag= 2.9 min
Primary = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af
Routed to Pond 10P : DMH 4

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.27' @ 12.13 hrs Surf.Area= 1,162 sf Storage= 2,513 cf
Flood Elev= 12.00' Surf.Area= 1,162 sf Storage= 3,266 cf

Plug-Flow detention time= 16.3 min calculated for 0.920 af (99% of inflow)
Center-of-Mass det. time= 10.6 min (763.5 - 753.0)

Volume	Invert	Avail.Storage	Storage Description
#1	6.50'	892 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 4,729 cf Overall - 2,499 cf Embedded = 2,231 cf x 40.0% Voids
#2	6.75'	2,374 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 2,499 cf Overall x 95.0% Voids
		3,266 cf	Total Available Storage

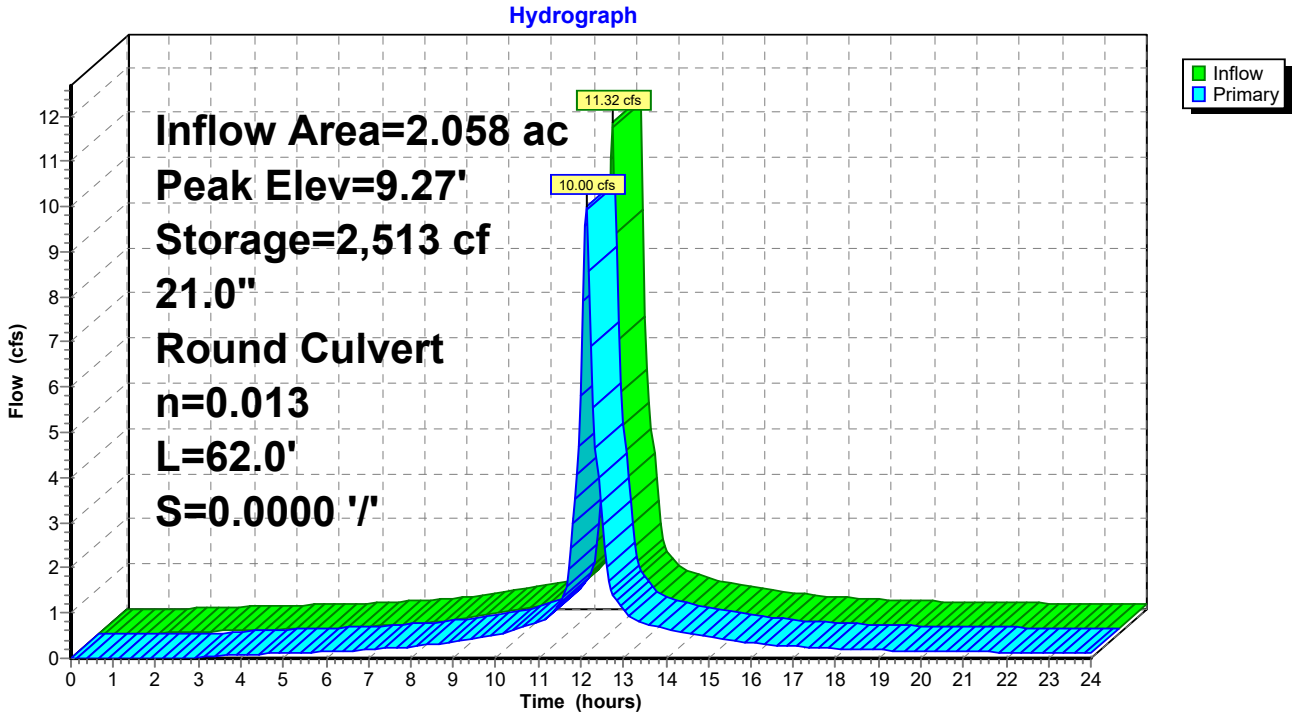
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.50	1,162	0	0
10.57	1,162	4,729	4,729

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
6.75	886	0	0
9.57	886	2,499	2,499

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**21.0" Round Culvert to Filter** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 2.41 sf

Primary OutFlow Max=9.82 cfs @ 12.14 hrs HW=9.23' (Free Discharge)
↑—**1=Culvert to Filter** (Barrel Controls 9.82 cfs @ 4.08 fps)

Pond 4P: R-Tank 1



Summary for Pond 5P: DMH-11

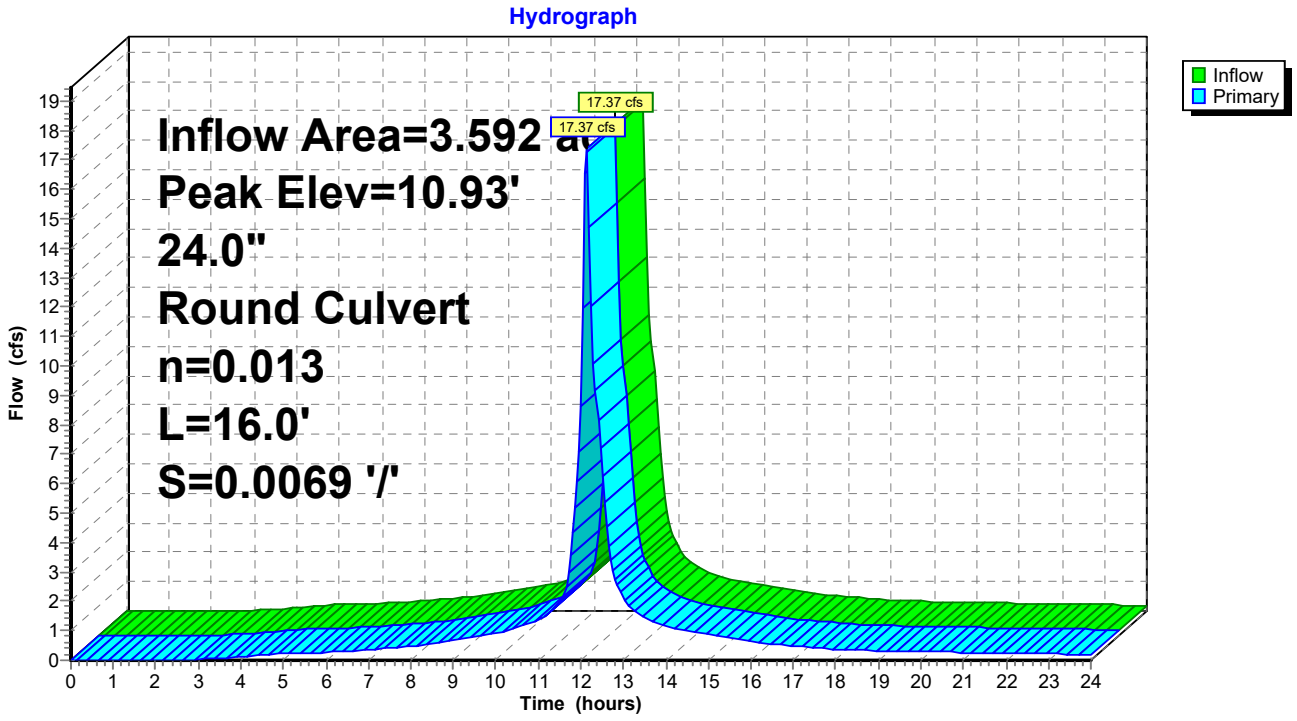
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 5.47" for 25-Year Storm event
Inflow = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af
Outflow = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af, Atten= 0%, Lag= 0.0 min
Primary = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af
Routed to Pond 12P : Jellyfish 2 JFPD0806-7-2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.93' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.71' S= 0.0069 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=17.04 cfs @ 12.14 hrs HW=10.86' (Free Discharge)
1=Culvert (Inlet Controls 17.04 cfs @ 5.43 fps)

Pond 5P: DMH-11



Summary for Pond 6P: CB27

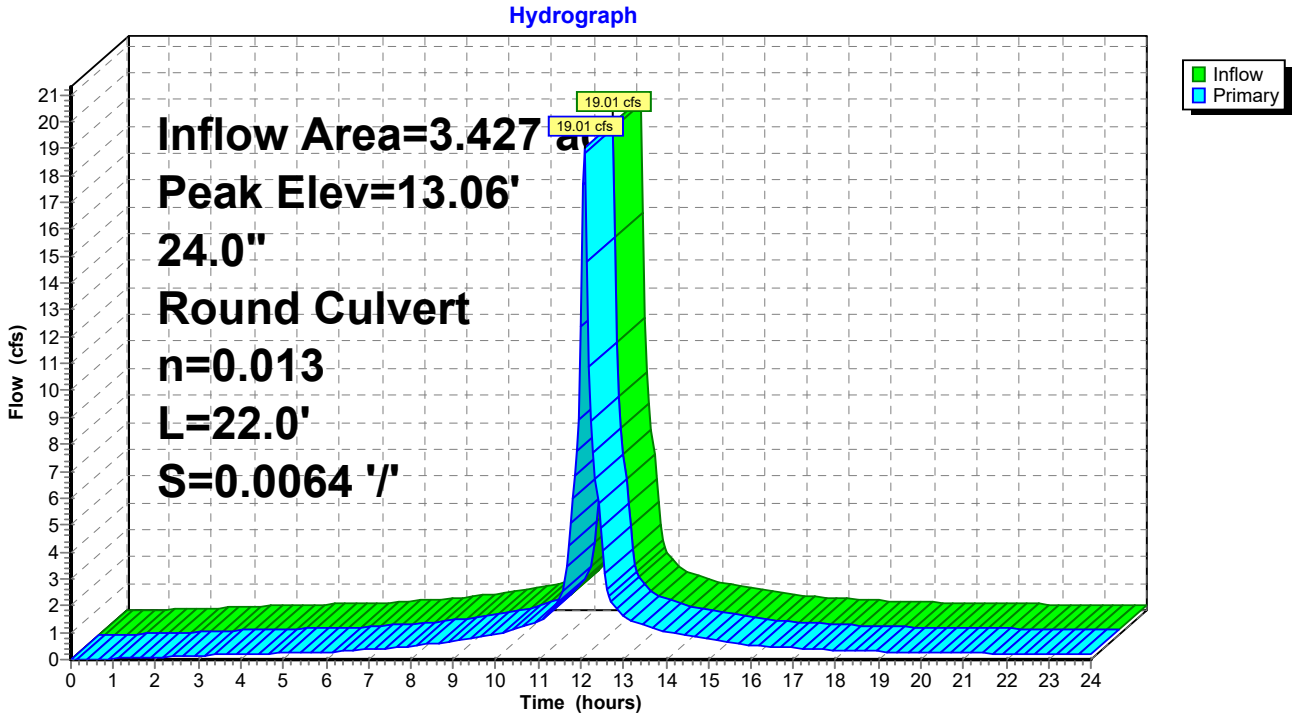
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 19.01 cfs @ 12.09 hrs, Volume= 1.587 af
Outflow = 19.01 cfs @ 12.09 hrs, Volume= 1.587 af, Atten= 0%, Lag= 0.0 min
Primary = 19.01 cfs @ 12.09 hrs, Volume= 1.587 af
Routed to Pond 7P : Storm Structure

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 13.06' @ 12.09 hrs
Flood Elev= 14.57'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.53'	**24.0" Round Culvert** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 9.53' / 9.39' S= 0.0064 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=18.51 cfs @ 12.09 hrs HW=12.93' (Free Discharge)
1=Culvert (Inlet Controls 18.51 cfs @ 5.89 fps)

Pond 6P: CB27



Summary for Pond 7P: Storm Structure

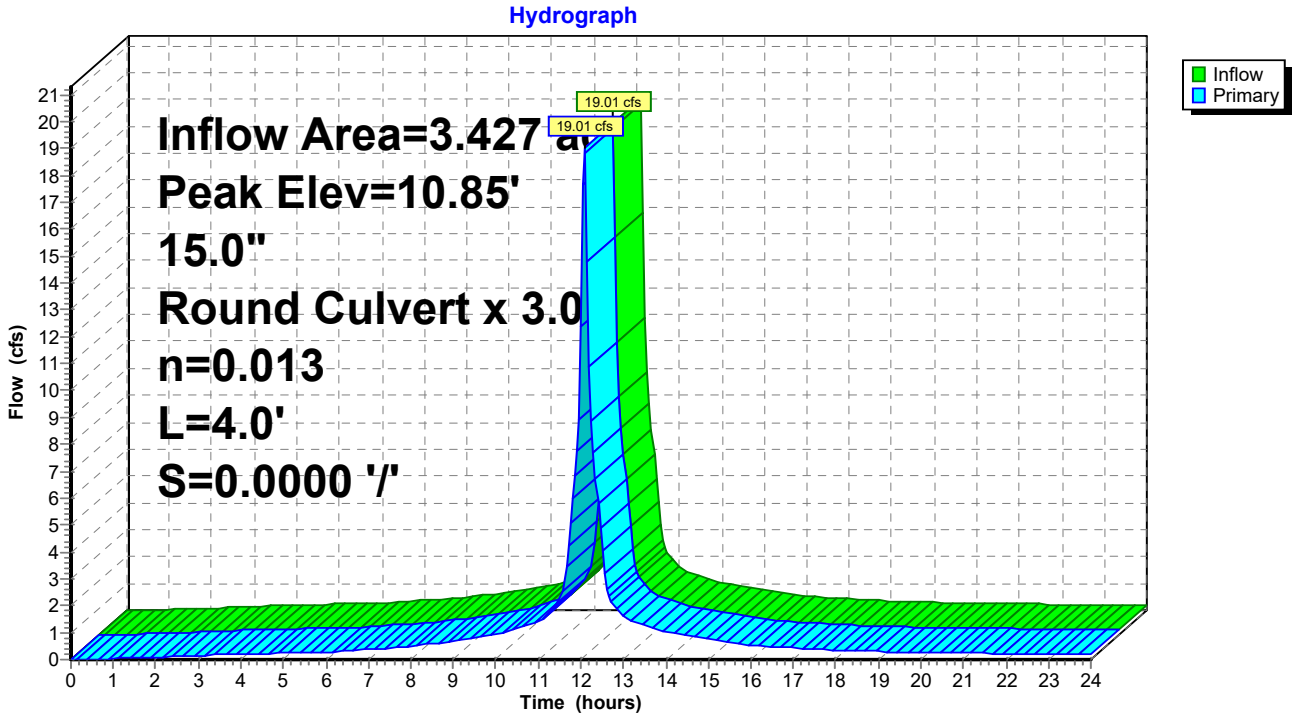
Inflow Area = 3.427 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 19.01 cfs @ 12.09 hrs, Volume= 1.587 af
Outflow = 19.01 cfs @ 12.09 hrs, Volume= 1.587 af, Atten= 0%, Lag= 0.0 min
Primary = 19.01 cfs @ 12.09 hrs, Volume= 1.587 af
Routed to Pond 8P : R-Tank 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.85' @ 12.09 hrs
Flood Elev= 14.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	8.39'	**15.0" Round Culvert X 3.00** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.39' / 8.39' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=18.51 cfs @ 12.09 hrs HW=10.76' (Free Discharge)
1=Culvert (Inlet Controls 18.51 cfs @ 5.03 fps)

Pond 7P: Storm Structure



Summary for Pond 8P: R-Tank 2

Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 19.93 cfs @ 12.09 hrs, Volume= 1.664 af
Outflow = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af, Atten= 13%, Lag= 3.0 min
Primary = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af
Routed to Pond 5P : DMH-11

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.13' @ 12.14 hrs Surf.Area= 3,128 sf Storage= 7,657 cf
Flood Elev= 12.71' Surf.Area= 3,128 sf Storage= 8,290 cf

Plug-Flow detention time= 30.8 min calculated for 1.634 af (98% of inflow)
Center-of-Mass det. time= 20.4 min (765.7 - 745.2)

Volume	Invert	Avail.Storage	Storage Description
#1	7.57'	2,767 cf	**Stone Envelope (Prismatic)** Listed below (Recalc) 12,731 cf Overall - 5,813 cf Embedded = 6,918 cf x 40.0% Voids
#2	7.82'	5,523 cf	**R-Tank Double Modules (Prismatic)** Listed below (Recalc) Inside #1 5,813 cf Overall x 95.0% Voids
		8,290 cf	Total Available Storage

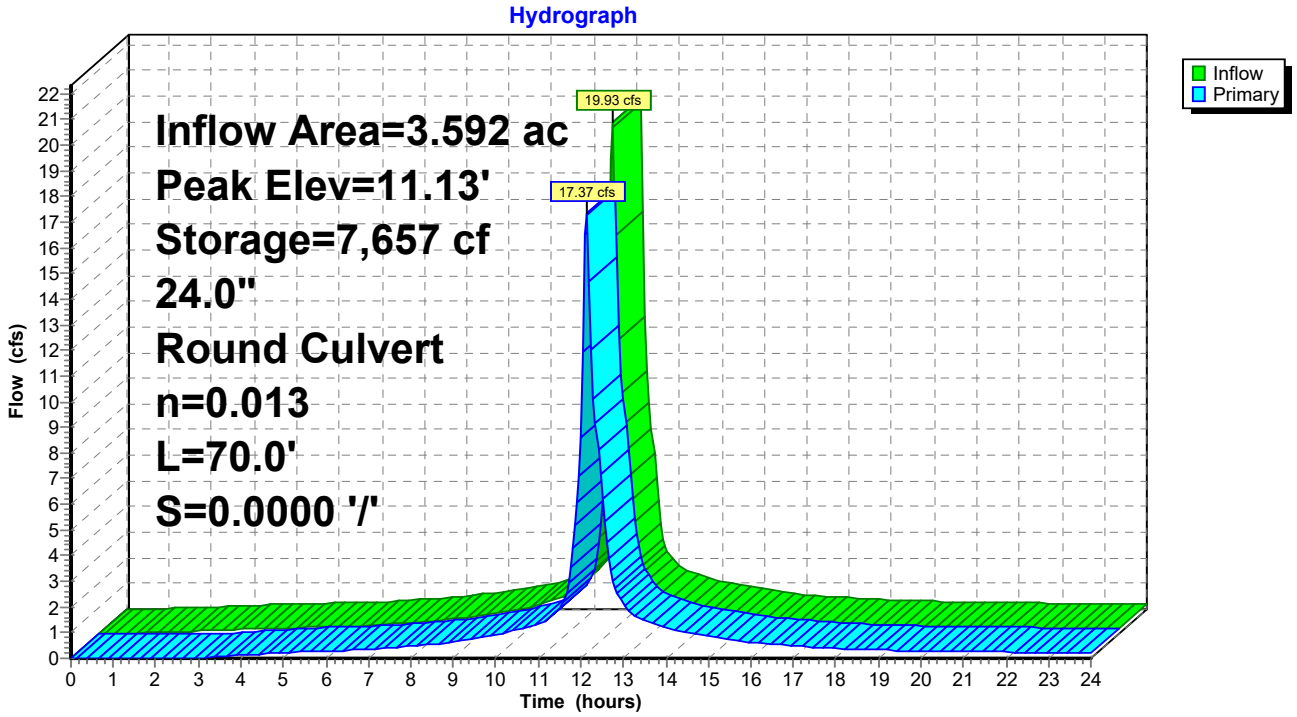
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.57	3,128	0	0
11.64	3,128	12,731	12,731

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
7.82	2,679	0	0
9.99	2,679	5,813	5,813

Device	Routing	Invert	Outlet Devices
#1	Primary	7.82'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.82' / 7.82' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=17.04 cfs @ 12.14 hrs HW=11.09' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 17.04 cfs @ 5.43 fps)

Pond 8P: R-Tank 2



Summary for Pond 9P: DMH-8 (Outfall #1)

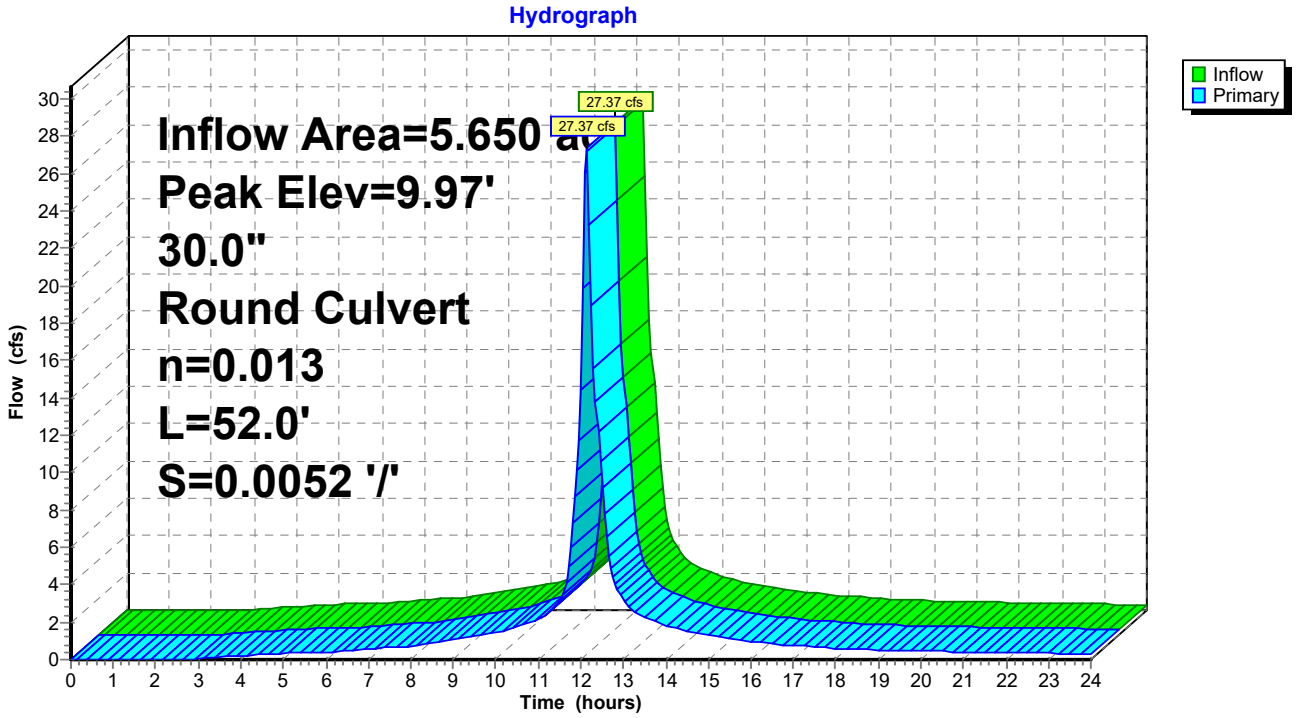
Inflow Area = 5.650 ac, 97.52% Impervious, Inflow Depth > 5.43" for 25-Year Storm event
Inflow = 27.37 cfs @ 12.14 hrs, Volume= 2.557 af
Outflow = 27.37 cfs @ 12.14 hrs, Volume= 2.557 af, Atten= 0%, Lag= 0.0 min
Primary = 27.37 cfs @ 12.14 hrs, Volume= 2.557 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 9.97' @ 12.14 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.57'	**30.0" Round Culvert** L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.57' / 6.30' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=26.88 cfs @ 12.14 hrs HW=9.90' (Free Discharge)
1=Culvert (Inlet Controls 26.88 cfs @ 5.48 fps)

Pond 9P: DMH-8 (Outfall #1)



Summary for Pond 10P: DMH 4

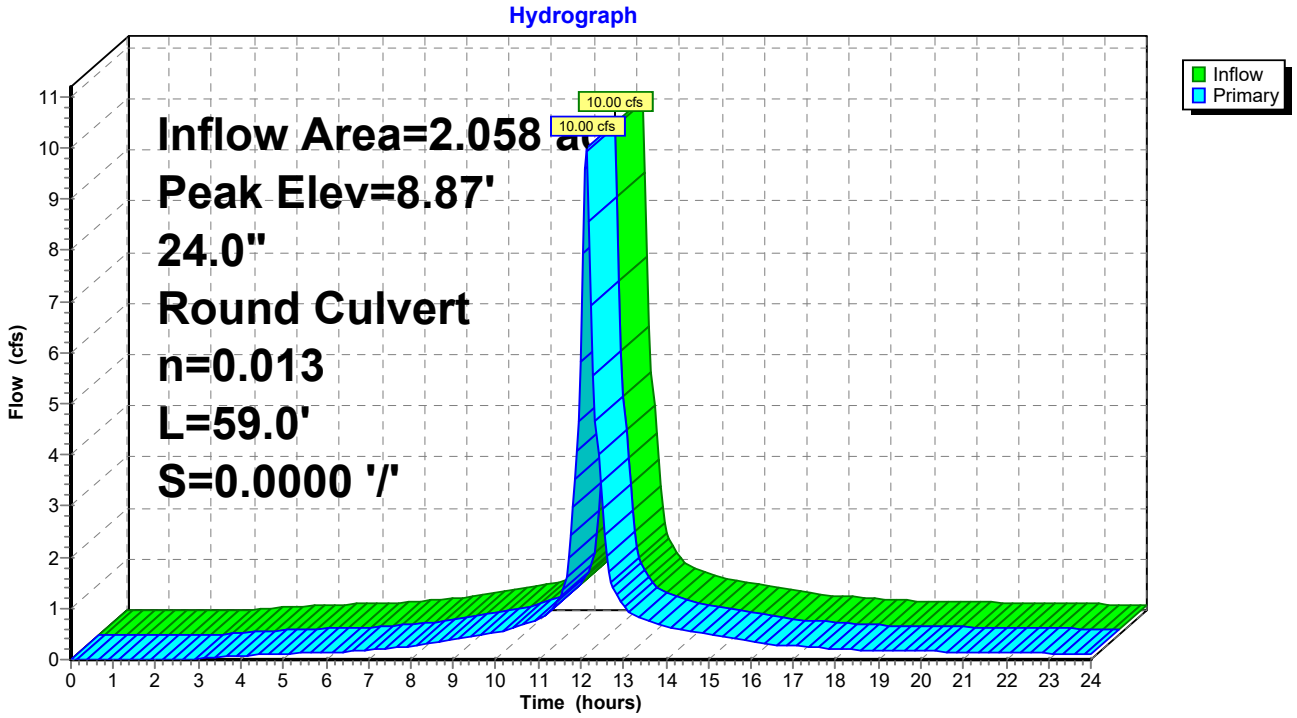
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 5.36" for 25-Year Storm event
Inflow = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af
Outflow = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af, Atten= 0%, Lag= 0.0 min
Primary = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af
Routed to Pond 11P : Jellyfish 1 JFPD0806-4-1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 8.87' @ 12.14 hrs
Flood Elev= 13.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Culvert** L= 59.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.75' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.82 cfs @ 12.14 hrs HW=8.85' (Free Discharge)
1=Culvert (Barrel Controls 9.82 cfs @ 3.70 fps)

Pond 10P: DMH 4



Summary for Pond 11P: Jellyfish 1 JFPD0806-4-1

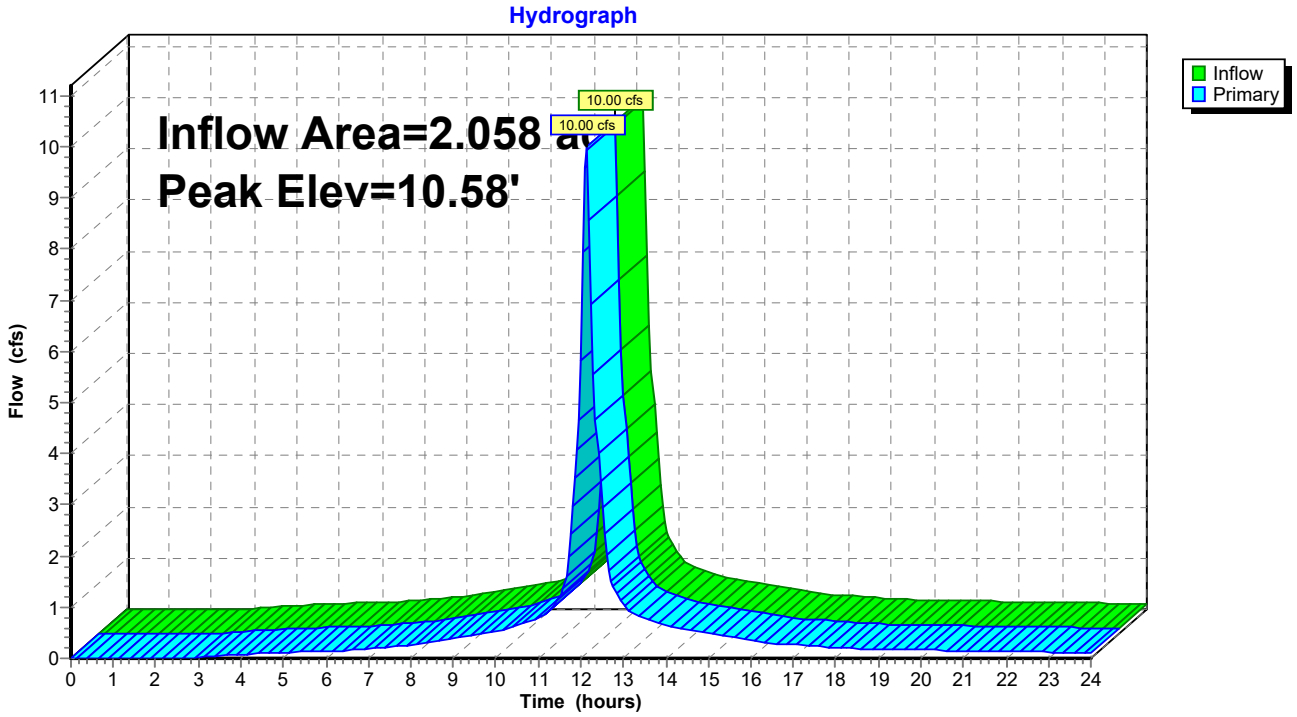
Inflow Area = 2.058 ac, 93.19% Impervious, Inflow Depth > 5.36" for 25-Year Storm event
Inflow = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af
Outflow = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af, Atten= 0%, Lag= 0.0 min
Primary = 10.00 cfs @ 12.14 hrs, Volume= 0.920 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.58' @ 12.14 hrs
Flood Elev= 12.89'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.75'	**24.0" Round Filter Culvert Out** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.75' / 6.67' S= 0.0160 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	6.75'	**JF Filter-1 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.129 0.198 0.267 0.337 0.406 0.475 0.545 0.614 0.683 0.753 0.822 0.891
#3	Device 1	9.59'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=9.82 cfs @ 12.14 hrs HW=10.56' (Free Discharge)
└**1=Filter Culvert Out** (Passes 9.82 cfs of 20.03 cfs potential flow)
  ├**2=JF Filter-1 CSV File** (Custom Controls 0.89 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 8.92 cfs @ 3.27 fps)

Pond 11P: Jellyfish 1 JFPD0806-4-1



Summary for Pond 12P: Jellyfish 2 JFPD0806-7-2

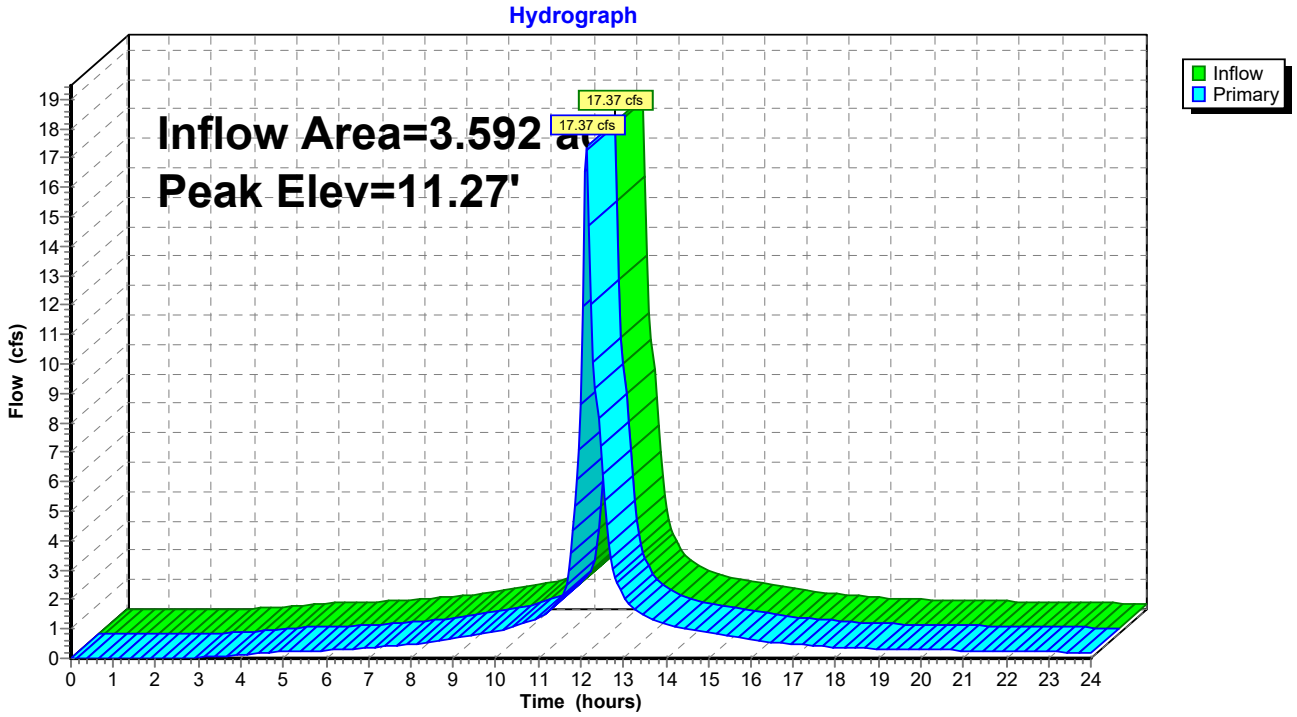
Inflow Area = 3.592 ac,100.00% Impervious, Inflow Depth > 5.47" for 25-Year Storm event
Inflow = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af
Outflow = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af, Atten= 0%, Lag= 0.0 min
Primary = 17.37 cfs @ 12.14 hrs, Volume= 1.637 af
Routed to Pond 9P : DMH-8 (Outfall #1)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 11.27' @ 12.14 hrs
Flood Elev= 11.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	7.71'	**24.0" Round Filter Culvert Out** L= 125.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 7.71' / 6.92' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	7.71'	**JF Filter-2 CSV File** Head (feet) 0.00 0.08 0.17 0.25 0.33 0.42 0.50 0.58 0.67 0.75 0.83 0.92 1.00 1.08 1.17 1.25 1.33 1.42 1.50 Disch. (cfs) 0.000 0.010 0.020 0.030 0.040 0.050 0.059 0.173 0.287 0.401 0.515 0.629 0.743 0.857 0.970 1.084 1.198 1.312 1.426
#3	Device 1	9.84'	**2.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=17.04 cfs @ 12.14 hrs HW=11.25' (Free Discharge)
└**1=Filter Culvert Out** (Passes 17.04 cfs of 19.04 cfs potential flow)
  ├**2=JF Filter-2 CSV File** (Custom Controls 1.43 cfs)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 15.61 cfs @ 3.95 fps)

Pond 12P: Jellyfish 2 JFPD0806-7-2



Summary for Pond 13P: DMH-13 (Outfall #2)

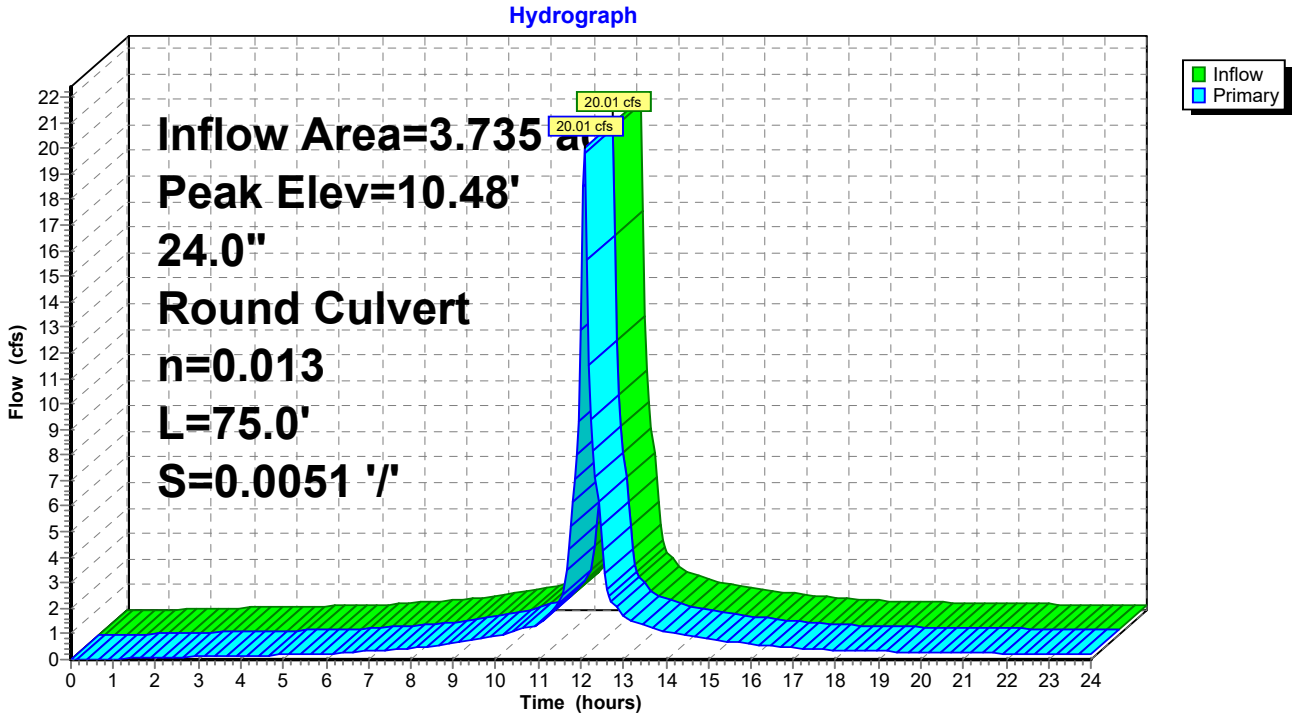
Inflow Area = 3.735 ac, 83.01% Impervious, Inflow Depth > 5.22" for 25-Year Storm event
Inflow = 20.01 cfs @ 12.09 hrs, Volume= 1.624 af
Outflow = 20.01 cfs @ 12.09 hrs, Volume= 1.624 af, Atten= 0%, Lag= 0.0 min
Primary = 20.01 cfs @ 12.09 hrs, Volume= 1.624 af
Routed to Link 2L : Fore River

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 10.48' @ 12.09 hrs
Flood Elev= 11.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	6.68'	**24.0" Round Culvert** L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 6.68' / 6.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=19.49 cfs @ 12.09 hrs HW=10.34' (Free Discharge)
1=Culvert (Inlet Controls 19.49 cfs @ 6.21 fps)

Pond 13P: DMH-13 (Outfall #2)



Summary for Pond 24P: Filterra 1

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

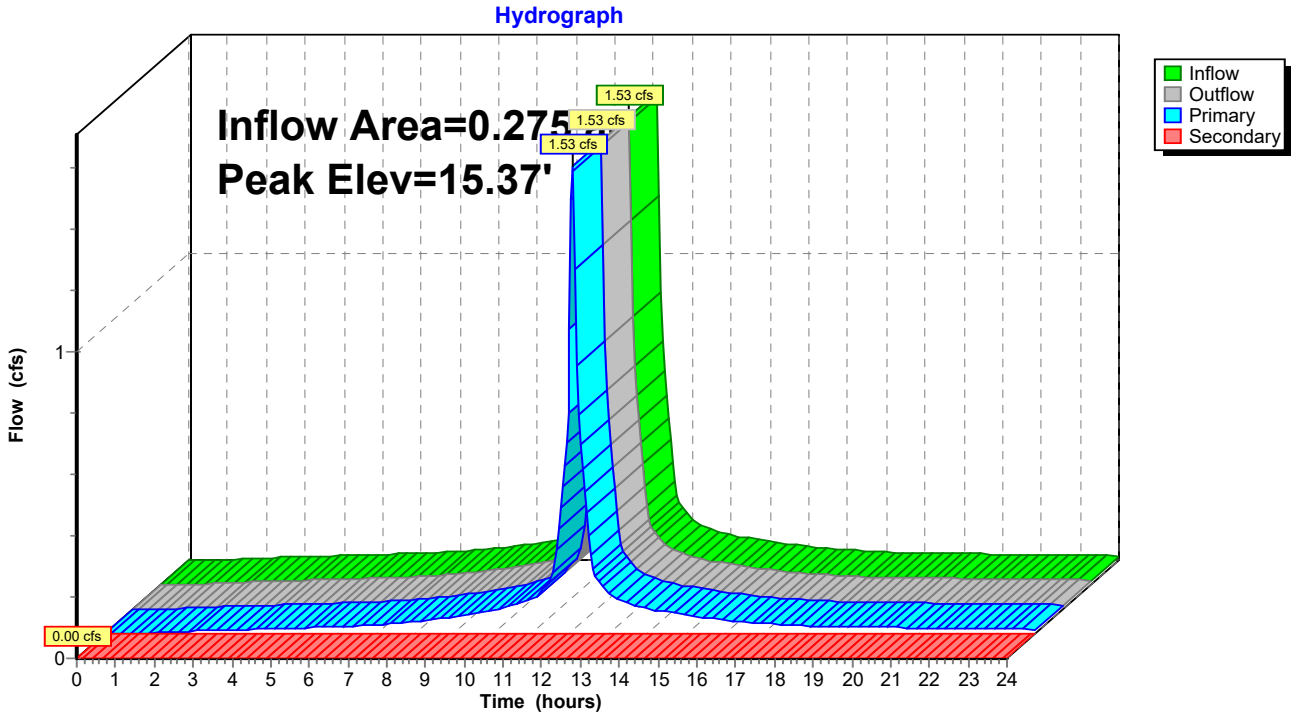
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.37' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.48 cfs @ 12.09 hrs HW=15.35' (Free Discharge)
1=Culvert (Barrel Controls 1.48 cfs @ 2.80 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 24P: Filterra 1



Summary for Pond 27P: AD49

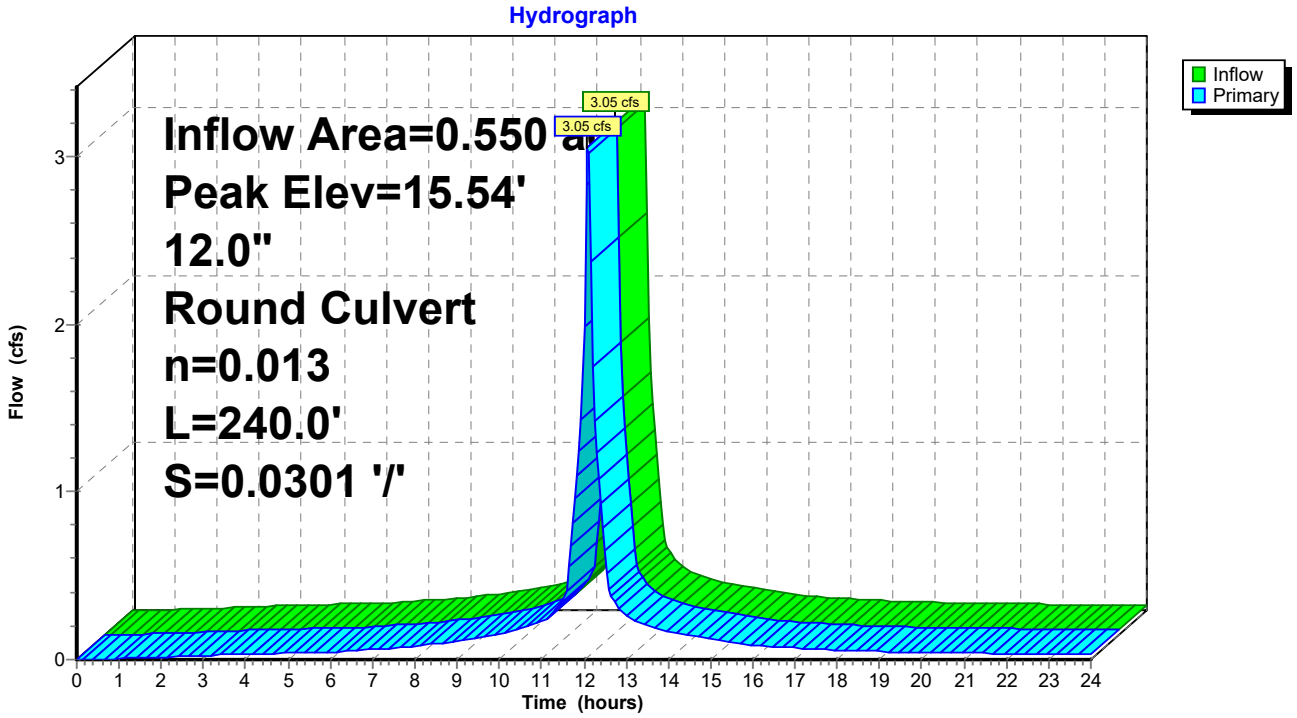
Inflow Area = 0.550 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 3.05 cfs @ 12.09 hrs, Volume= 0.255 af
Outflow = 3.05 cfs @ 12.09 hrs, Volume= 0.255 af, Atten= 0%, Lag= 0.0 min
Primary = 3.05 cfs @ 12.09 hrs, Volume= 0.255 af
Routed to Pond 13P : DMH-13 (Outfall #2)

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.54' @ 12.09 hrs
Flood Elev= 12.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 240.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.00' / 6.78' S= 0.0301 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.97 cfs @ 12.09 hrs HW=15.49' (Free Discharge)
1=Culvert (Inlet Controls 2.97 cfs @ 3.78 fps)

Pond 27P: AD49



Summary for Pond 28P: Filterra 2

Inflow Area = 0.275 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 1.53 cfs @ 12.09 hrs, Volume= 0.127 af
Routed to Pond 27P : AD49
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 27P : AD49

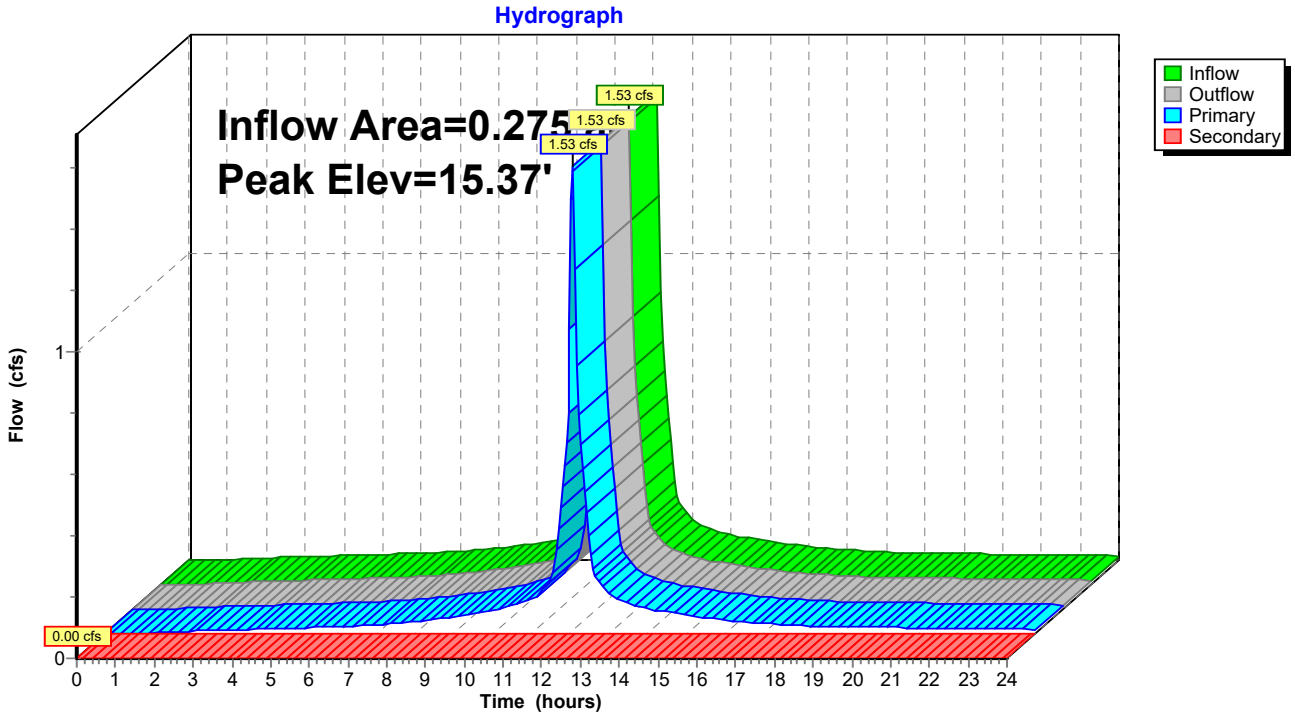
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 15.37' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	**12.0" Round Culvert** L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 14.50' / 14.47' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Secondary	18.04'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.48 cfs @ 12.09 hrs HW=15.35' (Free Discharge)
1=Culvert (Barrel Controls 1.48 cfs @ 2.80 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=14.50' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 28P: Filterra 2

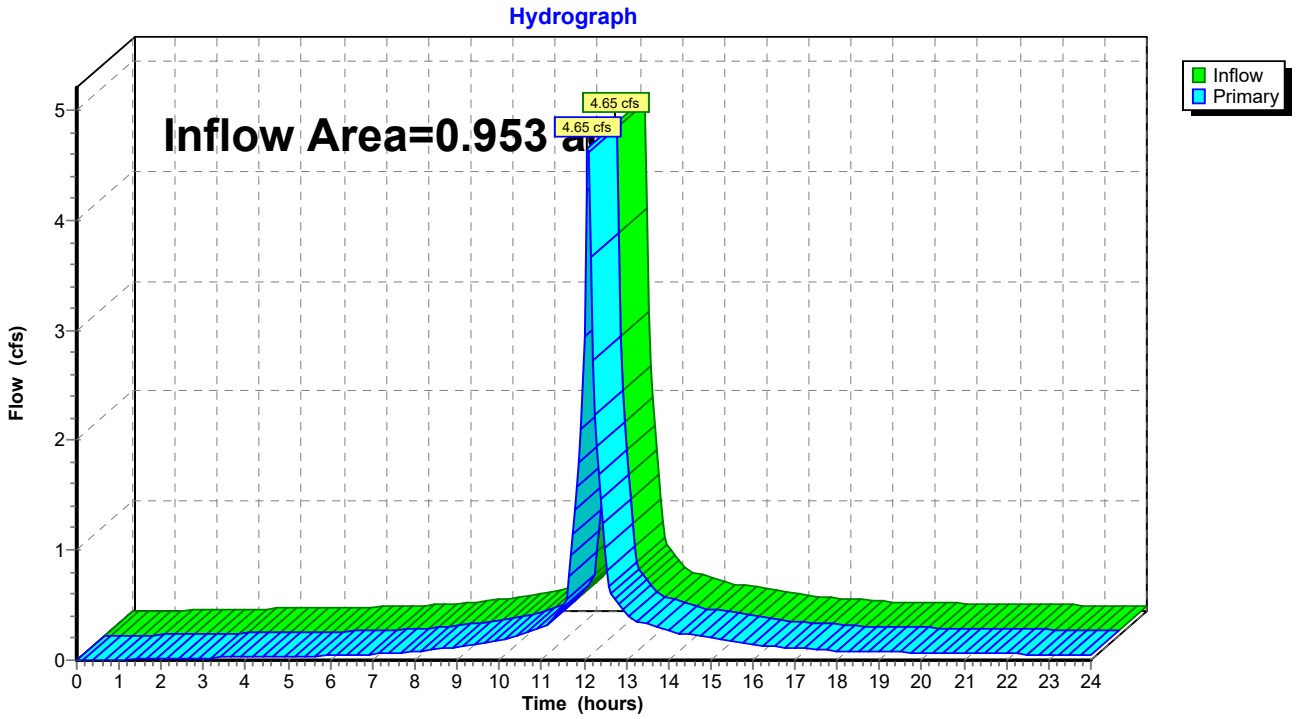


Summary for Link 1L: Freedom Way

Inflow Area = 0.953 ac, 53.78% Impervious, Inflow Depth > 4.64" for 25-Year Storm event
Inflow = 4.65 cfs @ 12.09 hrs, Volume= 0.369 af
Primary = 4.65 cfs @ 12.09 hrs, Volume= 0.369 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 1L: Freedom Way

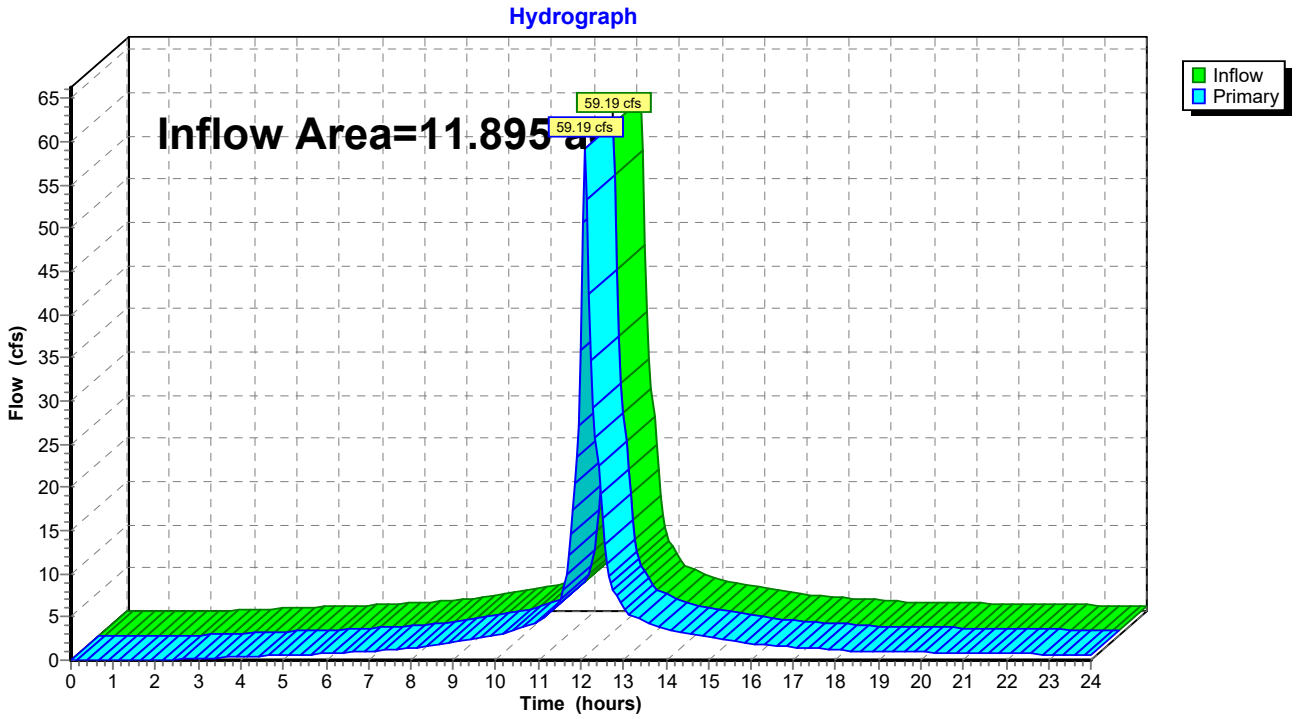


Summary for Link 2L: Fore River

Inflow Area = 11.895 ac, 87.62% Impervious, Inflow Depth > 5.27" for 25-Year Storm event
Inflow = 59.19 cfs @ 12.10 hrs, Volume= 5.223 af
Primary = 59.19 cfs @ 12.10 hrs, Volume= 5.223 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 2L: Fore River

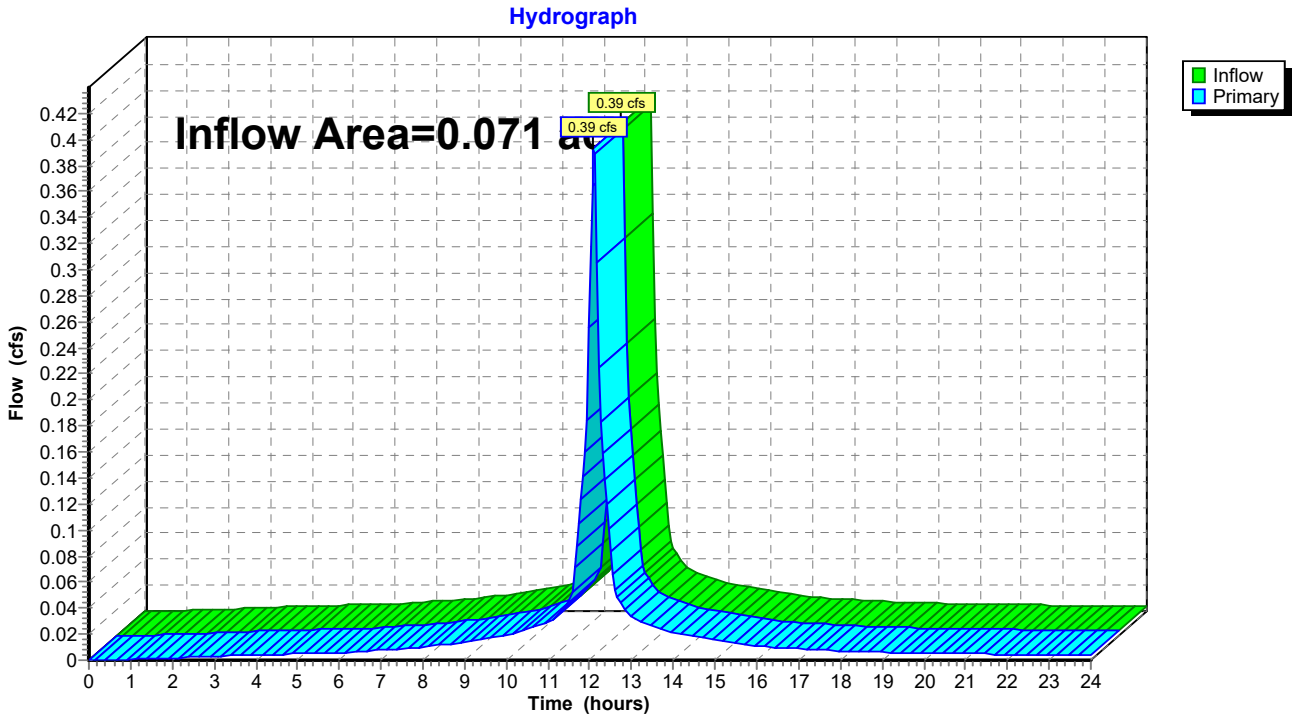


Summary for Link 3L: Fore Street

Inflow Area = 0.071 ac,100.00% Impervious, Inflow Depth > 5.56" for 25-Year Storm event
Inflow = 0.39 cfs @ 12.09 hrs, Volume= 0.033 af
Primary = 0.39 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: Fore Street



APPENDIX D: FIGURES

30x42
PLOT SCALE: 100 = 1'-0"



LEGEND

- POLLUTANT RANKING 5
- POLLUTANT RANKING 4
- POLLUTANT RANKING 3
- POLLUTANT RANKING 2
- POLLUTANT RANKING 1
- POLLUTANT RANKING 0

40' 0 40' 80'
BAR SCALE
1" = 40'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
		#
		#
		#
		#
		#
		#
		#
		#
		#

JOB NO:	227007
DATE:	APRIL 2023
SCALE:	1"=40'
DESIGNED BY:	ANL/BCM
DRAWN BY:	BCM
CHECKED BY:	LIS
FILENAME:	STORMWATER FIGURES - EX*.dwg

DRAWING TITLE:

CIVIL
REDEVELOPMENT IMPACT ANALYSIS EXISTING CONDITION

DRAWING NO:
A
SHEET: 1 OF 1

\\woodardcurran.net\shared\Projects\02\227007.07 PFDC - 58 Fore Block 1\wip\Drawing\Site Plan Submission\Stormwater Figures - Existing Impact Analysis.dwg, Apr 12, 2023 - 10:06am, ANIBEL

30x42
PLOT SCALE: 100 = 1'-0"

FORE STREET

FORE CONNECTOR

THAMES STREET EXTENSION

REDEVELOPMENT AREA

BUILDING 1A
BUILDING 1A

BUILDING 24

BUILDING 14

BUILDING 15

BUILDING 16
16

TOWNHOUSES

BUILDING 2
BUILDING 2

BUILDING 3
BUILDING

BUILDING 4

BLOCK 4

BUILDING 6B

BUILDING 6

BUILDING 6

BUILDING 12
12

BLOCK 6
ENTRY COURT
(LEVEL 2)

BLOCK 6

SD126

AD46 SD127

AD47 SD128

AD48 SD129

DMSD125 AD45

COMM

COMM FM

LEGEND

- POLLUTANT RANKING 5
- POLLUTANT RANKING 4
- POLLUTANT RANKING 3
- POLLUTANT RANKING 2
- POLLUTANT RANKING 1
- POLLUTANT RANKING 0

40' 0 40' 80'
BAR SCALE
1" = 40'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
		#
		#
		#
		#
		#
		#
		#
		#
		#

JOB NO:	227007
DATE:	APRIL 2023
SCALE:	1"=40'
DESIGNED BY:	LJS/BCM
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 STORMWATER PLAN*.dwg

DRAWING TITLE:

CIVIL
REDEVELOPMENT IMPACT ANALYSIS
PROPOSED CONDITION

DRAWING NO:

B

SHEET: 1 OF 1

I:\projects_main\Portland\Projects\227007\07 PERMIT - 04 Fore Block Two\01 Drawings\Phase 2 - 03\Phase 2 Stormwater Plan.dwg Apr 13, 2023 - 4:39pm BMCSWIFT

30x42
PLOT SCALE: 100 = 1'-0"

FORE STREET

FORE CONNECTOR

THAMES STREET EXTENSION

REDEVELOPMENT AREA

TREATMENT AREA

BUILDING 1A

BUILDING 2

BUILDING 3

BUILDING 6

BUILDING 6B

BUILDING 12

BUILDING 14

BUILDING 15

BUILDING 16

BUILDING 24

TOWNHOUSES

SD126

SD127

SD128

SD129

AD45

AD46

AD47

AD48

DMH

40' 0 40' 80'

BAR SCALE
1" = 40'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SVETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
		#
		#
		#
		#
		#
		#
		#
		#
		#

JOB NO:	227007
DATE:	APRIL 2023
SCALE:	1"=40'
DESIGNED BY:	LJS/BCM
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 STORMWATER PLAN*.dwg

DRAWING TITLE:
CIVIL
REDEVELOPMENT FIGURE

DRAWING NO:
C
SHEET: 1 OF 1

\\woodardcurran.net\shared\Projects\227007.07 PFDC - 58 Fore Block 1\wip\Drawings\Phase 2 - SD\Phase 2 Stormwater Plan.dwg, Apr 13, 2023 - 4:40pm BMCRAVITT

30x42
PLOT SCALE: 100 = 1'-0"

FORE STREET
FORE CONNECTOR
THAMES STREET EXTENSION
BUILDING 1A
BUILDING 2
BUILDING 3
BUILDING 6
BUILDING 6B
BUILDING 12
BUILDING 15
BUILDING 24
TOWNHOUSES
1S 2S 3S 4S 5S 6S 7S 8S 9S 10S 11S 12S 13S 14S 15S 16S 17S 18S 19S 20S 21S 22S 23S 24S 25S 26S 27S 28S 29S 30S
1L 2L 3L
1P 2P 3P 4P 5P 6P 7P 8P 9P 10P 11P 12P 13P 24P 27P 28P
SD126 SD127 AD46 AD48 DMH3125 AD45

STORMWATER LEGEND

- 1S — SUBCATCHMENT AREAS
- LIMIT OF DRAINAGE AREA
- SP1 — STUDY POINT
- XX — POND

BAR SCALE
1" = 40'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:
STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:
PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
		#
		#
		#
		#
		#
		#
		#
		#
		#

JOB NO:	227007
DATE:	APRIL 2023
SCALE:	1"=40'
DESIGNED BY:	LJS/BCM
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 STORMWATER PLAN* dwg

DRAWING TITLE:
CIVIL
DRAINAGE AREA FIGURE

DRAWING NO:
D
SHEET: 1 OF 1

\\woodardcurran.net\shares\Projects\227007.07 PFDC - 58 Fore Block 1\wip\Drawings\Phase 2 - SD\Phase 2 Stormwater Plan.dwg, Apr 13, 2023 - 4:37pm BMCHSWTT

Att. 11

WATERVILLE ST.

FORE ST.

ST. LAWRENCE ST.

ATLANTIC ST.

MUNJOY ST.

PROMENADE

CISTERN

PORTLAND COMPANY WORKS

POND

PLAN
OF
FORE ST.
ADJOINING
PORTLAND CO'S WORKS

Survey and Plan made under the direction of
Wm. A. Goodwin, C.C.E. by Wm. S. Edwards, 1st Asst.

Scale 30 ft. to 1 inch *November, 1873*

Wm. A. Goodwin.
C. C. Engr.

Drawer F

FORE ST.

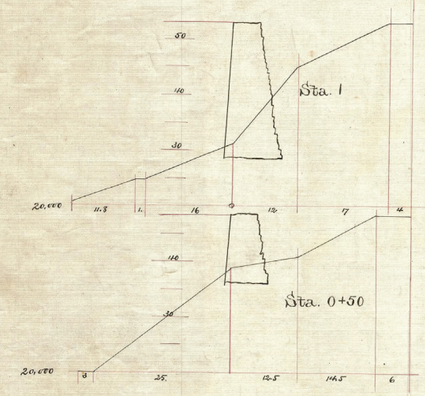
OPPOSITE PORTLAND CO WORKS.

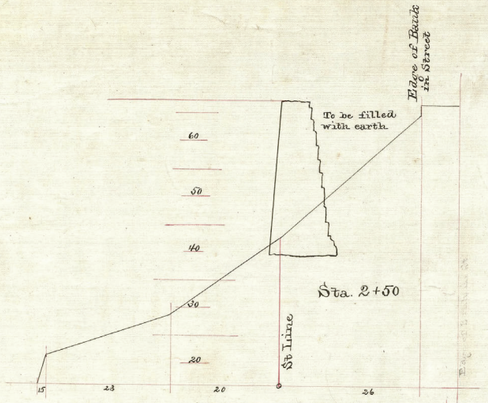
(Signed) Wm Alexander
C.E. Engr.
Nov. 1873.

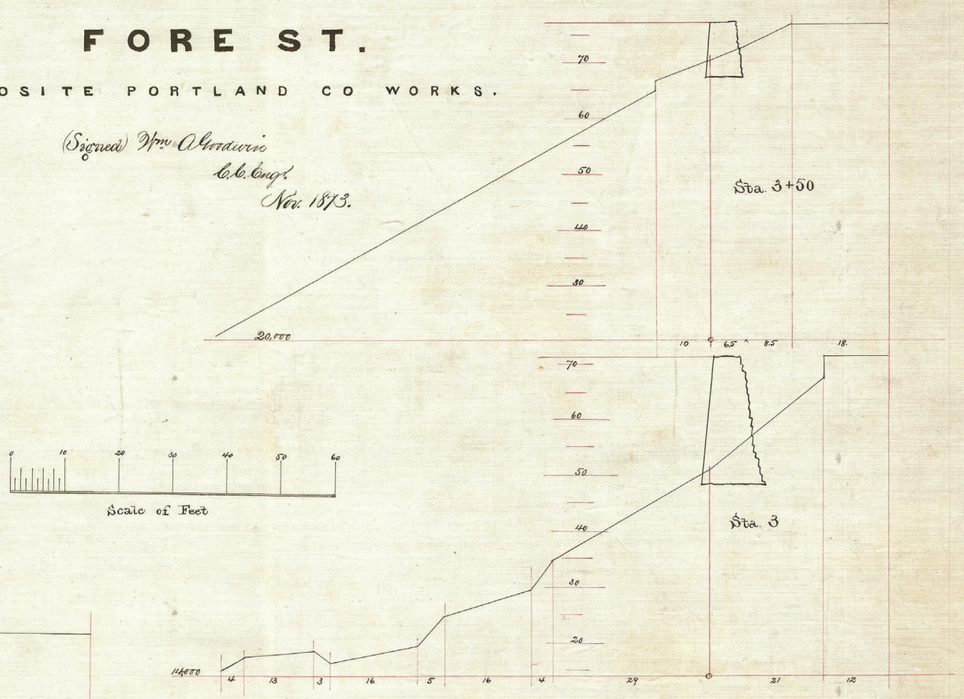
Face of Wall at Top to be on Street Line
Base of Wall to be ½ height in thickness
Top " " " 5 feet " "

Base to be 3 feet beneath surface at St. line
Batter 1 in. to 1 foot.

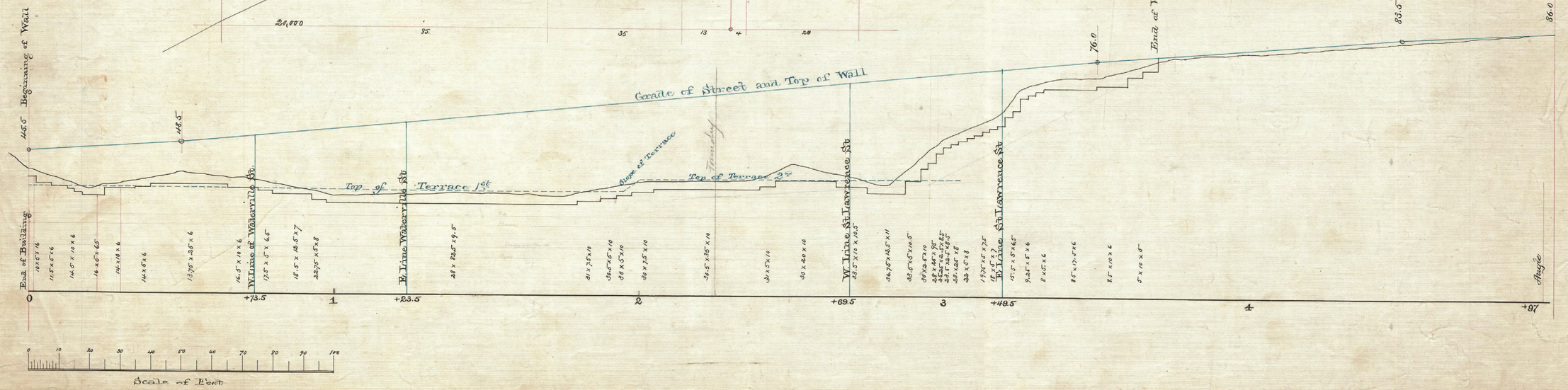






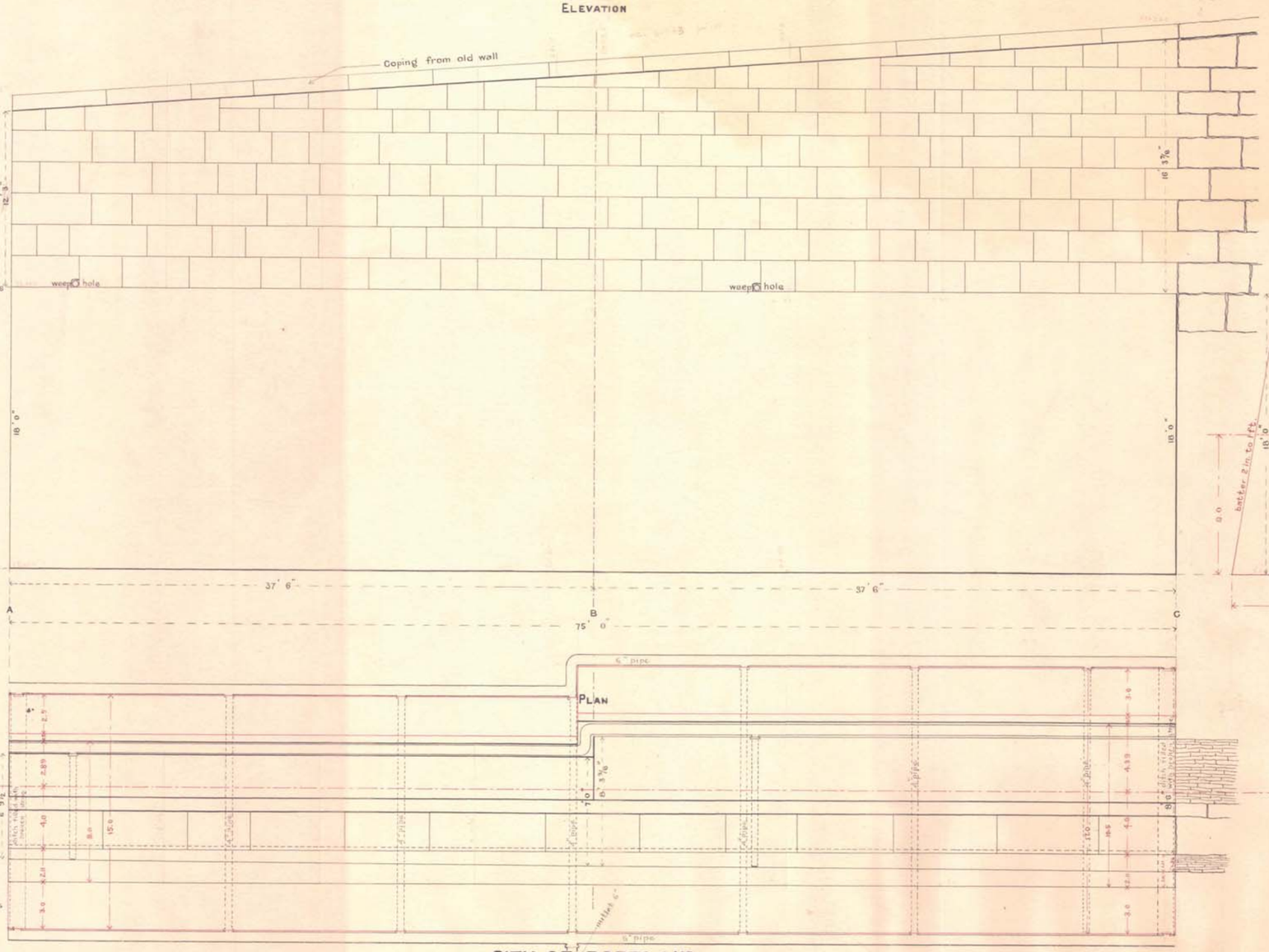


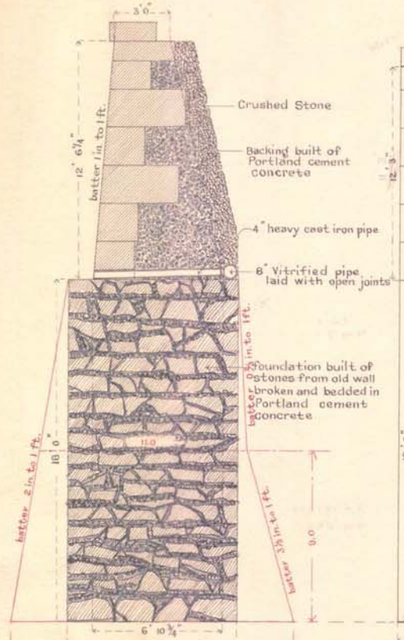




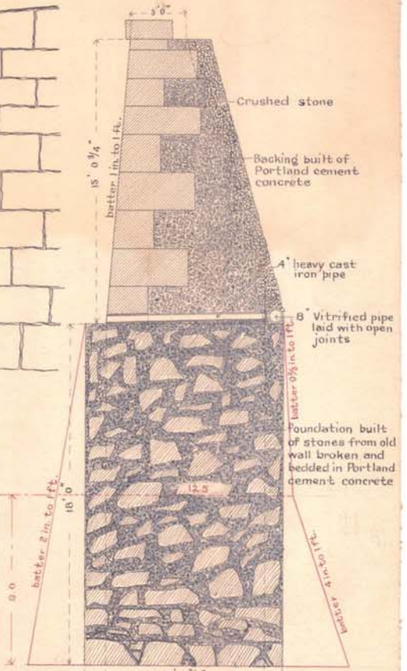
377/6

ELEVATION

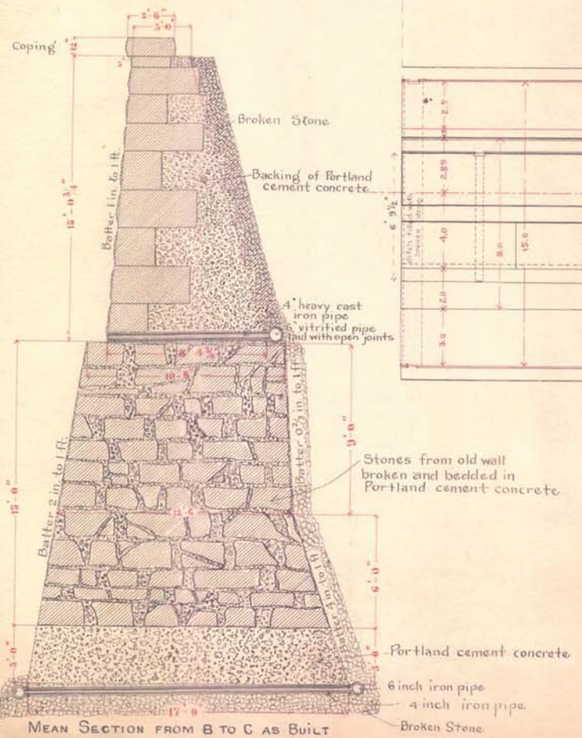




MEAN SECTION FROM A TO B



MEAN SECTION FROM B TO C



MEAN SECTION FROM B TO C AS BUILT

CITY OF PORTLAND

PLAN FOR REBUILDING

FORE ST. RETAINING WALL

SCALE ¼ INCH TO 1 FOOT

APRIL 1896

Geo. Fenald

CITY ENGINEER

Foundation of wall built as shown by red lines

Underdrains of 6" pipe with 4" laterals. Outlet of 6" pipe discharging into Portland Co's reservoir

377/6

HALEY ALDRICH

www.haleyaldrich.com

GEOTECHNICAL DATA REPORT
FORESIDE BLOCK FOUR DEVELOPMENT
58 FORE STREET
PORTLAND, MAINE

by
Haley & Aldrich, Inc.
Portland, Maine

for
PF Four Devco, LLC.
Portland, Maine

File No. 39486-881
October 2022

HALEY & ALDRICH, INC.
75 Washington Avenue
Suite 1A
Portland, ME 04101
207.482.4600

19 October 2022
File No. 39486-881

PF Four Devco, LLC.
Merrill's Wharf
254 Commercial Street, Suite 118
Portland, Maine 04101

Attention: David Senus, P.E.
Director of Planning and Design

Subject: Geotechnical Data Report
Foreside Block Four Development
58 Fore Street
Portland, Maine

Ladies and Gentlemen:

Haley & Aldrich, Inc. (Haley & Aldrich) is pleased to submit this Geotechnical Data Report (GDR) to PF Four Devco, LLC., which presents the results of previous and recent subsurface exploration and laboratory testing programs that were completed in support of the subject project. This GDR has been prepared to provide planning and design level geotechnical information to the project team for use during the design development (DD) and construction document (CD) preparation phases of the project. We have coordinated our work with the following project team members:

- PF Four Devco, LLC. (PFDC) — Owner
- Consigli Construction Company, Inc. (Consigli) — Construction Manager
- Perkins & Will (P&W) — Architect
- Thornton Tomasetti (TT) — Structural Engineer
- Woodard & Curran (W&C) — Civil & Environmental Engineer

This work was undertaken at your request in accordance with our subconsultant agreement dated 4 August 2022, which was authorized by you on 7 September 2022.

Please note that some of the information presented herein has also been included in documents that were previously prepared and issued by Haley & Aldrich for different portions of the Foreside Development project. The intent of this GDR is to compile all known subsurface data that has been collected within and near the Block Four building footprint into a single document that can be referenced by the project team. Memoranda and/or reports that summarize foundation support and geotechnical design recommendations needed to complete the final design and CD preparation phases of the project will be provided separately.

Elevations

Elevations referenced herein are in feet and reference Portland City Datum (PCD). Portland City Datum relates to tidal datum at the site as follows:

MHHW = El. 5.4 PCD
MLLW = El. -4.5 PCD

Please note that this tidal information is not site-specific and is taken from National Oceanic Atmospheric Administration (NOAA) tidal station No. 8418150 located on the Maine State Pier, Portland, Maine. This is the NOAA tidal station closest to the site. Actual tidal datum elevations at the site may vary slightly from those shown.

Site Location, Existing Site Conditions and Historic Site Development

The Portland Company complex (site) is located at 58 Fore Street, in the northeastern part of the Portland waterfront and at/near the base of Munjoy Hill as shown in Figure 1, Project Locus. Based on our review of the existing conditions base plan prepared by Owen Haskell, Inc., dated 7 July 2016, we understand that the entire site is approximately 10-acres, which has been subdivided into six development "blocks", each of which will contain existing and/or proposed buildings of varying size. The subject project (Block Four) is located in the eastern portion of the site and is bound by Fore Street to the north, private property (Trettel) to the east, Block Five to the south and Block Two to the west.

The western and southern portions of the site are generally flat with site grades ranging between approximately El. 15 and El. 17. The ground surface in the eastern and northern portions of the site slopes steeply upwards toward Fore Street and Munjoy Hill to approximately El. 75 to El. 85. An existing, approximate 350-ft long granite block retaining wall (wall) is present along a portion of the northern boundary of Block Four, which provides grade separation between the site and Fore Street.

Based on our review of historic drawings that were obtained from the City of Portland (City; see Appendix D), it is our understanding that the wall was originally constructed in 1873 and ranged in height from approximately 0 to 30 ft. The historic drawings also indicate that the base of the wall was founded on soils within approximately 5 ft of the "pre-construction" ground surface. An additional historic drawing also suggests that a 75-ft long portion of the wall was reconstructed in 1896 for unknown reasons. The reconstructed portion of the wall is generally located near the western edge of the Block Four footprint (see Figure 2 for approximate location). The reconstructed wall typically consists of a mortared granite block lower section and a dry-laid granite block upper section with regularly spaced weep pipes to drain water from behind the wall.

Multiple buildings ranging in height from one to three stories formerly occupied the site. It is our understanding that Building 5 was recently demolished as part of sitework that was completed to prepare for the Block Four development. It is unknown whether any of the demolished buildings (including Building 5) contained below-grade (basement) space, but we anticipate that most of the buildings had at grade, soil-supported slabs-on-grade as the lowest level floor slab. In general, it is our

understanding that the finished floor slab elevations (FFEs) of the buildings were generally within a few feet of the existing exterior ground surface adjacent to the buildings.

Numerous existing overhead (electric) and underground (gas, stormwater, water and sanitary sewer) utilities are present on the site and existing gas and sewer lines are located within Fore Street. Based on our review of as-built drawings included in Appendix D, we understand that the existing Fore Street sewer consists of a 36-in. diameter brick pipe that ranges in invert elevation from approximately El. 12 near the site entrance from Fore Street to approximately El. 19 near the western edge of Building 24. At that point, the sewer transitions to a 24-in. diameter vitrified clay pipe, that ranges in invert elevation up to approximately El. 76 near Atlantic Street. It is unknown when the sewer was originally constructed however a portion west of Waterville Street was re-constructed in 1936.

It is also our understanding that the City recently completed construction of a replacement storm drain along Fore Street adjacent to the northern portion of the Block Four building. The new, 3 to 4 ft diameter storm drain runs roughly parallel to, and approximately 25 ft from the northern site property line, a depth of approximately 8 to 9 ft below Fore Street roadway grade (to invert of pipe). Several new 6-ft diameter manholes were also installed along the new storm line alignment with bottom of structure approximately 10 ft below roadway grade. Several new catch basin structures were also installed along the southern curb line of Fore Street (approximately 10 ft from the northern site property line) with bottom of structure approximately 4 to 6 ft below roadway grade. Civil site plans for the recent storm drain replacement project are included in Appendix D.

Based on our review of historical Sanborn maps of the site that are also provided in Appendix D, it appears that the site has been generally unchanged since 1886 except for the wall reconstruction work that was completed in 1896.

Existing site conditions are shown in Figure 2, Site and Subsurface Exploration Location Plan.

Proposed Development

Based on our review of the DD set of drawings, prepared by P&W, dated 16 September 2022, it is our understanding that PFDC is proceeding with the design and permitting associated with the Block Four Development, which will generally include the following key elements:

- An approximate 2,000 square foot (sf), six-story Townhouse, which includes ground floor retail space and five above-grade levels of residential units.
- An approximate 84,000 sf, eight to nine-story Parking/Residential structure, which includes four to five levels of residential units on top of four levels of structured parking.

Please refer to Figure 2 for the location of the Townhouse and Parking/Residential structure footprints. The following FFEs for the Townhouse and Parking/Residential structures have been established by the project team, were developed for the DD submission, and were provided to us by P&W in an email received on 22 September 2022:

Level	Proposed Finish Floor Elevation	
	Townhouse	Parking/Residential Structure
1	El. 16	El. 15 to El. 16*
2	El. 27.5	
3	El. 38.0	
4	El. 48.5	
5	El. 60.8	
6	El. 71.5	
7	NA	El. 82.4
8	NA	El. 93.2
9	NA	El. 104.0

* Note that FFE is at El. 10 at connection into the space below the podium at column line L-10/L-11.

In addition to the key elements described above, ancillary site improvements will include stormwater management, site roadways and parking areas, and utility infrastructure (i.e., water, sewer, natural gas, electricity) needed to service the proposed development.

Subsurface Exploration Programs

Multiple subsurface exploration programs have been completed at the site. Test boring explorations were drilled at the site by others in 2007 to support preliminary geotechnical evaluations for a development previously considered by a former site owner. In late 2016/early 2017, early to mid-2019, and early and late 2022 Haley & Aldrich completed subsurface investigation programs in support of the subject project.

A Haley & Aldrich geologist or geotechnical engineer was present on site to monitor the explorations and to document the soil, rock, and groundwater conditions encountered, and prepare exploration logs. Soil and rock samples collected from the subsurface explorations completed under the direction of Haley & Aldrich were preserved in glass jars and wooden boxes and are currently being stored in our laboratory facility in Portland and are available for review upon request.

Each exploration program is discussed in detail in the following sections of this GDR. The plan locations of the explorations are shown graphically on Figure 2 and exploration logs are provided in Appendix A.

2022 HALEY & ALDRICH EXPLORATION PROGRAM

Subsurface exploration programs were completed at the site in March/April 2022 and again in September 2022 in support of the Block Six and Block Four developments, respectively.

The March/April 2022 Block Six program consisted of eleven test borings, designated HA22-1(OW) through HA22-11, that were drilled by New England Boring Contractors (NEBC) of Hermon, Maine. Only test borings HA22-1(OW) and HA22-9 was drilled near Block Four and are discussed herein.

The September 2022 program consisted of 12 test borings, designated HA22-101 through HA22-112, that were drilled by Northern Test Borings, Inc. (NTB) of Gorham, Maine. Only test borings HA22-101 through HA22-104 and HA22-112 were drilled within or near Block Four and are discussed herein. Please note that test borings HA22-105 through HA22-107 could not be completed because the proposed locations were inaccessible. These areas will require earthwork to re-grade existing stockpiled material so that the locations can be safely accessed. These three test borings as well as test pits needed to determine the bottom of the existing, lower cast-in-place (CIP) concrete retaining wall present within the limits of proposed Townhouse footprint will be completed at a later date.

Test borings were advanced using cased-wash drilling methods through overburden soils and were terminated in bedrock at depths ranging from approximately 12 to 45 ft below ground surface (BGS) using a Mobile Drill B-53 track-mounted (March and April 2022 exploration program) and Diedrich D-50 track-mounted (September 2022) drill rigs and 4-in. outside diameter (OD) steel casing.

Soil samples were collected continuously through man-placed fill soils and at standard, 5-ft intervals thereafter (i.e., in naturally-deposited soils present below the fill) 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 W&C personnel during the March/April 2022 program to screen select soil samples (primarily fill samples) that were recovered from some of the test borings to determine the presence of volatile organic compounds (VOCs).

All test borings were advanced approximately 5 to 6 ft into bedrock using a roller cone and/or a 2.0-in. (NW-size) ID diamond-tipped core barrel.

2019 HALEY & ALDRICH EXPLORATION PROGRAM

Test Borings

A site-wide subsurface exploration program was completed in January 2019 and from May to July 2019. In total, the programs consisted of 28 test borings, designated HA19-1 through HA19-30. Please note that test borings HA19-6 and HA19-7 were not drilled due to property access issues. Only test borings HA19-4, HA19-5, HA19-9 through HA19-11, and HA19-14 through HA19-21 were drilled within or near Block Four and are discussed herein.

Test borings were drilled by NEBC, advanced using cased-wash drilling methods through overburden soils and terminated in bedrock at depths ranging from approximately 12 to 64 ft BGS. Borings were drilled using a combination of a Mobile Drill B-52 track-mounted drill rig, a Simco 2400 track-mounted drill rig or a Mobile Drill B-52 truck-mounted drill rig, and 3-in. OD and/or 4-in. OD steel casing.

Soil samples were collected using similar means and methods to those collected during the 2022 subsurface exploration program, which are described in the previous section of this GDR. Similar to the 2022 subsurface exploration program described above, a PID was used by Haley & Aldrich in the field to screen for the presence of VOCs in the recovered man-placed fill soil samples. PID readings are shown on the test boring logs provided in Appendix A.

All test borings were advanced approximately 5 to 13 ft into bedrock using a 2.0-in. (NQ-size) ID diamond-tipped core barrel.

Observation wells were installed in completed boreholes HA19-10(OW) and HA19-15(OW) to provide information on the static groundwater level at the site. The observation wells consisted of 2-in. ID, machine-slotted PVC well screen and solid PVC riser pipe cut just below the protective covering. The annular space between the slotted PVC and the borehole was backfilled with filter sand. To protect the well from damage, the observation wells were outfitted with a flush-mounted steel roadway box. The observation well installation and groundwater monitoring reports are provided in Appendix B.

Test Pits

Four test pits, designated HA19-TP1 through HA19-TP4, were excavated on 10 December 2019 along the base of the eastern end of the existing granite block retaining wall that provides grade separation between Fore Street and the Block Four site (see Figure 2 for approximate locations). The test pits were excavated to observe the condition of the below grade portion of the wall, determine the depth (and elevation) of the bottom of the wall, and document the soil and groundwater conditions encountered within the limits of the excavations. Please note that proposed bottom of wall level is shown on the historic drawings provided in Appendix D.

The test pits were hand-excavated by PFDC on 10 December 2019 to depths ranging from approximately 1 to 3.5 ft BGS.

A Haley & Aldrich geotechnical engineer was on-site to observe and document the conditions encountered, which are summarized in subsequent sections of this GDR. Test pit photographs are also provided in Appendix A.

2016/2017 HALEY & ALDRICH EXPLORATION PROGRAM

A subsurface exploration program consisting of ten test borings, designated HA16-1(OW) through HA16-10, and two test pits, designated HA16-TP1 and HA16-TP2 was completed under the direction of Haley & Aldrich in December 2016 and January 2017. Only test borings HA16-1(OW), HA16-2, HA16-9, and HA16-10 were drilled within or near Block Four and are discussed herein.

Test borings were drilled by NEBC, advanced using cased-wash drilling methods through overburden soils, and terminated in bedrock at depths ranging from approximately 12 to 74 ft BGS using a Mobile Drill B-53 track-mounted drill rig and 3-in. OD and/or 4-in. OD steel casing.

Soil samples were generally collected using similar means and methods to those collected during the design phase subsurface exploration program, which are described in the previous section of this GDR.

A PID was also used in the field by Haley & Aldrich to screen for the presence of VOCs in the recovered man-placed fill soil samples. Elevated PID readings, if detected, were recorded, and are shown on individual test boring logs provided in Appendix A.

The test borings were advanced approximately 5 to 10 ft into bedrock using a 2.0-in. (NQ-size) ID diamond-tipped core barrel.

One observation well was installed in completed borehole HA16-1(OW) to provide information on the static groundwater level at the site. The observation well consisted of 2-in. ID, machine-slotted PVC well screen and solid PVC riser pipe cut just below the protective covering. The annular space between the slotted PVC and the borehole was backfilled with filter sand. To protect the well from damage, the observation well was outfitted with a steel guardpipe. The observation well installation and groundwater monitoring reports are provided in Appendix B.

2007 EXPLORATION PROGRAM BY OTHERS

As previously discussed, a subsurface exploration program was completed by others in support of a development previously considered by a former site owner. The program generally consisted of the following:

- Eight test borings, designated B-1 through B-8, and two auger probes, designated P-1 and P-2. Only test boring B-4 and auger probe P-1 were completed within or near Block Four and are discussed herein.
- The test borings and auger probes were drilled by Great Works Test Boring, Inc. of Rollingsford, New Hampshire during the period 24 to 26 September 2007 under the direction of S.W. Cole Engineering, Inc. (SWC).
- The test boring and auger probe were drilled through overburden soils and were terminated on refusal surfaces at depths ranging from approximately 11 to 13 ft BGS using cased-wash drilling methods and 4-in. OD steel casing or “probe augers”. Soil samples were generally collected at standard 5-ft intervals using similar methodology to that summarized in the previous section of this GDR. No information was provided on the boring/probe logs regarding drill rig type or the OD of the “probe augers”.

Subsurface Conditions

The subsurface conditions encountered at the site generally consist of man-placed fill soils overlying naturally-deposited marine and glacial till soils and bedrock. A general description of soil, bedrock and groundwater conditions encountered in the test borings is provided below. Additional details are provided on the individual test boring logs, in rock core photographs and in observation well installation and groundwater monitoring reports provided in Appendices A and B, respectively. In addition, a summary of the soil units and strata thicknesses encountered within each test boring that was

completed at the project site is provided in Table I. Estimated ground surface elevation, fill thickness and marine deposit thickness information is also shown graphically next to each test boring symbol on Figure 2. Please refer to the interpretive subsurface profiles shown on Figure 3 for a simplified, graphical representation of the subsurface conditions across portions of the site.

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 will vary from those described herein, shown in Table I and shown on Figures 2 and 3.

SOIL CONDITIONS

A summary of the soil unit thicknesses and conditions encountered in the test borings drilled within the Block Four development area under the direction of Haley & Aldrich are summarized below.

Geologic Unit		Approximate Encountered Thickness (ft)	Generalized Description
Fill		2 to 21	very loose to very dense silty SAND (SM) with varying amounts of gravel; poorly-graded SAND (SP ,SP-SM) with varying amounts of gravel and silt; well graded SAND (SW-SM, SW) with varying amounts of silt and gravel; well graded GRAVEL (GW) with varying amounts of silt and sand; silty gravel (GM); medium dense sandy SILT (ML); portions of the layer in some test borings contained cobbles, roots, wood, coal fragments, ash, iron slag, brick fragments, mortar, and concrete. Substantial ASH with sand was encountered in test boring HA19-17. *(encountered in each test boring; generally thicker in Fore Street and in borings drilled closer to the water)*
Marine Deposit	Granular	3 to 16	very loose to medium dense clayey SAND (SC) with varying amounts of gravel; silty SAND (SM) with varying amounts of gravel; poorly-graded SAND (SP, SP-SM) with varying amounts of silt and gravel; well graded SAND (SW) (t*ypically encountered in test borings drilled in the southwestern portion of the Block Four footprint; see Figure 2)*
	Cohesive	4 to 20	very soft to stiff sandy SILT (ML) with varying amounts of gravel *(only encountered in test borings HA19-4, HA19-14)*
Glacial Till		1 to 60	medium stiff to hard SILT (ML) with varying amounts of sand and gravel; very loose to very dense silty SAND (SM) with varying amounts of gravel; well graded GRAVEL (GW) with sand; poorly graded GRAVEL (GP) with sand; well graded SAND (SW-SM) with gravel and silt; portions of the deposit in some test borings contained frequent cobbles and boulders (*encountered in each test boring except HA16-9, HA19-11 HA19-18, HA19-21, HA22-1(OW), and HA22-101)*
Bedrock		top of bedrock surface encountered between 5 and 64 ft BGS (approx. El. 18 and El. -27) *(bedrock was sampled/cored in each test boring)*	

BEDROCK CONDITIONS

As stated previously, approximately 5 to 13 ft of bedrock was sampled in each test boring. Where encountered and as shown in Table I the top of bedrock surface varied between approximately 5 ft and 64 ft BGS (El. 18 and El. -27) and generally slopes down from north to south and from west to east. The elevation of the top of weathered bedrock or competent bedrock surface, whichever is shallower, is shown graphically next to each test boring symbol on Figure 2 and is also shown on the interpretive subsurface profiles on Figure 3.

The sampled and recovered bedrock generally consists of moderately hard to very hard, fresh to moderately weathered PHYLLITE, SCHIST and/or QUARTZITE.

Rock quality designation (RQD) is a common parameter that is used to help assess the competency of sampled bedrock. RQD is defined as the sum of pieces of recovered bedrock greater than 4 in. in length divided by the total length of the recovered bedrock core run. RQD values for bedrock encountered at the site range from 0 to 100 percent (average RQD approximately 47 percent).

More detailed information on the sampled and recovered bedrock is provided on the test boring logs in Appendix A. Photographs of the sampled and recovered bedrock referenced herein are also provided for reference in Appendix A.

GROUNDWATER CONDITIONS

As discussed in previous sections of this GDR, observation wells were installed in several boreholes that were completed in 2016 and 2019 under the direction of Haley & Aldrich. The observation wells were installed to provide information on the static groundwater levels at the site. After installation, each observation well was “developed”, which included removal of all water present within the well casing in an effort to eliminate the potential effects that drilling means/methods may have had on the previously (prior to development) measured water levels. Measured water levels prior to and after development of each observation well are summarized in the table below. Please note that water level measurements in observation wells installed during the 2016/2017 and 2019 subsurface explorations were collected only during the periods noted. Observation well installation and groundwater monitoring reports for the wells are provided in Appendix B.

Observation Well No.[1]	Approximate Ground Surface Elevation	Approximate Range in Measured Water Levels (ft)				Data Collection Period
		Pre-Development		Post-Development		
		Depth BGS	Elevation	Depth BGS	Elevation	
HA16-1(OW)	75.0	11.4 to 13.3	61.8 to 63.6	8.8 to 15.1	59.9 to 66.2	12/23/2016 to 2/3/2017; 4/5/2022 to 10/17/2022
HA19-10(OW)	17.0	1.5	15.5	1.7	15.3	6/28/2019
HA19-15(OW)	16.0	2.9	13.1	2.5 to 5.1	10.9 to 13.5	6/28/2019 to 11/8/2019
HA22-1(OW)	12.8	8.7 to 8.9	3.9 to 4.1	3.4 to 4.1	8.7 to 9.4	3/30/2022 to 5/5/2022; 9/7/2022 to 10/17/2022

Notes:
[1] – Observation wells HA19-10(OW) and HA19-15(OW) were destroyed during Building 5 demolition.

In general, water levels may fluctuate with season, precipitation, local soil/bedrock conditions, excavation means and methods, temperature, and tidal conditions. Therefore, actual water levels encountered during construction may vary from those summarized above, provided on the testing boring logs included in Appendix A and shown on the groundwater monitoring reports in Appendix B.

Geotechnical Laboratory Testing

A geotechnical laboratory testing program was undertaken on representative soil samples collected during the 2016/2017 and 2022 subsurface exploration programs to aid in soil classification, determination of engineering properties and evaluation of soil reuse potential. A total of 16 grain size analyses were performed on soil samples collected from test borings drilled within or near Block Four and are discussed herein. Laboratory testing was performed in accordance with applicable American Society for Testing Materials (ASTM) testing procedures by GeoTesting Express of Acton, Massachusetts (2016/2017 borings) and R.W. Gillespie & Associates, Inc. of Biddeford, Maine (2022 borings). Laboratory test results are summarized below and complete results are provided in Appendix C.

Laboratory Test	ASTM Test Designation	Soil Unit	No. of Tests	Range in Test Results
Grain Size	ASTM D 422	Fill	8	AASHTO Classification: A-1-b, A-2-4 USCS Classification: SM, SP
		Glacial Till	8	AASHTO Classification: A-1-b, A-2-4, A-4 USCS Classification: SM

In addition to the laboratory test results summarized above, one soil sample obtained from test boring B-4, which was drilled by SWC in 2007, was submitted for grain size analysis. The analysis report is provided for reference in Appendix C.

Existing Retaining Wall Conditions

As previously mentioned, several hand-excavated test pits were conducted along the base of the eastern portion of the existing granite block retaining wall. The test pits were completed to observe the condition of the below grade portion of the wall, determine the wall depth (and elevation) of the bottom of the wall, and document the soil and groundwater conditions encountered within the limits of the excavations. This information will be important when determining the design and construction requirements for the permanent support of excavation (SOE) system that will need to be installed near the eastern end of the existing granite block wall to facilitate construction of the Block Four building. A summary of the test pit excavations is provided below.

Test Pit No.[1]	Closest Structural Column Line	Observations[2]
HA19-TP1	6.3	• Existing ground surface approximately 22.3 ft below top of wall. • Test pit dimensions approximately 2 ft x 2.5 ft x 3.5 ft. • Bottom of wall approximately 3 ft BGS; approx. El. 44 • Glacial till soils observed below bottom of wall; no water observed.
HA19-TP2	6.7	• Existing ground surface approximately 19.9 ft below top of wall. • Test pit dimensions approximately 2 ft x 1 ft x 3 ft. • Bottom of wall approximately 2.3 ft BGS; approx. El. 49.7 • Glacial till soils observed below bottom of wall; no water observed.
HA19-TP3	6.9	• Existing ground surface approximately 13.4 ft below top of wall. • Test pit dimensions approximately 1.5 ft x 1.5 ft x 2 ft. • Bottom of wall approximately 1.3 ft BGS; approx. El. 57.7 • Glacial till soils observed below bottom of wall; no water observed.
HA19-TP4	8	• Existing ground surface approximately 2 to 2.5 ft below top of wall. • Test pit dimensions approximately 2 ft x 2.5 ft x 1.5 ft. • Bottom of wall approximately 0.5 to 1 ft BGS; approx. El. 72 • Glacial till soils observed below bottom of wall; no water observed.

Notes:
[1] – Approximate test pit locations are shown on Figure 2.
[2] – Approximate bottom of wall elevations determined by subtracting the approximate bottom of wall depth from the existing ground surface elevation at each test pit location, which was estimated by interpolating between ground surface elevation contours shown on Figure 2 and rounded down to the nearest foot.

Test pit photographs are provided for reference in Appendix A.

Limitations

This GDR has been prepared for the exclusive use of PFDC for the Foreside Block Four Development in Portland, Maine. There are no intended beneficiaries other than PFDC. Use of this GDR by any person or entity other than of PFDC for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from PFDC and from Haley & Aldrich. Use of this GDR by such other person or entity without the written authorization PFDC 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 GDR by any person or entity, including by PFDC, for a purpose other than relative to the Foreside Block Four Development in Portland, Maine is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the GDR is adequate for such other use.

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 information presented in this GDR and/or geotechnical recommendations for the proposed improvements.

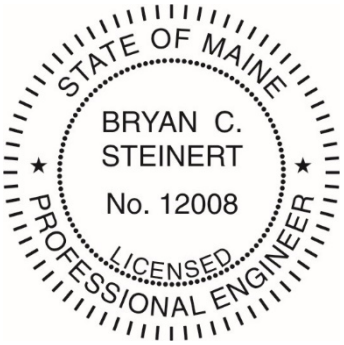
Closure

We appreciate the opportunity to provide geotechnical engineering services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Tucker Jones, P.E.
Geotechnical Engineer

Bryan C. Steinert, P.E.
Senior Project Manager



Wayne A. Chadbourne, P.E.
Principal

Enclosures:

Figure 1 – Project Locus
Figure 2 – Site and Subsurface Exploration Location Plan
Figure 3 –Subsurface Profile A-A and B-B
Appendix A – Test Boring Logs and Rock Core Photographs
Appendix B – Observation Well Installation and Groundwater Monitoring Reports
Appendix C – Laboratory Test Results
Appendix D – Historic Drawings and Sanborn Maps

References

1. Report entitled, “Geotechnical Data Report, Foreside Block 6 Development, 58 Fore Street, Portland, Maine,” prepared by Haley & Aldrich, Inc., dated 18 May 2022.

2. Memorandum entitled, “Preliminary Geotechnical Design Memorandum, Foreside Block Four Development, 58 Fore Street, Portland, Maine,” prepared by Haley & Aldrich, Inc., dated 30 December 2019.

3. Report entitled, “Geotechnical Data Report, Foreside Development, 58 Fore Street, Portland, Maine,” prepared by Haley & Aldrich, Inc., dated 20 December 2019.

4. Report entitled, “Preliminary Geotechnical Design Report, Portland Company Redevelopment, 58 Fore Street, Portland, Maine,” prepared by Haley & Aldrich, Inc., dated 4 May 2017.

5. Report entitled, “Preliminary Geotechnical Investigation, Proposed Development, Portland Yacht Services Property, 58 Fore Street, Portland, Maine,” prepared by S.W. Cole Engineering, Inc. for Portland Yacht Company, dated 6 November 2007.

TABLE I
Subsurface Exploration Stratigraphic Data
Foreside Block Four Development
58 Fore Street
Portland, Maine

Haley & Aldrich, Inc. File No.: 39486-881

Test Boring No.[1]	Approx. Ground Surface Elevation[2,3] (ft)	Stratigraphic Data[3,4]													Approximate Depth of Bottom of Exploration (ft)	Approximate Elevation of Bottom of Exploration[2,3]
		Bituminous Concrete/Topsoil/Fill			Marine Deposit			Glacial Till Deposit			Weathered Bedrock			Bedrock		
		Depth to Top (ft)	Elev. of Top (ft)	Thickness (ft)	Depth to Top (ft)	Elev. of Top (ft)	Thickness (ft)	Depth to Top (ft)	Elev. of Top (ft)	Thickness (ft)	Depth to Top (ft)	Elev. of Top (ft)	Thickness (ft)	Depth to Top (ft)	Elev. of Top (ft)	
HA16-1(OW)	75.0	0.0	75.0	4.0	NE	NE	NE	4.0	71.0	59.8	NE	NE	NE	63.8	11.2	74.2	0.8
HA16-2	14.5	0.0	14.5	4.6	NE	NE	NE	4.6	9.9	12.8	NE	NE	NE	17.4	-2.9	22.4	-7.9
HA16-9	14.5	0.0	14.5	5.6	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.6	8.9	11.5	3.0
HA16-10	13.5	0.0	13.5	4.5	NE	NE	NE	4.5	9.0	30.9	NE	NE	NE	35.4	-21.9	40.5	-27.0
HA19-4	53.5	0.0	53.5	11.9	11.9	41.6	28.6	40.5	13.0	3.9	NE	NE	NE	44.4	9.1	55.0	-1.5
HA19-5	74.5	0.0	74.5	10.0	NE	NE	NE	10.0	64.5	49.2	NE	NE	NE	59.2	15.3	64.3	10.2
HA19-9	15.5	0.0	15.5	2.0	NE	NE	NE	2.0	13.5	13.0	15.0	0.5	3.0	18.0	-2.5	28.0	-12.5
HA19-10(OW)	17.0	0.0	17.0	3.5	3.5	13.5	5.0	8.5	8.5	5.2	NE	NE	NE	13.7	3.3	23.0	-6.0
HA19-11	17.0	0.0	17.0	2.0	2.0	15.0	5.3	NE	NE	NE	NE	NE	NE	7.3	9.7	12.5	4.5
HA19-14	13.5	0.0	13.5	2.7	2.7	10.8	3.8	6.5	7.0	6.9	NE	NE	NE	13.4	0.1	18.4	-4.9
HA19-15(OW)	16.0	0.0	16.0	1.5	NE	NE	NE	1.5	14.5	11.0	NE	NE	NE	12.5	3.5	18.5	-2.5
HA19-16	15.0	0.0	15.0	11.0	11.0	4.0	3.0	14.0	1.0	3.4	NE	NE	NE	17.4	-2.4	23.0	-8.0
HA19-17	15.5	0.0	15.5	17.5	NE	NE	NE	17.5	-2.0	1.4	18.9	-3.4	1.4	20.3	-4.8	25.3	-9.8
HA19-18	15.5	0.0	15.5	8.5	8.5	7.0	7.8	NE	NE	NE	NE	NE	NE	16.3	-0.8	21.3	-5.8
HA19-19	16.0	0.0	16.0	1.5	NE	NE	NE	1.5	14.5	3.7	NE	NE	NE	5.2	10.8	11.7	4.3
HA19-20	13.5	0.0	13.5	8.0	8.0	5.5	16.0	24.0	-10.5	16.0	NE	NE	NE	40.0	-26.5	45.5	-32.0
HA19-21	13.5	0.0	13.5	9.0	9.0	4.5	7.5	NE	NE	NE	NE	NE	NE	16.5	-3.0	23.9	-10.4
HA22-1(OW)	12.8	0.0	12.8	20.5	20.5	-7.7	18.6	NE	NE	NE	NE	NE	NE	39.1	-26.3	45.0	-32.2
HA22-9	32.2	0.0	32.2	12.0	NE	NE	NE	12.0	20.2	2.0	NE	NE	NE	14.0	18.2	19.0	13.2
HA22-101	15.7	0.0	15.7	2.0	2.0	13.7	4.6	NE	NE	NE	NE	NE	NE	6.6	9.1	12.0	3.7
HA22-102	15.1	0.0	15.1	14.0	NE	NE	NE	14.0	1.1	0.8	NE	NE	NE	14.8	0.3	20.5	-5.4
HA22-103	15.5	0.0	15.5	6.5	NE	NE	NE	6.5	9.0	3.2	NE	NE	NE	9.7	5.8	15.6	-0.1
HA22-104	14.7	0.0	14.7	11.3	NE	NE	NE	11.3	3.4	2.8	NE	NE	NE	14.1	0.6	19.5	-4.8
HA22-112	33.0	0.0	33.0	6.0	NE	NE	NE	6.0	27.0	11.2	NE	NE	NE	17.2	15.8	22.5	10.5

Notes:

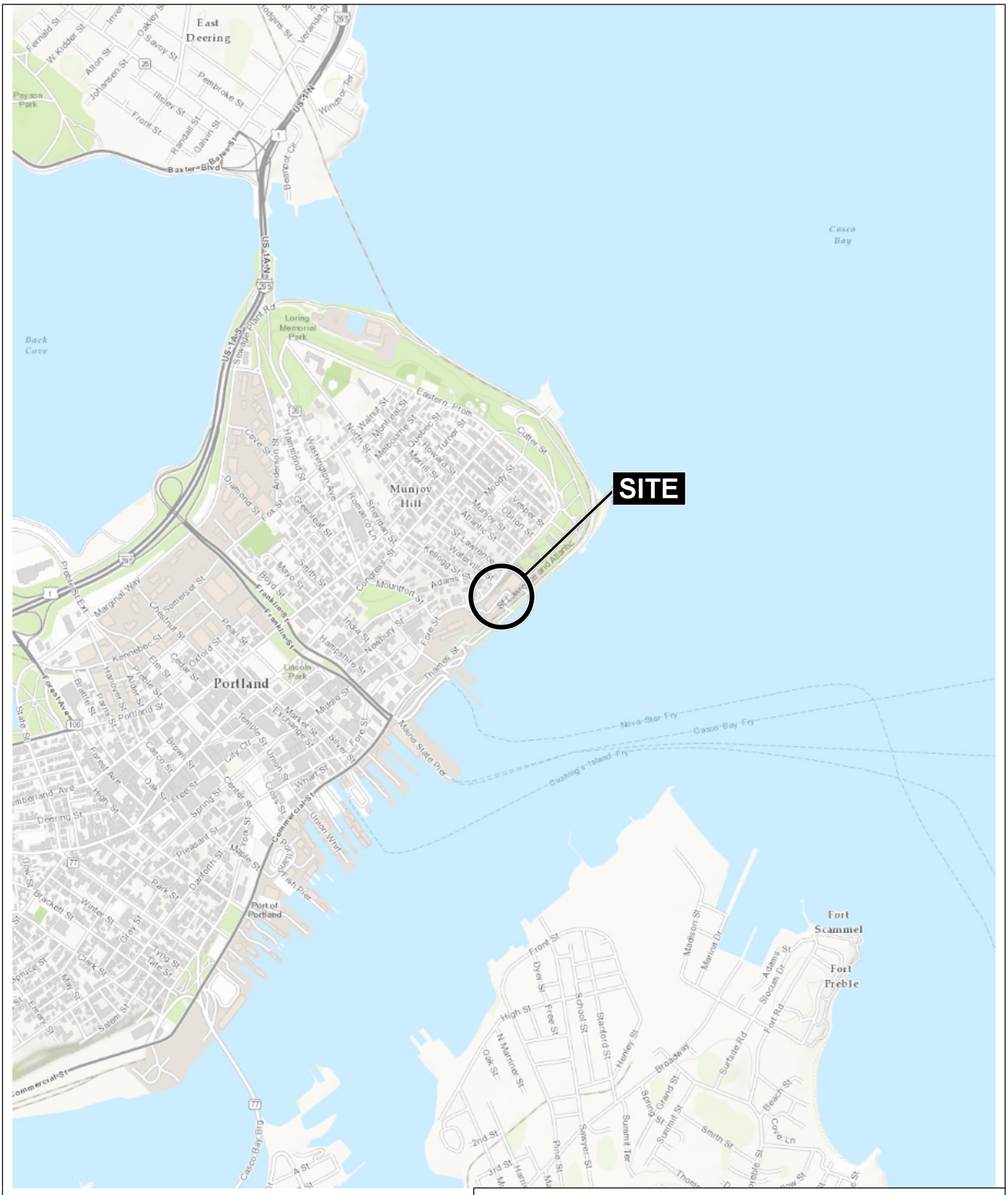
[1] - Test boring locations are shown on Figure 2, Site and Subsurface Exploration Location Plan.

[2] - Ground surface elevations at HA16 and HA19-series test boring locations were estimated by Haley & Aldrich, Inc. by interpolating between ground surface elevation contours provided at the time the test borings were completed (2016 and 2019), have been rounded to the nearest 0.5 ft and are considered approximate. Ground surface elevations at HA22-series test boring locations were determined by Owen Haskell, Inc. upon the completion of drilling using GPS survey equip.

[3] - Elevations are measured in feet and reference the Portland City Datum (PCD).

[4] - "NE" indicates stratum was not encountered in test boring.

	Individual	Date
Prepared By:	TPJ	10/3/2022
Checked By:	BCS	10/6/2022
Reviewed By:	WAC	10/12/2022



MAP SOURCE: ESRI

SITE COORDINATES: 43°39'46"N, 70°14'38"W





HALEY ALDRICH

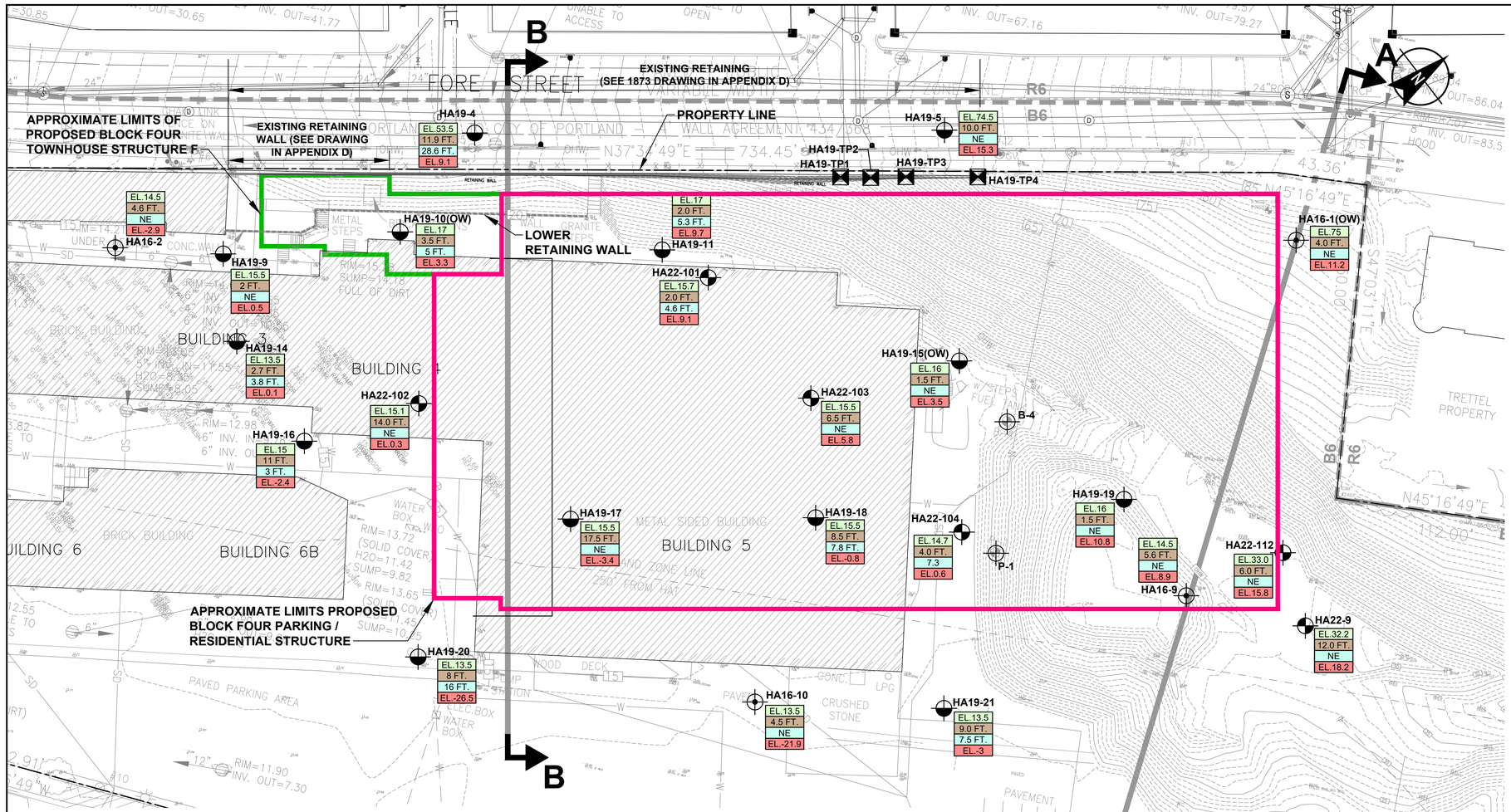
FORESIDE BLOCK FOUR DEVELOPMENT
58 FORE STREET
PORTLAND, MAINE

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
OCTOBER 2022

FIGURE 1

39486-872_1_LOCUS.PDF



LEGEND

- **HA22-1 / HA22-101** — DESIGNATION AND LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF HERMON, MAINE (HA22-1 SERIES) AND NORTHERN TEST BORINGS, INC. OF GORHAM, MAINE (HA22-100 SERIES) UNDER THE DIRECTION OF HALEY & ALDRICH, INC. IN MARCH AND APRIL 2022 (HA22-1 SERIES) AND SEPTEMBER 2022 (HA22-100 SERIES)
- **HA19-TP1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT HAND-EXCAVATED BY PORTLAND FORESIDE DEVELOPMENT COMPANY AND OBSERVED BY HALEY & ALDRICH, INC. ON 10 DECEMBER 2019
- **HA19-1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF LONDONDERRY, NEW HAMPSHIRE UNDER THE DIRECTION OF HALEY & ALDRICH IN JANUARY AND FROM MAY TO JULY 2019
- **HA16-1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF LONDONDERRY, NEW HAMPSHIRE UNDER THE DIRECTION OF HALEY & ALDRICH DURING THE PERIOD 13 DECEMBER 2016 TO 5 JANUARY 2017
- **B-3 / P-1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING AND AUGER PROBE DRILLED BY GREAT WORKS TEST BORING, INC. OF ROLLINGSFORD, NEW HAMPSHIRE UNDER THE DIRECTION OF S.W. COLE ENGINEERING INC. DURING THE PERIOD 24 TO 26 SEPTEMBER 2007
- **(OW)** — INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
- EXPLORATION DATA BOX
  - EL.75 — APPROXIMATE GROUND SURFACE ELEVATION
  - 4.0 FT. — APPROXIMATE FILL THICKNESS
  - NE — APPROXIMATE MARINE DEPOSIT THICKNESS
  - EL.11.2 — APPROXIMATE TOP OF WEATHERED BEDROCK OR BEDROCK ELEVATION, WHICHEVER IS HIGHER "NE" DENOTES STRATUM NOT ENCOUNTERED
- **A A** — DESIGNATION, LOCATION AND ORIENTATION OF SUBSURFACE PROFILE, SEE FIGURE 3

0 30 60 90 120
SCALE IN FEET

NOTES

1. BASE PLAN CREATED BY HALEY & ALDRICH, INC. USING THE FOLLOWING REFERENCES:
   a. EXISTING GROUND SURFACE ELEVATION CONTOURS AND THE LOCATION AND ORIENTATION OF EXISTING SITE FEATURES ARE TAKEN FROM THE CAD FILE ENTITLED "XR_EX BASE 2022 (COMPILED).DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 2 MAY 2022.
   b. LOCATION AND ORIENTATION OF THE EXISTING FORE STREET RETAINING WALL TAKEN FROM THE CAD FILE ENTITLED "XR_0232341 EXBASE.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 30 OCTOBER 2019.
   c. LOCATION AND ORIENTATION OF EXISTING STRUCTURES OCCUPYING THE TRETTEL PROPERTY ARE TAKEN FROM THE CAD FILE ENTITLED "PFDC MASTER SITE PLAN V3.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 29 MARCH 2022.
   d. LOCATION OF "B-4" AND "P-1" EXPLORATIONS COMPLETED UNDER THE DIRECTION OF S.W. COLE ENGINEERING, INC. IN SEPTEMBER 2007 ARE TAKEN FROM THE CAD FILE ENTITLED "XR_227007.03-X00C.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 2 AUGUST 2016.
   e. PROPOSED BUILDING LAYOUT, IS TAKEN FROM THE CAD FILES ENTITLED "BLOCK 4-SHEET- S1-1-LEVEL 1-FOUNDATION PLAN.DWG", "BLOCK 4-SHEET-S1-2-LEVEL 2 FRAMING PLAN.DWG", "BLOCK 4-SHEET-S1-3-LEVEL 3 FRAMING PLAN.DWG" AND "BLOCK 4-SHEET-S1-4-LEVEL 4 FRAMING PLAN.DWG" PROVIDED BY THORNTON TOMASETTI OF PORTLAND, MAINE ON 29 SEPTEMBER 2022.
2. THE PLAN LOCATION AND ORIENTATION OF THE EXISTING STRUCTURES OCCUPYING THE TRETTEL PROPERTY WERE DETERMINED BY SCALING AND ROTATING REFERENCE DRAWING 1C USING EXISTING PROPERTY LINE INFORMATION AND IS CONSIDERED APPROXIMATE.
3. THE PROPOSED BUILDING LAYOUT, WAS DETERMINED BY SCALING AND ROTATING REFERENCE DRAWINGS 1E USING THE EXISTING LOWER RETAINING WALL INFORMATION THAT IS PRESENT IN THE VICINITY OF THE TOWNHOUSE AND IS CONSIDERED APPROXIMATE.
4. THE LOCATION OF GAS AND SANITARY AND STORM SEWERS IN FORE STREET ARE TAKEN FROM THE CAD FILE ENTITLED "XR_FORE AS BUILT.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 4 OCTOBER 2022."
5. THE PLAN LOCATIONS OF "HA16" AND "HA19" SERIES TEST BORINGS WERE DETERMINED BY TAPING DISTANCES TO/FROM EXISTING SITE FEATURES AND ARE CONSIDERED APPROXIMATE. THE PLAN LOCATIONS OF "HA22" SERIES TEST BORINGS WERE DETERMINED BY OWEN HASKELL, INC. USING GPS SURVEY EQUIPMENT UPON THE COMPLETION OF DRILLING.
6. GROUND SURFACE ELEVATIONS AT "HA16" AND "HA19" SERIES TEST BORINGS WERE DETERMINED BY HALEY & ALDRICH, INC. BY INTERPOLATING BETWEEN EXISTING GROUND SURFACE TOPOGRAPHIC CONTOUR INFORMATION AVAILABLE AT THE TIME THE TEST BORINGS WERE COMPLETED AND ARE CONSIDERED APPROXIMATE.
7. GROUND SURFACE ELEVATIONS AT "HA22" SERIES TEST BORINGS WERE DETERMINED BY OWEN HASKELL, INC. USING GPS SURVEY EQUIPMENT UPON THE COMPLETION OF DRILLING.
8. ELEVATIONS ARE FEET AND REFERENCE PORTLAND CITY DATUM.
9. REFER TO APPENDIX A FOR TEST BORING AND TEST PIT LOGS AND ROCK CORE PHOTOGRAPHS, APPENDIX B FOR OBSERVATION WELL INSTALLATION AND GROUNDWATER MONITORING REPORTS, APPENDIX C FOR LABORATORY TEST RESULTS, AND APPENDIX D FOR HISTORIC DRAWINGS.

HALEY ALDRICH

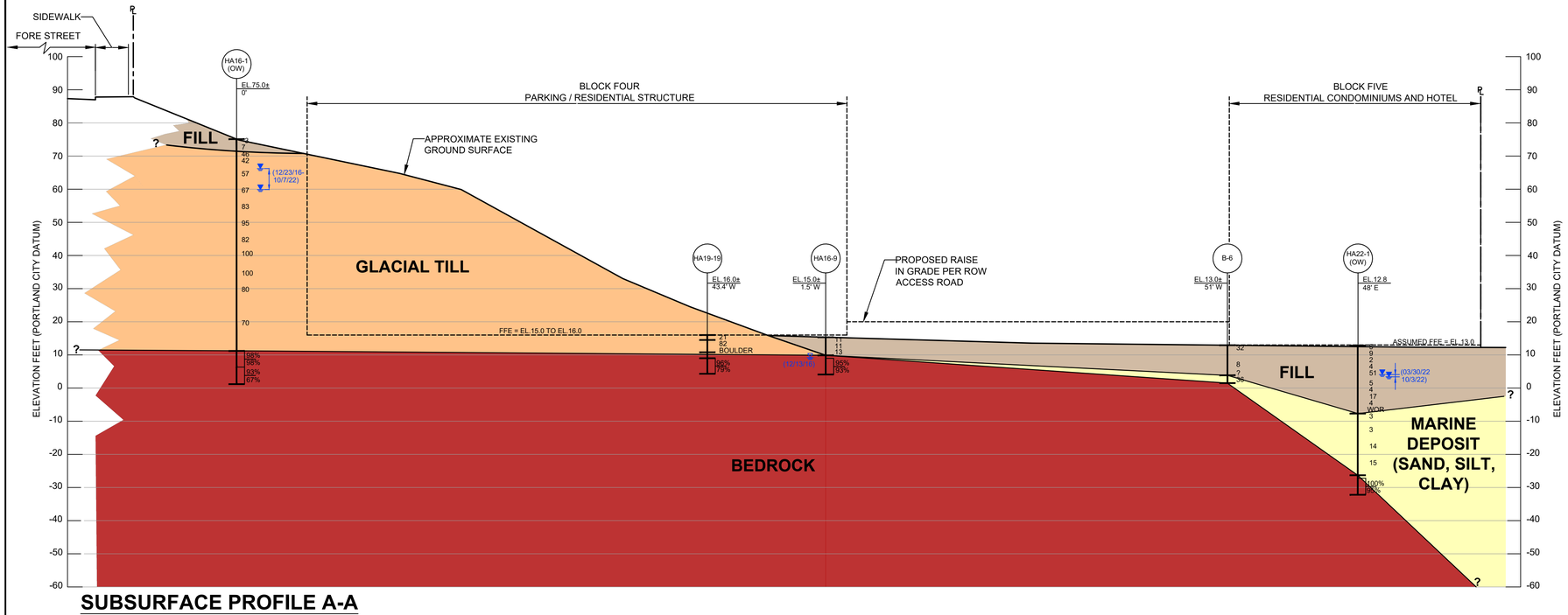
FORESIDE BLOCK FOUR DEVELOPMENT
58 FORE STREET
PORTLAND, MAINE

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
OCTOBER 2022

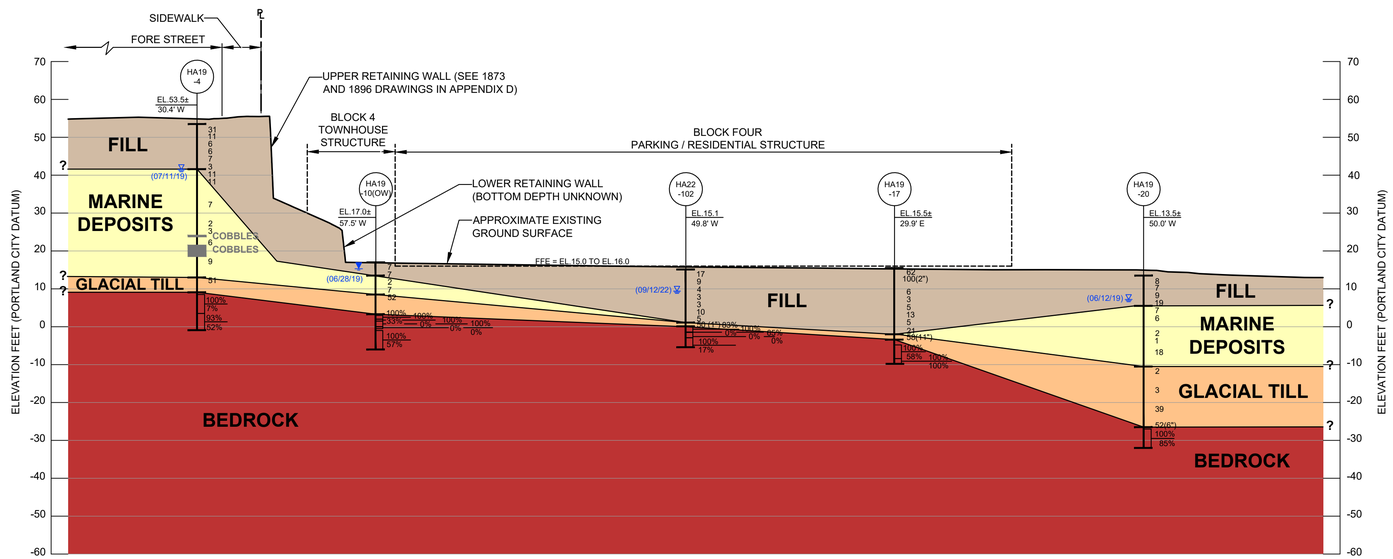
FIGURE 2

Saved by: TAM
\\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GLOBAL CAD\39486-882-D014.DWG
Printed: 10/19/2022 2:30 PM
Sheet: D014



SUBSURFACE PROFILE A-A

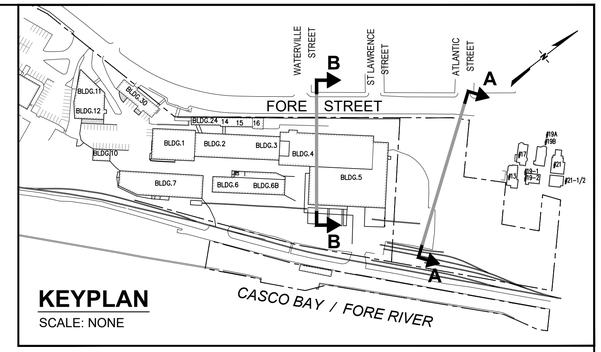
SCALE: AS SHOWN



SUBSURFACE PROFILE B-B

SCALE: AS SHOWN

HORIZ. 0 20 40 60 80
VERT. 0 20 40 60 80
SCALE IN FEET



KEYPLAN

SCALE: NONE

LEGEND

- HA16-1 (OW) — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING. "OW" INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
- EL 23.5± / 9' S — APPROXIMATE GROUND SURFACE ELEVATION AT TEST BORING LOCATION; APPROXIMATE PERPENDICULAR OFFSET DISTANCE AND DIRECTION MEASURED FROM THE SUBSURFACE PROFILE LINE
- 29 — SAMPLE OBTAINED BY DRIVING A 1-3/8-INCH I.D. SPLIT SPOON SAMPLER WITH A 140-LB HAMMER. NUMBER INDICATES STANDARD PENETRATION RESISTANCE, "N", UNLESS NOTED OTHERWISE
  - 100/5" = 100 BLOWS, 5 INCHES OF PENETRATION
- INTERPRETED GEOLOGIC STRATUM, DASHED WHERE INFERRED
- 100% / 57% — PERCENT RECOVERY / PERCENT ROCK QUALITY DESIGNATION (RQD)
- BOTTOM OF EXPLORATION
- (DEC. 2016 - FEB. 2017) ▼ — GROUNDWATER LEVEL MEASURED IN OBSERVATION WELL ON DATE SPECIFIED
- (06/12/19) ▽ — WATER LEVEL MEASURED IN BOREHOLE DURING AND/OR AFTER DRILLING ON DATE SPECIFIED

NOTES

1. SEE FIGURE 2 FOR PLAN LOCATION OF EXPLORATIONS SHOWN AND FOR ORIENTATION AND LOCATION OF SUBSURFACE PROFILES.
2. SITE FEATURES, GROUND SURFACE ELEVATIONS AND PLAN LOCATION OF PROPOSED STRUCTURES TAKEN FROM THE ELECTRONIC FILE TITLED, " 58 FORE STREET HA.DWG." PROVIDED TO HALEY & ALDRICH BY WOODARD & CURRAN, DATED 5 JANUARY 2017.
3. SUBSURFACE PROFILES DEPICT THE GENERAL GEOLOGIC CONDITIONS AT THE SITE AND ARE BASED ON INTERPRETATION OF DATA ENCOUNTERED IN THE EXPLORATIONS. LINES REPRESENTING INTERFACES BETWEEN STRATA ON THE PROFILE ARE BASED UPON INTERPOLATION BETWEEN ADJACENT EXPLORATIONS. THIS FIGURE SHOWS THE ACTUAL SEQUENCE OF STRATA ENCOUNTERED AT EACH EXPLORATION LOCATION. ACTUAL SOIL CONDITIONS AND INTERFACES BETWEEN SUBSURFACE EXPLORATIONS MAY VARY SIGNIFICANTLY FROM THOSE INDICATED ON THE PROFILES.
4. MATERIAL DESCRIPTIONS ARE GENERALIZED AND INDICATE SAMPLES WITH A NATURAL DEGREE OF VARIATION. REFER TO THE TEST BORING LOGS IN APPENDIX A FOR INDIVIDUAL SAMPLE DESCRIPTIONS.
5. ELEVATIONS ARE IN FEET AND REFERENCE PORTLAND CITY DATUM.
6. REFER TO APPENDIX A FOR TEST BORING LOGS AND ROCK CORE PHOTOGRAPHS, APPENDIX B OBSERVATION WELL INSTALLATION AND GROUNDWATER MONITORING REPORTS, APPENDIX C FOR LABORATORY TEST RESULTS, AND APPENDIX D FOR HISTORIC DRAWINGS.

HALEY ALDRICH

FORESIDE BLOCK FOUR DEVELOPMENT
58 FORE STREET
PORTLAND, MAINE

SUBSURFACE PROFILE A-A AND B-B

SCALE: AS SHOWN
OCTOBER 2022

FIGURE 3

Printed: 10/19/2022 2:30 PM Sheet: D015
Saved by: TAM \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GLOBAL CAD\39486-882-D0114.DWG

APPENDIX A

Test Boring Logs and Rock Core Photographs

2022 Haley & Aldrich, Inc.
Test Boring Logs and
Rock Core Photographs

TEST BORING REPORT

Boring No. HA22-1(OW)

Project	Foreside Block 6 Development, 58 Fore Street, Portland, Maine
Client	PF Six Devco, LLC.
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile B53 Bombardier #19
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW to 39.1 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-882
Sheet No.	1 of 3
Start	23 March 2022
Finish	23 March 2022
Driller	T. Schaefer
H&A Rep.	T. Jones
Elevation	12.8
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per ft	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 2 3 13	S1 5	0.0 2.0	HW Wash Ahead to 20 ft			SW	Loose dark brown well-graded SAND with gravel, mps 0.75 in., no odor, dry		15	20	35	25	5				
								-FILL-										
	7 6 3 3	S2 21	2.0 4.0				SW	Loose black well-graded SAND with gravel (SW), mps 0.75 in., no odor, dry		15	15	20	50					
						8.8												
	3 1 1 2	S3 7	4.0 6.0			4.0	SM	Very loose dark brown to brown silty SAND (SM), mps 0.5 in., slightly bonded, no odor, moist		5	10	15	40	30				
5								-FILL-										
	2 1 3 1	S4A/B 13	6.0 8.0			6.2	SM	Similar to S3		10	10	15	35	30				
						6.6	GP	Very loose black poorly-graded GRAVEL with sand (GP), mps 0.75 in., no odor, moist		60	20	10	10					
						4.8		-FILL-										
	2 1 50 50/3"	S5 15	8.0 10.0			8.0	SM	Very loose to very dense black silty SAND with gravel (SM), mps 1.25 in., slight odor, wet, wood in tip	20	10	10	5	40	15				
10								-FILL-										
								Note: Wood observed in wash water.										
	2 2 3 1	S6 NR	11.0 13.0															
						-0.2												
	2 1 3 9	S7 9	13.0 15.0			13.0	GP-GM	Loose black poorly-graded GRAVEL with silt and sand (GP-GM), mps 1 in., no odor, wet	10	40	15	10	15	10				
								-FILL-										
15	7 7 10 9	S8 13	15.0 17.0				GP	Medium dense black poorly-graded GRAVEL with sand (GP), mps 1 in., no odor, wet, trace wood, fine sand layer	10	40	10	5	30	5				
	6 3 1 1	S9 8	17.0 19.0				GP-GM	Very loose black poorly-graded GRAVEL with silt and sand (GP-GM), mps 1 in., no odor, wet, iron fragment	10	40	5	15	20	10				
	2 WOR	S10A/B 15	19.0 21.0				GM	Very loose black silty GRAVEL with sand (GM), mps 1 in., no odor, wet	15	35	10	10	10	20				
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

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)	39.1
Rock Cored (ft)	5.0
Samples	14S, 1C

Boring No. HA22-1(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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_TEST BORINGS.GPJ 12 May 22

TEST BORING REPORT

Boring No. HA22-1(OW)
File No. 39486-882
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per ft	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	WOR WOR			23		-7.7 20.5 -8.2	ML	Very soft dark gray SILT with organics (ML), mps 0.425 mm, no odor, wet, trace wood					10	90				
	4 1 2 2	S11 16	21.0 23.0	39 32		21.0	SM	Very loose gray silty SAND with gravel (SM), mps 1 in., no odor, wet, wood in tip -MARINE DEPOSIT-		24	9	14	38	15				
				36 33														
25						-12.2												
	2 1 2 1	S12 10	25.0 27.0	32 40		25.0	SP-SM	Very loose gray poorly-graded SAND with silt and gravel (SP-SM), mps 0.75 in., no odor, wet -MARINE DEPOSIT-	18	6	7	12	47	10				
				46 59 68														
30	6 7 7 7	S13 11	30.0 32.0	44 50			SP	Medium dense gray poorly-graded SAND with gravel (SP), mps 1.25 in., no odor, wet	15	15	5	20	40	5				
				42 61 47														
35	4 7 8 7	S14A/B 13	35.0 37.0	41 63		-22.2 35.0 -23.2 36.0	SM ML	Medium dense gray-brown silty SAND with gravel (SM), mps 0.25 in., no odor, wet -MARINE DEPOSIT- Very stiff gray-brown SILT with sand (ML), mps 1 mm, no odor, wet -MARINE DEPOSIT- Note: Top of bedrock at 39.1 ft below ground surface.		15 10	10 10	30 5	25 10	20 65				
				87 96 14/2"		-26.3 39.1		Note: Advance rollerbit to 40.0 ft. Begin NQ rock core at 40.0 ft.										
40						-27.2 40.0		SEE CORE BORING REPORT FOR ROCK DETAILS										
45																		

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA22-1(OW)

H&A-TEST BORING-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_TEST BORINGS.GPJ 12 May 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-1(OW)
File No. 39486-882
Sheet No. 3 of 3

Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recovery/RQD in.	Recovery/RQD %	Weath-ering	Well Dia-gram	Elev./ Depth (ft)	Visual Description and Remarks
									SEE TEST BORING REPORT FOR OVERBURDEN DETAILS
40	2:47	C1	40.0	60	100	Fresh			Hard, fresh, gray, aphanitic to fine-grained PHYLLITE. Primary joints dipping at horizontal to moderate angles, very close to moderately spaced, planar, rough, tight to open.
	1:58		45.0	57	95				
	1:48								
	2:00								
	1:15								
45								-32.2	
								45.0	BOTTOM OF EXPLORATION 45.0 FT
50									
55									
60									
65									
70									
75									

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_TEST BORINGS.GPJ 12 May 22

TEST BORING REPORT

Boring No. HA22-9

Project	Foreside Block 6 Development, 58 Fore Street, Portland, Maine
Client	PF Six Devco, LLC.
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile B53 Bombardier #19
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW to 14.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-882
Sheet No.	1 of 2
Start	24 March 2022
Finish	24 March 2022
Driller	T. Schaefer
H&A Rep.	T. Jones
Elevation	32.2
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per 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	2 5 7 8	S1 15	0.0 2.0	HW Push to 8 ft		SM	Medium dense dark brown silty SAND with gravel (SM), mps 1 in., no odor, dry, trace wood		34	7	21	23	15				
							-FILL-										
	5 11 12 5	S2 17	2.0 4.0			SM	Medium dense gray-brown silty SAND with gravel (SM), mps 1.5 in., no odor, moist, trace brick, grading brown to gray last 6 in.		34	7	21	23	15				
5	3 1 1 2	S3 11	4.0 6.0			SM	Very loose dark gray silty SAND with gravel (SM), mps 1 in., no odor, moist, trace brick		32	9	21	23	5				
	2 2 2 2	S4 7	6.0 8.0			SM	Similar to S3, trace wood, no brick		32	9	21	23	15				
					24.2												
	4 2 2 2	S5 3	8.0 10.0	11 7	8.0	SM	Very loose dark brown silty SAND with gravel (SM), mps 0.5 in., no odor, wet, trace brick		15	10	20	40	15				
							-FILL-										
10					22.2												
	4 3 4 6	S6 7	10.0 12.0	14 12	10.0	ML	Medium stiff dark gray sandy SILT (ML), mps 0.5 in., no odor, wet, trace roots, probable reworked glacial till		10	5	5	30	50				
							-FILL-										
					20.2												
	8 14 20 25/4"	S7A/B 14	12.0 14.0	40 25/5"	12.0	SM	Dense brown silty SAND with gravel (SM), mps 1 in., no odor, wet	5	10	10	15	25	35				
					19.6		-GLACIAL TILL-										
					12.6	SM	Dense brown silty SAND (SM), mps 0.5 in., no odor, wet		10	10	20	30	30				
							-GLACIAL TILL-										
					18.2												
					14.0		Note: Used 300-lb hammer for S7.										
							Note: Top of bedrock at 14.0 ft below ground surface.										
15							SEE CORE BORING REPORT FOR ROCK DETAILS										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
3/28/22	1130	0	14.0	19.0	8.7

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)	14.0
Rock Cored (ft)	5.0
Samples	7S, 1C

Boring No. HA22-9

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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_TEST BORINGS.GPJ 12 May 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-9
File No. 39486-882
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	2:57 3:19 2:50 3:47 4:17	C1	14.0 19.0	59 36	98 60	Fresh to Slight		Hard, fresh to slightly weathered, gray/white, fine-grained to aphanitic SCHIST. Joints dipping at low to moderate angles, very close to close, planar to undulating/stepped, rough, tight to open. Oxidation on some joint surfaces, slight weathering. Secondary high angle joints parallel to foliation, frequent quartz veins throughout core stem, quartz intrusion from approximately 17.8 to 19.0 ft.
							13.2 19.0	BOTTOM OF EXPLORATION 19.0 FT
20								
25								
30								
35								
40								
45								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_TEST BORINGS.GPJ 12 May 22

TEST BORING REPORT

Boring No. HA22-101

Project	Foreside Block 4 Development, 58 Fore Street, Portland, Maine
Client	PF FOUR DEVCO, LLC.
Contractor	Northern Test Boring, Inc.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Track: Diedrich #377
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: Auger to 4.0 ft/HW to 6.6 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-881
Sheet No.	1 of 2
Start	13 September 2022
Finish	13 September 2022
Driller	M. Nadeau
H&A Rep.	T. Jones
Elevation	15.7
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per 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	8 6 4 9	S1 10	0.0 2.0			SW-SM	Loose black and brown well-graded SAND with silt (SP-SM), mps 0.5 in., no odor, dry		5	30	30	25	10				
							-FILL-										
					13.7												
	7 4 5 7	S2 9	2.0 4.0		2.0	SP-SM	Loose brown poorly-graded SAND with silt (SP-SM), mps 5 mm, no odor, moist			10	30	50	10				
							-MARINE DEPOSIT-										
					11.7												
	9 8 7 12	S3 14	4.0 6.0	26 51	4.0	SW	Medium dense light brown well-graded SAND (SW), mps 0.75 in., no odor, wet		5	25	40	25	5				
5							-MARINE DEPOSIT-										
	50/5"	S4 6	6.0 6.5	61/6"	9.1	SW	Similar to S3		5	30	35	25	5				
					6.6		Note: Top of bedrock at 6.6 ft.										
					8.7		Note: Advanced rollerbit to 7.0 ft. Begin NQ core at 7.0 ft.										
					7.0		SEE CORE BORING REPORT FOR ROCK DETAILS										
10																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
9/13/22	0900	0.25	N/A	5.5	1.5

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)	6.5
Rock Cored (ft)	5.0
Samples	4S, 3C

Boring No. HA22-101

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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-101
File No. 39486-881
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
	2:39	C1	7.0 8.3	15 13	96 83	Fresh		Hard, fresh, gray, aphanitic PHYLLITE. Primary joints horizontal, moderately spaced, planar, rough, open.
	0:33 1:15	C2	8.3 10.3	22 9	92 38	Fresh		Hard, fresh, gray, aphanitic PHYLLITE. Primary joints horizontal and high angles, closely spaced, planar and stepped, smooth to rough, tight to open.
10	1:38 1:25 1:13	C3	10.3 12.0	18 13	88 64	Fresh		Similar to C2.
	2:23						3.7 12.0	BOTTOM OF EXPLORATION 12.0 FT
15								
20								
25								
30								
35								
40								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

TEST BORING REPORT

Boring No. HA22-102

Project	Foreside Block 4 Development, 58 Fore Street, Portland, Maine
Client	PF FOUR DEVCO, LLC.
Contractor	Northern Test Boring, Inc.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Track: Diedrich #377
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: Auger to 10.0 ft/HW to 14.8 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-881
Sheet No.	1 of 2
Start	12 September 2022
Finish	12 September 2022
Driller	M. Nadeau
H&A Rep.	T. Jones
Elevation	15.1
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per 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	11 10 7 10	S1 16	0.0 2.0	Push		SW	Medium dense black-brown well-graded SAND with gravel (SW), mps 0.5 in., no odor, dry		15	15	30	35	5				
							-FILL-										
	15 5 4 4	S2 7	2.0 4.0			SW	Similar to S1, except loose		5	15	35	40	5				
					11.1												
	4 2 2 2	S3 12	4.0 6.0		4.0	SM	Very loose brown-gray silty SAND (SM), mps 0.5 in., no odor, moist, mottled		10	10	20	30	30				
5						SM	Similar to S3, except wet		5	10	20	35	30				
							-FILL-										
	5 1 2 1	S4A/B 24	6.0 8.0			SM	Very loose gray silty SAND (SM), mps 5 mm, well bonded, no odor, wet			10	20	35	35				
	1 2 1 8	S5 8	8.0 10.0			SM	Very loose gray-brown silty SAND with gravel (SM), mps 1 in., well bonded, no odor, wet	5	25	10	15	20	25				
10	6 4 6 8	S6A/B 19	10.0 12.0		4.6	SM	Medium dense gray-brown silty SAND (SM), mps 0.5 in.,		10	10	20	30	30				
					10.5	SP	moderately bonded, no odor, wet		5	10	40	35	10				
				39			Loose light brown poorly-graded SAND (SP), mps 5 mm, no odor, wet, trace brick (1.5-in. dia. piece)										
							-FILL-										
	6 3 2 3	S7 22	12.0 14.0	51 50		SP	Similar to 5B, except mps 1.0 in.	5	5	10	35	40	5				
					1.1												
	3 50/1"	S8 6	14.0 14.6	24/10"	14.0	SM	Loose, gray, silty SAND (SM), mps 1.0 in., well bonded, no odor, wet	5	5	15	15	25	35				
15					0.3 14.8		-GLACIAL TILL-										
					0.1 15.0		Note: Top of bedrock at 14.8 ft										
							Note: Advanced rollerbit to 15.0 ft. Begin NQ 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
9/12/22	1215	0	14.0	8.9	6.5
9/12/22	1350	0.25	N/A	14.7	5.7

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)	14.8
Rock Cored (ft)	5.5
Samples	8S, 4C

Boring No. HA22-102

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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-102
File No. 39486-881
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	1:18	C1	15.0	15	83	Fresh		Hard, fresh, aphanitic PHYLLITE. Primary joints horizontal to vertical angles, very close to close, planar, smooth, tight to open.
			16.5	0	0			
	1:03							
	2:27	C2	16.5	2	100	Fresh		Similar to C1.
	4:00	C3	16.6	0	0	Fresh		Similar to C1.
	2:00		16.6	11	65			
	1:40	C4	18.0	0	0	Fresh		Hard, fresh, gray, aphanitic PHYLLITE. Primary joint horizontal to high angles, very close to close, planar to stepped, smooth, tight, occasional calcite stringers and quartz vein approximately 1-in. thick.
			18.0	30	100			
	2:17		20.5	5	17			
20	2:14						-5.4	
							20.5	BOTTOM OF EXPLORATION 20.5 FT
25								
30								
35								
40								
45								
50								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

TEST BORING REPORT

Boring No. HA22-103

Project	Foreside Block 4 Development, 58 Fore Street, Portland, Maine
Client	PF FOUR DEVCO, LLC.
Contractor	Northern Test Boring, Inc.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Track: Diedrich #377
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: Auger to 8.0 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-881
Sheet No.	1 of 2
Start	12 September 2022
Finish	12 September 2022
Driller	M. Nadeau
H&A Rep.	T. Jones
Elevation	15.5
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per 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	12 12 9 6	S1 15	0.0 2.0	Push	15.1 0.4	SW	-BITUMINOUS CONCRETE- Medium dense black and brown well-graded SAND (SW), mps 0.75 in., no odor, dry		10	10	35	40	5				
					13.5		-FILL-										
	6 7 8 9	S2 13	2.0 4.0		2.0	SW-SM	Medium dense light brown well graded SAND with silt (SW-SM), mps 5 mm, no odor, moist			20	30	40	10				
							-FILL-										
	13 15 14 19	S3 10	4.0 6.0			SW-SM	Medium dense light brown well-graded SAND with silt and gravel (SW-SM), mps 0.5 in., no odor, moist		15	20	25	30	10				
5																	
	21 20 36 23	S4A/B 18	6.0 8.0	45 5	9.0 6.5	SW-SM ML	Similar to S3 Hard gray sandy SILT (ML), mps 1 in., well bonded, no odor, moist		15 10	20 10	25 10	30 15	10 55				
							-GLACIAL TILL-										
	15 17 50/4"	S5 15	8.0 9.3	64 49/8"		ML	Similar to S4B		10	10	10	20	50				
							Note: Top of bedrock at 9.7 ft.										
					5.8 9.7		Note: Advanced rollerbit to 10.0 ft. Begin NQ core at 10.0 ft.										
10					5.5 10.0		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
9/12/22	1130	0.25	N/A	10.0	2.0

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)	9.7
Rock Cored (ft)	5.5
Samples	5S, 2C

Boring No. HA22-103

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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-103
File No. 39486-881
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
10	1:58	C1	10.0	41	111	Fresh		Hard, fresh to slightly weathered, gray, aphanitic to fine-grained PHYLLITE. Primary joints dipping at horizontal to high angles, very close to closely spaced, planar and stepped, smooth to rough, tight to open, occasional calcite veins.
	1:36		13.1	8	22	to Slight		
	1:38							
	0:20	C2	13.1	29	97	Fresh		Similar to C1, except close to moderately spaced. Primary joints dipping at horizontal to low angles.
	1:46		15.6	17	57	to Slight		
	1:37							
15	0:45						-0.1	
							15.6	BOTTOM OF EXPLORATION 15.6 FT
20								
25								
30								
35								
40								
45								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

TEST BORING REPORT

Boring No. HA22-104

Project	Foreside Block 4 Development, 58 Fore Street, Portland, Maine
Client	PF FOUR DEVCO, LLC.
Contractor	Northern Test Boring, Inc.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Track: Diedrich #377
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: Auger to 10.0 ft/ HW to 14.1 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-881
Sheet No.	1 of 2
Start	12 September 2022
Finish	12 September 2022
Driller	M. Nadeau
H&A Rep.	T. Jones
Elevation	14.7
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per 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	8 7 8 8	S1 15	0.0 2.0	Push	14.3 0.4		-BITUMINOUS CONCRETE-		20	5	20	30	20				
						SW	Medium dense light brown well-graded SAND (SW), mps 5 mm, no odor, dry			25	25	45	5				
							-FILL-										
	6 5 4 4	S2 13	2.0 4.0			SW	Loose light brown well-graded SAND (SW), mps 0.25 in., no odor, dry		10	15	30	40	5				
					10.7 4.0	SM	No Recovery			10	25	50	15				
5	6 1 1 1	S3 NR	4.0 6.0				Note: Pushed spoon from 4.0 to 8.0 ft after driving S3 and S4. Recovered 22 in. gray silty SAND (SM), mps 5 mm, no odor, wet, brick pieces.										
							-FILL-										
	1 1 1/12"	S4 NR	6.0 8.0				No Recovery			10	25	50	15				
	2 1 1 3	S5 18	8.0 10.0			SP-SM	Very loose brown poorly-graded SAND with silt (SP-SM), mps 5 mm, no odor, wet, contains brick			10	25	55	10				
							-FILL-										
10	3 3 1 6	S6A/B 16	10.0 12.0			SP-SM	Very loose brown poorly-graded SAND with silt (SP-SM), mps 0.75 in., no odor, wet, trace brick fragments		5	10	40	35	10				
					3.4 11.3	SM	Very loose gray silty SAND (SM), mps 5 mm, well bonded, no odor, wet			10	20	40	30				
	12 6 3 50/5"	S7 12	12.0 13.9	13.6		SM	-GLACIAL TILL- Similar to 6B, except loose, mps 0.25 in.			10	20	40	30				
				10/5"	0.6 14.1		Note: Top of bedrock at 14.1 ft. Note: Advanced rollerbit to 14.5 ft. Begin NQ core at 14.5 ft.										
15					0.2 14.5		SEE CORE BORING REPORT FOR ROCK DETAILS										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
9/12/22	1550	0.25	N/A	15.6	4.3

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)	14.1
Rock Cored (ft)	5.0
Samples	7S, 3C

Boring No. HA22-104

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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-104
File No. 39486-881
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	1:40	C1	14.5 16.7	22 0	85 0	Slight to Moderate		Hard, slightly to moderately weathered, gray, aphanitic to fine-grained PHYLLITE. Primary joints horizontal to high angles, closely spaced, planar, rough, open, frequent calcite and quartzite intrusions.
	2:01							
	0:53	C2	16.7 18.5	24 14	109 64	Slight		Hard, slightly weathered, gray, aphanitic to fine-grained PHYLLITE. Primary joints horizontal to low angles, close spacing, planar and undulating, rough, tight to open, frequent calcite and quartz intrusions.
	3:00							
	2:42							
20	3:09	C3	18.5 19.5	12 12	100 100	Fresh to Slight	-4.8 19.5	Hard, fresh to slightly weathered, gray, aphanitic to fine-grained PHYLLITE. Primary joints moderately dipping, close spacing, planar, rough, tight, frequent calcite and quartzite intrusions.
								BOTTOM OF EXPLORATION 19.5 FT
25								
30								
35								
40								
45								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-881_BLOCK 4_2022_TEST BORINGS.GPJ 11 Oct 22

TEST BORING REPORT

Boring No. HA22-112

Project	Foreside Block 6 Development, 58 Fore Street, Portland, Maine
Client	PF SIX DEVCO, LLC.
Contractor	Northern Test Boring, Inc.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Track: Diedrich #377
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	140	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: Auger to 8.0 ft/HW Drive to 17.2 ft
				Hoist/Hammer: Winch Automatic Hammer
				PID Make & Model:

File No.	39486-882
Sheet No.	1 of 2
Start	13 September 2022
Finish	13 September 2022
Driller	M. Nadeau
H&A Rep.	T. Jones
Elevation	33.0
Datum	Portland City Datum
Location	See Plan
	N 4
	E 0

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows per 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	3 3 4 2	S1 9	0.0 2.0	Push		SW	Loose black-gray well-graded SAND with gravel (SW), mps 0.75 in., no odor, dry		15	15	15	50	5				
							-FILL-										
	3 4 7 11	S2 8	2.0 4.0			SW	Medium dense black-gray well-graded SAND with gravel (SW), mps 1.5 in., no odor, dry, trace glass	5	10	20	20	40	5				
					29.0												
	4 2 3 6	S3 11	4.0 6.0		4.0	SM	Loose brown silty SAND (SM), mps 0.5 in., no odor, moist, trace roots, trace brick, trace glass		5	10	15	50	20				
5							-FILL-										
					27.0												
	5 6 9 12	S4 7	6.0 8.0		6.0	SM	Medium dense gray-brown silty SAND (SM), mps 0.5 in., well bonded, no odor, moist		5	15	20	40	20				
							-GLACIAL TILL-										
	16 16 17 39	S5 13	8.0 10.0	90 126		SM	Dense dark gray silty SAND (SM), mps 0.5 in., well bonded, no odor, moist		5	15	20	40	20				
10	10 18 36 49	S6 16	10.1 12.1			SM	Similar to S6, except very dense, well bonded, no odor, wet		5	15	20	40	20				
15	28 50/5"	S7 10	15.0 17.0			SM	Similar to S6, except mps 0.5 in., well bonded, no odor, wet		10	15	20	45	10				
							-GLACIAL TILL-										
					15.8		Note: Top of bedrock at 17.2 ft.										
					17.2		Note: Advanced rollerbit to 17.5 ft. Begin NQ core at 17.5 ft.										
					15.5 17.5		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
9/13/22	0945	0	9.0	7.0	N/A
9/13/22	1230	1	NA	15.5	2.6
12/19/22	1330	144	N/A	6.2	4.8

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)	17.2
Rock Cored (ft)	5.0
Samples	7S, 1C

Boring No. HA22-112

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 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-09 REV ME CASING BLOWS 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_BLOCK 6_2022_TEST BORINGS - COPY.GPJ 11 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA22-112
File No. 39486-882
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
20	1:35 2:11 2:44 2:25 2:39	C1	17.5 22.5	60 44	100 73	Fresh		Hard, fresh, gray, aphanitic PHYLLITE. Primary joints horizontal to moderate angles, very close to moderately close, planar, smooth to rough, tight to open, quartz intrusion from 18.5 to 20.0 ft.
							10.5 22.5	BOTTOM OF EXPLORATION 22.5 FT
25								
30								
35								
40								
45								
50								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-882_BLOCK 6_2022_TEST BORINGS - COPY.GPJ 11 Oct 22



Top Row: HA22-2, Core No. C1, 19.5 ft (left) to 21.5 ft (middle left), Core No. C2, 21.5 ft (middle left) to 25.5 ft (right); Top Middle Row: HA22-2, Core No. C2, 21.5 ft (left) to 25.5 ft (middle left), HA22-1, Core No. C1, 40.0 ft (middle left) to 45.0 ft (right); Bottom Middle Row: HA22-1, Core No. C1, 40.0 ft (left) to 45.0 ft (middle left), HA22-9,Core No. C1. 14.0 ft (middle left) to 19.0 ft (right); Bottom Row: HA22-9, Core No. C1, 14.0 ft (left) to 19.0 ft (middle left)



Top Row: HA22-5, Core No. C3, 28.7 ft (left) to 29.5 ft (middle left), Core no. C4, 29.5 ft (middle left) to 34.0 ft (right); Top Middle Row: HA22-5, Core No. C4, 29.5ft (left) to 34.0 ft (middle left), HA22-3, Core No. C1, 41.0 ft (middle left) to 41.7 ft (middle), Core No. C2, 41.7 ft (middle) to 46.0 ft (right); Bottom Middle Row: HA22-3, Core No. C2, 41.7 ft (left) to 46.0 ft (middle left), Core No. C3, 46.0 ft (middle left) to 51.0 ft (right); Bottom Row: HA22-3, Core No. C3, 46.0 ft (left) to 51.0 ft (middle)



Top Row: HA22-103, Core No. C1, 10.0 ft (left) to 13.1 ft (middle right), Core No. C2, 13.1 ft (middle right) to 14.1 ft (right); Top Middle Row: HA22-103, Core No. C2, 14.1 ft (left) to 15.6 ft (middle left), HA22-102, Core No. C1, 15.0 ft (middle left) to 16.5 ft (middle right), Core No. C2, 16.5 ft (middle right) to 16.6 ft (middle right), Core No. C3, 16.6 ft (middle right) to 18.0 ft (right); Bottom Middle Row: HA22-102, Core No. C4, 18.0 ft (left) to 20.5 ft (middle), HA22-104, Core No. C1. 14.5 ft (middle) to 16.7 ft (right); Bottom Row: HA22-104, Core No. C2, 16.7 ft (left) to 18.5 ft (middle left), Core No. C3, 18.5 ft (middle left) to 19.5 ft (middle right)



Top Row: HA22-110, Core No. C1, 54.0 ft (left) to 59.0 ft (right); Top Middle Row: HA22-110, Core No. C2, 59.0 ft (left) to 64.0 ft (right); Bottom Middle Row: HA22-108, Core No. C1, 54.0 ft (left) to 59.0 ft (right); Bottom Row: HA22-108, Core No. C2, 59.0 ft (left) to 64.0 ft (right)



Top Row: HA22-111, Core No. C1, 58.0 ft (left) to 61.5 ft (middle right); Top Middle Row: HA22-111, Core No. C1, 61.5 ft (left) to 63.0 ft (middle), Core No. C2, 63.0 ft (middle) to 65.2 ft (right); Bottom Middle Row: HA22-111, Core No. C2, 65.2 ft (left) to 67.1 ft (middle)



Top Row: HA22-101, Core No. C1, 7.0 ft (left) to 8.3 ft (middle left), Core No. C2, 8.3 ft (middle left) to 10.3 ft (middle right), Core No. C3, 10.3 ft (middle right) to 12.0 ft (right); Top Middle Row: HA22-112, Core No. C1, 17.5 ft (left) to 22.5 ft (right); Bottom Middle Row: HA22-109, Core No. C1, 25.0 ft (left) to 30.0 ft (right)

2019 Haley & Aldrich, Inc.
Test Boring Logs and
Rock Core Photographs

TEST BORING REPORT

Boring No. HA19-4

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

File No.	39486-877
Sheet No.	1 of 3
Start	09 July 2019
Finish	11 July 2019
Driller	T. Schaefer/ E. Baron
H&A Rep.	N. Klausmeyer
Elevation	53.5+/-
Datum	Portland City Datum
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Truck
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW drive to 44.5 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push		0.5		-BITUMINOUS CONCRETE-										
	16 16 15	S1 11	0.5 2.0	Push	0.0		SW	Dense yellow-brown to tan well graded SAND with gravel (SW), mps 1 in., no structure, no odor, dry	10	15	15	20	35	5				
								-FILL-										
	7 6 5 4	S2 4	2.0 4.0	Push	0.3		SW	Medium dense yellow-brown to tan well graded SAND with gravel (SW), mps 0.75 in., no structure, no odor, dry	5	10	20	25	35	5				
				Push														
5	4 3 3 3	S3 20	4.0 6.0	Push	3.5		SM	Loose brown to dark brown and black silty SAND with gravel (SM), mps 1 in., loosely bonded, musty odor, dry to moist, contains coal and ash	5	10	10	25	30	20				
				Push		5.9												
	3 3 3 4	S4 13	6.0 8.0	Push	0.7		SM	Loose brown to gray-brown silty SAND with gravel (SM), mps 0.75 in., loosely bonded, musty odor, moist, contains coal, ash and brick, probable reworked naturally-deposited soil	5	10	15	20	30	20				
				Push				-FILL-										
	3 4 3 4	S5 5	8.0 10.0	8	0.6		SM	Loose brown to gray-brown silty SAND with gravel (SM), mps 0.75 in., loosely bonded, musty odor, wet, contains coal and ash, probable reworked naturally-deposited soil	5	10	15	20	30	20				
				8														
10	3 2 1 1	S6 8	10.0 12.0	8	0.0		SM	Very loose brown to red-brown silty SAND (SM), mps 0.25 in., loosely bonded, no odor, wet, noticeable layering at bottom of sample, probable reworked naturally-deposited soil	5	5	10	15	50	15				
				9		11.9												
	1 5 6 6	S7 0	12.0 14.0	7				No Recovery										
				16														
15	4 5 6 6	S8 6	14.0 16.0	16	0.1		SM	Medium dense light brown silty SAND with gravel (SM), mps 0.5 in., loosely bonded, no odor, wet	5	10	10	15	40	20				
				22														
				29				-MARINE DEPOSIT-										
				38														
				36														
20				28														

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
7/11/19	09:30	36	40.0	42.0	12.0
7/11/19	13:45	40	44.4	55.0	--

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	44.4
Rock Cored (ft)	10.0
Samples	14S, 2C

Boring No. HA19-4

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA19-4
File No. 39486-877
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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	4 3 4 4	S9 23	20.0 22.0	25 28	0.0	20.1	ML	Medium stiff gray-brown sandy SILT with gravel (ML), trace clay, mps 1.25 in., moderately bonded, no odor, wet	5	10	5	10	15	55				
				39				-MARINE DEPOSIT-										
				35														
				32														
25	1 1 1 1	S10 20	25.0 27.0	26 30	0.0		ML	Very soft gray-brown sandy SILT (ML), trace clay, mps 0.25 in., loosely bonded, no odor, wet	5	5	5	10	20	55				
	2 1 2 2	S11 17	27.0 29.0	22 31	0.0		ML	Soft gray-brown sandy SILT (ML), trace clay, mps 0.25 in., loosely bonded, no odor, wet	-	5	5	10	25	55				
				38		29.3												
						29.8		Note: Cobble encountered from approximately 29.3 to 29.8 ft. -COBBLES-										
30	3 3 3 7	S12 2	30.0 32.0	46 33	0.2		ML	Medium stiff gray-brown sandy SILT (ML), trace clay, mps 0.25 in., moderately bonded, no odor, wet	-	5	10	10	15	60				
				33		32.0		Note: Cobbles encountered from approximately 32.0 to 35.0 ft.										
				36				-COBBLES										
				66														
35	4 4 5 4	S13 19	35.0 37.0	41 38	0.0	35.0	ML	Stiff gray-brown sandy SILT (ML), mps 0.5 in., well bonded, no odor, wet, fine sand seams	5	5	5	5	20	60				
				45				-MARINE DEPOSIT-										
				45														
				41														
40	7 23 28 30	S14 15	40.0 42.0	50 134	0.0	40.5	ML	Hard yellow-brown to gray-brown and light brown sandy SILT with gravel (ML), mps 1.25 in., well bonded, contains trace weathered rock	10	10	5	10	20	45				
				141				-GLACIAL TILL-										
				106														
				103/5"		44.4		Note: Drill action and wash water indicate top of bedrock at approximately 44.4 ft.										
45						45.0		Note: Advanced roller bit to 45.0 ft. Began NQ rock core at 45.0 ft. 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. HA19-4

H&A-TEST BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA19-4
File No. 39486-877
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
45	2:02	C1	45.0 50.0	58 4	100 7	Fresh to High		Hard, fresh to highly weathered, gray, aphanitic PHYLLITE. Joints dipping at low to vertical angles, very close to close, tight to open, smooth to rough, undulating. Oxidation on joint surfaces, fine-grained coatings on joint surfaces, occasional quartz/calcite stringers throughout core stem.
	6:22							
	2:39							
	4:07							
	7:15							Note: Approximately 150 gallons of water loss while coring C1.
50	2:40	C2	50.0 55.0	56 31	93 52	Fresh to Moderate		Hard, fresh to moderately weathered, gray, aphanitic PHYLLITE. Joints dipping at horizontal to high angles, very close to close, smooth to rough, undulating. Slight discoloration and calcite coatings on joint surfaces, slight pitting observed.
	3:17							
	4:04							
	4:24							
	2:37							Note: Approximately 250 gallons of water loss while coring C2.
55							55.0	BOTTOM OF EXPLORATION 55.0 FT
60								
65								
70								
75								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-5

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Truck
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW drive to 34.5 ft; NW drive to 60.0 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 4
Start	11 July 2019
Finish	15 July 2019
Driller	E. Baron
H&A Rep.	N. Klausmeyer
Elevation	74.5+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push	0.0	0.4	SW	-BITUMINOUS CONCRETE-										
	16 13 13	S1 14	0.5 2.0	Push				Medium dense yellow-brown to tan well graded SAND with gravel (SW), mps 0.5 in., no structure, no odor, dry	10	15	20	20	30	5				
						2.0	SM	-FILL-										
	7 10 6 6	S2 13	2.0 4.0	Push	0.0		SM	Medium dense brown to dark brown silty SAND (SM), mps 0.25 in., loosely bonded, no odor, damp, probable reworked naturally-deposited soil	-	5	10	10	45	30				
				Push				-FILL-										
5	3 4 10 13	S3 7	4.0 6.0	Push	0.0		SM	Medium dense brown grading to gray-brown silty SAND (SM), mps 0.5 in., loosely bonded, no odor, damp, probable reworked naturally-deposited soil	-	5	10	10	40	35				
				Push														
	8 9 11 12	S4 18	6.0 8.0	Push	0.0		SM	Medium dense light brown to gray-brown silty SAND (SM), mps 0.25 in., loosely bonded, no odor, damp, probable reworked naturally-deposited soil	-	5	10	15	35	35				
				Push														
	13 12 14 18	S5 24	8.0 10.0	Push	0.0		SM	Medium dense light brown to red-brown and gray-brown silty SAND (SM), mps 0.5 in., loose grading to moderately bonded, no odor, damp, probable reworked naturally-deposited soil	5	5	10	20	30	30				
				Push														
10						10.0												
	15 12 19 17	S6 19	10.0 12.0	Push	0.0		SM	Dense light brown to gray-brown silty SAND with gravel (SM), mps 1.25 in., moderately bonded, no odor, damp	10	10	10	15	25	30				
				79				-GLACIAL TILL-										
	18 100/1"	S7 5	12.0 12.6/	164	0.1	12.6	SM	Dense to medium dense light brown to gray-brown silty SAND with gravel (SM), mps 1 in., moderately bonded, no odor, wet	10	5	10	15	25	35				
				130		13.5		Note: Cobble encountered from approximately 12.6 to 13.5 ft.										
15	5 8 7 7	S8 7	14.0 16.0	152			SM	Medium dense light brown to gray-brown silty SAND (SM), mps 0.25 in., moderately bonded, no odor, wet	-	10	15	15	30	30				
				64				-GLACIAL TILL-										
	8 14 10 16	S9 12	16.0 18.0	51			SM	Medium dense light brown to gray-brown silty SAND with gravel (SM), mps 1 in., moderately bonded, no odor, wet	10	5	10	15	30	30				
				56														
	12 14 22 25	S10 17	18.0 20.0	53	0.0		SM	Dense light brown to gray-brown grading to yellow-brown silty SAND with gravel (SM), mps 0.75 in., well bonded grading to moderately bonded, no odor, wet	5	10	15	15	30	25				
20				36														

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
7/12/19	09:00	~18	11.0	12.0	8.5
7/12/19	16:40	~26	44.6	57.0	--
7/15/19	09:50	~4 days	34.5	57.0	36.9

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	59.2
Rock Cored (ft)	5.0
Samples	19S, 1C

Boring No. HA19-5

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA19-5
File No. 39486-877
Sheet No. 2 of 4

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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	6 11 22 26	S11 16	20.0 22.0	54 48	0.0		SM	Dense light brown to gray-brown silty SAND with gravel (SM), mps 1.25 in., moderately bonded, no odor, wet, noticeable layering in bottom 2 in. of recovery -GLACIAL TILL-	5	10	10	15	35	25				
				42		22.5		Note: Cobble encountered from approximately 22.5 to 23.1 ft.										
				141		23.1												
				70														
25	42 55 66 87	S12 17	25.0 27.0	181 57	0.0		SM	Very dense yellow-brown to light brown silty SAND with gravel (SM), mps 1.25 in., layered, well bonded, no odor, moist -GLACIAL TILL-	10	10	10	15	30	25				
				68														
				83		28.4		Note: Cobble encountered from approximately 28.4 to 29.2 ft.										
				92		29.2												
30	36 72 113 100/3"	S13 16	30.0 31.8	212 113	0.0		SM	Very dense yellow-brown to light brown silty SAND with gravel (SM), mps 1.25 in., well bonded, no odor, wet, contains weathered rock -GLACIAL TILL-	15	10	5	10	30	30				
				135														
				147		33.5		Note: Boulder encountered from 33.5 to 34.5 ft.										
				150/0.5"		34.6												
35	35 118 91 88	S14 18	35.0 37.0		0.0		ML	Hard gray-brown to yellow-brown sandy SILT with gravel (ML), mps 1.25 in., layered, noticeable staining, well bonded, no odor, wet -GLACIAL TILL-	10	10	5	10	20	45				
						38.5												
40	33 50 51 48	S15 12	40.0 42.0		0.0		ML	Hard gray sandy SILT with gravel (ML), mps 1 in., well bonded, no odor, wet	5	10	5	10	15	55				
45	54 90 147 253	S16 0	45.0 47.0					No Recovery										
	21 62 51 70	S17 22	47.0 49.0		0.0		ML	Hard gray sandy SILT with gravel (ML), mps 1 in., well bonded, no odor, wet -GLACIAL TILL-	5	10	5	10	15	55				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA19-5

H&A-TEST BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-5
File No. 39486-877
Sheet No. 3 of 4

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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
50	50/4"	S18 4	50.0 50.4		0.0		ML	Hard gray SILT with sand (ML), mps 0.25 in., well bonded, no odor, wet	-	5	5	5	15	70				
								-GLACIAL TILL-										
55	31 33 43 70	S19 24	55.0 57.0		0.0		ML	Hard gray SILT with sand (ML), well bonded, no odor, wet	-	5	5	5	15	70				
				44														
				34														
				23/2"		59.2		Note: Washed ahead of casing from 55.0 to 59.2 ft. Casing refusal on top of bedrock at approximately 59.2 ft.										
60						60.0		Note: Advanced roller bit to 60.0 ft. Begin NQ rock core at 60.0 ft.										
								SEE CORE BORING REPORT FOR ROCK DETAILS										
65																		
70																		
75																		

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA19-5

H&A-TEST BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA19-5
File No. 39486-877
Sheet No. 4 of 4

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
60	3:29 2:39 2:39 4:10	C1	60.0 64.3	52 33	100 63	Fresh to Moderate		Hard, fresh to moderately weathered, gray, aphanitic to fine-grained QUARTZITE. Joints dipping at low to moderate angles, very close to close, undulating, rough, slightly to moderately weathered, tight to open. Oxidation on most joint surfaces, one silt infilled joint (0.125-in. thick) at approximately 63.0 ft. Frequent quartz veins from 60.0 to 60.8 ft, occasional quartz veins from 60.8 to 64.3 ft, chlorite mineralization with depth. Secondary high angle joints, slightly weathered, undulating, rough.
							64.3	BOTTOM OF EXPLORATION 64.3 FT
65								
70								
75								
80								
85								
90								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-9

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW/NW	S	NQ	Rig Make & Model: Simco 2400
Inside Diameter (in.)	4.0/3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW drive to 8.4 ft; NW drive to 18.0 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	18 June 2019
Finish	19 June 2019
Driller	B. Cross
H&A Rep.	N. Klausmeyer/ H. Hollauer
Elevation Datum	15.5+/- Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push		0.5		-BITUMINOUS CONCRETE-										
	5 6 5	S1 6	0.5 2.0	Push	0.2		SM	Medium dense dark brown to red-brown silty SAND with gravel (SM), mps 1 in., loosely bonded, slight musty odor, wet, contains brick and cinders	10	10	15	20	25	20				
						2.0		-FILL-										
	3 4 4 8	S2 18	2.0 4.0	Push	0.0		ML	Medium stiff light brown grading to gray-brown sandy SILT with gravel (ML), mps 0.5 in., loosely bonded, no odor, wet	5	10	5	10	15	55				
				Push				-GLACIAL TILL-										
	6 6 9 13	S3 14	4.0 6.0	9	0.1		ML	Stiff gray-brown sandy SILT with gravel (ML), mps 0.75 in., moderately bonded, no odor, wet	5	10	5	10	20	50				
5				24														
	11 11 9 16	S4 20	6.0 8.0	39	0.0		ML	Very stiff gray-brown sandy SILT with gravel (ML), mps 1 in., moderately bonded grading to well bonded, no odor, wet	10	5	5	10	20	50				
				71/0.5		7.6		Note: Cobbles encountered from approximately 7.6 to 8.6 ft.										
						8.6		-COBBLES-										
	11 35 86 49	S5 10	8.6 10.6		0.0		SM	Dense red-brown silty SAND with gravel (SM), mps 0.75 in., well bonded, no odor, wet	10	10	10	20	30	20				
						9.6		-GLACIAL TILL-										
10					0.0		GP	Very dense gray poorly-graded GRAVEL with sand (GP), mps 1.25 in., no odor, wet	60	20	5	5	5	5				
	90+	S6 3	10.6 11.1		0.0	11.1	GP	Very dense gray poorly-graded GRAVEL with sand (GP), mps 1 in., no odor, wet	60	20	5	5	5	5				
								Note: Boulder encountered from approximately 11.1 to 13.0 ft. Advanced roller bit and casing to 14.0 ft.										
								-BOULDER-										
	30 38 73 50/1"	S7 10	14.0 15.6			14.0	SM	Very dense gray-brown silty SAND (SM), mps 0.25 in., no structure, no odor, moist	-	-	15	20	40	25				
15						15.0		-GLACIAL TILL-										
								Note: Top of bedrock at approximately 15.0 ft.										
	35 50/2"	S8 6	16.0 16.7					-WEATHERED BEDROCK-										
								Note: Advanced casing and roller bit to 18.0 ft. Begin NQ rock core at 18.0 ft.										
						18.0		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

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	9.6
Rock Cored (ft)	10.0
Samples	8S, 2C

Boring No. HA19-9

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

CORE BORING REPORT

Boring No. HA19-9
File No. 39486-877
Sheet No. 2 of 2

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
	6	C1	18.0 23.0	57 32	95 53	Slight		Hard to moderately hard, slightly weathered, gray, aphanitic to fine-grained SCHIST. Primary joints dipping at horizontal to low angles, very close to close, undulating and stepped, rough to smooth, tight to open. Few quartzite bands. Secondary joints dipping at moderate to high angles, iron oxide staining on few joint surfaces, calcite coating on few joint surfaces.
	15							
20	20							
	20							
	20							
	5:15	C2	23.0 28.0	55 34	92 57	Slight		Hard to moderately hard, slightly weathered, gray, aphanitic to fine-grained SCHIST. Primary joints dipping at horizontal to low angles, close, undulating to planar, smooth, tight to open. Secondary joints dipping at moderate to high angles, very close to close, undulating, planar, smooth,tight to open. Calcite and slight oxidation on few joint surfaces.
	6:00							
25	6:30							
	6:00							
	8:30							
							28.0	BOTTOM OF EXPLORATION 28.0 FT
30								
35								
40								
45								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-10

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Simco 2400
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW drive to 14.0 ft
				Hoist/Hammer: Cat-Head/ Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	19 June 2019
Finish	20 June 2019
Driller	B. Cross
H&A Rep.	H. Hollauer
Elevation	17.0+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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	3 3 4 7	S1 14	0.0 2.0		0.5	0.3	SM	-TOPSOIL AND ROOT MAT- Loose dark brown silty SAND (SM), mps 1 mm, no structure, no odor, moist, trace organics (leaves)	-	-	-	15	65	20				
	8 4 3 3	S2 12	2.0 4.0		0.7	3.5	SM	-FILL- Loose dark brown silty SAND (SM), mps 1 mm, no structure, no odor, moist, trace organics (leaves), brick and wood	-	-	-	15	65	20				
5	1 1 1 1	S3 14	4.0 6.0		0.6		SC	Very loose gray clayey SAND (SC), mps 0.5 in., no structure, no odor, wet -MARINE DEPOSIT-	-	5	5	10	40	40				
	2 3 4 5	S4 24	6.0 8.0		0.7		SC	Loose gray clayey SAND (SC), mps 0.5 in., no structure, no odor, wet	-	5	5	10	40	40				
	5 23 29 28	S5 12	8.0 10.0			8.5	SM	Very dense brown silty SAND (SM), mps 0.5 in., no structure, no odor, moist, broken rock pieces in split spoon shoe -GLACIAL TILL- Note: Gravelly from approximately 9.9 to 13.7 ft based on drilling action.	-	5	5	5	60	25				
10						13.7		Note: Top of bedrock at approximately 13.7 ft.										
						14.0		Note: Advanced roller bit to 14.0 ft. Begin NQ rock core at 14.0 ft. SEE CORE BORING REPORT FOR ROCK DETAILS										
15																		
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	13.7
Rock Cored (ft)	9.0
Samples	5S, 5C

Boring No. HA19-10

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

CORE BORING REPORT

Boring No. HA19-10
File No. 39486-877
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	15:00	C1	14.0 15.0	12 4	100 33	Fresh to High		Hard, fresh, gray, aphanitic to fine-grained SCHIST. Primary joints dipping at low to moderate angles, very close to close, planar, rough to smooth, tight to open. Secondary joints dipping at high angles to vertical angles.
	18:00	C2	15.0	6	100	Fresh to High		
		C3	15.5	0	0			Note: C1 to C3 highly fractured.
	25:00		15.5 17.0	18 0	100 0	Fresh to High		
	15:00	C4	17.0	6	100	Fresh to High		
			17.5	0	0			Note: Apparent void from approximately 17.5 to 18.0 ft.
20		C5	18.0 23.0	60 34	100 57	Fresh to Moderate		Hard, fresh to moderately weathered, aphanitic to fine grained SCHIST. Primary joints dipping at low to moderate angles, very close to close, planar, rough, tight to open. Secondary joints high angle to vertical, moderately close to close. Occasional calcite/quarts veins 0.25 to 0.50-in. thick. Quartzite zone from approximately 18.0 to 20.0 ft, contains vugs.
							23.0	BOTTOM OF EXPLORATION 23.0 FT
25								
30								
35								
40								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-11

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Simco 2400
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: HW drive to 7.5 ft
				Hoist/Hammer: Winch/ Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	21 June 2019
Finish	21 June 2019
Driller	B. Cross
H&A Rep.	H. Hollauer
Elevation	17.0+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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	4 4 6 4	S1 5	0.0 2.0		0.2		SM	Loose olive-brown silty SAND (SM), trace ash, coal fragments, trace roots, mps 0.25 in, no structure, no odor, wet	-	5	5	15	55	20				
								-FILL-										
	1 3 9 27	S2 12	2.0 4.0		0.6	2.0	SP-SM	Medium dense brown to yellow-brown poorly-graded SAND (SP-SM), mps 1.0 in, no structure, no odor, wet	5	-	-	-	85	10				
						3.0		-MARINE DEPOSIT-										
						4.0		Note: Advanced roller bit through boulder from approximately 3.0 to 4.2 ft and could not advance casing. Moved boring location approximately 3.0 ft and continued sampling at 4.0 ft.										
	5 5 19 9	S3 12	4.0 6.0		0.4		SP	-BOULDER-	-	5	10	20	60	5				
5								Medium dense brown poorly-graded SAND (SP), mps 0.5 in, no structure, no odor, wet										
	6 11 50/4"	S4 16	6.0 7.3		0.2		SP	-MARINE DEPOSIT-	-	5	10	20	60	5				
								Medium dense brown poorly-graded SAND (SP), mps 0.5 in, no structure, no odor, wet										
						7.3		Note: Top of bedrock at approximately 7.3 ft.										
						7.5		Note: Advance roller bit to 7.5 ft. Begin NQ rock core at 7.5 ft.										
10								SEE CORE BORING REPORT FOR ROCK DETAILS										
15																		
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	7.3
Rock Cored (ft)	5.0
Samples	4S, 1C

Boring No. HA19-11

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

CORE BORING REPORT

Boring No. HA19-11
File No. 39486-877
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
	5:00	C1	7.5	58	97	Fresh		Hard, fresh to slightly weathered aphanitic to fine-grained SCHIST. Primary joints dipping at horizontal to low angles, very close to moderately close, planar, smooth, tight to open. Secondary joints dipping at moderate to high angles. Joints have occasional calcite coatings and oxidation. Few calcite infilled healed joints.
	6:30		12.5	38	63			
	5:30							
10	5:30							
	4:30						12.5	BOTTOM OF EXPLORATION 12.5 FT
15								
20								
25								
30								
35								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-14

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Simco 2400
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 12.9 ft
				Hoist/Hammer: Cat-Head/ Doughnut Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	23 May 2019
Finish	23 May 2019
Driller	C. DuPuis
H&A Rep.	J. Collins
Elevation	13.5+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				4		0.5		-PORTLAND CEMENT CONCRETE-										
	3 3 1 2	S1 11	0.5 2.5	6	0.0	0.8	SP	Loose light brown poorly-graded SAND with gravel (SP), mps 1 in., no structure, no odor, moist	-	10	15	25	30	20				
				9			SP-SM	Loose dark brown poorly-graded SAND with silt and gravel (SP-SM), mps 1 in., no structure, no odor, moist	20	5	5	10	50	10				
						2.7		-FILL-										
	2 2 2 1	S2 12	2.5 4.5	9	0.0 0.0		ML/SC	Soft gray sandy SILT (ML), trace clay to sandy CLAY (SC), mps 0.25 in., no structure, no odor, moist	-	5	5	10	30	50				
				15				-MARINE DEPOSIT-										
5	2 4 5 4	S3 2	4.5 6.5		0.0		ML/SC	Soft gray sandy SILT (ML), trace clay to sandy CLAY (SC), mps 0.25 in., no structure, no odor, moist	-	5	5	10	30	50				
						6.5												
	5 8 10 10	S4 24	6.5 8.5		0.0		SM	Medium dense gray silty SAND with gravel (SM), trace clay, mps 0.25 in., no structure, no odor, moist	-	15	10	10	25	40				
								-GLACIAL TILL-										
	8 9 7 9	S5 8	8.5 10.5		0.0		SM	Similar to above	-	15	10	10	25	40				
10						10.5		Note: Advanced roller bit through boulder from approximately 10.5 to 12.0 ft.										
								-BOULDER-										
		S6 2	12.0 12.9			12.0	SM	Gray silty SAND with gravel, cobble (sample collected from core barrel)	5	10	10	10	25	40				
						13.4		Note: Top of Bedrock at approximately 13.4 ft. Advanced roller bit and casing 13.4 ft. Begin NQ rock core at 13.4 ft.										
15								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

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	12.9
Rock Cored (ft)	5.0
Samples	6S, 1C

Boring No. HA19-14

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

CORE BORING REPORT

Boring No. **HA19-14**
File No. 39486-877
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	3:00 4:10 4:45 3:40 5:50	C1	13.4 18.4	58 52	97 87	Fresh to Slight		Hard, fresh to slightly weathered, gray, aphanitic to fine-grained SCHIST with veins of quartz. Primary joints are planar, smooth to rough with low-dipping angles, close to moderate spacing. Secondary joints are planar to undulating, rough, moderately spaced with high to vertical angles. Calcite coating on joints.
							18.4	BOTTOM OF EXPLORATION 18.4 FT
20								
25								
30								
35								
40								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No HA19-15(OW)

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Track
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW drive to 12.5 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	13 June 2019
Finish	13 June 2019
Driller	B. Cross
H&A Rep.	N. Klausmeyer
Elevation	16.0+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push		0.5		-BITUMINOUS CONCRETE-										
	4 5 12	S1 6	0.5 2.0	Push	0.2	1.5	SW	Loose light brown to gray-brown well graded SAND with gravel (SW), mps 0.5 in., no structure, no odor, moist	5	10	15	25	40	5				
					0.2		ML	-FILL-	-	10	10	15	15	50				
	9 9 7 8	S2 9	2.0 4.0	Push	0.2		ML	Very stiff gray-brown sandy SILT (ML), mps 0.25 in., well bonded, no odor, moist	5	10	10	10	15	50				
				Push			ML	Very stiff gray-brown sandy SILT with gravel (ML), mps 1 in., well bonded, no odor, moist										
								-GLACIAL TILL-										
5	3 6 11 9	S3 3	4.0 6.0	7	0.2		ML	Very stiff gray-brown sandy SILT (ML), mps 0.75 in., well bonded, no odor, moist	5	5	10	10	20	50				
				10														
	4 12 16 13	S4 15	6.0 8.0	11	0.3		ML	Very stiff gray-brown sandy SILT with gravel (ML), mps 0.5 in., well bonded, no odor, moist	5	10	10	10	20	45				
				7														
	4 7 10 16	S5 17	8.0 10.0	5	0.2		ML	Very stiff gray-brown sandy SILT with gravel (ML), mps 0.5 in., well bonded, no odor, moist	5	5	10	10	20	50				
				23				-GLACIAL TILL-										
10	15 26 30 27	S6 24	10.0 12.0	17	0.2		ML	Hard gray-brown sandy SILT (ML), mps 0.5 in., well bonded, no odor, moist	5	5	10	10	20	50				
				21				-GLACIAL TILL-										
				14/0.5		12.5		Note: Drill action and wash indicate top of bedrock at approximately 12.5 ft.										
						13.5		Note: Advanced roller bit to 13.5 ft. Began NQ rock core at 13.5 ft.										
								SEE CORE BORING REPORT FOR ROCK DETAILS										
15																		
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
6/13/19	15:45	--	12.5	18.5	NE

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	12.5
Rock Cored (ft)	5.0
Samples	6S, 1C

Boring No. HA19-15(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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

CORE BORING REPORT

Boring No. HA19-15
File No. 39486-877
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	5:50 3:55 4:09 8:49 5:11	C1	13.5 18.5	54 38	90 63	Fresh to Slight		Hard, fresh to slightly weathered, gray, aphanitic PHYLLITE. Joints dipping at low to high angles, tight to open, undulating, smooth to rough, very close to close, occasional silt and calcite coatings on joint surfaces, pitting observed.
							18.5	BOTTOM OF EXPLORATION 18.5 FT
20								
25								
30								
35								
40								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-16

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Track
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: HW drive to 17.4 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	10 June 2019
Finish	11 June 2019
Driller	B. Cross
H&A Rep.	J. Collins/N. Klausmeyer
Elevation	15.0+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				20	1.5	0.4		-BITUMINOUS CONCRETE-										
	2 11 22 11	S1 26	0.5 2.5	46			SP	Dense dark brown poorly-graded SAND with gravel (SP), mps 0.25 in., no structure, no odor, dry	20	10	40	20	5	5				
				50/0.5'				-FILL-										
				7														
5	45 30 19 17	S2 18	4.0 6.0		72.6		SP-SM	Dense dark brown to reddish-brown poorly-graded SAND with silt and gravel (SP-SM), mps 4 in., no structure, slight tar-like odor, wet, contains coal Note: Noticeable sheen on drill wash water.	10	15	30	25	10	10				
				1				-FILL-										
				1														
				3														
10	3 3 2 3	S3 1	9.0 11.0	2	0.0			Note: Recovered gravel piece.	100									
				14		11.0												
	2 6 8 9	S4 12	11.0 13.0	9	0.0		SM	Medium dense brown silty SAND with gravel (SM), mps 1 in., slight oxidation, loosely bonded, no odor, wet	10	10	10	20	35	15				
				29														
				25		14.0		-MARINE DEPOSIT-										
15	1 1 1 1	S5 24	14.0 16.0	5	0.0		SM	Very loose gray silty SAND with gravel (SM), mps 0.75 in., moderately bonded, no odor, wet	15	10	5	15	25	30				
				2				-GLACIAL TILL-										
				2														
				50/0.4'		17.4		Note: Drill action and wash indicate top of bedrock at approximately 17.4 ft.										
						18.0		Note: Advanced roller bit into bedrock to 18.0 ft. Began NQ rock core at 18.0 ft.										
20								SEE CORE BORING REPORT FOR ROCK DETAILS										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
6/11/19	10:45	--	17.4	23.0	4.7

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	17.4
Rock Cored (ft)	5.0
Samples	5S, 1C

Boring No. HA19-16

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

CORE BORING REPORT

Boring No. HA19-16
File No. 39486-877
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
20	9:50 7:18 2:58 3:16 3:54	C1	18.0 23.0	60 24	100 40	Fresh to Slight		Very hard to hard, fresh to slightly weathered, gray, aphanitic PHYLLITE. Primary joints dipping at low to horizontal angles, very close to close, planar to undulating, smooth to rough, tight to open. Secondary joints dipping at high to near-vertical angles, moderately close, smooth to rough, tight to open, occasional fine-grained silt coatings on joint surfaces, quartz veins up to 2-in. thick, slight pitting on quartz veins.
							23.0	BOTTOM OF EXPLORATION 23.0 FT
25								
30								
35								
40								
45								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-17

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

File No.	39486-877
Sheet No.	1 of 3
Start	16 May 2019
Finish	17 May 2019
Driller	C. DuPuis
H&A Rep.	H. Hollauer/ J. Collins
Elevation	15.5+/-
Datum	Portland City Datum
Location	See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Simco 2400
Inside Diameter (in.)	3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	30	30	-	Casing: NW drive to 20.3 ft
				Hoist/Hammer: Cat-Head/ Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				35		0.5		-PORTLAND CEMENT CONCRETE-										
	11 17 45 33	S1 12	0.5 2.5		0.1	1.3	SP	Very dense brown poorly-graded SAND with gravel (SP), mps 0.25 in., no structure, no odor, slightly moist	5	10	20	40	20	5				
							SP-SM	-FILL-	5	5	10	20	50	10				
	100/2"	S2 2	2.5 2.7		0.0	2.5 2.7	SM	Very dense black to dark brown poorly-graded SAND with silt (SP-SM), mps 1.5 in., no structure, no odor, slightly moist, trace brick fragments	5	10	5	35	10	15				
								-FILL-										
5						5.1	SM	Very dense dark brown to black silty SAND with gravel (SM), mps 0.25 in., no structure, no odor, slightly moist, contains ash, brick and coal fragments										
	10 5 11 1	S3 6	5.1 7.1		0.2			-FILL-	-	5	10	15	60	10				
								Note: Drilled through brick, concrete, metal, cobbles and boulders (old foundation wall) from 2.7 to 5.1 ft.										
						7.1		Loose brown to dark brown poorly-graded SAND (SP), mps 0.25 in., no structure, no odor, wet										
	6 2 1 1	S4 9	7.1 9.1		0.0		SP	-FILL-	-	60	10	5	10	15				
								Very loose black ASH (70%) and black silty SAND (SM), mps 0.25 in., no structure, no odor, wet										
10	12 3 2 1	S5 2	9.1 11.1	4 4	0.2		SP	Similar to S4	-	60	10	5	10	15				
	5 4 9 8	S6 0	11.1 13.1	4 8				Note: S6 No Recovery, possibly pushed cobble.										
	8 3 2 3	S7 0	13.1 15.1					No Recovery, possibly soil saturated with water from spun casing, used softest basket in split-spoon to improve recovery										
15																		
	10 11 10 47	S8 24	15.5 17.5	61 27	0.0		SP	Medium dense black poorly-graded ASH AND SAND (SP), mps 2.0 mm, no structure, no odor, very moist, 4-in. thick silt layer with trace clay, contains trace coal	-	-	5	10	80	5				
								-FILL-										
						17.5												
	15 8 50/5"	S9 5	17.5 18.9		0.2		SP-SM	Very dense gray-brown poorly-graded SAND with silt (SP-SM), mps 0.50 in., moderately bonded, no odor, wet	-	10	10	10	60	10				
						18.9		-GLACIAL TILL-										
								Note: Top of bedrock at approximately 18.9 ft.										
20								-WEATHERED BEDROCK-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	18.9
Rock Cored (ft)	5.0
Samples	9S, 2C

Boring No. HA19-17

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA19-17
File No. 39486-877
Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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						20.3		Note: Advanced roller bit and casing from 18.9 to 20.3 ft. Begin NQ rock core at 20.3 ft.										
								SEE CORE BORING REPORT FOR ROCK DETAILS										
25																		
30																		
35																		
40																		
45																		

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA19-17

H&A-TEST BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA19-17
File No. 39486-877
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
	5:00 4:20 7:00 5:40	C1	20.3 23.9	43 25	100 58	Slight to Moderate		Hard, slightly to moderately weathered, medium gray, fine-grained to aphanitic SCHIST. Joints very close to close, tight to open, planar and smooth, fresh to slightly weathered. Primary joints dipping at moderate to high angles. Secondary joints dipping at low angles. Calcite on some joint surfaces.
	9:40	C2	23.9 25.3	17 17	100 100	Slight to Moderate		Similar to above
25							25.3	BOTTOM OF EXPLORATION 25.3 FT
30								
35								
40								
45								
50								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-18

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC.
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NW	S	NQ	Rig Make & Model: Simco 2400
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 16.3 ft
				Hoist/Hammer: Cat-Head/ Safety Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	15 May 2019
Finish	15 May 2019
Driller	C. DuPuis
H&A Rep.	H. Hollauer
Elevation	15.5+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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						0.5		-CONCRETE-										
	35 100 52 37	S1 16	0.5 2.5	20 50	34.6	1.0	SP	Very dense brown poorly-graded SAND with gravel (SP), mps 0.5 in., no structure, moderately strong solvent-like odor, moist	5	10	20	40	20	5				
							SP-SM	-FILL- Very dense black poorly-graded SAND with silt (SP-SM), mps 0.5 in., no structure, moderately strong solvent-like odor, moist	5	5	10	20	50	10				
	25 30 22 19	S2 14	2.5 4.5	75 51	10.8	2.5	SM	-FILL-	-	5	10	20	50	15				
						3.2	SM	Very dense gray-brown silty SAND (SM), mps 0.25 in., no structure, no odor, slightly moist	-	5	10	20	50	15				
						4.5		-FILL-										
5	5 3 1 1	S3 12	4.5 6.5	38 30	3.7	5.2	SM	Similar to above, except brown to rust brown (iron oxide stain), mps 0.5 in., 0.5-in. thick layer of black ash	-	5	10	30	40	15				
							SM	-FILL-	-	5	5	5	55	30				
	5 1 1 1	S4 8	6.5 8.5	40 40	0.4	6.3	SM	Dense gray-brown and brown silty SAND (SM), mps 0.25 in., trace ash, no structure, no odor, wet	-	-	10	20	40	30				
								-FILL- Very loose gray-brown silty SAND (SM), mps 0.25 in., no structure, no odor, wet, trace brick particles										
						8.5		-FILL-										
10	7 5 2 2	S5 5	8.5 10.5	15 19	0.6		SM	Very loose gray silty SAND (SM), mps 2.0 mm, no structure, no odor, wet, reworked naturally-deposited soil	-	-	10	20	40	30				
								-FILL-										
	2 1 1 1	S6 12	10.5 12.5	13 14	0.4		SM	Loose gray silty SAND (SM), mps 2.0 mm, no structure, no odor, wet	-	-	10	20	40	30				
								-MARINE DEPOSIT- Very loose gray silty SAND (SM), mps 2.0 mm, no structure, no odor, wet										
				13 12 11														
15	8 50(5")	S7 10	15.5 16.3			16.3	SM	Similar to above, with rock in tip of spoon Note: Top of bedrock at approximately 16.3 ft.	-	-	10	20	40	30				
						16.5		Note: Advanced roller bit to 16.5 ft. Begin NQ rock core at 16.5 ft.										
20								SEE CORE BORING REPORT FOR ROCK DETAILS										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	15.8
Rock Cored (ft)	4.8
Samples	7S, 1C

Boring No. HA19-18

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 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 BOR WITH PERM PID+CASING 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-07-1.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-877_TEST BORINGS.GPJ 6 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA19-18
File No. 39486-877
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
20	3:38 4:01 3:05 3:28 3:17	C1	16.5 21.3	58 29	100 50	Fresh to Slight		Hard, fresh to slightly weathered, gray, aphanitic to fine-grained SCHIST. Primary joints dipping at low angles, very close to close, planar and smooth, tight to open. Secondary joints vertical, very close to moderate, planar to stepped, smooth. Iron oxide staining and calcite coating on joint surfaces.
							21.3	BOTTOM OF EXPLORATION 21.3 FT
25								
30								
35								
40								
45								
50								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-877_TEST BORINGS.GPJ 6 Oct 22

TEST BORING REPORT

Boring No. HA19-19

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC.
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Track
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW drive to 5.2 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	13 June 2019
Finish	13 June 2019
Driller	B. Cross
H&A Rep.	N. Klausmeyer
Elevation	16.0+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push	0.0	0.5		-BITUMINOUS CONCRETE-										
	1 6 15	S1 17	0.5 2.0	Push	0.0	1.5	SM	Loose light brown grading to gray-brown silty SAND with gravel (SM), mps 1 in., no structure grading to moderately bonded, no odor, damp	15	5	10	20	30	20				
							ML	-FILL-	5	10	5	10	15	55				
	25 42 40 50/2"	S2 10	2.0 3.7	42 50/0.8'		3.7	ML	Stiff to very stiff gray-brown sandy SILT with gravel (ML), mps 0.5 in., well bonded, no odor, damp -GLACIAL TILL- Hard gray-brown sandy SILT (ML), mps 0.5 in., well bonded, no odor, moist	5	-	5	10	20	60				
5	27 50/3"	S3 10	4.5 5.2			4.5 5.2	ML	Note: Advanced roller bit through boulder from approximately 3.7 to 4.5 ft. -BOULDER- Very stiff to hard gray-brown sandy SILT with gravel (ML), mps 0.75 in., well bonded, no odor, moist, rock in spoon tip	5	10	10	10	20	45				
						7.0		-GLACIAL TILL- Note: Drill action and wash indicate top of bedrock at approximately 5.2 ft. Note: Advanced roller bit to 7.0 ft. Began NQ rock core at 7.0 ft. SEE CORE BORING REPORT FOR ROCK DETAILS										
10																		
15																		
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
6/13/19	11:45	--	3.8	11.7	NE

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	5.2
Rock Cored (ft)	4.7
Samples	3S, 1C

Boring No. HA19-19

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 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 BOR WITH PERM PID+CASING 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-07-1.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-877_TEST BORINGS.GPJ 6 Oct 22

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA19-19
File No. 39486-877
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
10	4:57 7:46 15:15 5:19 10:40/0.7'	C1	7.0 11.7	54 44	96 79	Fresh to Slight	11.7	Hard to very hard, fresh to slightly weathered, light gray, aphanitic PHYLLITE. Primary joints dipping at high angles, moderately close, open, smooth to rough, undulating. Secondary joints dipping at low angles, moderately close, open, smooth to rough, undulating, silt coatings on joint surfaces, oxidation on joint surfaces, quartz intrusions up to 5-in. thick throughout core stem.
								BOTTOM OF EXPLORATION 11.7 FT
15								
20								
25								
30								
35								
40								

H+A_CORE+WELL-09 39486_HA-LIB09-POR-2022.GLB HA-TB+CORE+WELL-09 W FENCE.GDT \\HALEYALDRICH.COM\SHARE\CF\PROJECTS\39486\GINT\39486-877_TEST BORINGS.GPJ 6 Oct 22

TEST BORING REPORT

Boring No. HA19-20

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Track
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW drive to 26.2 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 3
Start	11 June 2019
Finish	11 June 2019
Driller	B. Cross
H&A Rep.	N. Klausmeyer
Elevation	13.5+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push		0.5		-BITUMINOUS CONCRETE-										
	2 4 4	S1 14	0.5 2.0	Push	0.9		SW	Loose dark brown well graded SAND with gravel (SW), mps 1.25 in., no structure, slight musty odor, damp, contains trace brick, ash, cinders	5	10	20	25	35	5				
								-FILL-										
	2 3 4 5	S2 10	2.0 4.0	Push 26	0.4		SW-SM	Loose dark brown to black well graded SAND with silt and gravel (SW-SM), mps 1 in., no structure, slight musty odor, wet, contains trace brick, ash, cinders	5	15	10	20	40	10				
						4.0												
5	3 5 4 3	S3 12	4.0 6.0	9 6	1.3		SM	Loose light brown silty SAND with gravel (SM), mps 1 in., loosely bonded, no odor, wet, slight oxidation	5	15	20	20	40	15				
								-FILL-										
	3 10 9 8	S4 10	6.0 8.0	16 23	0.3		SM	Medium dense light brown silty SAND with gravel (SM), mps 0.5 in., loosely bonded, no odor, wet, contains trace brick	5	10	10	20	40	15				
						8.0												
	7 4 3 4	S5 12	8.0 10.0	17 20	0.5		SM	Loose gray-brown silty SAND with gravel (SM), trace clay, mps 0.5 in., moderately bonded, no odor, wet	5	10	10	15	45	15				
								-MARINE DEPOSIT-										
10	4 4 2 3	S6 16	10.0 12.0	16 12	0.0		SM	Loose gray-brown silty SAND with gravel (SM), trace clay, mps 0.75 in., moderately bonded, no odor, wet	5	10	10	20	40	15				
				9 8														
15	1 1 1 1	S7 0	14.0 16.0	9 11				No Recovery										
	WOH WOH 1 1	S8 6	16.0 18.0	11 7	0.0		SM	Very loose gray-brown silty SAND with gravel (SM), mps 0.5 in., loosely to moderately bonded, slight organic odor, wet, contains weathered rock fragments, black organic pockets in split spoon tip	-	15	10	20	35	20				
								-MARINE DEPOSIT-										
				11		18.5												
20	7 11	S9 11	19.0 21.0	7	0.0		SW	Medium dense gray-brown grading to yellow-brown well graded SAND with gravel, mps 1 in., no structure, no odor, wet	5	10	15	20	45	5				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
6/12/19	11:00	--	40.5	45.5	6.3

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	26.2
Rock Cored (ft)	5.0
Samples	10S, 1C

Boring No. HA19-20

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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	7 8			2 20 9 23		24.0		-MARINE DEPOSIT-										
25	2 1 1 4	S10 19	24.0 26.0	21 24 23 12 27	0.0		SM	Very loose gray-brown silty SAND with gravel (SM), mps 0.25 in., well bonded, no odor, wet -GLACIAL TILL- Note: Drill action and wash indicate gravel at approximately 26.2 ft.	-	15	15	15	30	25				
30	1 2 1 1	S11 6	29.0 31.0	17 19 16 16 17	0.0		SM	Very loose gray-brown silty SAND (SM), trace clay, mps 0.25 in., moderately bonded, no odor, wet	-	5	10	15	40	30				
35	7 30 9 7	S12 9	34.0 36.0	9 14 9 10 18	0.0		SM	Dense gray-brown silty SAND with gravel (SM), trace clay, mps 1 in., moderately bonded, no odor, wet -GLACIAL TILL-	10	15	5	10	30	30				
40	7 52	S13 12	39.0 40.0	20 50	0.0	40.0 40.5	SM	Very dense gray-brown silty SAND with gravel, mps 0.75 in., moderately bonded, no odor, wet Note: Drill action and casing refusal indicate top of bedrock at approximately 40.0 ft. Note: Advance roller bit to 40.5 ft. Began NQ rock core at 40.5 ft. SEE CORE BORING REPORT FOR ROCK DETAILS	5	15	15	20	30	15				
45																		

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

H&A-TEST BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

CORE BORING REPORT

Boring No. HA19-20
File No. 39486-877
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
45	4:43 4:59 4:30 4:37 5:25	C1	40.5 45.5	60 51	100 85	Fresh to Slight		Hard, fresh to slightly weathered, gray, aphanitic PHYLLITE. Primary joints dipping at low angles, very close to moderate, tight to open, planar to undulating, smooth to rough. Secondary joints dipping at high angles, moderately close, planar to undulating, smooth to rough, slight silt coating on joint surfaces, one secondary joint from 43.9 to 44.5 ft, oxidized, several quartz stringers throughout core stem.
							45.5	BOTTOM OF EXPLORATION 45.5 FT
50								
55								
60								
65								
70								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

TEST BORING REPORT

Boring No. HA19-21

Project	Foreside Block 2-6 Development, Portland, Maine
Client	Portland Foreside Development Company, LLC
Contractor	New England Boring Contractors

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile Drill B52 Track
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	24	30	-	Casing: HW drive to 16.5 ft
				Hoist/Hammer: Winch/ Automatic Hammer
				PID Make & Model: MiniRAE 2000 10.6 eV

File No.	39486-877
Sheet No.	1 of 2
Start	10 June 2019
Finish	10 June 2019
Driller	B. Cross
H&A Rep.	J. Collins
Elevation	13.5+/-
Datum	Portland City Datum
Location	See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Casing Blows Per Ft.	PID Readings (ppm)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (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				Push	2.3	0.4	SP	-BITUMINOUS CONCRETE-										
	6 6 7 6	S1 17	0.4 2.4	Push				Medium dense poorly-graded SAND with gravel (SP), mps 0.75 in., no structure, no odor, dry, coal observed	15	20	25	25	10	5				
				Push				-FILL-										
				Push														
				Push		4.4	GM	Very loose dark gray silty GRAVEL (GM), mps 1 in., no structure, no odor, wet	40	30	-	5	5	20				
5	2 1 2 1	S2 4	4.4 6.4	Push	3.3			-FILL-										
				Push														
				Push														
				Push		9.0		Note: Drill action indicates strata change at approximately 9.0 ft.										
				22			SM/ML	Very loose gray to dark brown silty SAND with gravel (SM) to SILT with sand (ML), mps 4 in., no structure, slight organic odor, moist	- -	15 5	5 10	25 15	30 30	25 40				
10	1 1 2 1	S3 16	9.4 11.4	15	1.6			-MARINE DEPOSIT-										
				17														
				31														
				20														
				33			SP-SM	Medium dense dark gray poorly-graded SAND with silt and gravel (SP-SM), mps 0.75 in., few organic soil pockets, slight organic odor, moist	10	20	30	25	5	10				
15	12 12 18 5	S4 12	14.4 16.4	30	2.4													
				30/0.1'		16.5		Note: Top of bedrock at approximately 16.5 ft.										
								Note: Advanced roller bit to 18.4 ft. Began NQ rock core at 18.4 ft.										
						18.4		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

Sample ID

O - Open End Rod
T - Thin Wall Tube
U - Undisturbed Sample
S - Splitspoon Sample
G - Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (ft)	16.5
Rock Cored (ft)	5.5
Samples	4S, 2C

Boring No. HA19-21

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 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 BOR WITH PERM PID+CASING 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA19-21
File No. 39486-877
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
20	5:10 5:00 3:30	C1	18.4 20.9	13 0	43 0	Slight to Moderate		Hard, slightly to moderately weathered, gray, aphanitic to fine-grained SCHIST. Primary joints dipping at low to moderate angles, very close to close, planar, smooth, tight to open, single quartz intrusion.
	11:00 3:30 2:30 3:00/0.5'	C2	20.9 23.9	33 9	92 25	Fresh to Moderate		Hard, fresh to moderately weathered, aphanitic to fine-grained SCHIST. Primary joints dipping at low to moderate angles, very close to close, planar to undulating, smooth to rough, open. Joint surfaces slightly to moderately weathered with frequent quartz intrusions from approximately 20.4 to 22.5 ft.
							23.9	BOTTOM OF EXPLORATION 23.9 FT
25								
30								
35								
40								
45								

H+A_CORE+WELL07-1 39486-877_HA-LIB09-POR-REV.GLB HA-TB+CORE+WELL-07-1.GDT G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 17 Dec 19



TOP ROW (L to R): HA19-4: C1 (45.0' - 50.0')
MIDDLE ROW TOP (L to R): HA19-4: C2 (50.0' - 55.0')
MIDDLE ROW BOTTOM (L to R): HA19-5: C1 (60.0' - 64.3')
BOTTOM ROW (L to R): NA



TOP ROW (L to R): HA19-8: C1 (16.5' - 21.5')
MIDDLE ROW TOP (L to R): HA19-8: C2 (21.5' - 26.5')
MIDDLE ROW BOTTOM (L to R): HA19-9: C1 (18.0' - 23.0')
BOTTOM ROW (L to R): HA19-9: C2 (23.0' - 28.0')

J:\GRAPHICS\TEMP\MCELENEY-TI\FORMS\CALC PAPER\HA-11X17 CALC SHEETS 5X5 ENG.DWG

NORTH

0
SCALE IN FEET

CLIENT: PORTLAND FORESIDE DEVELOPMENT CO.
COMPUTED BY: BCS CHECKED BY:
SHEET 1 of 4

HALEY ALDRICH
FILE NO: 39486-877
DATE: 19 DECEMBER 2019
PROJECT: FORESIDE DEVELOPMENT
SUBJECT: ROCK CORE PHOTOGRAPHS



TOP ROW (L to R): HA19-10: C5 (18.0' - 23.0')
MIDDLE ROW TOP (L to R): HA19-11: C1 (7.5' - 12.5')
MIDDLE ROW BOTTOM (L to R): HA19-27: C1 (50.5' - 51.5'); C2 Top (51.5' - 56.9')
BOTTOM ROW (L to R): HA19-27: C2 Bottom (51.5' - 56.9')



TOP ROW (L to R): HA19-12: C2 (15.7' - 17.9')
MIDDLE ROW TOP (L to R): HA19-12: C3 (17.9' - 22.7')
MIDDLE ROW BOTTOM (L to R): HA19-13: Cobbles/Boulders; Cobbles/Boulders; C3 Top (15.5' - 20.0')
BOTTOM ROW (L to R): HA19-13: C3 Bottom (15.5' - 20.0')

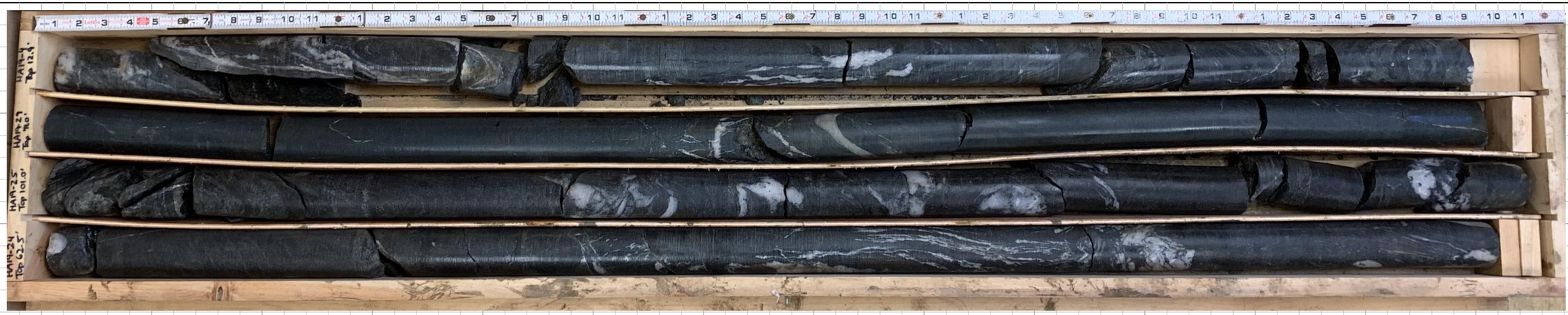
J:\GRAPHICS\TEMP\MCELENEY-1\FORMS\CALC PAPER\HA-11X17 CALC SHEETS.SXS ENG.DWG

NORTH

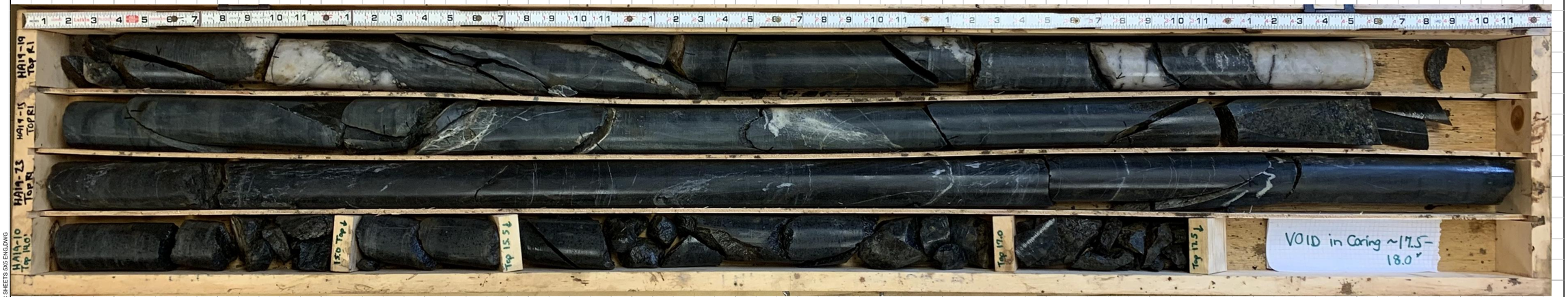
0
SCALE IN FEET

CLIENT: PORTLAND FORESIDE DEVELOPMENT CO.
COMPUTED BY: BCS CHECKED BY:
SHEET 2 of 4

HALEY ALDRICH
FILE NO: 39486-877
DATE: 19 DECEMBER 2019
PROJECT: FORESIDE DEVELOPMENT
SUBJECT: ROCK CORE PHOTOGRAPHS



TOP ROW (L to R): HA19-14: C1 (13.4' - 18.4')
MIDDLE ROW TOP (L to R): HA19-29: C1 (71.0' - 76.0')
MIDDLE ROW BOTTOM (L to R): HA19-25: C2 (101.0' - 106.0')
BOTTOM ROW (L to R): HA19-24: C1 (62.5' - 67.5')



TOP ROW (L to R): HA19-19: C1 (7.0' - 11.7')
MIDDLE ROW TOP (L to R): HA19-15: C1 (13.5' - 18.5')
MIDDLE ROW BOTTOM (L to R): HA19-23: C1 (21.5' - 26.5')
BOTTOM ROW (L to R): HA19-10: C1 (14.0' - 15.0'); C2 (15.0' - 15.5'); C3 (15.5' - 17.0'); C4 (17.0' - 17.5')

J:\GRAPHICS\TEMP\MCELENEY-T\FORMS\CALC PAPER\HA-11X17 CALC SHEETS.SXS ENG.DWG

NORTH

0
SCALE IN FEET

CLIENT: PORTLAND FORESIDE DEVELOPMENT CO.
COMPUTED BY: BCS CHECKED BY:
SHEET 3 of 4

HALEY ALDRICH
FILE NO: 39486-877
DATE: 19 DECEMBER 2019
PROJECT: FORESIDE DEVELOPMENT
SUBJECT: ROCK CORE PHOTOGRAPHS



TOP ROW (L to R): HA19-22: C1 (4.5' - 9.5')
MIDDLE ROW TOP (L to R): HA19-18: C1 (16.5' - 21.3')
MIDDLE ROW BOTTOM (L to R): HA19-17: C1 (20.3' - 23.9'); C2 (23.9' - 25.3')
BOTTOM ROW (L to R): HA19-12: C1 (10.7' - 14.5'); C2 (15.7' - 17.9')



TOP ROW (L to R): HA19-26: C1 (81.0' - 86.0')
MIDDLE ROW TOP (L to R): HA19-21: C1 (18.4' - 20.9'); C2 (20.9' - 23.9')
MIDDLE ROW BOTTOM (L to R): HA19-16: C1 (18.0' - 23.0')
BOTTOM ROW (L to R): HA19-20: C1 (40.5' - 45.5')

J:\GRAPHICS\TEMP\MCELENEY-TI\FORMS\CALC PAPER\HA-11X17 CALC SHEETS 5X5 ENG.DWG

NORTH

0
SCALE IN FEET

CLIENT: PORTLAND FORESIDE DEVELOPMENT CO.
COMPUTED BY: BCS CHECKED BY:
SHEET 4 of 4

HALEY ALDRICH
FILE NO: 39486-877
DATE: 19 DECEMBER 2019
PROJECT: FORESIDE DEVELOPMENT
SUBJECT: ROCK CORE PHOTOGRAPHS

2019 Haley & Aldrich, Inc.
Test Pit Photographs



Photo 1: HA19-TP1 with bottom of wall visible.



Photo 2: HA19-TP2 with bottom of wall visible.



Photo 3: HA19-TP3 with step at bottom of wall visible.



Photo 4: HA19-TP4 with bottom of wall visible.

2016 Haley & Aldrich, Inc.
Test Boring Logs and
Rock Core Photographs

TEST BORING REPORT

Boring No. HA16-1(OW)

Project	Portland Company Redevelopment, 58 Fore Street, Portland, Maine
Client	CPB2 Management, LLC
Contractor	New England Boring Contractors

File No. 39486-872
Sheet No. 1 of 4
Start 19 December 2016
Finish 20 December 2016
Driller T. Schaefer
H&A Rep. K. Russ
Elevation 75.0 +/-
Datum Portland City
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW/NW	S	NQ	Rig Make & Model: Mobile B-53
Inside Diameter (in.)	4.0/3.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	18	30	-	Casing: HW Drive to 55.5'; NW Drive to 64.2'
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000

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 2 1 2	S1 6	0.0 2.0	0.0		0.5		-TOPSOIL-										
							SM	Very loose brown silty SAND (SM), mps 0.5 in., no odor, moist, contains roots		5	10	20	45	20				
								-FILL-										
	1 4 3 5	S2 14	2.0 4.0	0.0			SM	Loose brown silty SAND with gravel (SM), mps 1 in., contains roots, no odor, dry, contains trace brick chips	5	10	10	20	35	20				
	10 26 20 19	S3 20	4.0 6.0			4.0	SM	Dense olive-brown silty SAND (SM), mps 1.25 in., loosely bonded, no odor, dry, contains occasional roots		8	3	14	31	44				
5								-GLACIAL TILL-										
	17 20 22 25	S4 18	6.0 8.0				SM	Dense olive-brown silty SAND with gravel (SM), mps 1.5 in., moderately bonded, no odor, moist	10	10	10	20	30	20				
								Note: Samples S4 and S5 were moist due to likely perched groundwater.										
10	20 27 30 33	S5 17	10.0 12.0				SM	Very dense olive-brown silty SAND with gravel (SM), mps 1.25 in, well bonded, no odor, dry/moist	5	10	15	25	25	20				
								Note: Advanced rollerbit ahead of casing to 20 ft.										
15	18 25 42 48	S6 16	15.0 17.0				SM	Very dense olive-brown silty SAND (SM), mps 1 in., well bonded, no odor, dry		4	3	14	32	47				
								-GLACIAL TILL-										
								Note: Advanced rollerbit ahead of casing to 25 ft.										
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

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)	63.8
Rock Cored (ft)	10.0
Samples	13S, 2R

Boring No. HA16-1(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-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

HALEY ALDRICH

TEST BORING REPORT

Boring No. HA16-1(OW)
File No. 39486-872
Sheet No. 2 of 4

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	24 41 42 60	S7 18	20.0 22.0				SM	Very dense olive-brown silty SAND (SM), mps 1.5 in., well bonded, no odor, dry -GLACIAL TILL- Note: Advanced rollerbit ahead of casing to 30 ft.	5	5	10	20	30	30				
25	31 42 53 52	S8 14	25.0 27.0				SM	Very dense olive-gray silty SAND (SM), mps 1.5 in., well bonded, no odor, dry Note: Advanced rollerbit ahead of casing to 35 ft.		4	5	14	29	48				
30	26 37 45 60	S9 20	30.0 32.0				SM	Very dense olive-gray silty SAND (SM), mps 0.75 in., well bonded, no odor, dry -GLACIAL TILL-		3	4	14	31	48				
35	50/5"	S10 5	35.0 35.4			35.4 35.8	SM	Very dense olive-gray silty SAND (SM), mps 0.75 in., well bonded, no odor, dry -COBBLE- -GLACIAL TILL- Note: Advanced rollerbit ahead of casing to 45 ft.		5	10	20	35	30				
40	38 70 88 90	S11 0	40.0 42.0					No recovery - probable rock stuck in spoon tip Note: Advanced rollerbit ahead of casing between 45 and 55 ft.										
45	20 33 47 49	S12 22	45.0 47.0				SM	Very dense olive-gray silty SAND (SM), mps 1 in., well bonded, no odor, dry -GLACIAL TILL-	6	6	5	15	27	41				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-1(OW)

H&A-TEST BORING-07-1 PID HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

TEST BORING REPORT

Boring No. HA16-1(OW)
File No. 39486-872
Sheet No. 3 of 4

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
50								Note: Advanced rollerbit ahead of casing between 55 and 60 ft.										
55	25 34 36 50/5"	S13 15	55.0 56.9				SM	Very dense olive-gray silty SAND (SM), mps 1 in., well bonded, no odor, dry		8	6	15	28	43				
								-GLACIAL TILL-										
60								Note: Advanced rollerbit to top of bedrock at 63.8 ft.										
						63.8		Note: Advanced rollerbit to 64.2 ft. Advanced NW casing to 64.2 ft, begin NQ rock core. See Core Boring Report for rock details.										
65																		
70																		

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. HA16-1(OW)

H&A-TEST BORING-07-1 PID HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

CORE BORING REPORT

Boring No. HA16-1(OW)
File No. 39486-872
Sheet No. 4 of 4

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
65	2:07	C1	64.2 69.2	59 59	98 98	Fresh			Very hard, fresh, light gray to blue-gray, aphanitic PHYLLITE. Joints dipping at low to moderate angles, close to moderately close, tight. Joint surfaces planar, smooth with occasional chlorite on joint surfaces.
	1:46								
	1:46								
	2:03								-SPRING POINT FORMATION-
	2:02								
70	1:49	C2	69.2 74.2	56 40	93 67	Slight			Hard to moderately hard, slightly weathered, light gray to blue-gray, aphanitic to fine-grained PHYLLITE. Joints dipping at low to moderate angles, very close to close, planar, smooth, tight to open, occasional moderately weathered joints with silt coatings.
	1:30								
	1:35								
	1:35								
	2:47								
75								74.2	BOTTOM OF EXPLORATION 74.2 FT
80									
85									
90									

H+A_CORE+WELL07-1 HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

TEST BORING REPORT

Boring No. HA16-2

Project	Portland Company Redevelopment, 58 Fore Street, Portland, Maine
Client	CPB2 Management, LLC
Contractor	New England Boring Contractors

File No. 39486-872
Sheet No. 1 of 2
Start 22 December 2016
Finish 22 December 2016
Driller T. Schaefer
H&A Rep. K. Russ
Elevation 14.5 +/-
Datum Portland City
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile B-53
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	18	30	-	Casing: HW Drive to 17.4'
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000

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						0.3		-BITUMINOUS CONCRETE-										
	3 5 5 4	S1 13	1.0 3.0	0.0			SM	Loose dark brown silty SAND with gravel (SM), mps 1 in., no structure, no odor, wet, contains iron slag and coal fragments	10	5	10	10	35	30				
								-FILL-										
	2 3 8 8	S2 14	3.0 5.0	0.0			SM	Medium dense olive-brown to brown silty SAND (SM), mps 1 in., no structure, no odor, wet, contains coal fragments	5	5	15	15	35	25				
						4.6												
5	7 9 6 6	S3 12	5.0 7.0	0.0			SM	Medium dense olive-gray silty SAND (SM), mps 1 in., loosely bonded, no odor, wet	2	7	5	17	33	36				
								-GLACIAL TILL-										
10	23 25 27 30	S4 14	10.0 12.0				SM	Very dense olive-brown silty SAND with gravel (SM), mps 1.5 in., loosely bonded, no odor, wet	8	18	11	17	22	24				
								Note: Advanced rollerbit to hard surface at 13.8 ft. Drove casing to 15 ft. Very coarse material observed in wash water between 12 and 15 ft.										
						13.8												
15	52 50/2"	S5 6	15.0 15.7				GW	Very dense olive well graded GRAVEL with sand (GW), mps 1.5 in., loosely bonded, no odor, wet	25	30	20	10	10	5				
								-GLACIAL TILL-										
						17.4		Note: Advanced rollerbit to 17.4 ft. Advanced NW casing to 17.4 ft, begin NQ rock core. 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

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)	17.4
Rock Cored (ft)	5.0
Samples	5S, 2R

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 PID HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-2
File No. 39486-872
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
	3:00	C1	17.4	23	87	Fresh		Very hard, fresh to slightly weathered, light gray to dark gray, aphanitic PHYLLITE. Primary joints high angle, secondary joints low angle, very close to close, tight to open, planar, smooth to rough surfaces. Oxidized weathered joint surfaces with calcite coatings, frequent silt/clay coatings. Single vertical joint surface from 19 to 19.6 ft.
	2:30		19.6	6	23	to Slight		
	2:15							-SPRING POINT FORMATION-
20		C2	19.6	31	92	Fresh		Very hard, fresh to slightly weathered, light gray to dark gray, aphanitic PHYLLITE. Joints low angle with single vertical joint from 19.6 to 20.6 ft. Joints very close to close, tight to partly open, planar, smooth. Oxidized weathered joint surfaces with occasional calcite coatings.
	2:30		22.4	15	45	to Slight		
	2:30							
							22.4	BOTTOM OF EXPLORATION 22.4 FT
25								
30								
35								
40								
45								

H+A_CORE+WELL07-1 HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

TEST BORING REPORT

Boring No. HA16-9

Project	Portland Company Redevelopment, 58 Fore Street, Portland, Maine
Client	CPB2 Management, LLC
Contractor	New England Boring Contractors

File No. 39486-872
Sheet No. 1 of 2
Start 13 December 2016
Finish 13 December 2016
Driller T. Schaefer
H&A Rep. K. Russ
Elevation 14.5 +/-
Datum Portland City
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile B-53
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	18	30	-	Casing: HW Drive to 6.0'
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000

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 5 7 11	S1 12	0.0 2.0	0.2			SW	Medium dense black to dark brown well graded SAND (SW), mps 0.75 in., no structure, no odor, moist, contains coal fragments, wood, brick and mortar -FILL-		5	15	30	45	5				
	5 5 6 4	S2 13	2.0 4.0	0.5 1.0		2.5	SW	Loose black to dark brown well graded SAND (SW), mps 0.75 in., no structure, no odor, moist, contains coal fragments, wood, brick and mortar		5	15	30	45	5				
							GW	Loose light brown to red-brown well graded GRAVEL with sand (GW), mps 1.5 in., loosely bonded, no odor, moist, weathered rock pieces	25	25	20	15	10	5				
5 ▽	5 5 8 50/1"	S3 7	4.0 5.6	0.4			GW	-FILL-	25	25	20	15	10	5				
						5.6		Medium dense light brown to red-brown well graded GRAVEL with sand (GW), mps 1.5 in., moderately bonded, no odor, moist, weathered rock pieces (bottom 3 in. of soil recovered is wet) Note: Split-spoon refusal on top of bedrock at 5.6 ft.										
10								Note: Advanced solid-stem auger and casing to 6 ft. Advanced rollerbit to 6.5 ft, begin NQ rock core. See Core Boring Report for rock details.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water
12/13/16	13:00	--	--	5.6	5.3

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)	5.6
Rock Cored (ft)	5.0
Samples	3S, 1R

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 PID HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

CORE BORING REPORT

Boring No. HA16-9
File No. 39486-872
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
10	2:28 2:16 2:48 1:58 1:47	C1	6.5 11.5	57 56	95 93	Fresh to Slight		Moderately hard, fresh, light green, aphanitic PHYLLITE. Joints dipping at high angles, moderately close, open, planar to undulating, smooth to rough, joints slightly to moderately weathered with staining (oxidation) and silt coatings. -SPRING POINT FORMATION-
							11.5	BOTTOM OF EXPLORATION 11.5 FT
15								
20								
25								
30								
35								

H+A_CORE+WELL07-1 HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

TEST BORING REPORT

Boring No. HA16-10

Project	Portland Company Redevelopment, 58 Fore Street, Portland, Maine
Client	CPB2 Management, LLC
Contractor	New England Boring Contractors

File No. 39486-872
Sheet No. 1 of 3
Start 13 December 2016
Finish 14 December 2016
Driller T. Schaefer
H&A Rep. K. Russ
Elevation 13.5 +/-
Datum Portland City
Location See Plan

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HW	S	NQ	Rig Make & Model: Mobile B-53
Inside Diameter (in.)	4.0	1.375	2.0	Bit Type: Roller Bit
Hammer Weight (lb)	300	140	-	Drill Mud: None
Hammer Fall (in.)	18	30	-	Casing: HW Drive to 35.4'
				Hoist/Hammer: Winch Safety Hammer
				PID Make & Model: MiniRAE 2000

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 5 7 5	S1 16	0.0 2.0	0.0			SM	Medium dense dark brown to light brown silty SAND with gravel (SM), mps 1 in., no structure, no odor, moist, contains coal fragments	9	14	8	28	26	15				
								-FILL-										
	4 3 3 9	S2 10	2.0 4.0	0.1			SM	Loose dark brown to black silty SAND (SM), mps 1 in., no structure, no odor, moist, contains coal fragments	9	14	8	28	26	15				
	6 6 5 4	S3 15	4.0 6.0	0.0		4.5	SP	Medium dense black poorly-graded SAND with gravel (SP), mps 1.5 in., no structure, no odor, moist, contains brick chips	25	5	5	10	50	5				
5							SM	Loose olive-brown silty SAND with gravel (SM), mps 1 in., loosely bonded, no odor, moist	8	7	6	17	28	34				
	3 3 4 4	S4 2	6.0 8.0				SW-SM	-GLACIAL TILL- Loose olive-brown well graded SAND with gravel and silt (SW-SM), mps 1 in., loosely bonded, no odor, moist, low recovery due to rock in tip of spoon	25	10	10	15	30	10				
10	6 3 2 2	S5 16	10.0 12.0			10.0	SM	Loose olive-gray silty SAND with gravel (SM), mps 1 in., loosely bonded, decomposed rock within sample, no odor, wet	3	17	7	16	28	29				
								-GLACIAL TILL-										
								Note: Drill wash water and drill action indicates coarser material with depth.										
15	4 5 10 6	S6 11	15.0 17.0				SM	Medium dense olive-brown silty SAND (SM), loosely bonded, decomposed rock within sample, no odor, wet	3	9	6	19	34	29				
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft) to: Bottom of Casing	Bottom of Hole	Water

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)	35.4
Rock Cored (ft)	4.5
Samples	9S, 2R

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 PID HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

TEST BORING REPORT

Boring No. HA16-10
File No. 39486-872
Sheet No. 2 of 3

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	50/1"	NR 0	20.0 20.1			20.1		Note: Split-spoon refusal on cobbles at 20.1 ft. Cored from 20.1 to 23 ft. -COBBLES-										
						23.0		Note: Advanced 4 in. rollerbit to 23 ft. Drove HW casing to 25 ft. Collected split spoon. Clay content increases with depth based on drill wash water contents.										
25	1 2 3 4	S7 10	25.0 27.0				SM	Loose olive-gray silty SAND (SM), mps 1.5 in., no structure, no odor, wet -GLACIAL TILL-	6	5	4	10	31	44				
						28.0		Note: Drove HW casing to 29 ft. Advanced rollerbit to 30 ft. Collected split spoon sample. Drove casing to 33 ft, refusal on boulder.										
30	5 18 4 5	S8 16	30.0 32.0				SM	Medium dense olive-gray silty SAND (SM), mps 1 in., loosely bonded, no odor, wet -GLACIAL TILL-		11	6	14	30	39				
						33.0		Note: Casing refusal on boulder at 33 ft. Advanced rollerbit to 35 ft. -COBBLE-										
						33.9		-GLACIAL TILL-										
35	50/5"	S9 5	35.0 35.4			35.4	GW	Very dense olive-brown well graded GRAVEL with sand (GW), mps 1.5 in., no structure, no odor, wet Note: Split-spoon refusal on top of bedrock at 35.4 ft. Note: Advanced rollerbit to 36 ft, begin NQ rock core. See Core Boring Report for rock details.	35	25	15	10	10	5				
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 PID HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

HALEY ALDRICH

CORE BORING REPORT

Boring No. HA16-10
File No. 39486-872
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
	1:41	C1	36.0	35	65	Moderate to High		Moderately hard to soft, moderately to highly weathered, light gray, aphanitic PHYLLITE. Joints moderately dipping, extremely close to close, open, planar to undulating, smooth to rough, frequent silt coatings and oxidation, joints moderately to highly weathered, occasional to frequent calcite veins.
	1:23		40.5	6	11			
	3:07							-SPRING POINT FORMATION-
	3:07							
40	2:28/0.5						40.5	BOTTOM OF EXPLORATION 40.5 FT
45								
50								
55								
60								
65								

H+A_CORE+WELL07-1 HA-LIB09-REV_39486.GLB HA-TB+CORE+WELL-07-1.GDT G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17



Top Row: HA16-9, Core No. R1, 6.5 ft (left) to 11.5 ft (right); Top Middle Row: HA16-10, Core No. R1, 36.0 ft (left) to 40.5 ft (right);
Bottom Middle Row: HA16-8, Core No. R1, 33.5 ft (left) to 38.5 ft (right); Bottom Row: HA16-7, Core No. R1, 30.8 ft (left) to 35.8 ft (right)



Top Row: HA16-1(OW), Core No. R1, 64.2 ft (left) to 69.2 ft (right); Top Middle Row: HA16-1(OW), Core No. R2, 69.2 ft (left) to 74.2 ft (right); Bottom Middle Row: HA16-3(OW), Core No. R1, 40.5 ft (left) to 42.5 ft (middle), Core No. R2 (42.5 ft (middle) to 45.5 ft (right); Bottom Row: HA16-2, Core No. R1, 17.4 ft (left) to 19.6 ft (middle), Core No. R2, 19.6 ft (middle) to 22.4 ft (right)

2007 S.W. Cole Engineering, Inc.
Test Boring and Auger Probe Logs

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: B-4
SHEET: 1 OF 1
PROJECT NO.: 07-0792
DATE START: 9/25/2007
DATE FINISH: 9/25/2007
ELEVATION: NOT AVAIL.
SWC REP.: PFK

PROJECT / CLIENT: PORTLAND YACHT SERVICES FACILITY / PORTLAND YACHT CO.
LOCATION: 58 FORE STREET, PORTLAND, MAINE
DRILLING CO. : GREAT WORKS TEST BORING
DRILLER: WAYNE

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"	300 LB	18"
SAMPLER:	SS	1 3/8"	140 LB	24"
CORE BARREL:				

WATER LEVEL INFORMATION
SOIL WET TO SATURATED AT 9' ±

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										4" ± ASPHALT PAVEMENT
	1D	24"	20"	2.5'	12	18	18	24	1.2'	BROWN SAND, SOME GRAVEL, TRACE SILT (FILL) ~ MEDIUM DENSE~
										~MEDIUM DENSE~
										GRAY SAND AND SILT, SOME GRAVEL (TILL)
	2D	24"	10"	7.0'	20	14	11	10		w = 8.5%
									9.5'	
	3D	0"	0"	10.0'	50/0"				10.5'	PROBE AUGER 9.5' TO 10.5' PROBABLE BEDROCK
										BOTTOM OF EXPLORATION @ 10.5' WITH PROBE AUGER (PROBABLE BEDROCK)

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[X] LABORATORY TEST

REMARKS:
STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

6

BORING NO.: B-4

S.W.COLE ENGINEERING, INC.

AUGER PROBE LOG

PROJECT/CLIENT: Portland Yacht Services Facility/Portland Yacht Company
LOCATION: 58 Fore Street Portland, Maine
DRILLING FIRM: Great Works Test Boring DRILLER: Wayne

PROJECT NO. 07-0792
AUGER PROBE SIZE O.D.

BORING NO. P-1
LINE AND STATION See sheet 1
OFFSET
GROUND ELEV. Not Avail.
DATE 9-25-07

DEPTH	STRATUM DESCRIPTION
	4" ± ASPHALT PAVEMENT
	2.0 ± SAND AND GRAVEL FILL
	PROBABLE TILL
11.5'	
13.0'	PROBE AUGER 11.5' TO 13.0' - PROBABLE BEDROCK
	BOTTOM OF EXPLORATION @ 13.0'

BORING NO. P-2
LINE AND STATION See sheet 1
OFFSET
GROUND ELEV.
DATE 9-26-07

DEPTH	STRATUM DESCRIPTION
	4" ± ASPHALT PAVEMENT
	APPEARS TO BE SIMILAR SOILS AS B-8
6.5	
	BOTTOM OF EXPLORATION @ 6.5' (ONLY 1" ± PENETRATION WITH PROBE AUGER)

DRILLER - VISUALLY
SOIL TECHNICIAN - VISUALLY
LABORATORY TESTS

11

KEY TO THE NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - based on laboratory unconfined compressive 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. based on 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. RQD is computed from recovered core samples.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

0 to 5% TRACE
5 to 12% SOME
12 to 35% "Y"
35+% AND

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 B

Observation Well Installation and Groundwater Monitoring Reports

2022 Haley & Aldrich, Inc.
Observation Well Installation and
Groundwater Monitoring Reports

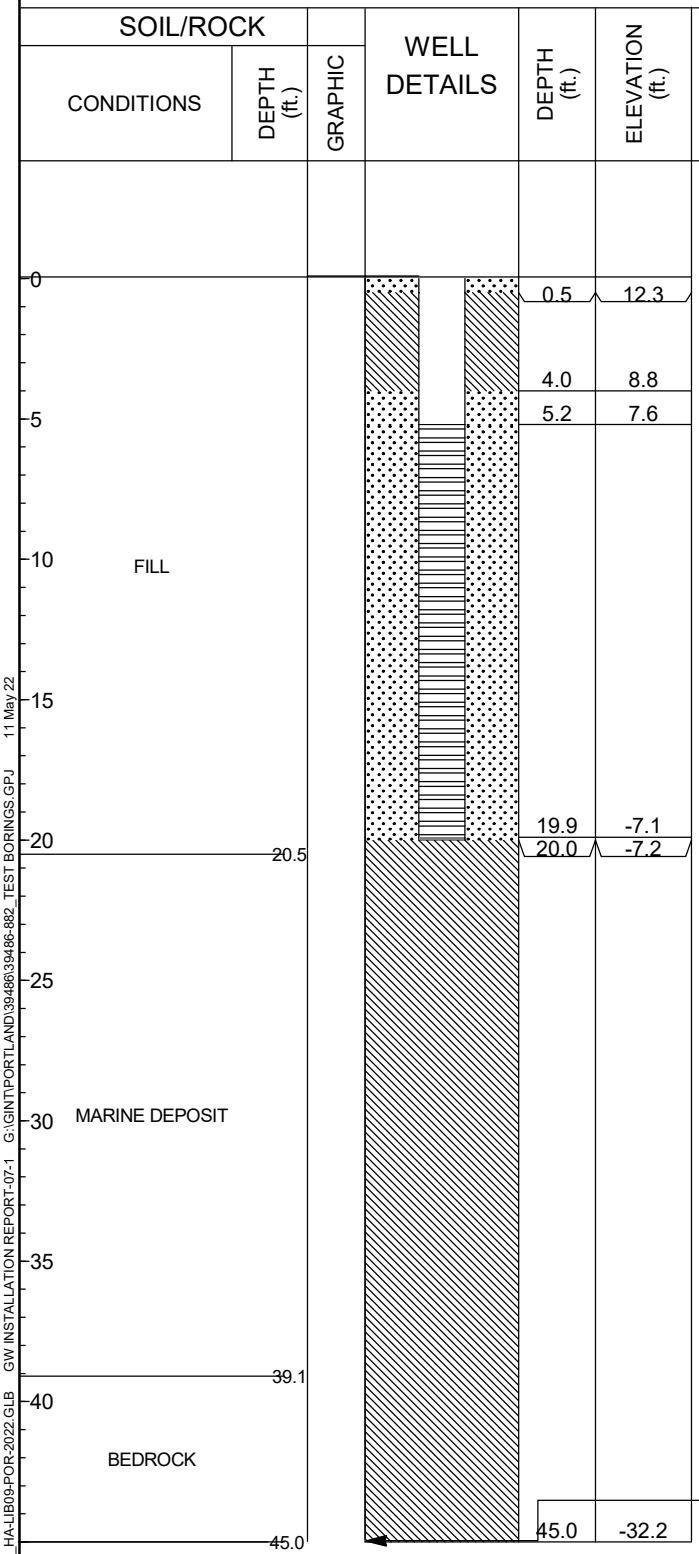
GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

Well No. HA22-1(OW)
Boring No. HA22-1(OW)

Project	Foreside Block 6 Development
Location	58 Fore Street, Portland, Maine
Client	PF Six Devco, LLC.
Contractor	New England Boring Contractors
Driller	T. Schaefer
Initial Water Level (depth bgs)	ft

Well Diagram: Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

File No.	39486-882
Date Installed	23 Mar 2022
H&A Rep.	T. Jones
Location	See Plan
Ground El.	12.8
Datum	Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	Steel Cap with Lock
Height of Steel Guardpipe above ground surface	2.6 ft
Height of top of riser above ground surface	2.4 ft
Type of protective casing	Steel Guardpipe
Length	5.3 ft
Inside diameter	3.0 in.
Depth of bottom of Steel Guardpipe	2.7 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	1.5 in.
Depth of bottom of riser pipe	5.2 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite	0.5	3.5
-	-	-
-	-	-
-	-	-

Diameter of borehole	4.0 in.
Depth to top of well screen	5.2 ft
Type of screen	Machine Slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	1.5 in.
Type of Backfill around Screen	Filter Sand
Depth to bottom of well screen	19.9 ft
Bottom of silt trap	20.0 ft
Depth of bottom of borehole	45.0 ft

COMMENTS:

39486_HA-LIB09-POR-2022.GLB GW INSTALLATION REPORT-07-1 G:\GINT\PORTLAND\39486\39486-882_TEST BORINGS.GPJ 11 May 22

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA22-1(OW)

PROJECT	Foreside Block 6 Development	**H&A FILE NO.**	39486-882
LOCATION	58 Fore Street, Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	PF Six Devco, LLC.	**FIELD REP.**	T. Jones
CONTRACTOR	New England Boring Contractors	**DATE**	3/23/2022

ELEVATION OF REFERENCE POINT 12.8 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
3/30/2022	15:09	7	8.9	3.9		TJ
3/31/2022	14:45	8	8.7	4.1	prior to purging	TJ
4/1/2022	7:46	9	8.9	3.9	after purging	TJ
4/4/2022	11:32	12	9.0	3.8		TJ
4/5/2022	8:37	13	9	3.8		TJ
4/5/2022	15:11	13	9.1	3.7		TJ
4/6/2022	9:22	14	9.1	3.7		TJ
4/6/2022	16:02	14	9.0	3.8		TJ
4/7/2022	10:19	15	9.0	3.8		TJ
4/7/2022	16:34	15	9.0	3.8		TJ
4/11/2022	14:10	19	9.0	3.8		HH
4/15/2022	11:30	23	8.9	3.9		HH
4/20/2022	12:30	28	8.7	4.1		HH
5/5/2022	14:30	43	9.3	3.5		JD
9/7/2022	14:00	168	9.1	3.7		TJ
10/3/2022	14:45	194	9.4	3.4		TJ
10/17/2022	8:50	208	9.2	3.6		TJ

2019 Haley & Aldrich, Inc.
Observation Well Installation and
Groundwater Monitoring Reports

GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

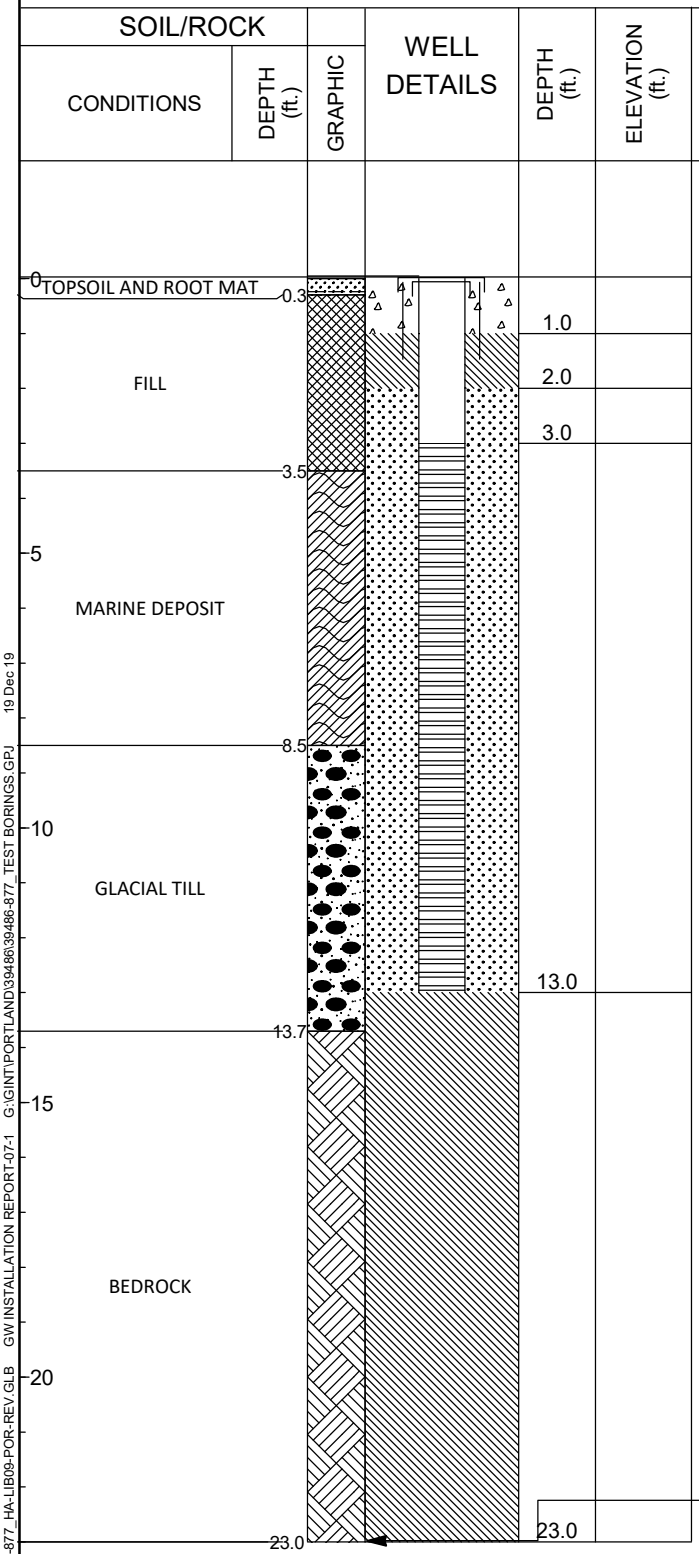
HALEY ALDRICH

Well No. HA19-10
Boring No. HA19-10

Project	Foreside Block 2-6 Development
Location	Portland, Maine
Client	Portland Foreside Development Company, LLC.
Contractor	New England Boring Contractors
Driller	B. Cross
Initial Water Level (depth bgs)	1.4 ft

Well Diagram: Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

File No.	39486-877
Date Installed	20 Jun 2019
H&A Rep.	H. Hollauer
Location	See Plan
Ground El.	17.0+/-
Datum	Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	5-Sided Center Bolt
Depth of Roadway Box below ground surface	0.0 ft
Depth of top of riser below ground surface	0.7 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	2.0 in.
Depth of bottom of riser pipe	3.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	1.0
Bentonite Seal	1.0	1.0
-	-	-
-	-	-

Diameter of borehole	4.0 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	2.0 in.
Type of backfill around screen	Filter Sand
Depth to bottom of well screen	13.0 ft
Bottom of silt trap	13.0 ft
Depth of bottom of borehole	23.0 ft

COMMENTS:

39486-877_HA-LIB09-POR-REV.GLB GW INSTALLATION REPORT-07-1 G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 19 Dec 19

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA19-10(OW)

PROJECT	Foreside Development	**H&A FILE NO.**	39486-877
LOCATION	Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	Portland Foreside Development Company	**FIELD REP.**	N. Klausmeyer
CONTRACTOR	New England Boring Contractors	**DATE**	6/20/2019

ELEVATION OF REFERENCE POINT 17.0 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
6/28/2019	13:20	8	1.5	15.5	prior to purging	WC
6/28/2019	13:50	8	1.7	15.3	after purging	WC
11/8/2019					not accessible	JF

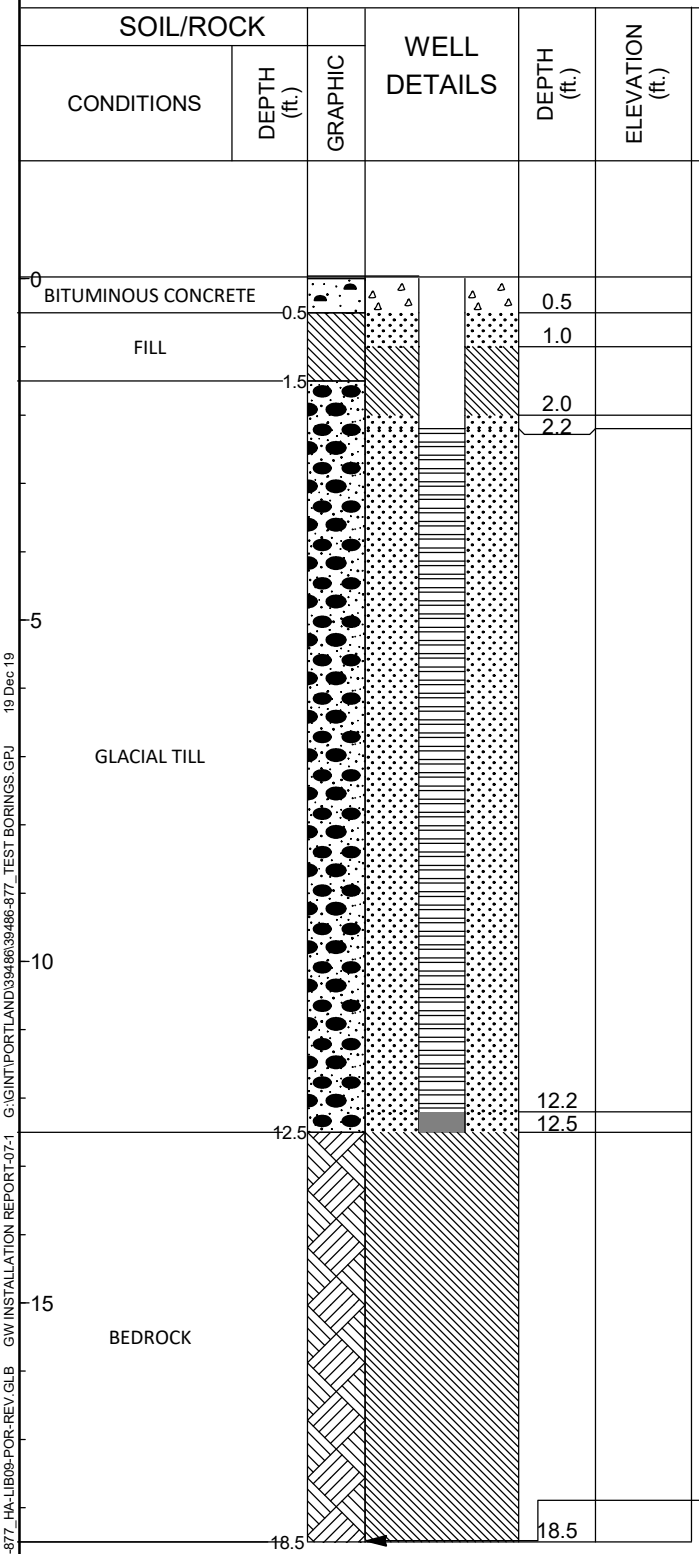
GROUNDWATER OBSERVATION WELL INSTALLATION REPORT

Well No. HA19-15
Boring No. HA19-15(OW)

Project	Foreside Block 2-6 Development
Location	Portland, Maine
Client	Portland Foreside Development Company, LLC.
Contractor	New England Boring Contractors
Driller	B. Cross
Initial Water Level (depth bgs)	0.0 ft

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

File No.	39486-877
Date Installed	13 Jun 2019
H&A Rep.	N. Klausmeyer
Location	See Plan
Ground El.	16.0+/-
Datum	Portland City Datum



WELL CONSTRUCTION DETAILS

Type of protective cover	Steel Cap with 5/8" Bolt
Depth of Steel Roadway Box below ground surface	0.0 ft
Depth of top of riser below ground surface	0.3 ft
Type of protective casing	Steel Roadway Box
Length	0.8 ft
Inside diameter	6.0 in.
Depth of bottom of Steel Roadway Box	0.8 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	2.0 in.
Depth of bottom of riser pipe	2.2 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	0.5
Bentonite Seal	1.0	1.0
-	-	-
-	-	-

Diameter of borehole	4.0 in.
Depth to top of well screen	2.2 ft
Type of screen	Machine slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	2.0 in.
Type of backfill around screen	#1S Holliston Filter Sand
Depth to bottom of well screen	12.2 ft
Bottom of silt trap	12.5 ft
Depth of bottom of borehole	18.5 ft

COMMENTS:

39486-877_HA-LIB09-POR-REV.GLB GW INSTALLATION REPORT-07-1 G:\GINT\PORTLAND\39486\39486-877_TEST BORINGS.GPJ 19 Dec 19

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER HA19-15(OW)

PROJECT	Foreside Development	**H&A FILE NO.**	39486-877
LOCATION	Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	Portland Foreside Development Company	**FIELD REP.**	N. Klausmeyer
CONTRACTOR	New England Boring Contractors	**DATE**	6/13/2019

ELEVATION OF REFERENCE POINT 16.0 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
6/28/2019	11:07	15	2.9	13.1	prior to purging	WC
6/28/2019	12:54	15	5.1	10.9	after purging	WC
11/8/2019	14:33	148	2.5	13.5		JF

2016/2017 Haley & Aldrich, Inc.
Observation Well Installation and
Groundwater Monitoring Reports

OBSERVATION WELL INSTALLATION REPORT

HALEY ALDRICH

Well No. HA16-1(OW)
Boring No. HA16-1(OW)

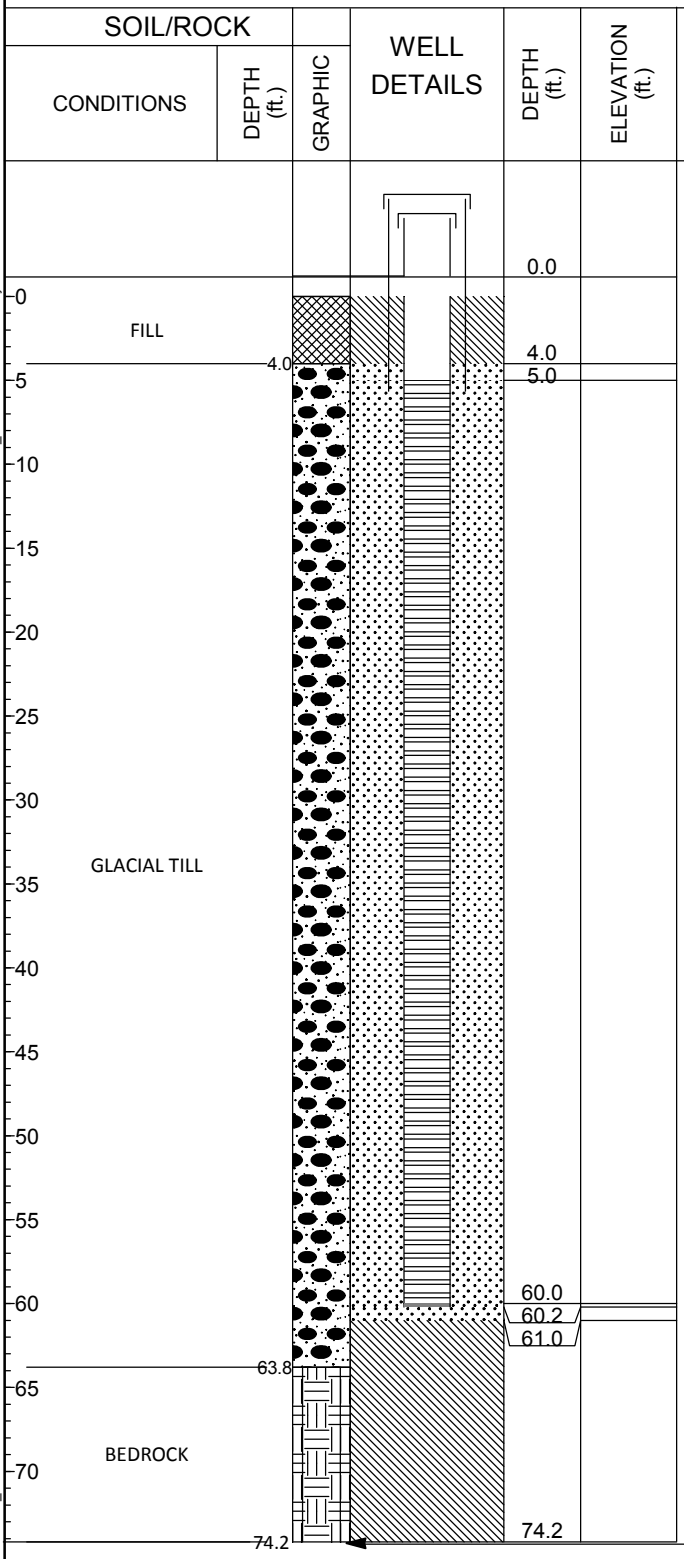
Project Portland Company Redevelopment, 58 Fore Street
Location Portland, Maine
Client CPB2 Management, LLC
Contractor New England Boring Contractors
Driller T. Schaeffer

Initial Water Level (depth bgs) ft

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

File No. 39486-872
Date Installed 21 Dec 2016
H&A Rep. K. Russ
Location See Plan

Ground El. 75.0 +/-
Datum Portland City



WELL CONSTRUCTION DETAILS

Type of protective cover	Steel Cap with Lock
Height of Guard Pipe above ground surface	2.9 ft
Height of top of riser above ground surface	2.7 ft
Type of protective casing	Guard Pipe
Length	5.0 ft
Inside diameter	4.0 in.
Depth of bottom of Guard Pipe	2.1 ft
Type of riser pipe	Schedule 40 PVC
Inside diameter of riser pipe	2.0 in.
Depth of bottom of riser pipe	5.0 ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite	0.0	4.0
Bentonite	61.0	13.2
	-	-
	-	-
	-	-
	-	-

Diameter of borehole	4.0 in.
Depth to top of well screen	5.0 ft
Type of screen	Machine slotted Sch 40 PVC
Screen gauge or size of openings	0.010 in.
Diameter of screen	2.0 in.
Type of Backfill around Screen	Filter Sand
Depth to bottom of well screen	60.0 ft
Bottom of silt trap	60.2 ft
Depth of bottom of borehole	74.2 ft

COMMENTS:

HA-LIB09-REV_39486.GLB MW INSTALLATION REPORT-07-1 G:\PROJECTS\39486 - FORE STREET\872 - PRELIMINARY PHASE\EXPLORATION PROGRAM\GINT\3946-871 HA16-1_HA16-10.GPJ 4 May 17

HALEY ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NUMBER
HA16-1(OW)
Page 1 of 1

PROJECT	Portland Company Redevelopment	**H&A FILE NO.**	39486-872
LOCATION	58 Fore Street - Portland, Maine	**PROJECT MGR.**	B. Steinert
CLIENT	CPB2 Management, LLC.	**FIELD REP.**	K. Russ
CONTRACTOR	New England Boring Contractors	**DATE**	12/23/2016

ELEVATION OF REFERENCE POINT 75.0 **REFERENCE POINT:** **Ground Surface** ☑ **PVC** ☐ **Other** ☐

Date	Time	Elapsed Time (days)	Depth of Water from Reference Point	Elevation of Water	Remarks	Read By
12/23/2016	13:00	0	13.3	61.8	Initial reading after installation	KAR
1/4/2017	16:30	12	11.8	63.2	Reference Point = Top of guard pipe	KAR
1/5/2017	13:05	13	11.7	63.4		KAR
1/6/2017	8:20	14	11.4	63.6	1/6/17 before purge of well	KAR
1/6/2017	9:25	14	58.1	16.9	1/6/17 after purge of well	KAR
1/6/2017	10:50	14	51.5	23.5	1/6/17 recharging well	KAR
1/16/2017	12:35	24	9.8	65.2		KAR
1/26/2017	7:45	34	9.7	65.4		KAR
2/3/2017	14:45	42	8.8	66.2		KAR
4/5/2022	8:17	1929	9.3	65.7		TJ
4/6/2022	15:50	1930	9.3	65.7		TJ
4/7/2022	17:30	1931	9.5	65.5		TJ
9/7/2022	14:50	2084	15.1	59.9		TJ
10/3/2022	14:25	2110	13.9	61.1		TJ
10/7/2022	10:00	2114	14.0	61.0		TJ
10/17/2022	9:10	2124	13.9	61.1		TJ

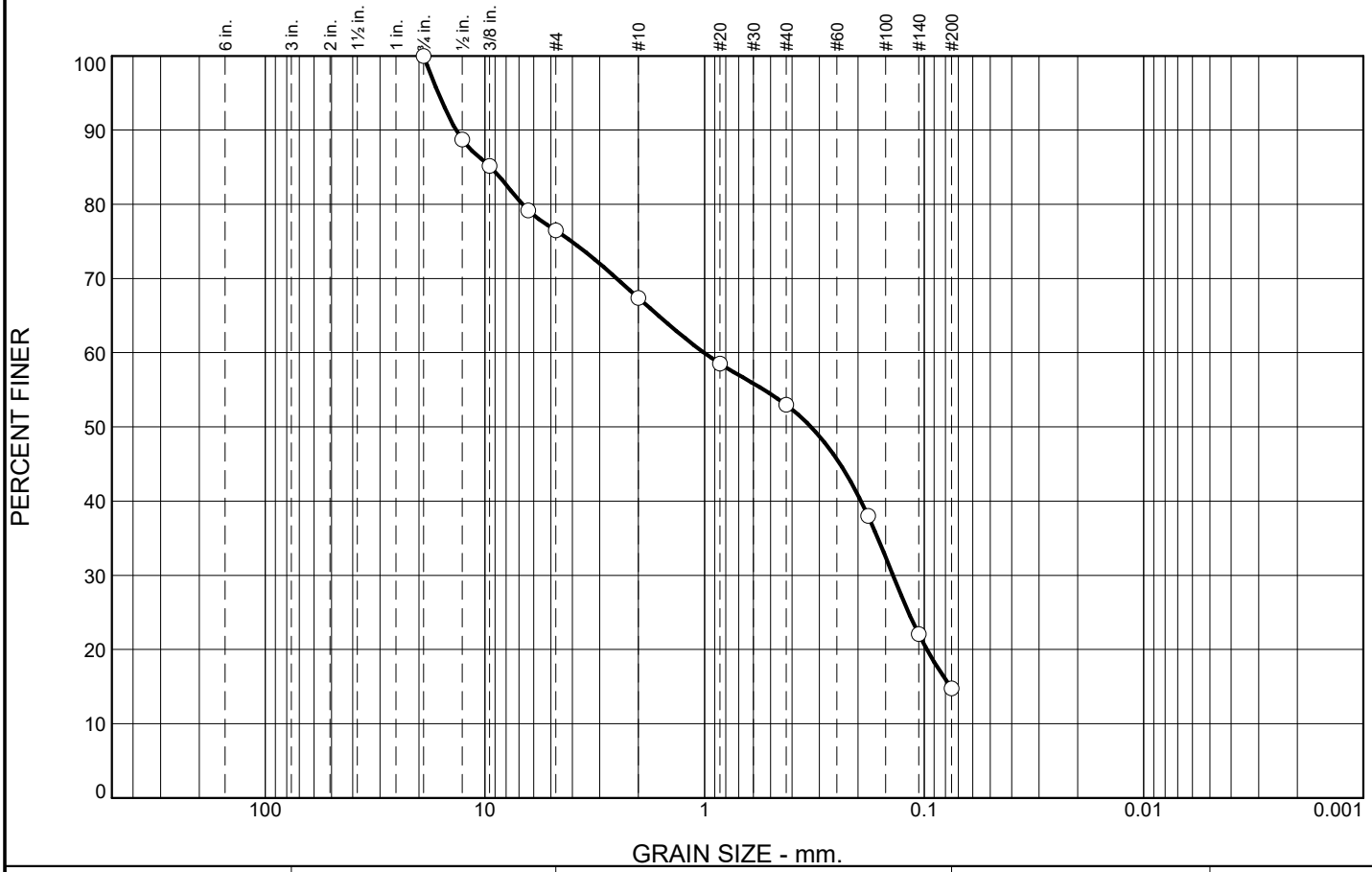
g:\PROJECTS\32328 - Portland Square\100\Exploration Program\2015_Groundwater Monitoring Reports HA15-1_HA15-4.xls

APPENDIX C

Laboratory Test Results

2022 Haley & Aldrich, Inc.
Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel	% Sand	% Silt	% Clay
0.0	23.5	61.7	14.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	88.7		
3/8"	85.2		
1/4"	79.2		
#4	76.5		
#10	67.4		
#20	58.5		
#40	53.0		
#80	38.0		
#140	22.1		
#200	14.8		

* (no specification provided)

Soil Description

silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 13.5366 D_{85}= 9.4081 D_{60}= 1.0052
D_{50}= 0.3276 D_{30}= 0.1387 D_{15}= 0.0759
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Moisture Content: 25.1%

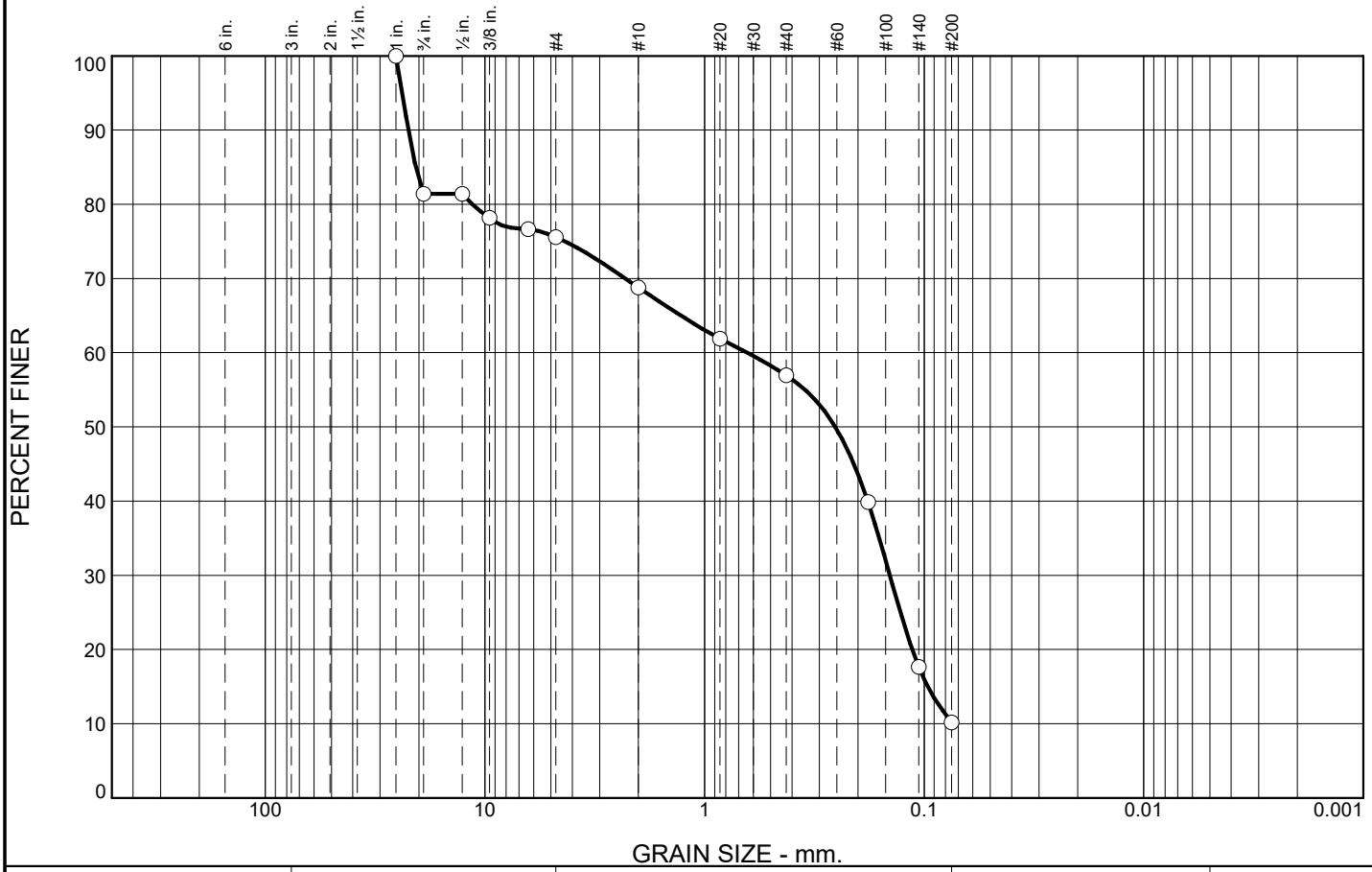
Location: HA22-1(OW)
Sample Number: S-11 **Depth:** 21'-23' **Date:** 05/06/2022

R.W. Gillespie & Associates, Inc.
Biddeford, Maine

Client: Haley & Aldrich
Project: Foreside Block 6 Development #39486-882
Portland, mE
Project No: 0956-13BG08 **Lab No.** 16983-12

Tested By: JMT **Checked By:** MTG

Particle Size Distribution Report



% +3"	% Gravel	% Sand	% Silt	% Clay
0.0	24.4	65.4	10.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	81.4		
1/2"	81.4		
3/8"	78.2		
1/4"	76.7		
#4	75.6		
#10	68.8		
#20	61.9		
#40	57.0		
#80	39.9		
#140	17.7		
#200	10.2		

* (no specification provided)

Soil Description

poorly graded sand with silt and gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 22.3086 D_{85}= 20.6262 D_{60}= 0.6400
D_{50}= 0.2542 D_{30}= 0.1434 D_{15}= 0.0964
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO= A-3

Remarks

Moisture Content: 18.4%

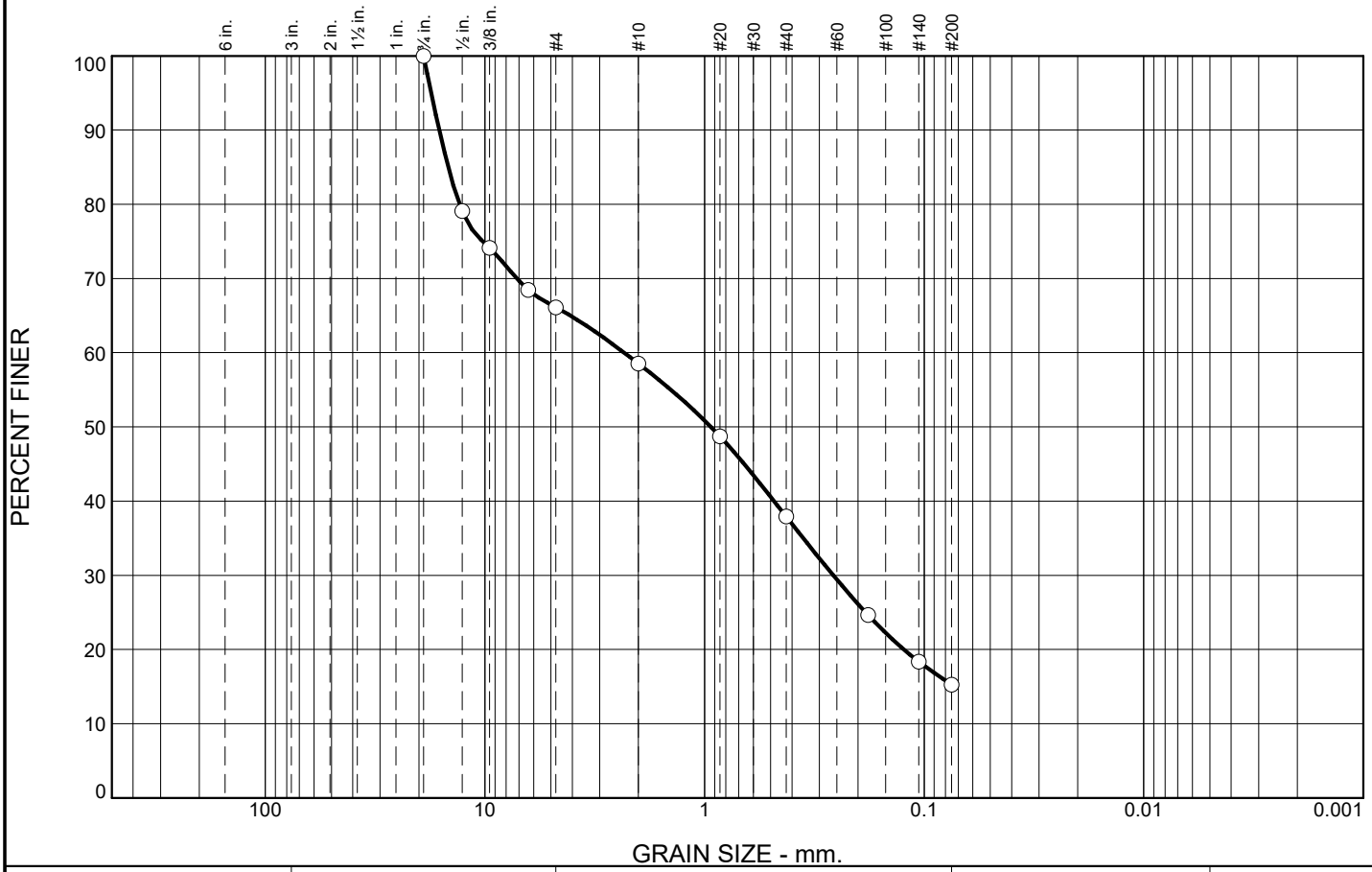
Location: HA22-1(OW)
Sample Number: S-12 **Depth:** 25'-27' **Date:** 05/06/2022

R.W. Gillespie & Associates, Inc.
Biddeford, Maine

Client: Haley & Aldrich
Project: Foreside Block 6 Development #39486-882
Portland, mE
Project No: 0956-13BG08 **Lab No.** 16983-13

Tested By: JMT **Checked By:** MTG

Particle Size Distribution Report



% +3"	% Gravel	% Sand	% Silt	% Clay
0.0	33.9	50.8	15.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	79.1		
3/8"	74.1		
1/4"	68.5		
#4	66.1		
#10	58.5		
#20	48.7		
#40	37.9		
#80	24.7		
#140	18.4		
#200	15.3		

* (no specification provided)

Soil Description

silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 16.1343 D_{85}= 14.6865 D_{60}= 2.3232
D_{50}= 0.9356 D_{30}= 0.2594 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-1-b

Remarks

Moisture Content: 7.0%

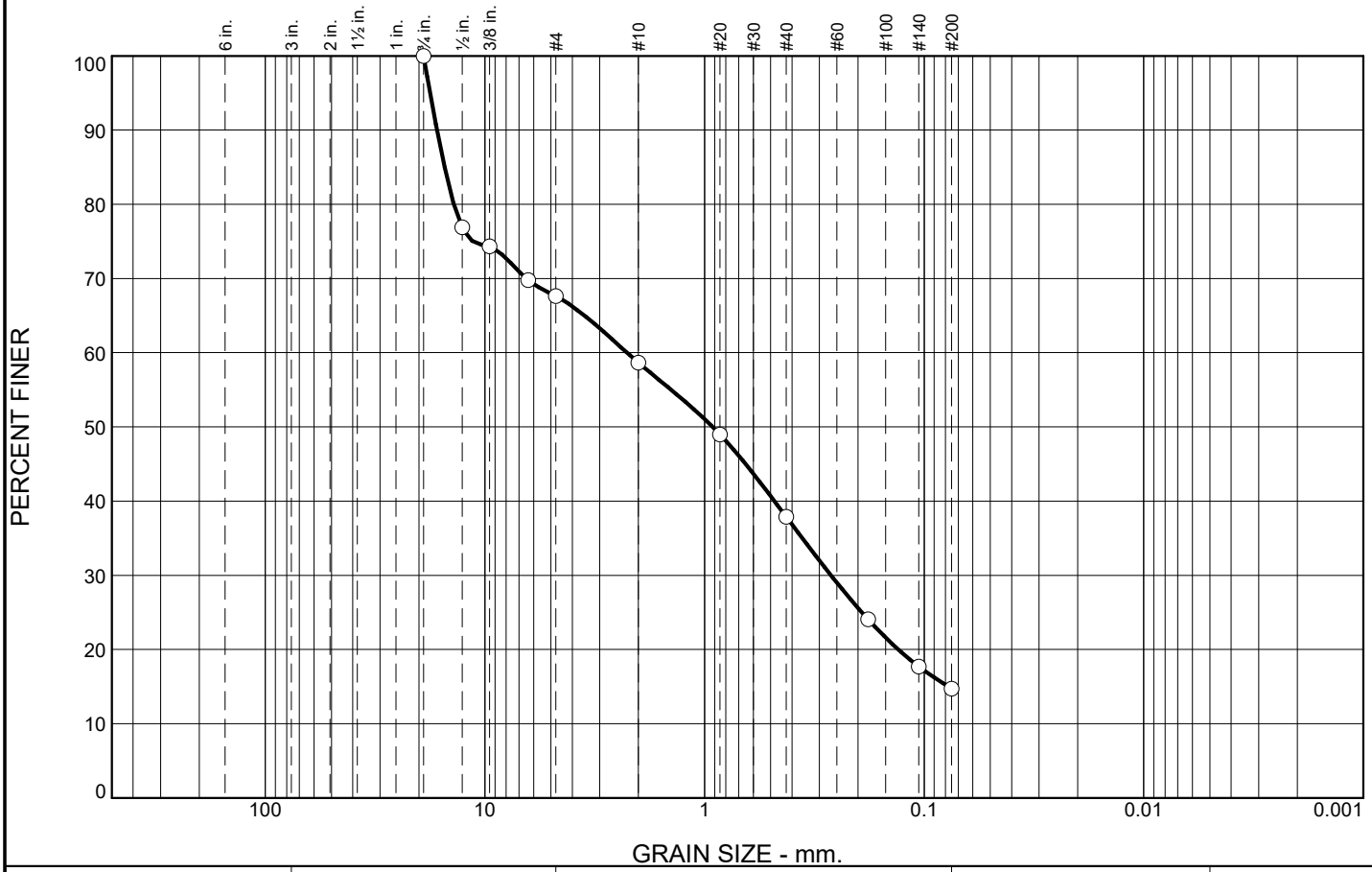
Location: HA22-9
Sample Number: S1+S2 **Depth:** 0'-4' **Date:** 05/06/2022

R.W. Gillespie & Associates, Inc.
Biddeford, Maine

Client: Haley & Aldrich
Project: Foreside Block 6 Development #39486-882
Portland, ME
Project No: 0956-13BG08 **Lab No.** 16983-36

Tested By: JMT **Checked By:** MTG

Particle Size Distribution Report



% +3"	% Gravel	% Sand	% Silt	% Clay
0.0	32.4	52.9	14.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	76.9		
3/8"	74.3		
1/4"	69.8		
#4	67.6		
#10	58.7		
#20	49.0		
#40	37.9		
#80	24.1		
#140	17.7		
#200	14.7		

* (no specification provided)

Soil Description

silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 16.5207 D_{85}= 15.2563 D_{60}= 2.2528
D_{50}= 0.9184 D_{30}= 0.2658 D_{15}= 0.0776
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-1-b

Remarks

Moisture Content: 7.4%

Location: HA22-9
Sample Number: S3+S4 **Depth:** 4'-8' **Date:** 05/06/2022

R.W. Gillespie & Associates, Inc.
Biddeford, Maine

Client: Haley & Aldrich
Project: Foreside Block 6 Development #39486-882
Portland, ME
Project No: 0956-13BG08 **Lab No.** 16983-37

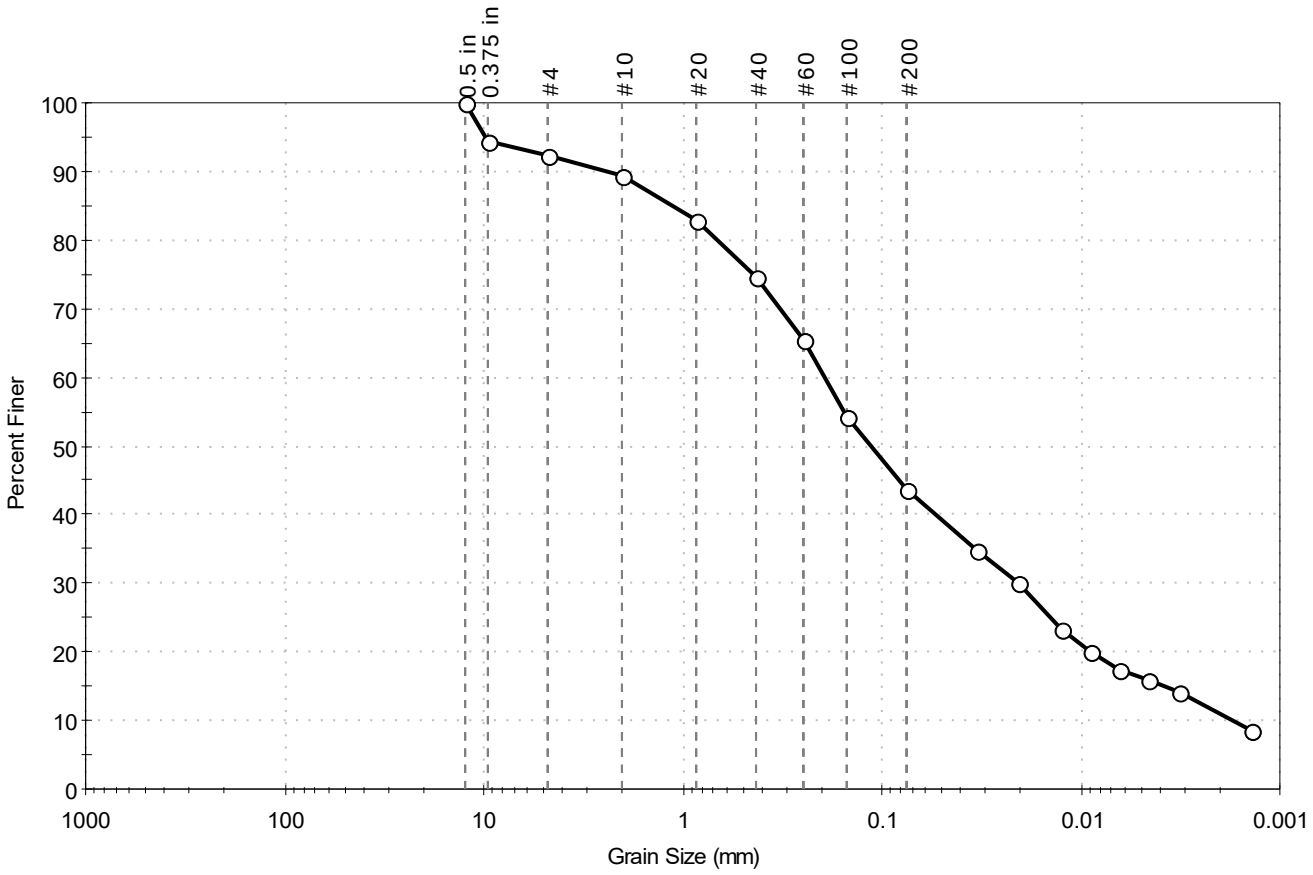
Tested By: JMT **Checked By:** MTG

2016/2017 Haley & Aldrich, Inc.
Laboratory Test Results

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-1(OW)	Sample Type:	jar	Tested By:	jbr
Sample ID:	S4	Test Date:	01/26/17	Checked By:	emm
Depth :	6-8 ft	Test Id:	402805		

Test Comment: ---
Visual Description: Moist, dark grayish brown silty, clayey sand
Sample Comment: ---

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	7.7	48.7	43.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	95		
#4	4.75	92		
#10	2.00	89		
#20	0.85	83		
#40	0.42	75		
#60	0.25	66		
#100	0.15	54		
#200	0.075	44		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0333	35		
---	0.0208	30		
---	0.0127	23		
---	0.0091	20		
---	0.0064	18		
---	0.0046	16		
---	0.0033	14		
---	0.0014	9		

Coefficients

D_{85} = 1.1093 mm
D_{60} = 0.1939 mm
D_{50} = 0.1132 mm
C_u = 114.059
D_{30} = 0.0208 mm
D_{15} = 0.0038 mm
D_{10} = 0.0017 mm
C_c = 1.313

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

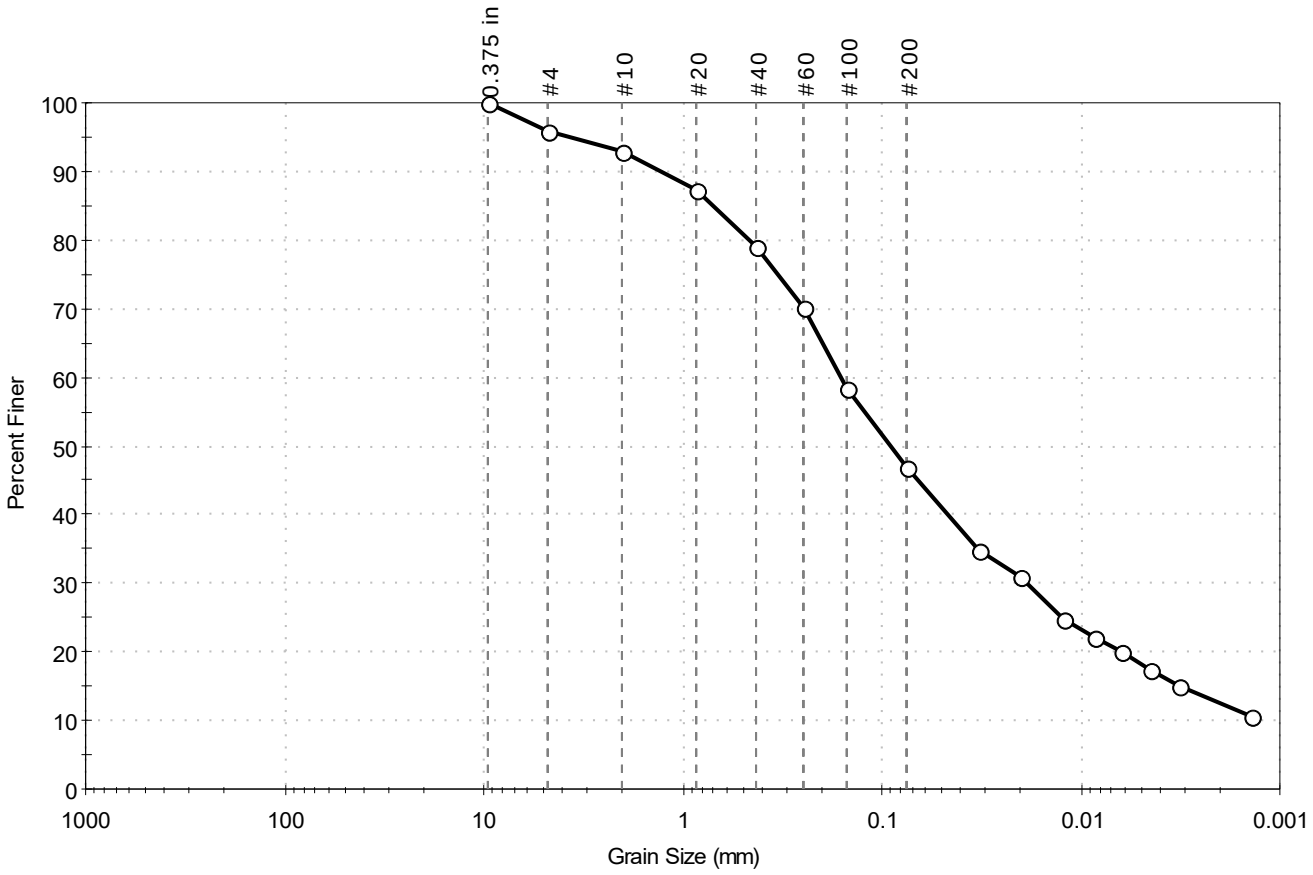
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

printed 1/30/2017 12:49:44 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-1(OW)	Sample Type:	jar	Tested By:	jbr
Sample ID:	S6	Test Date:	01/26/17	Checked By:	emm
Depth :	15-17 ft	Test Id:	402806		
Test Comment:	---				
Visual Description:	Moist, gray silty, clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.2	49.0	46.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	93		
#20	0.85	87		
#40	0.42	79		
#60	0.25	70		
#100	0.15	59		
#200	0.075	47		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0323	35		
---	0.0203	31		
---	0.0123	25		
---	0.0086	22		
---	0.0062	20		
---	0.0045	18		
---	0.0032	15		
---	0.0014	11		

Coefficients

D_{85} = 0.6990 mm	D_{30} = 0.0187 mm
D_{60} = 0.1599 mm	D_{15} = 0.0032 mm
D_{50} = 0.0907 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

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

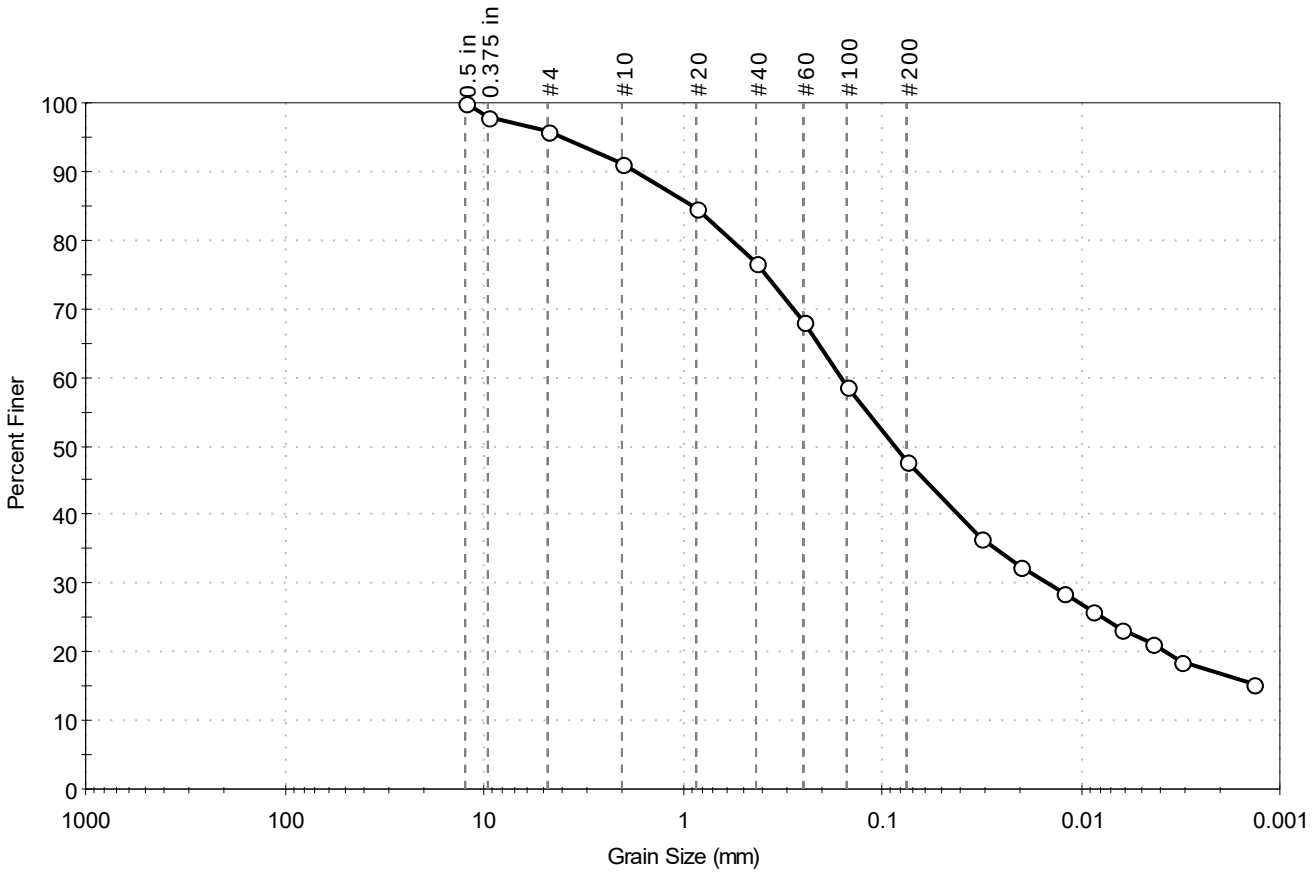
Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/30/2017 12:49:45 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-1(OW)	Sample Type:	jar	Tested By:	jbr
Sample ID:	S8	Test Date:	01/27/17	Checked By:	emm
Depth :	25-27 ft	Test Id:	402807		
Test Comment:	---				
Visual Description:	Moist, gray silty, clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.1	48.2	47.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	98		
#4	4.75	96		
#10	2.00	91		
#20	0.85	85		
#40	0.42	77		
#60	0.25	68		
#100	0.15	59		
#200	0.075	48		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0315	37		
---	0.0204	33		
---	0.0121	29		
---	0.0087	26		
---	0.0062	23		
---	0.0044	21		
---	0.0032	19		
---	0.0014	15		

Coefficients

D_{85} = 0.8805 mm D_{30} = 0.0147 mm

D_{60} = 0.1618 mm D_{15} = N/A

D_{50} = 0.0870 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

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

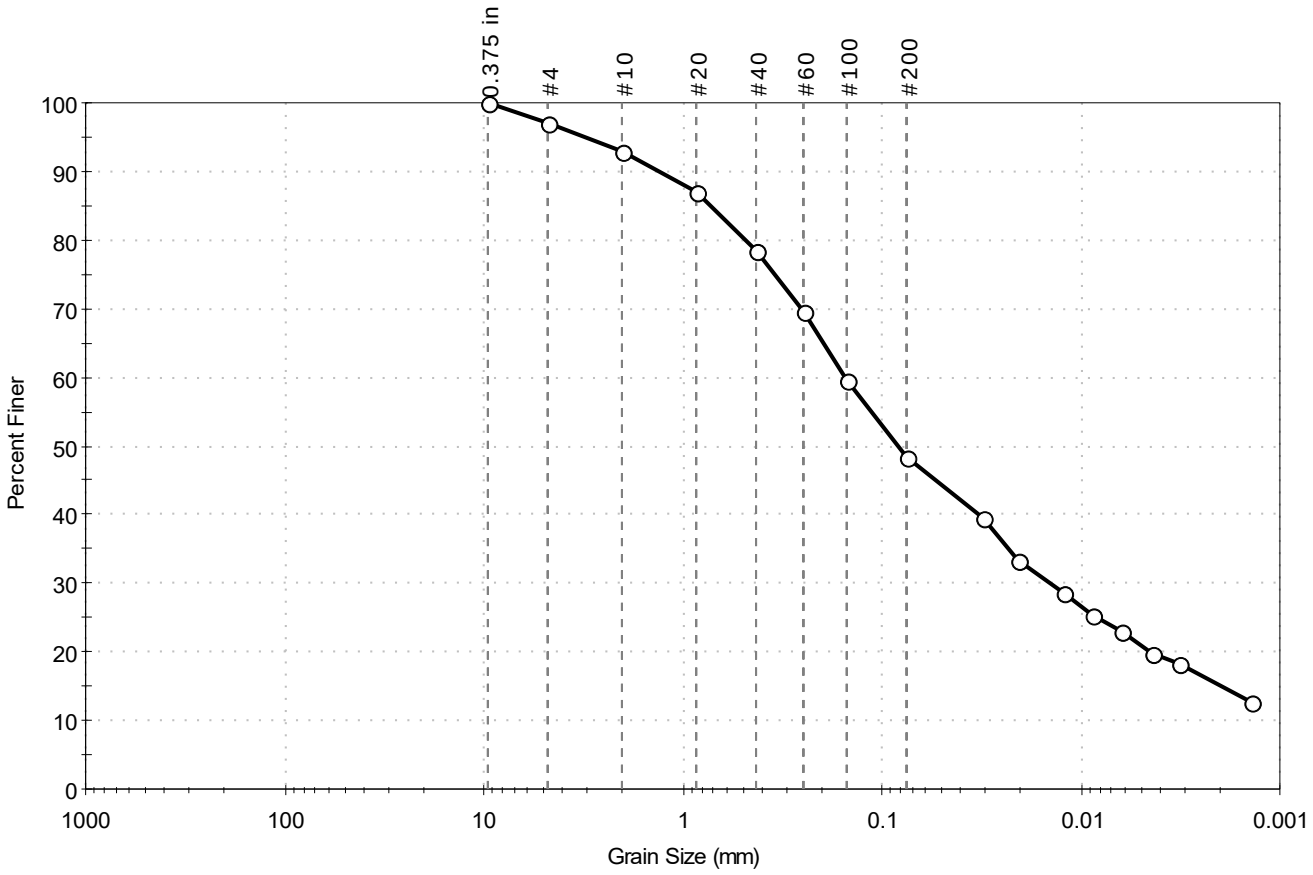
Specific Gravity : 2.65

Separation of Sample: #200 Sieve

printed 1/30/2017 12:49:46 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-1(OW)	Sample Type:	jar	Tested By:	jbr
Sample ID:	S9	Test Date:	01/27/17	Checked By:	emm
Depth :	30-32 ft	Test Id:	402808		
Test Comment:	---				
Visual Description:	Moist, dark gray silty, clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.1	48.7	48.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	97		
#10	2.00	93		
#20	0.85	87		
#40	0.42	79		
#60	0.25	70		
#100	0.15	60		
#200	0.075	48		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0308	39		
---	0.0206	33		
---	0.0123	28		
---	0.0088	25		
---	0.0063	23		
---	0.0044	20		
---	0.0032	18		
---	0.0014	13		

Coefficients

D_{85} = 0.7265 mm	D_{30} = 0.0145 mm
D_{60} = 0.1537 mm	D_{15} = 0.0019 mm
D_{50} = 0.0836 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

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

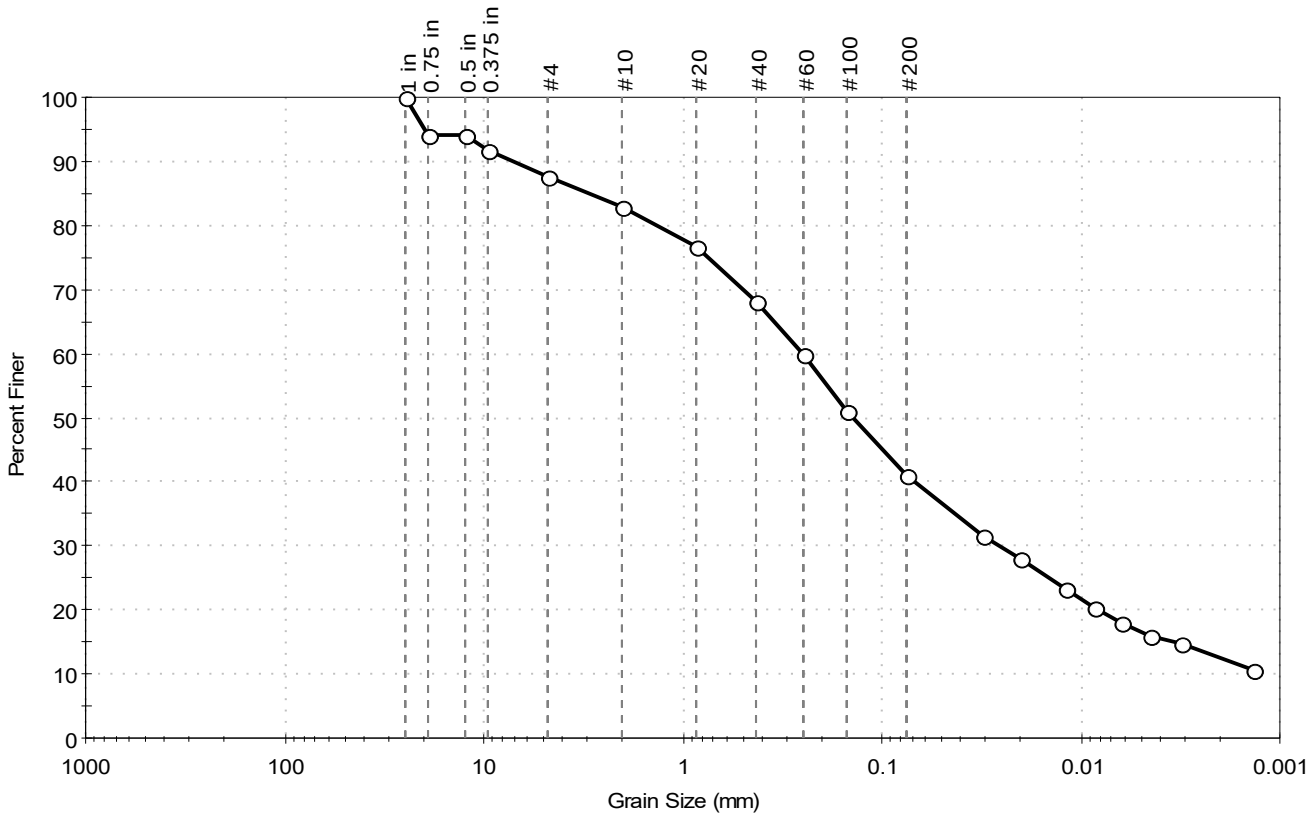
Separation of Sample: #200 Sieve

printed 1/30/2017 12:49:48 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-1(OW)	Sample Type:	jar	Tested By:	jbr
Sample ID:	S12	Test Date:	01/26/17	Checked By:	emm
Depth :	45-47 ft	Test Id:	402809		

Test Comment: ---
Visual Description: Moist, dark gray silty, clayey sand
Sample Comment: ---

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
–	12.3	46.6	41.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	94		
0.5 in	12.50	94		
0.375 in	9.50	92		
#4	4.75	88		
#10	2.00	83		
#20	0.85	77		
#40	0.42	68		
#60	0.25	60		
#100	0.15	51		
#200	0.075	41		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0313	32		
---	0.0200	28		
---	0.0120	23		
---	0.0086	20		
---	0.0062	18		
---	0.0045	16		
---	0.0032	15		
---	0.0014	11		

Coefficients

D_{85} = 2.8916 mm
D_{30} = 0.0258 mm
D_{60} = 0.2514 mm
D_{15} = 0.0035 mm
D_{50} = 0.1402 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

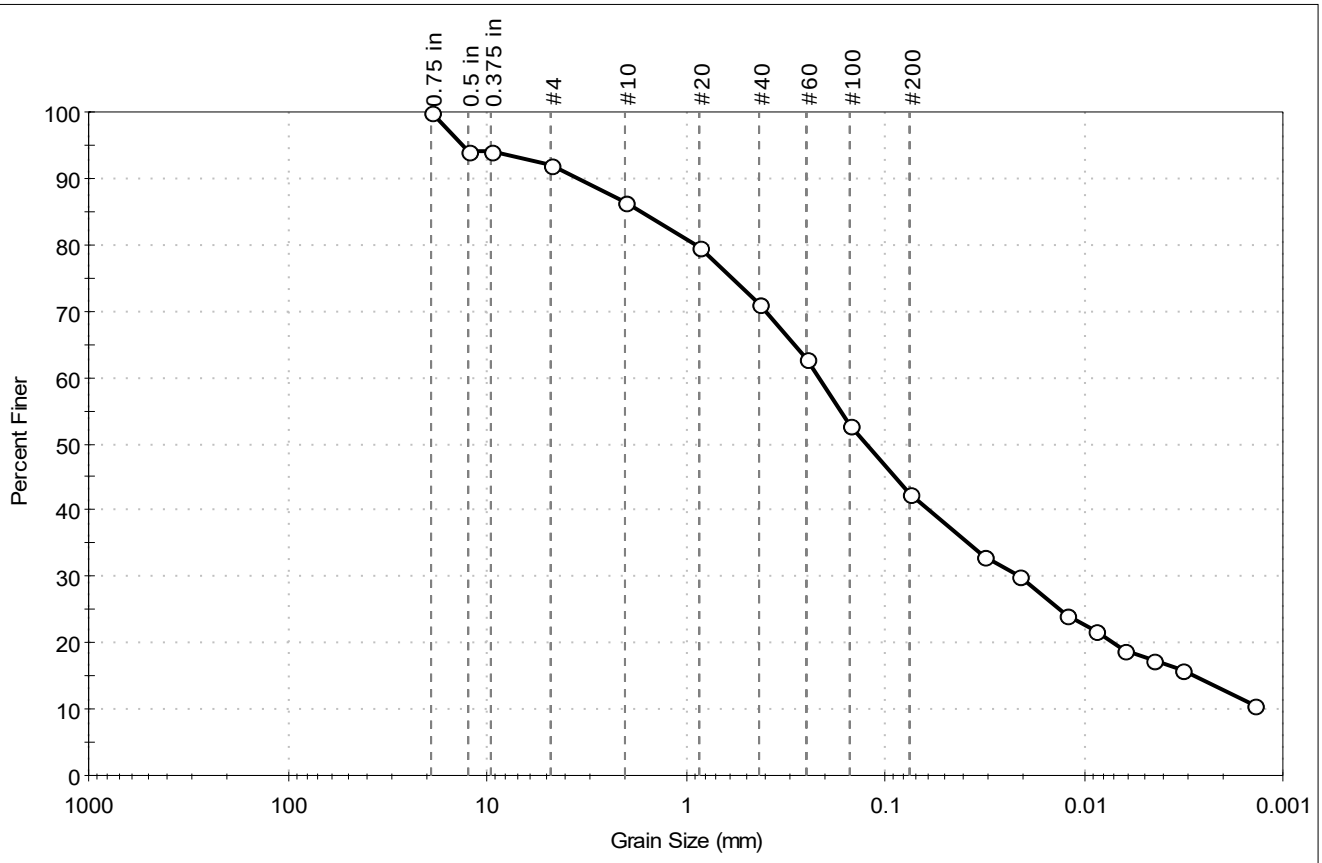
Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

printed 1/30/2017 12:49:48 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-1(OW)	Sample Type:	jar	Tested By:	jbr
Sample ID:	S13	Test Date:	01/26/17	Checked By:	emm
Depth :	55-56.9 ft	Test Id:	402810		

Test Comment: ---
Visual Description: Moist, dark gray silty, clayey sand
Sample Comment: ---

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	8.1	49.3	42.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	94		
0.375 in	9.50	94		
#4	4.75	92		
#10	2.00	86		
#20	0.85	80		
#40	0.42	71		
#60	0.25	63		
#100	0.15	53		
#200	0.075	43		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0317	33		
---	0.0213	30		
---	0.0122	24		
---	0.0087	22		
---	0.0063	19		
---	0.0045	17		
---	0.0032	16		
---	0.0014	11		

Coefficients

D_{85} = 1.6816 mm D_{30} = 0.0210 mm
D_{60} = 0.2170 mm D_{15} = 0.0028 mm
D_{50} = 0.1243 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

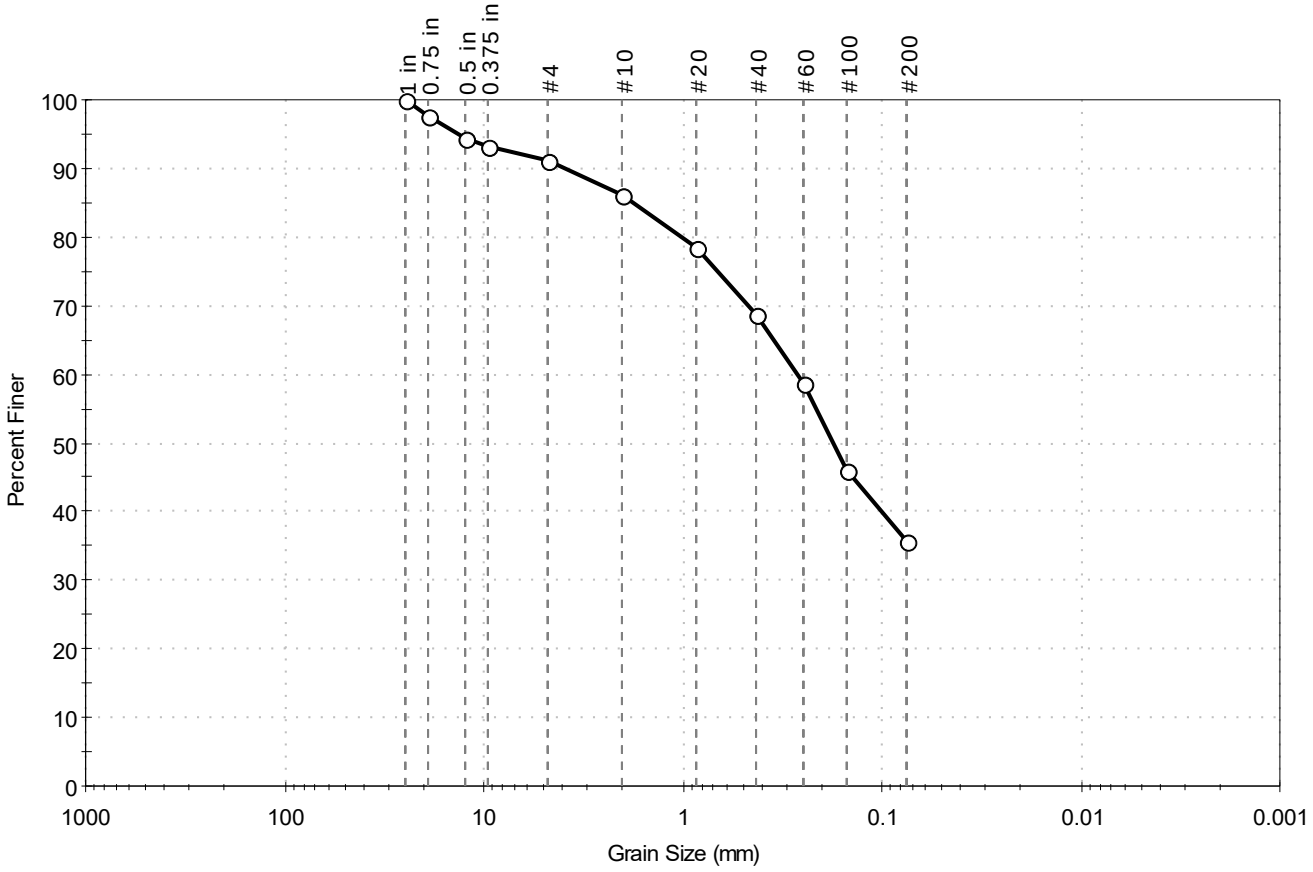
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

printed 1/30/2017 12:49:49 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-2	Sample Type:	jar	Tested By:	jbr
Sample ID:	S3	Test Date:	01/26/17	Checked By:	emm
Depth :	5-7 ft	Test Id:	402817		
Test Comment:	---				
Visual Description:	Moist, gray clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	8.9	55.5	35.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	98		
0.5 in	12.50	94		
0.375 in	9.50	93		
#4	4.75	91		
#10	2.00	86		
#20	0.85	79		
#40	0.42	69		
#60	0.25	59		
#100	0.15	46		
#200	0.075	36		

Coefficients

D_{85} = 1.7775 mm D_{30} = N/A

D_{60} = 0.2667 mm D_{15} = N/A

D_{50} = 0.1757 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

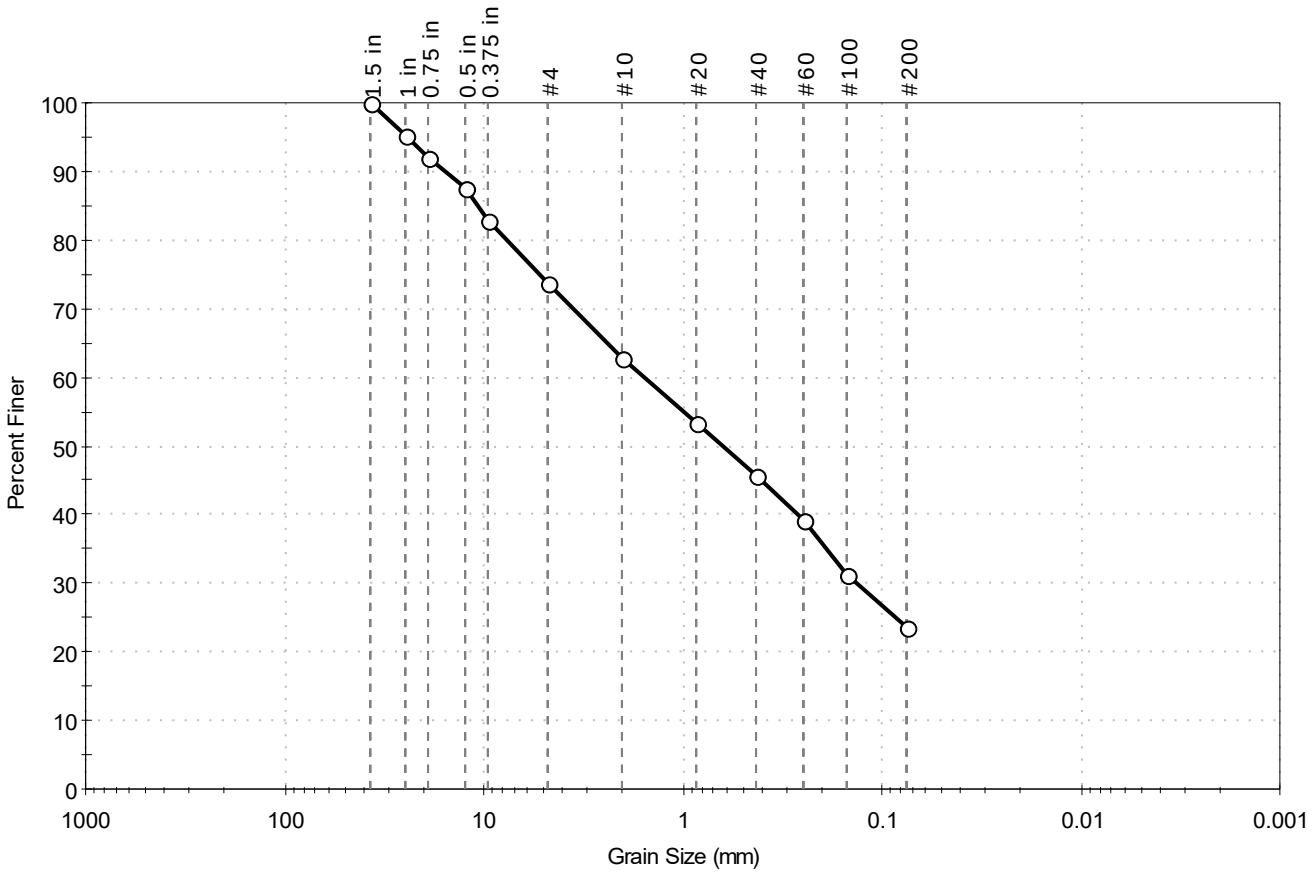
Sand/Gravel Hardness : HARD

printed 1/30/2017 12:49:50 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-2	Sample Type:	jar	Tested By:	jbr
Sample ID:	S4	Test Date:	01/26/17	Checked By:	emm
Depth :	10-12 ft	Test Id:	402818		

Test Comment: ---
Visual Description: Moist, dark grayish brown silty sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	26.2	50.1	23.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	95		
0.75 in	19.00	92		
0.5 in	12.50	88		
0.375 in	9.50	83		
#4	4.75	74		
#10	2.00	63		
#20	0.85	53		
#40	0.42	46		
#60	0.25	39		
#100	0.15	31		
#200	0.075	24		

Coefficients

D_{85} = 10.7832 mm D_{30} = 0.1339 mm
D_{60} = 1.5628 mm D_{15} = N/A
D_{50} = 0.6284 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))

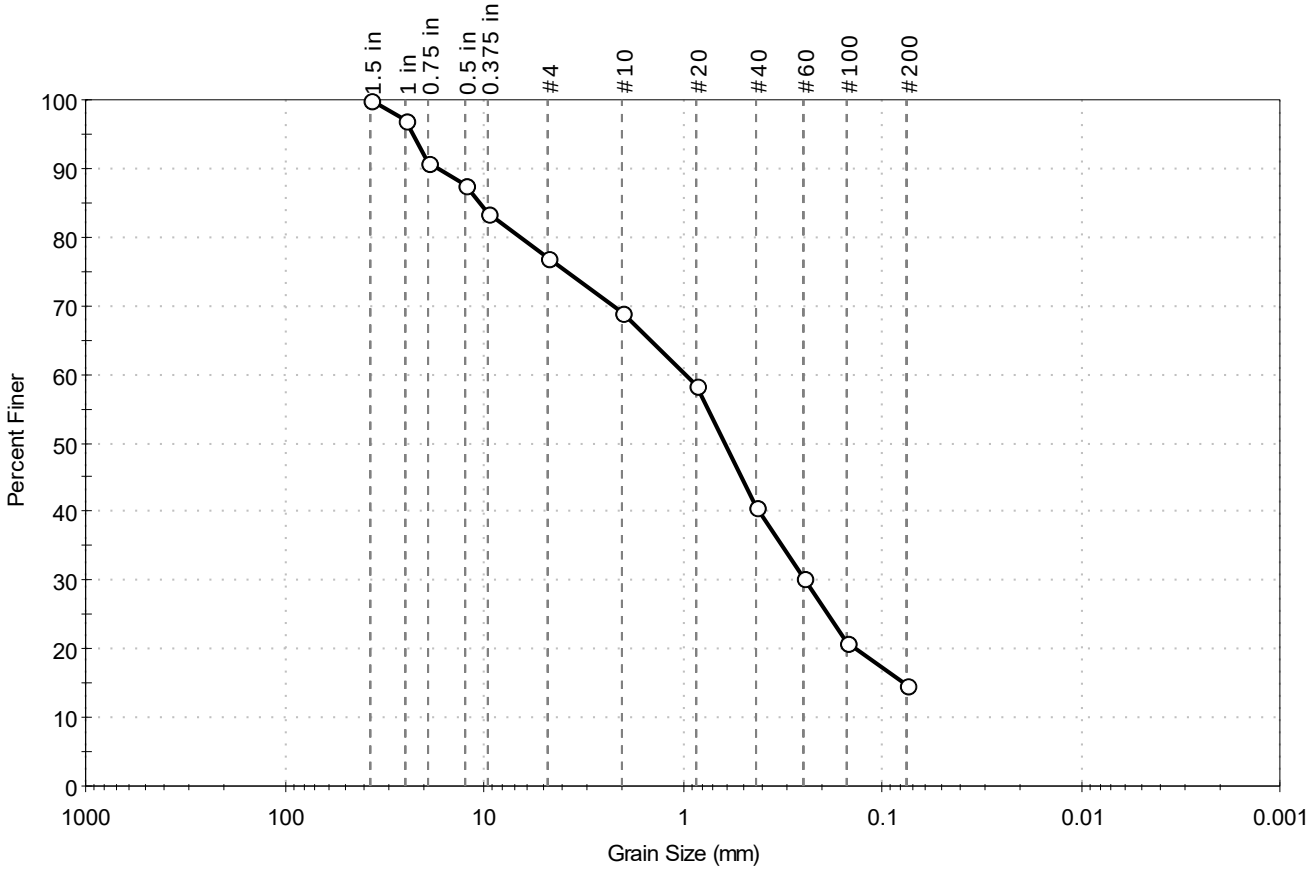
Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD

printed 1/30/2017 12:49:50 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	jbr
Sample ID:	S1+S2	Test Date:	01/26/17	Checked By:	emm
Depth :	0-4 ft	Test Id:	402831		
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
—	22.8	62.4	14.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	97		
0.75 in	19.00	91		
0.5 in	12.50	88		
0.375 in	9.50	83		
#4	4.75	77		
#10	2.00	69		
#20	0.85	58		
#40	0.42	41		
#60	0.25	31		
#100	0.15	21		
#200	0.075	15		

Coefficients

D_{85} = 10.5533 mm	D_{30} = 0.2430 mm
D_{60} = 0.9640 mm	D_{15} = 0.0771 mm
D_{50} = 0.6109 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

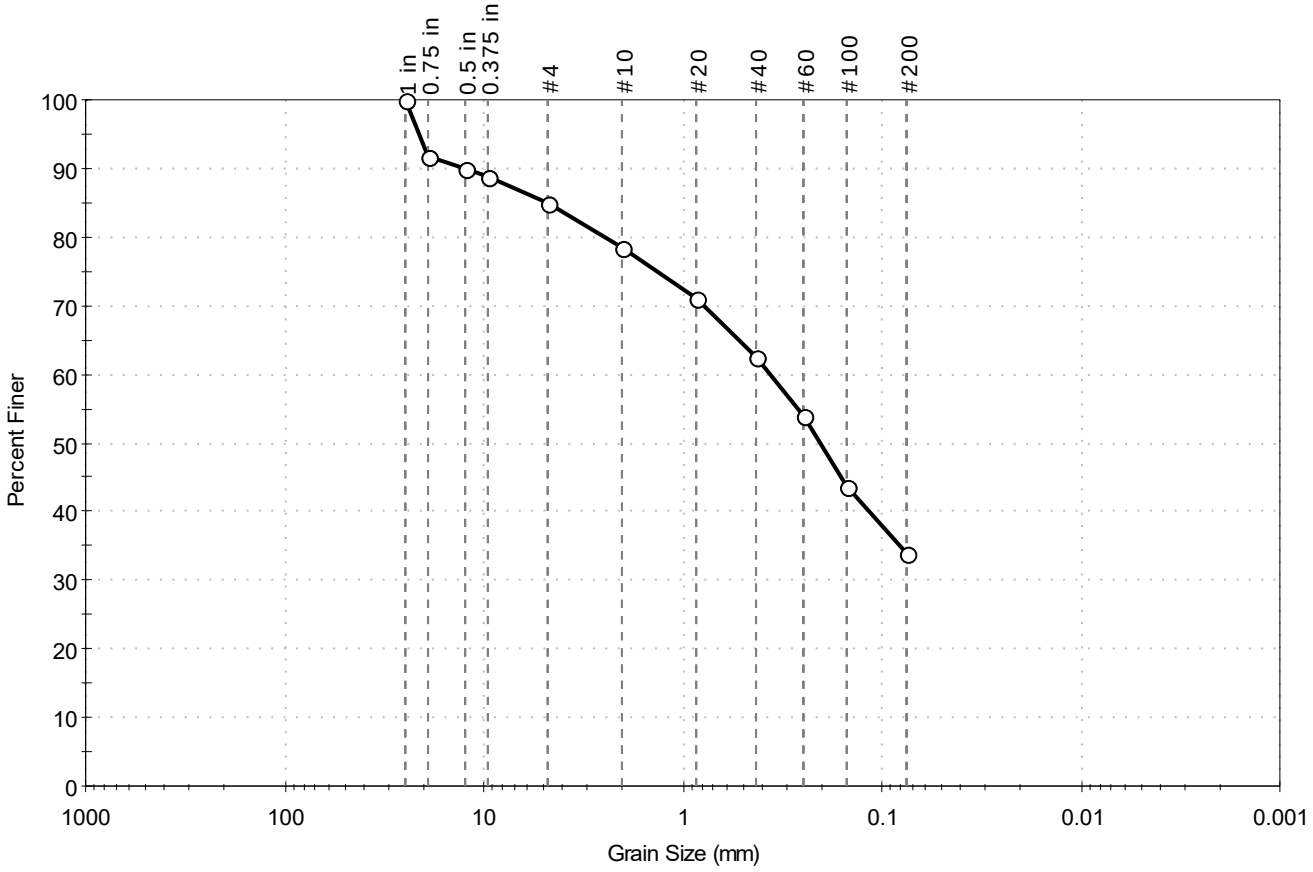
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 1/30/2017 12:50:00 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	jbr
Sample ID:	S3A	Test Date:	01/26/17	Checked By:	emm
Depth :	4.5-6 ft	Test Id:	402832		
Test Comment:	---				
Visual Description:	Moist, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	14.9	51.3	33.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	92		
0.5 in	12.50	90		
0.375 in	9.50	89		
#4	4.75	85		
#10	2.00	79		
#20	0.85	71		
#40	0.42	62		
#60	0.25	54		
#100	0.15	44		
#200	0.075	34		

Coefficients

D_{85} = 4.6875 mm D_{30} = N/A

D_{60} = 0.3643 mm D_{15} = N/A

D_{50} = 0.2054 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

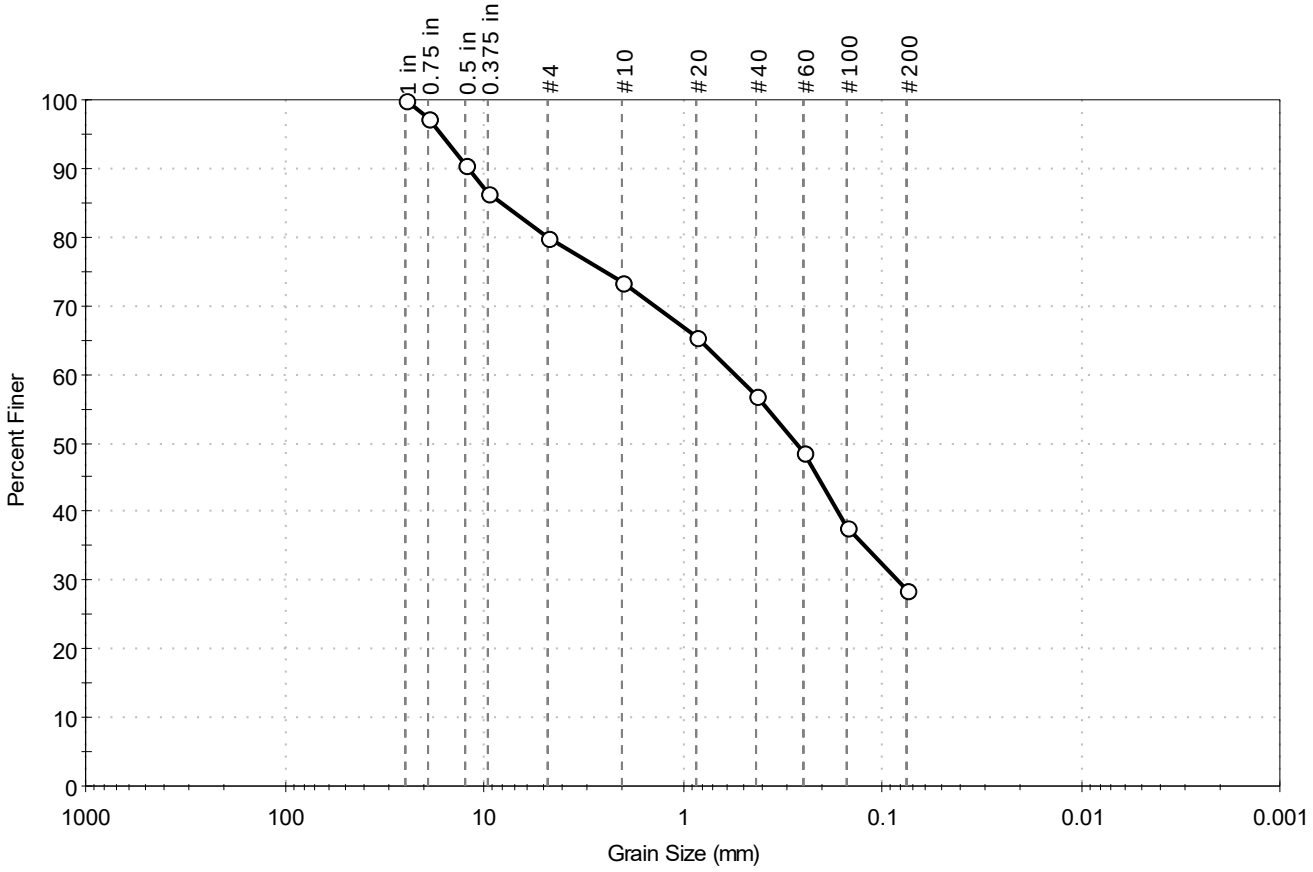
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 1/30/2017 12:50:01 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	jbr
Sample ID:	S5	Test Date:	01/26/17	Checked By:	emm
Depth :	10-12 ft	Test Id:	402833		
Test Comment:	---				
Visual Description:	Moist, very dark grayish olive silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	20.1	51.4	28.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	97		
0.5 in	12.50	90		
0.375 in	9.50	87		
#4	4.75	80		
#10	2.00	73		
#20	0.85	65		
#40	0.42	57		
#60	0.25	49		
#100	0.15	38		
#200	0.075	29		

Coefficients

D_{85} = 8.0823 mm	D_{30} = 0.0837 mm
D_{60} = 0.5425 mm	D_{15} = N/A
D_{50} = 0.2722 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

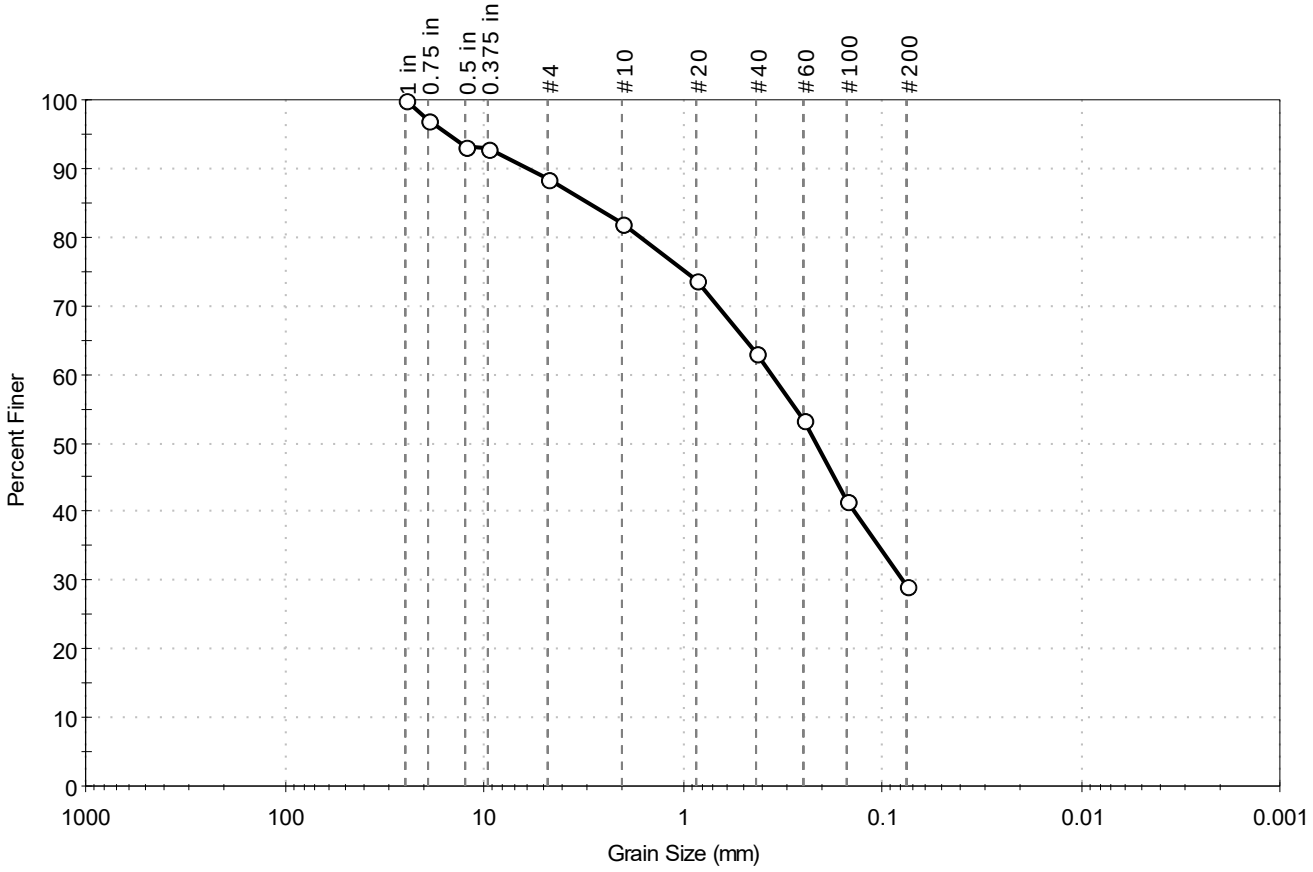
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 1/30/2017 12:50:01 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	jbr
Sample ID:	S6	Test Date:	01/26/17	Checked By:	emm
Depth :	15-17 ft	Test Id:	402834		
Test Comment:	---				
Visual Description:	Moist, dark gray clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	11.5	59.4	29.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	97		
0.5 in	12.50	93		
0.375 in	9.50	93		
#4	4.75	88		
#10	2.00	82		
#20	0.85	74		
#40	0.42	63		
#60	0.25	53		
#100	0.15	41		
#200	0.075	29		

Coefficients

D_{85} = 2.9704 mm	D_{30} = 0.0789 mm
D_{60} = 0.3574 mm	D_{15} = N/A
D_{50} = 0.2163 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

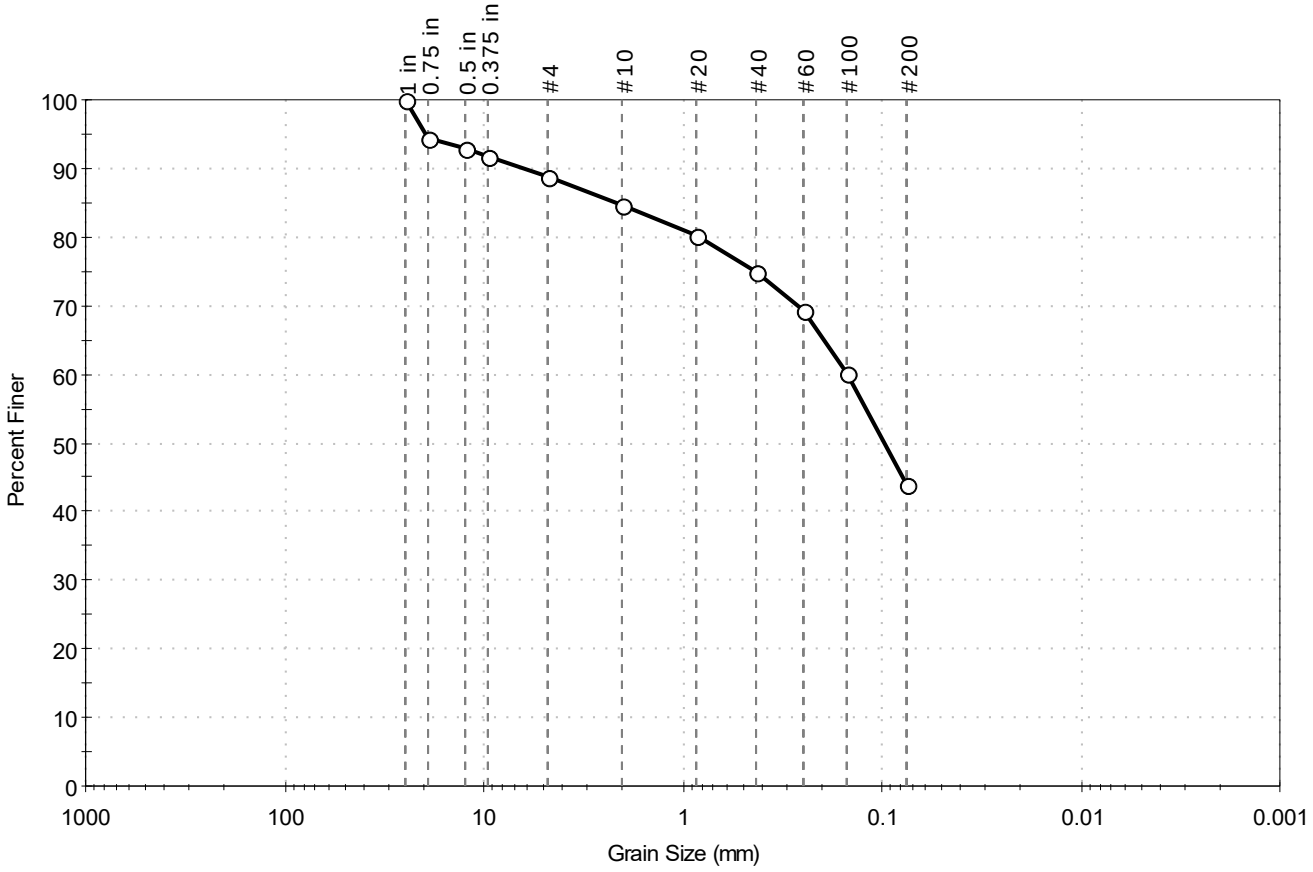
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 1/30/2017 12:50:02 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	jbr
Sample ID:	S7	Test Date:	01/26/17	Checked By:	emm
Depth :	25-27 ft	Test Id:	402835		
Test Comment:	---				
Visual Description:	Moist, gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	11.4	44.8	43.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	94		
0.5 in	12.50	93		
0.375 in	9.50	92		
#4	4.75	89		
#10	2.00	85		
#20	0.85	80		
#40	0.42	75		
#60	0.25	69		
#100	0.15	60		
#200	0.075	44		

Coefficients

D_{85} = 2.1782 mm D_{30} = N/A

D_{60} = 0.1497 mm D_{15} = N/A

D_{50} = 0.0976 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

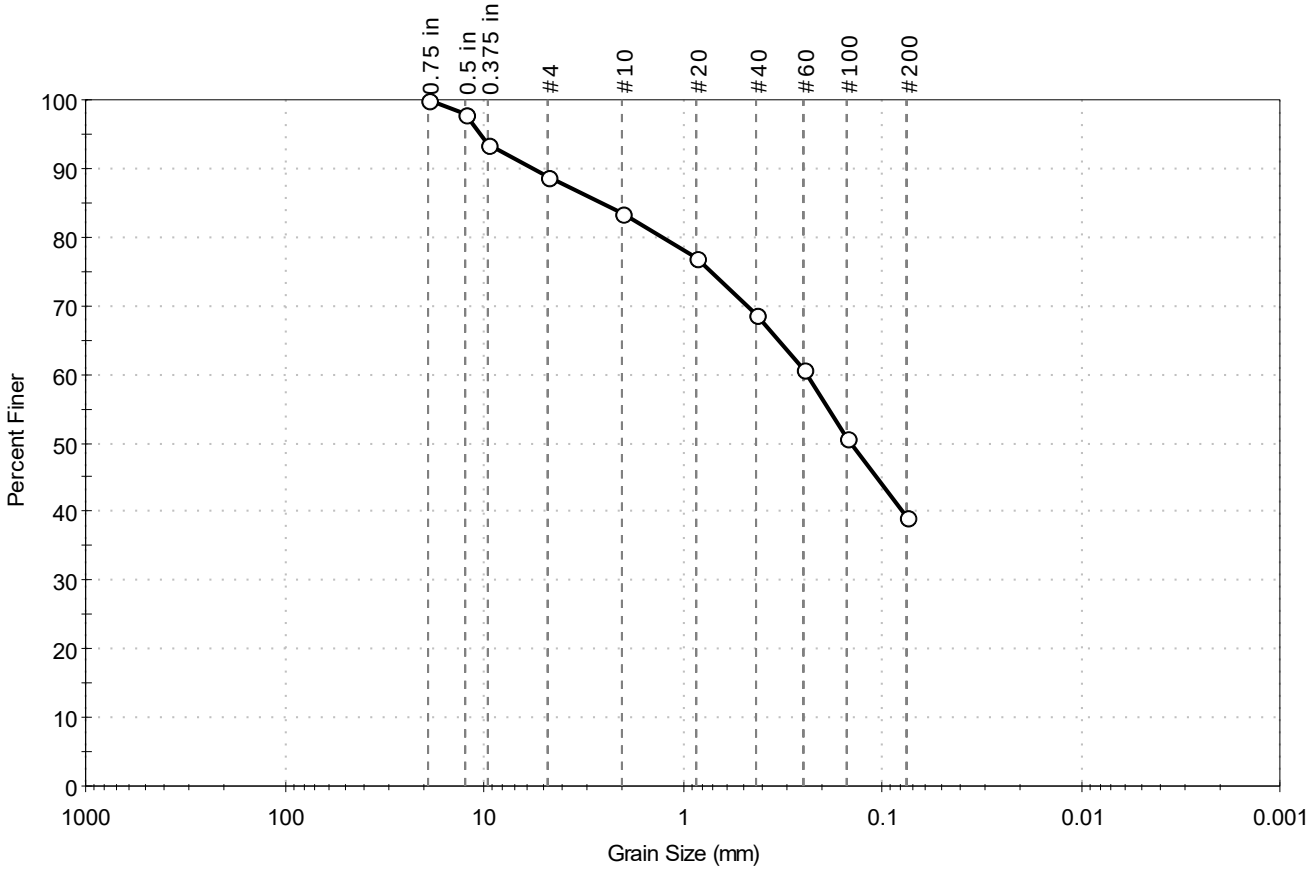
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 1/30/2017 12:50:02 PM

Client:	Haley & Aldrich, Inc.				
Project:	Portland Co. Redevelopment				
Location:	Portland, ME			Project No:	GTX-305912
Boring ID:	HA16-10	Sample Type:	jar	Tested By:	jbr
Sample ID:	S8	Test Date:	01/26/17	Checked By:	emm
Depth :	30-32.6 ft	Test Id:	402836		
Test Comment:	---				
Visual Description:	Moist, gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	11.3	49.5	39.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	98		
0.375 in	9.50	94		
#4	4.75	89		
#10	2.00	83		
#20	0.85	77		
#40	0.42	69		
#60	0.25	61		
#100	0.15	51		
#200	0.075	39		

Coefficients

D_{85} = 2.5914 mm D_{30} = N/A

D_{60} = 0.2408 mm D_{15} = N/A

D_{50} = 0.1441 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

printed 1/30/2017 12:50:03 PM

2007 S.W. Cole Engineering, Inc.
Laboratory Test Results

S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name: PORTLAND - PROPOSED DEVELOPMENT - PORTLAND YACHT SERVICES SITE - PRELIMINARY GEOTECHNICAL ENGINEERING

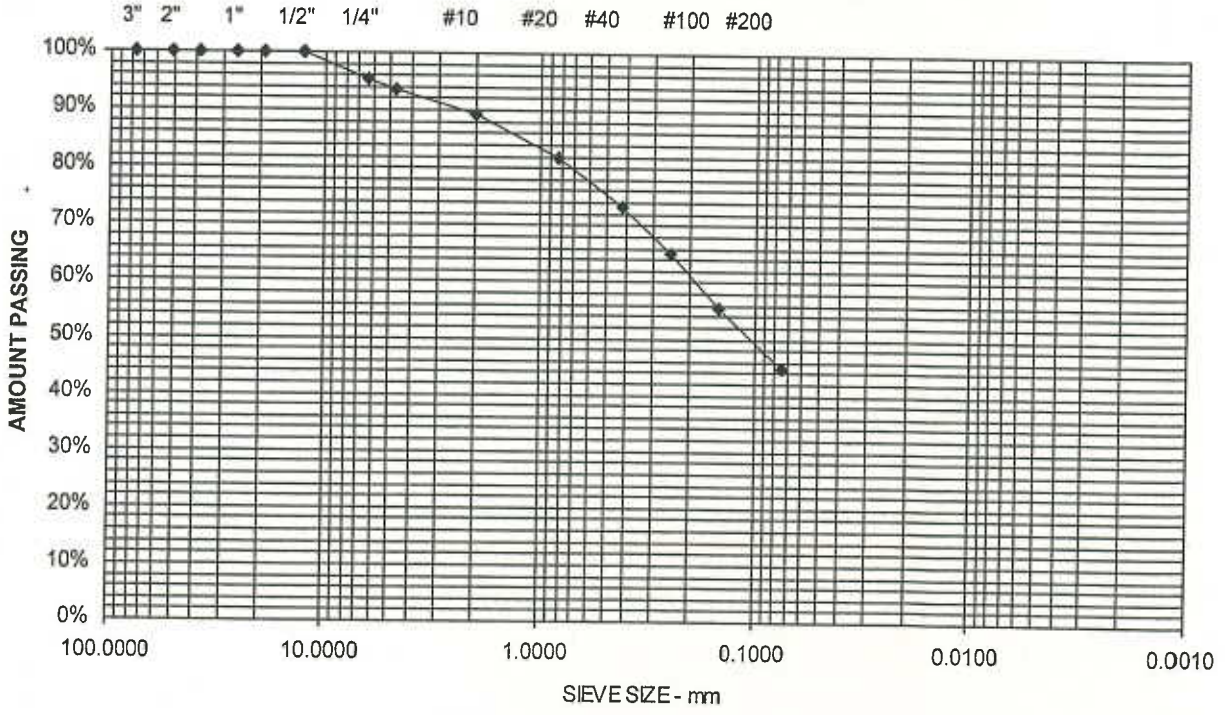
Client: PHINEAS SPRAGUE

Material Source: **B-4 S2 5-7**

Project Number: 07-0792
Lab ID: 7545G
Date Received: 9/28/2007
Date Complete: 10/2/2007
Tested By: JUSTIN BISSON

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"	95	
4.75 mm	No. 4	94	6.4% Gravel
2.00 mm	No. 10	89	
850 um	No. 20	82	
425 um	No. 40	73	48.7% Sand
250 um	No. 60	65	
150 um	No. 100	56	
75 um	No. 200	44.8	44.8% Fines

SAND AND SILT, SOME GRAVEL



Comments: w = 8.5%

Sheet

APPENDIX D

Historic Drawings and Sanborn Maps

Sanborn Maps

58 Fore Street Portland, Maine

58 Fore Street

Portland, ME 04101

Inquiry Number: 4691431.1

August 04, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/04/16

Site Name:

58 Fore Street Portland, Maine
58 Fore Street
Portland, ME 04101
EDR Inquiry # 4691431.1

Client Name:

Haley & Aldrich, Inc.
75 Washington Ave.
Portland, ME 04101-2617
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:

Certification # 671C-4B65-A45B

PO # 39486-872

Project 39486-872

Maps Provided:

1988
1986
1980
1954
1949
1909
1896
1886

Sanborn® Library search results

Certification #: 671C-4B65-A45B

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

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Haley & Aldrich, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

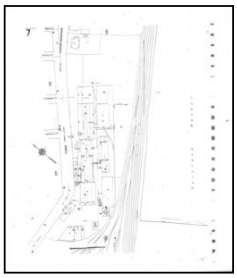
1988 Source Sheets



Volume 1, Sheet 5
1988



Volume 1, Sheet 6
1988



Volume 1, Sheet 7
1988

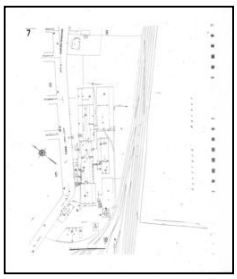
1986 Source Sheets



Volume 1, Sheet 5
1986



Volume 1, Sheet 6
1986



Volume 1, Sheet 7
1986

1980 Source Sheets



Volume 1, Sheet 5
1980



Volume 1, Sheet 6
1980



Volume 1, Sheet 7
1980

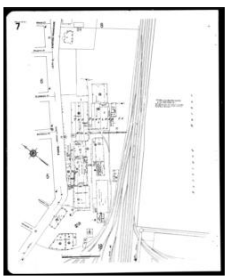
1954 Source Sheets



Volume 1, Sheet 5
1954



Volume 1, Sheet 6
1954



Volume 1, Sheet 7
1954

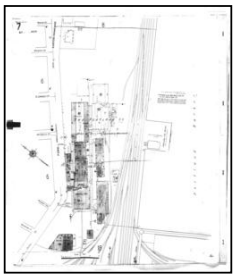
Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

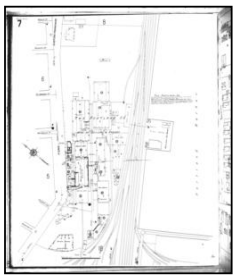
1949 Source Sheets


Volume 1, Sheet 5
1949


Volume 1, Sheet 6
1949


Volume 1, Sheet 7
1949

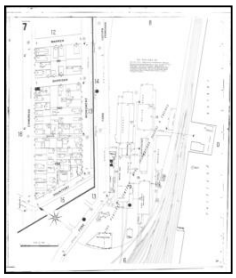
1909 Source Sheets


Volume 1, Sheet 7
1909


Volume 1, Sheet 5
1909


Volume 1, Sheet 6
1909

1896 Source Sheets

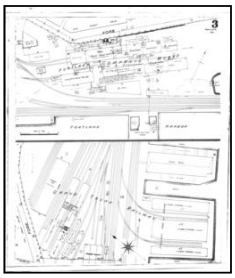

Volume 1, Sheet 7
1896


Volume 1, Sheet 13
1896


Volume 1, Sheet 14
1896

1886 Source Sheets


Volume 1, Sheet 2
1886


Volume 1, Sheet 3
1886



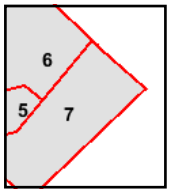
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the verification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Certification #671C-4B65-A45B

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1988

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

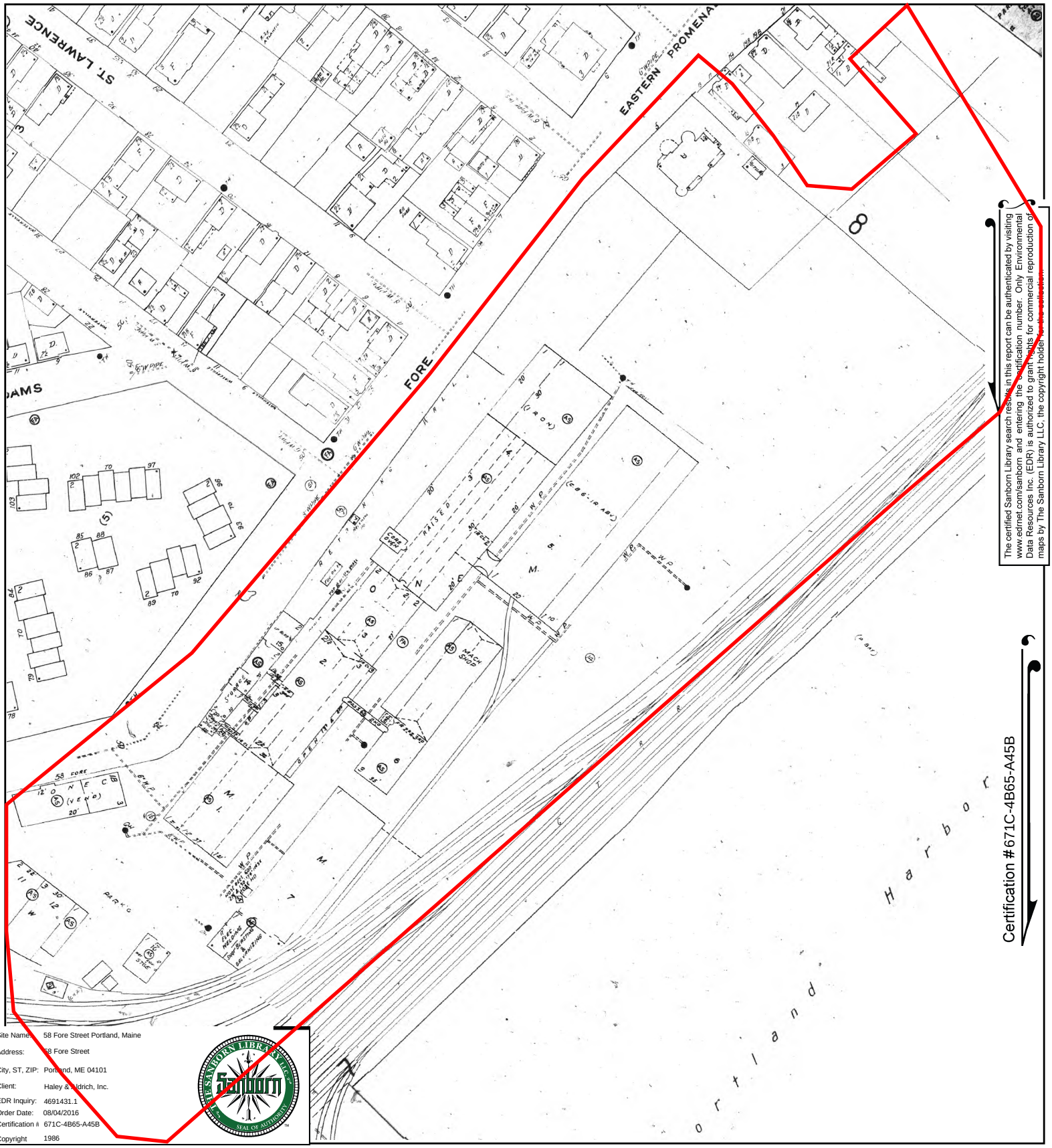




Volume 1, Sheet 7
Volume 1, Sheet 6
Volume 1, Sheet 5

0 Feet 150 300 600

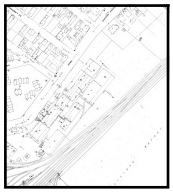
N

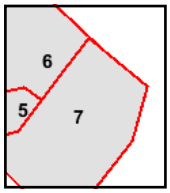


The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the verification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of this collection.

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1986

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

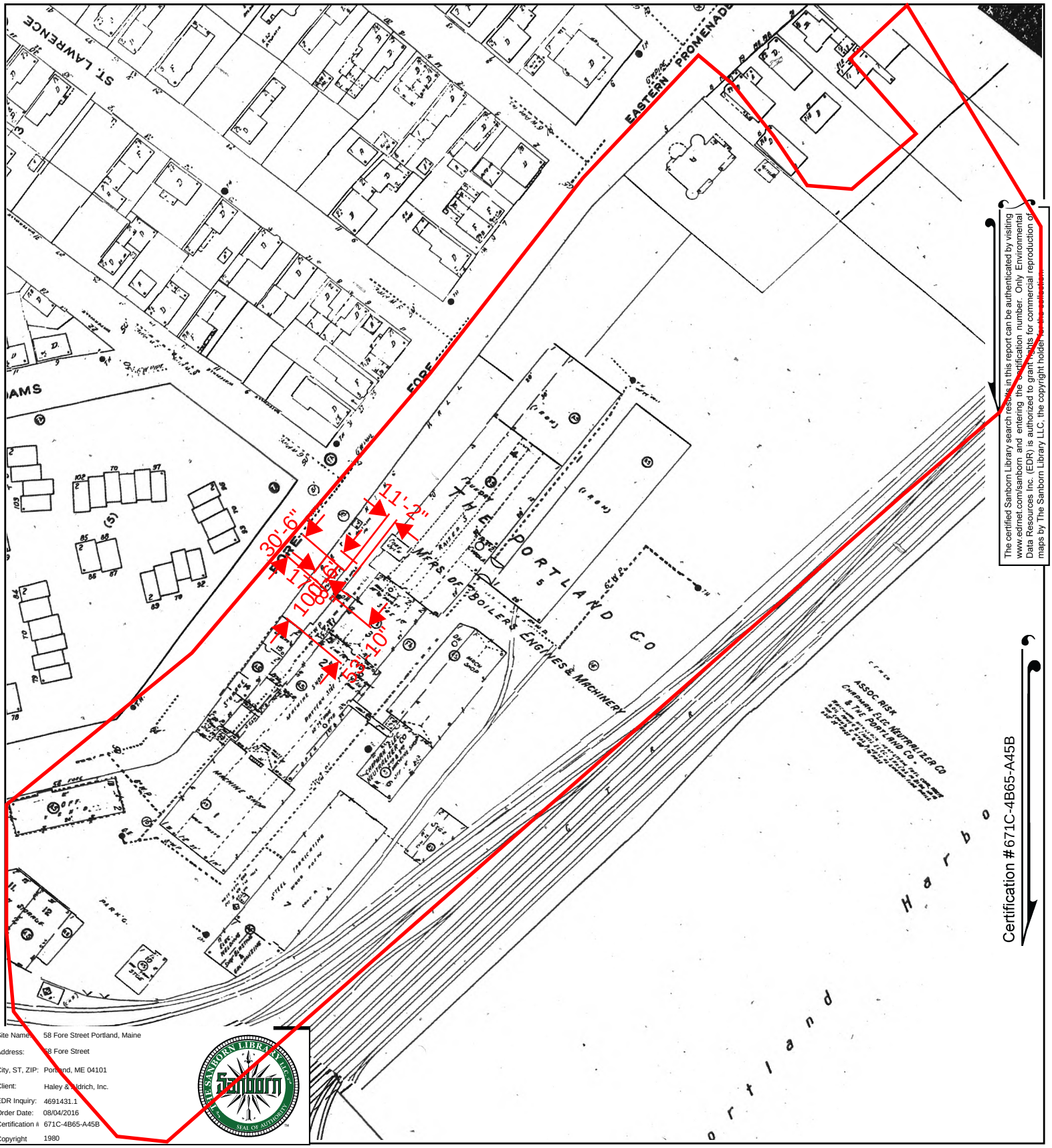




Volume 1, Sheet 7
Volume 1, Sheet 6
Volume 1, Sheet 5

0 Feet 150 300 600

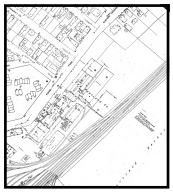
N

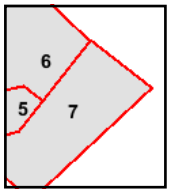


The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1980

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

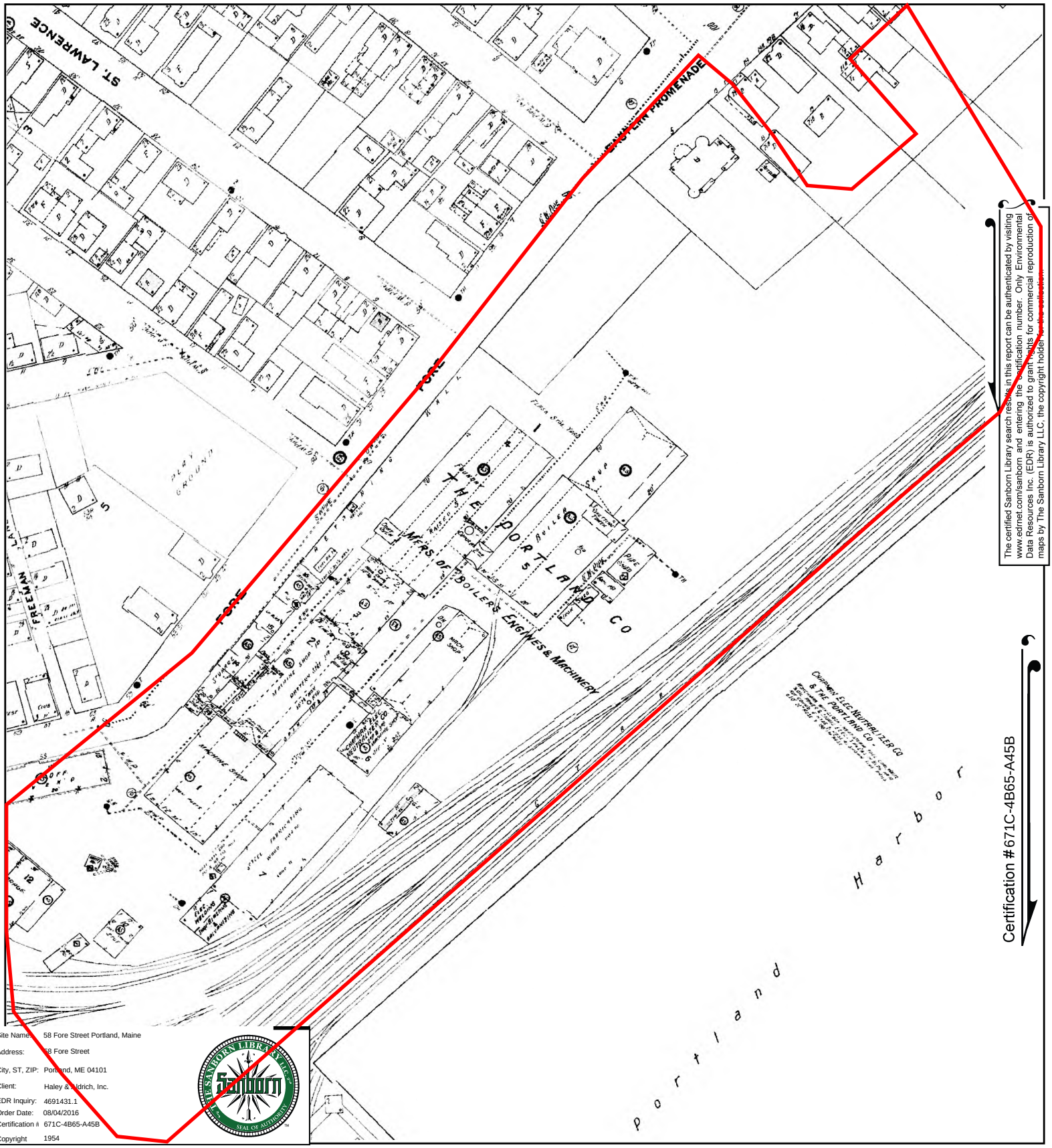




Volume 1, Sheet 7
Volume 1, Sheet 6
Volume 1, Sheet 5

0 Feet 150 300 600

N

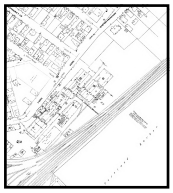


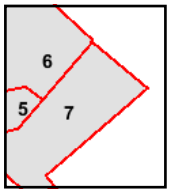
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the verification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant clients for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Certification #671C-4B65-A45B

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1954

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.





Volume 1, Sheet 7
Volume 1, Sheet 6
Volume 1, Sheet 5

0 Feet 150 300 600

N

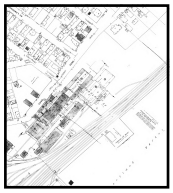


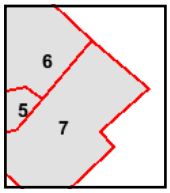
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Certification #671C-4B65-A45B

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1949

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

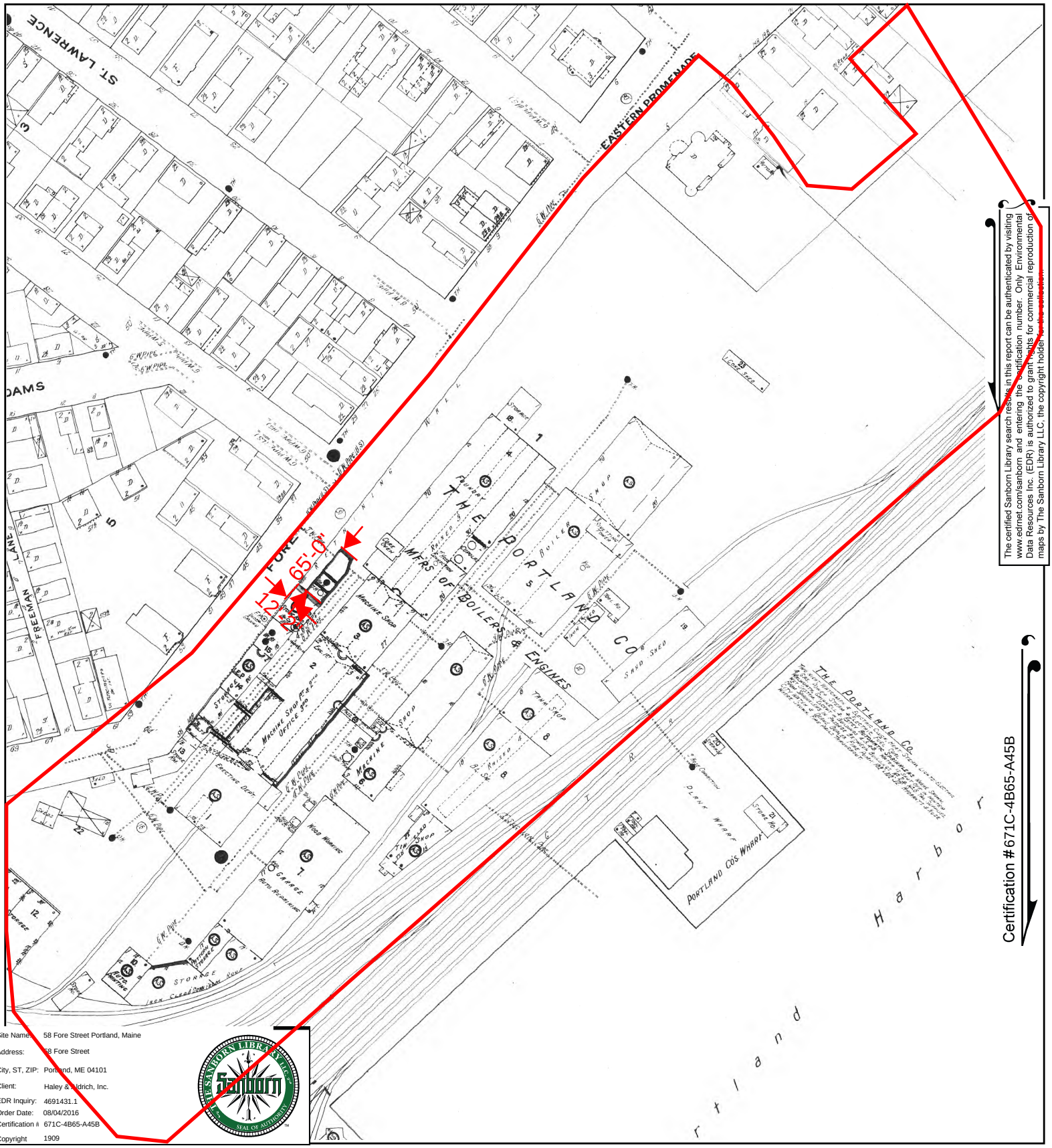




Volume 1, Sheet 7
Volume 1, Sheet 6
Volume 1, Sheet 5

0 Feet 150 300 600

N

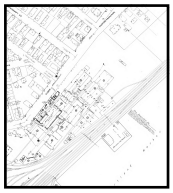


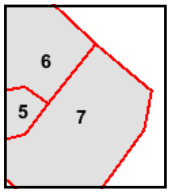
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the verification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Certification #671C-4B65-A45B

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1909

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

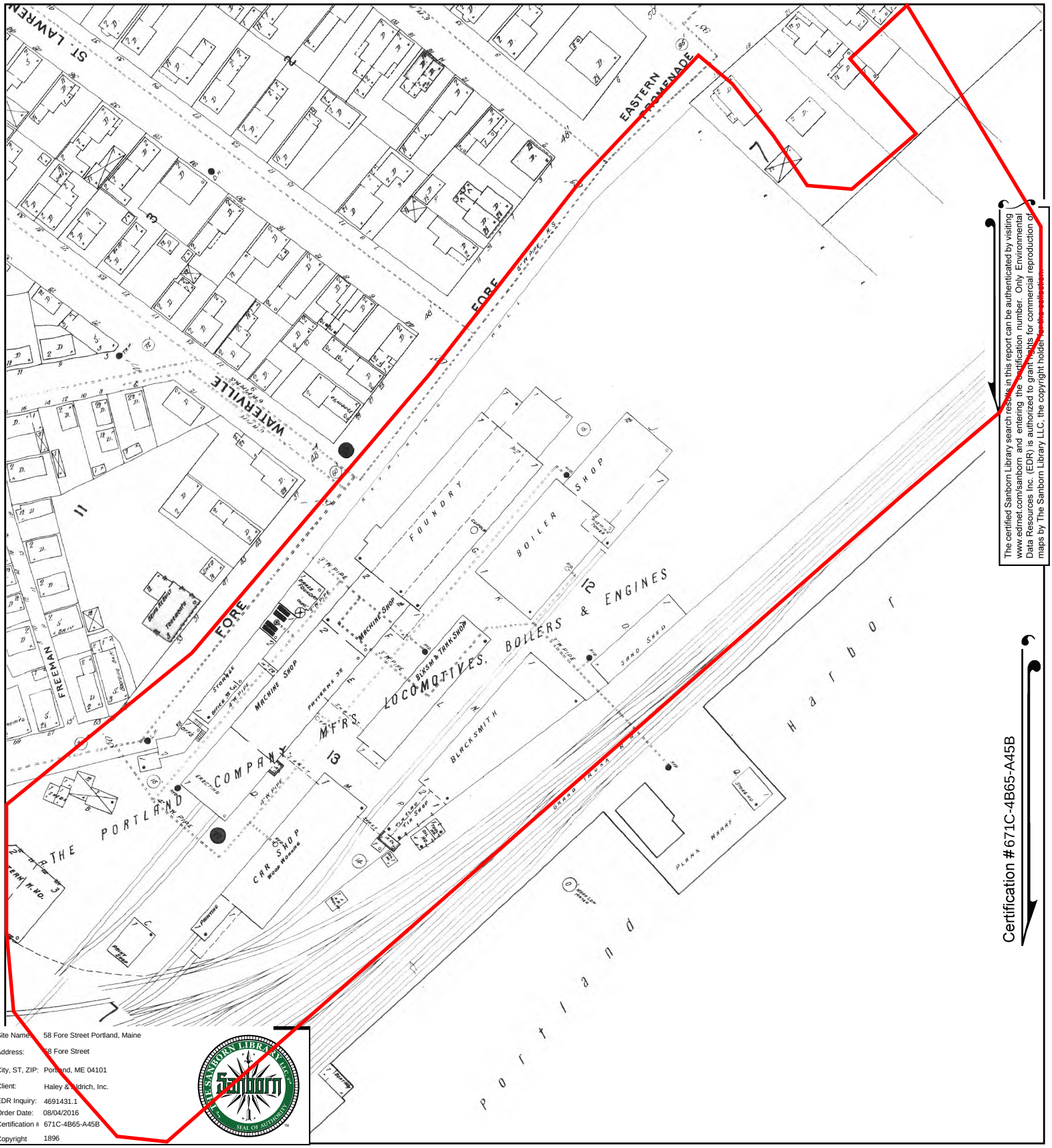




Volume 1, Sheet 6
Volume 1, Sheet 5
Volume 1, Sheet 7

0 Feet 150 300 600

N

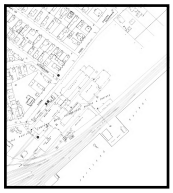


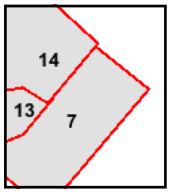
The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Certification #671C-4B65-A45B

Site Name: 58 Fore Street Portland, Maine
Address: 58 Fore Street
City, ST, ZIP: Portland, ME 04101
Client: Haley & Aldrich, Inc.
EDR Inquiry: 4691431.1
Order Date: 08/04/2016
Certification #: 671C-4B65-A45B
Copyright: 1896

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

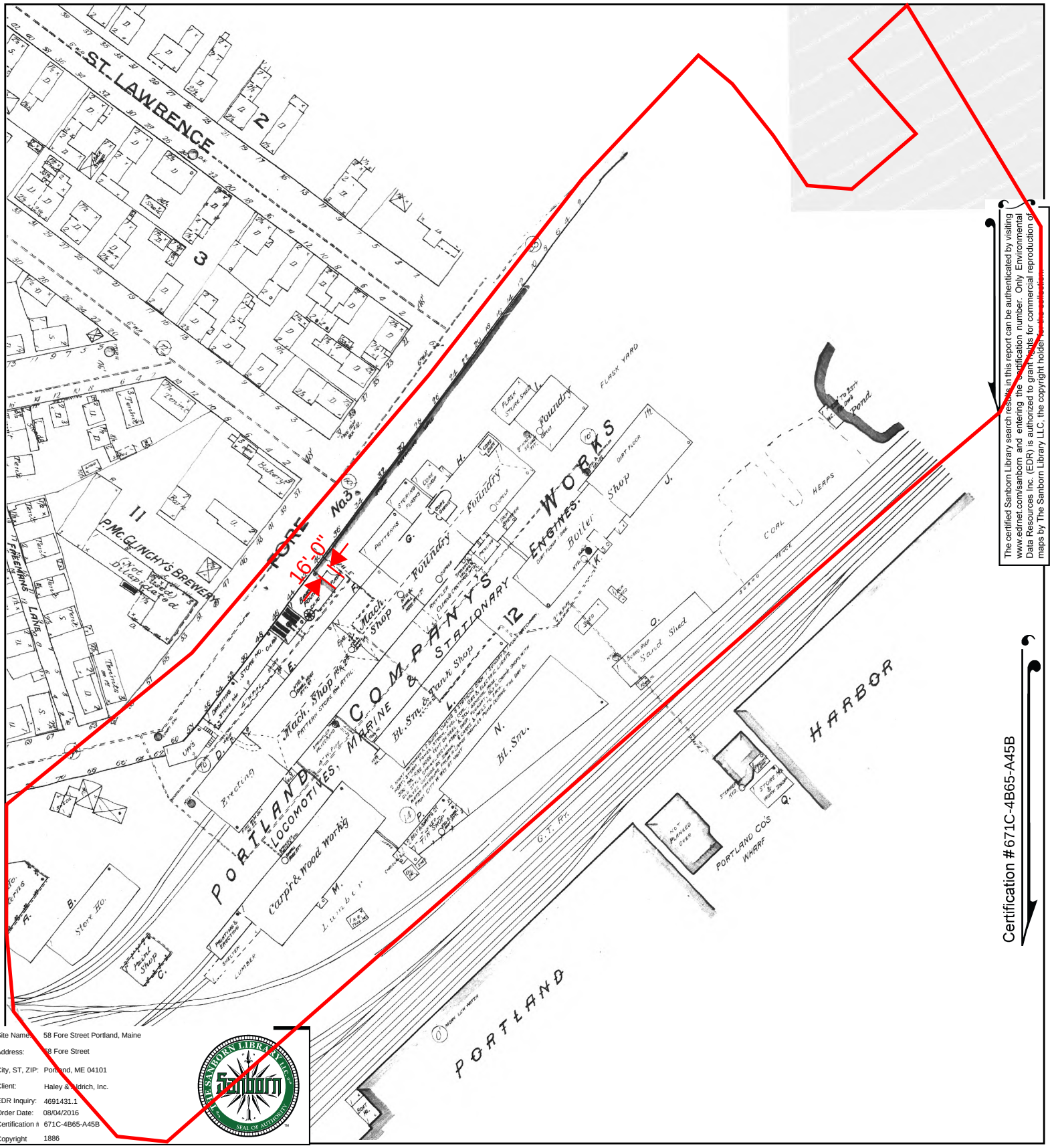




Volume 1, Sheet 14
Volume 1, Sheet 13
Volume 1, Sheet 7

0 Feet 150 300 600

N

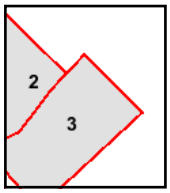


The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder of the collection.

Certification #671C-4B65-A45B

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.





Volume 1, Sheet 3
Volume 1, Sheet 2

0 Feet 150 300 600

N

1873 Fore Street
Retaining Wall Drawings

WATERVILLE ST.

FORE ST.

ST. LAWRENCE ST.

ATLANTIC ST.

MUNJOY ST.

PROMENADE

CISTERN

PORTLAND COMPANY WORKS

POND

PLAN
OF
FORE ST.
ADJOINING
PORTLAND CO'S WORKS

Survey and Plan made under the direction of
Wm. A. Goodwin, C.C.E. by Wm. S. Edwards, 1st Asst.

Scale 30 ft. to 1 inch *November, 1873*

Wm. A. Goodwin.
C. C. Engr.

Drawer F

FORE ST.

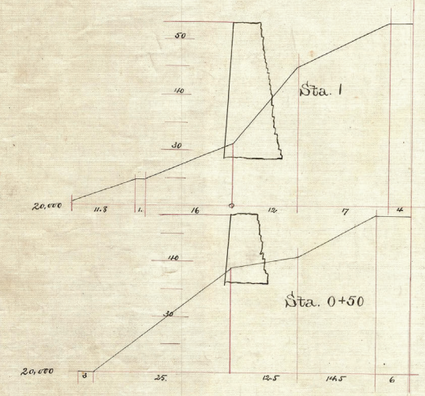
OPPOSITE PORTLAND CO WORKS.

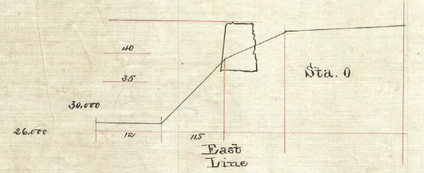
(Signed) Wm Alexander
C.E. Engr.
Nov. 1873.

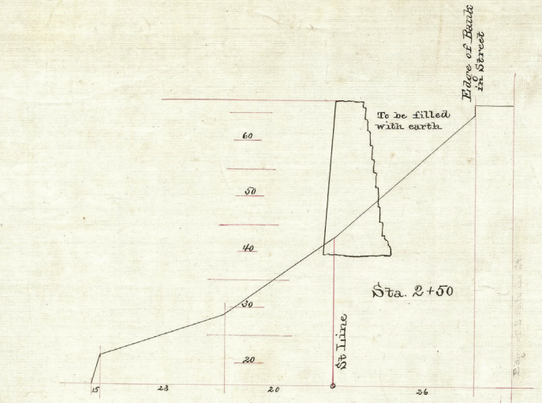
Face of Wall at Top to be on Street Line
Base of Wall to be ½ height in thickness
Top " " " 5 feet " "

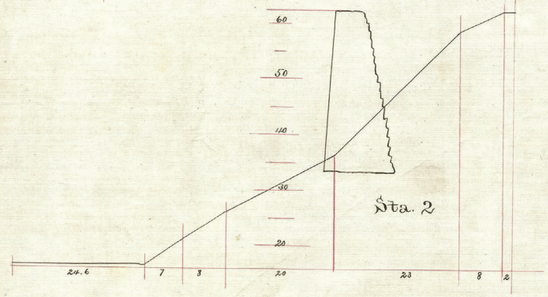
Base to be 3 feet beneath surface at St. line
Batter 1 in. to 1 foot.

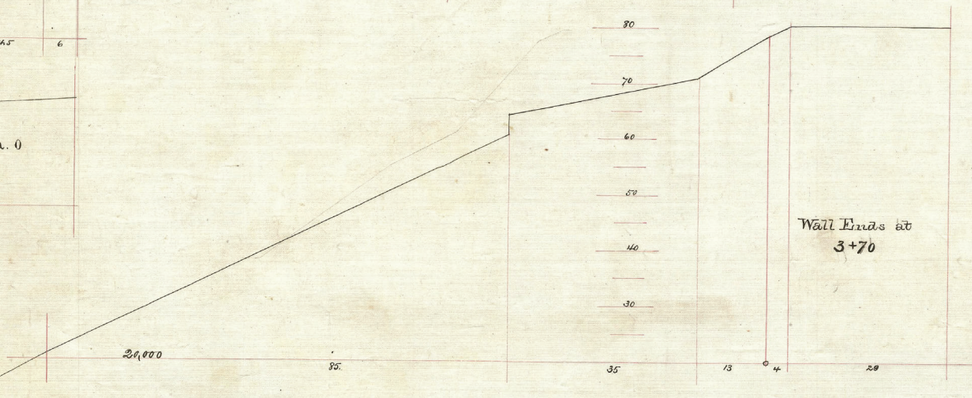


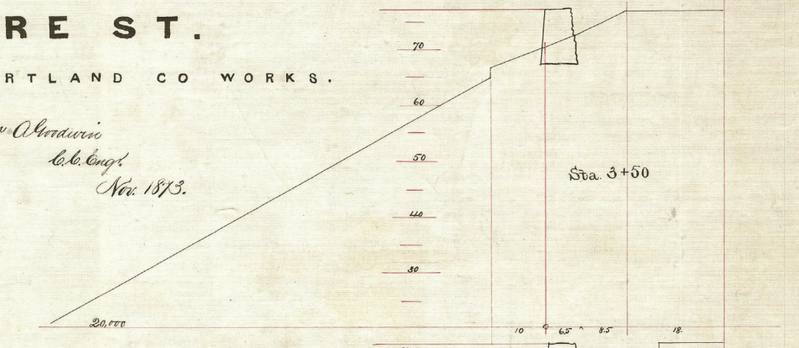


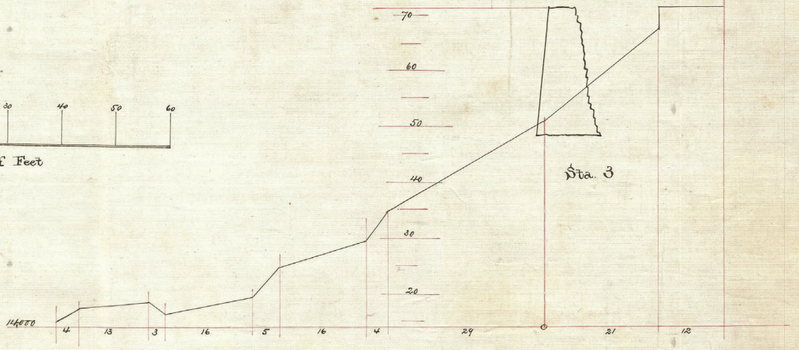


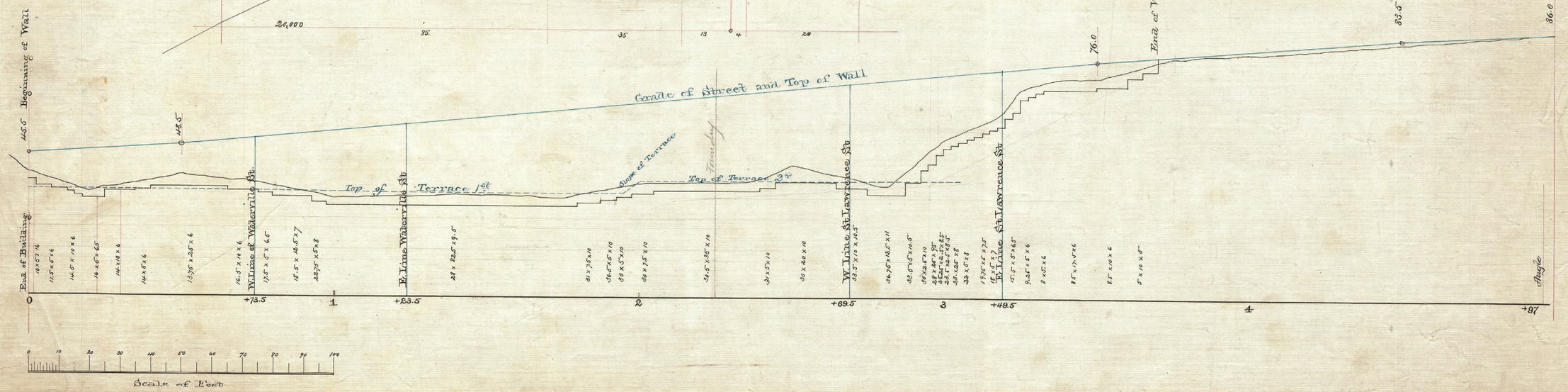












K5
270592

1876 Fore Street
Retaining Wall Agreement

434 - 368

368

Portland Company to Portland City

Agreement.

These articles of agreement entered into by and between the City of Portland, and the Portland Company a corporation duly existing under the laws of the State of Maine, this ninth day of November A. D. 1876.

Witness:

1st That in consideration of the agreement in the 2d. article following, said Portland Company hereby gives grants, bargains and sells to the city the right to put upon the land of said company to an extent not exceeding four feet in width at the base throughout its entire length, the wall now in process of erection on the line between Fore street in said city and the real estate of said Compy and to maintain the same forever, with right of entry upon the lands of said Compy for purposes of repair.

And said Compy further agrees that the embankment which will sustain said wall shall not in any way or under any pretense be disturbed, dug away, removed or the slope diminished except under the restrictions following, viz:

If the said Compy or its successors or assigns, owners of said land shall desire to disturb, dig, away or remove said embankment or diminish said slope it its successors and assigns, shall substitute without expense to the city, a complete and sufficient permanent support for said wall.

2d. Said city in consideration of the foregoing, hereby gives, grants, bargains and sells to said Compy the right to put upon said wall within the line of said Company's land, any wall of brick or stone which said Compy desire or may desire put thereon, consistent with the safety and stability of said wall.

Witness to E. M. Davies
G. F. M.
Rufus D. Bean

Portland Company,
By E. M. Davies, Prest.
Countersigned by
Geo. F. Morrill, Treas.

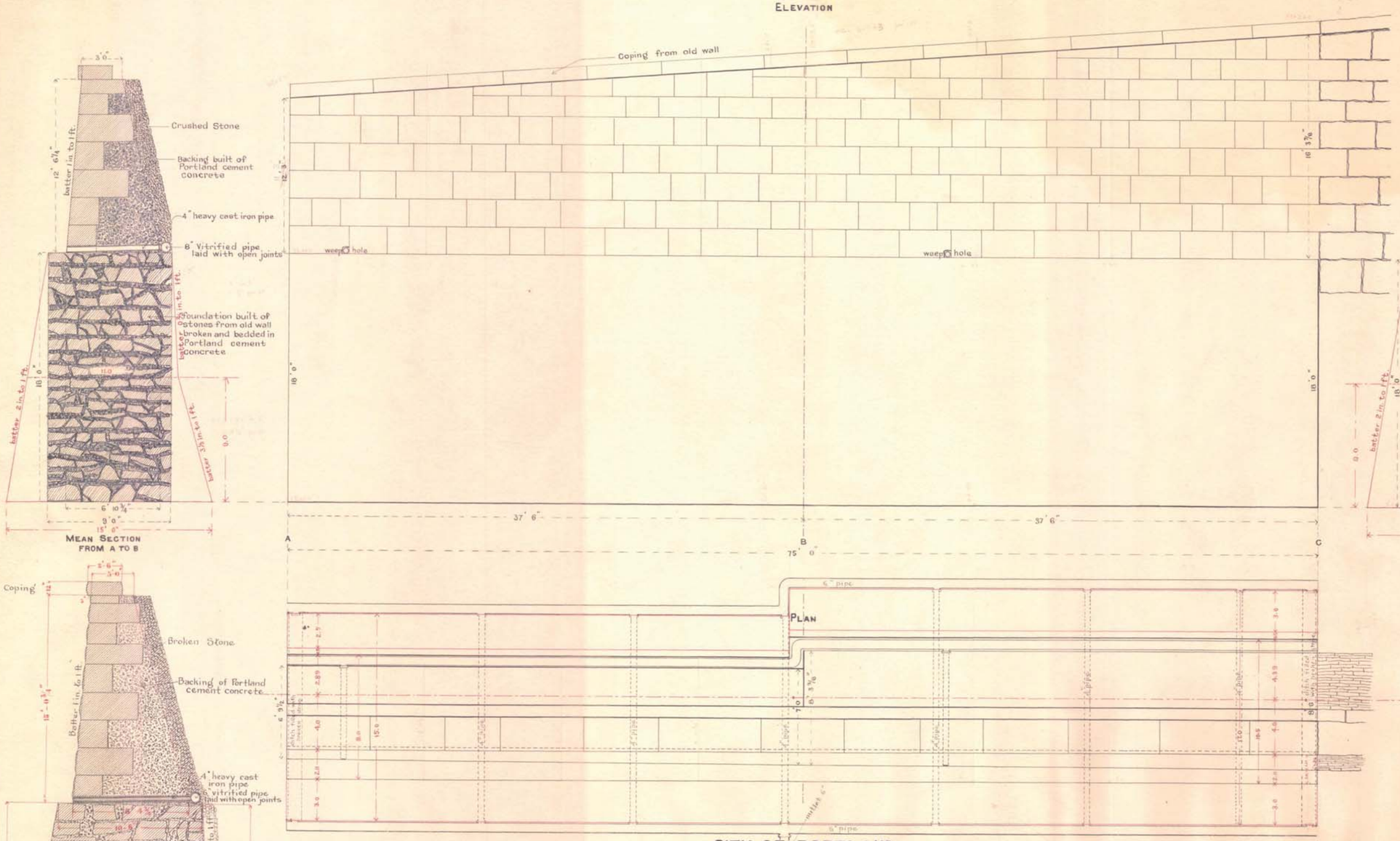
Witness:
M. S. Robinson
to F. H.
Francis Feldmeier
Mayor.

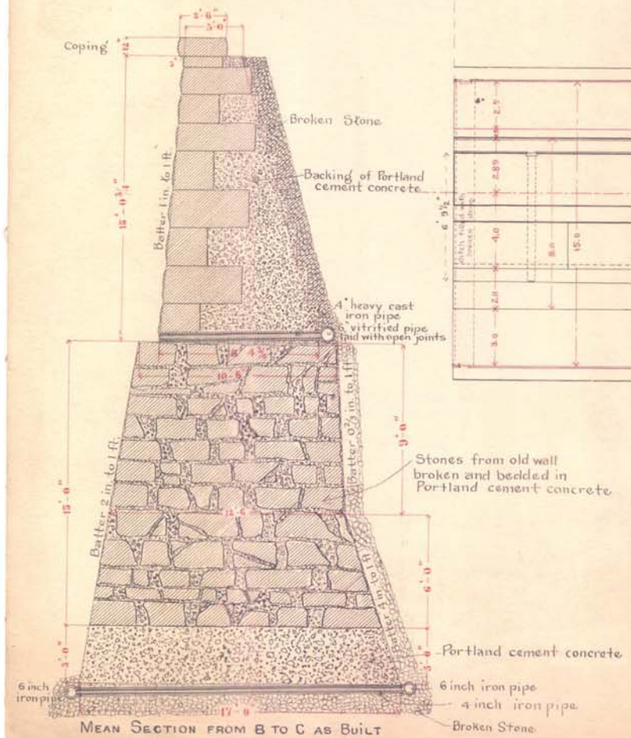
State of Maine, Cumberland, ss. November 10th 1876.
Personally appeared Edward M. Davies and acknowledged the foregoing instrument to be the free act and deed of the Portland Company,
Before me. M. S. Robinson, Justice of the Peace.
Received, Nov. 10, 1876, at 1 h. 2 m. P. M. and recorded according to the original,
Attest: Henry C. Houston, Register.

1896 Fore Street
Retaining Wall Drawing

377/6

ELEVATION





CITY OF PORTLAND

PLAN FOR REBUILDING

FORE ST. RETAINING WALL

SCALE 1/4 INCH TO 1 FOOT

APRIL 1896

Geo. E. Jewald

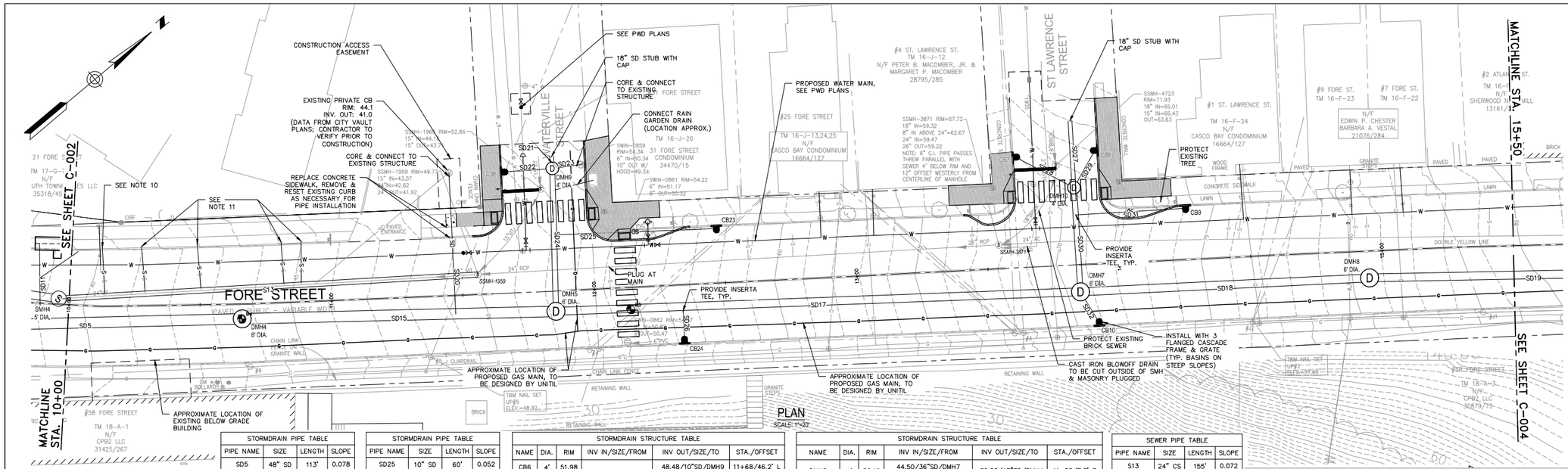
CITY ENGINEER

Foundation of wall built as shown by red lines

Underdrains of 6" pipe with 4" laterals. Outlet of 6" pipe discharging into Portland Co's reservoir

377/16

2022 Fore Street
Sewer Drawings



STORMDRAIN PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
SD5	48" SD	113'	0.078
SD15	48" SD	114'	0.029
SD17	36" SD	194'	0.092
SD18	36" SD	104'	0.096
SD19	36" SD	119'	0.029
SD20	15" SD	52'	0.010
SD21	18" PVC	3'	0.050
SD22	10" SD	15'	0.009
SD23	10" SD	7'	0.124
SD24	24" SD	49'	0.020

STORMDRAIN PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
SD25	10" SD	60'	0.052
SD26	10" SD	9'	0.036
SD27	18" SD	24'	0.097
SD28	10" SD	21'	0.009
SD29	10" SD	12'	0.077
SD30	24" SD	35'	0.011
SD31	10" SD	40'	0.043
SD32	10" PVC	9'	0.295

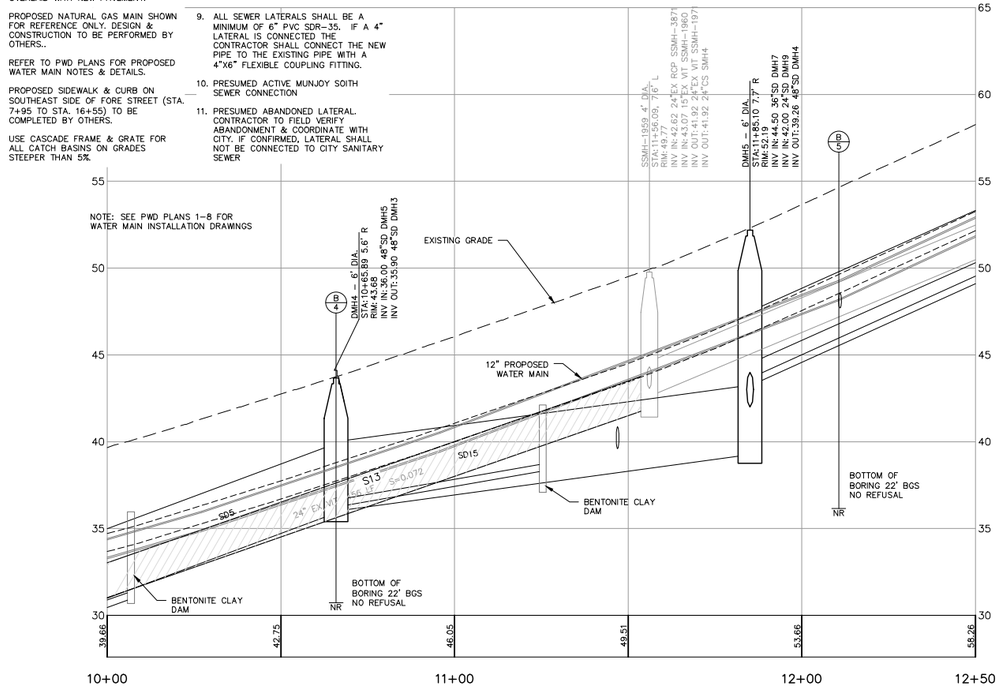
STORMDRAIN STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STA./OFFSET
CB6	4'	51.98		48.48/10"SD/DMH9	11+68/46.2' L
CB7	4'	70.98		67.09/10"SD/DMH10	13+62/42.1' L
CB8	4'	73.10		68.15/10"SD/DMH10	13+93/43.2' L
CB9	4'	74.18		67.91/10"SD/	14+26/19.5' L
CB10	4'	70.98		67.15/10"PVC/DMH7	13+91/22.5' R
CB23	4'	57.98	51.17/6"EX UD/	50.32/10"SD/	12+48/20.7' L
CB24	4'	56.70	50.82/6"EX UD/	50.47/10"SD/	12+33/21.2' R
DMH4	6'	43.68	36.00/48"SD/DMH5	35.90/48"SD/DMH3	10+66/5.6' R

STORMDRAIN STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STA./OFFSET
DMH5	6'	52.19	44.50/36"SD/DMH7 42.00/24"SD/DMH9	39.26/48"SD/DMH4	11+85/7.7' R
DMH7	6'	70.52	62.48/36"SD/DMH8 65.10/24"SD/DMH10 64.50/10"PVC/CB10	62.38/36"SD/DMH5	13+85/10.3' R
DMH8	6'	80.54	72.65/36"SD/DMH11	72.55/36"SD/DMH7	14+95/10.2' R
DMH9	4'	53.84	48.35/10"SD/CB6 48.42/10"SD/SWN-0859 47.85/18"PVC/	43.00/24"SD/DMH5	11+86/46.7' L
DMH10	4'	71.32	66.89/10"SD/CB7 66.10/18"SD/ 67.20/10"SD/CB8	65.50/24"SD/DMH7	13+84/29.4' L
EX CB	4'	44.00	41.10/10"EX SD/	41.00/15"SD/	11+47/46.7' L
SWN-0859	4'	54.46	50.34/6"EX UD/	49.30/10"SD/DMH9	11+97/47.6' L

SEWER PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
S13	24" CS	155'	0.072

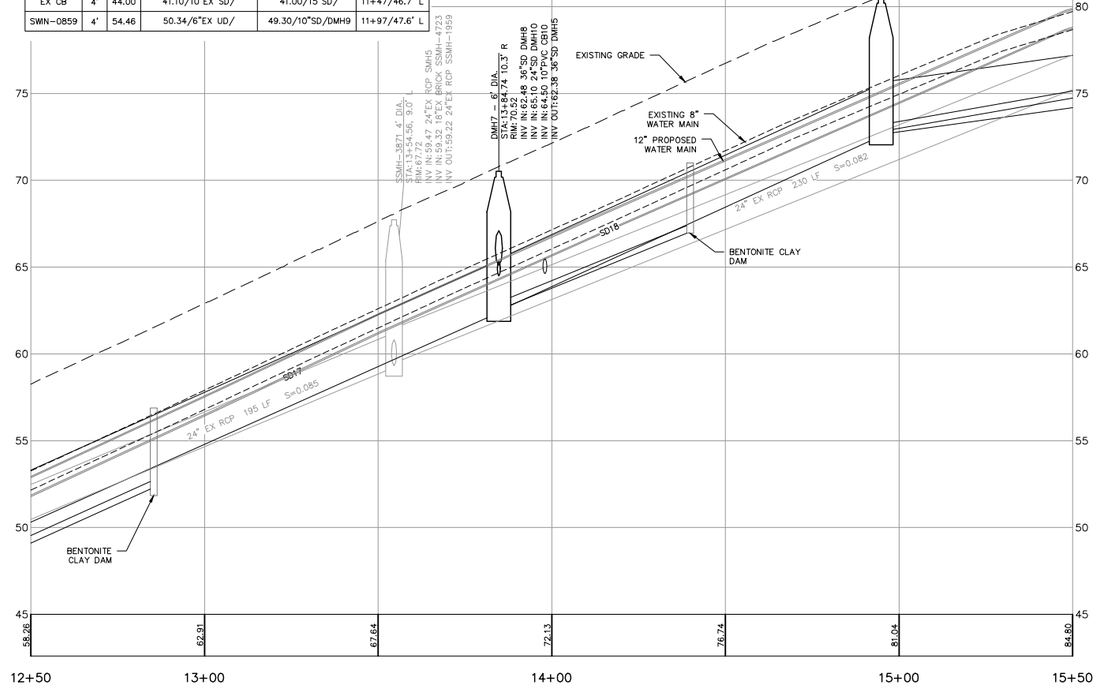
PLAN NOTES:

1. PROPOSED STORM DRAIN SHALL BE REINFORCED CONCRETE OR ADS HPPP (MIN. PS 46) UNLESS OTHERWISE NOTED.
2. PROPOSED SANITARY SEWER SHALL BE SCH40 PVC OR ADS SANITITE UNLESS OTHERWISE NOTED.
3. PROPOSED WATER MAIN TO BE DUCTILE IRON UNLESS OTHERWISE NOTED.
4. MILL & OVERLAY AREAS SHALL BE MILLED TO A DEPTH OF 1.5" AND OVERLAID WITH NEW PAVEMENT.
5. PROPOSED NATURAL GAS MAIN SHOWN FOR REFERENCE ONLY. DESIGN & CONSTRUCTION TO BE PERFORMED BY OTHERS..
6. REFER TO PWD PLANS FOR PROPOSED WATER MAIN NOTES & DETAILS.
7. PROPOSED SIDEWALK & CURB ON SOUTHEAST SIDE OF FORE STREET (STA. 7+95 TO STA. 16+55) TO BE COMPLETED BY OTHERS.
8. USE CASCADE FRAME & GRATE FOR ALL CATCH BASINS ON GRADES STEEPER THAN 5%
9. ALL SEWER LATERALS SHALL BE A MINIMUM OF 6" PVC SDR-35. IF A 4" LATERAL IS CONNECTED THE CONTRACTOR SHALL CONNECT THE NEW PIPE TO THE EXISTING PIPE WITH A 4"X6" FLEXIBLE COUPLING FITTING.
10. PRESUMED ACTIVE MUNJOY SOITH SEWER CONNECTION
11. PRESUMED ABANDONED LATERAL. CONTRACTOR TO FIELD VERIFY ABANDONMENT & COORDINATE WITH CITY. IF CONFIRMED, LATERAL SHALL NOT BE CONNECTED TO CITY SANITARY SEWER



PROFILE STA. 10+00 TO STA. 12+50

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'



PROFILE STA. 12+50 TO STA. 15+50

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

20' 0 20' 40'

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

WOODARD & CURRAN

STATE OF MAINE — DARRIN B. SMITH — No. 15118 — REGISTERED PROFESSIONAL ENGINEER — 8/2/21

REV.	DATE	SUBMISSION
	8/2/21	ISSUED FOR CONSTRUCTION

PROJECT NAME:
FORE STREET/ EASTERN PROM. SEWER SEPARATION PROJECT

CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS
212 CANCO ROAD, SUITE B, PORTLAND, MAINE 04103
PHONE (207) 874-8846 FAX (207) 874-8852

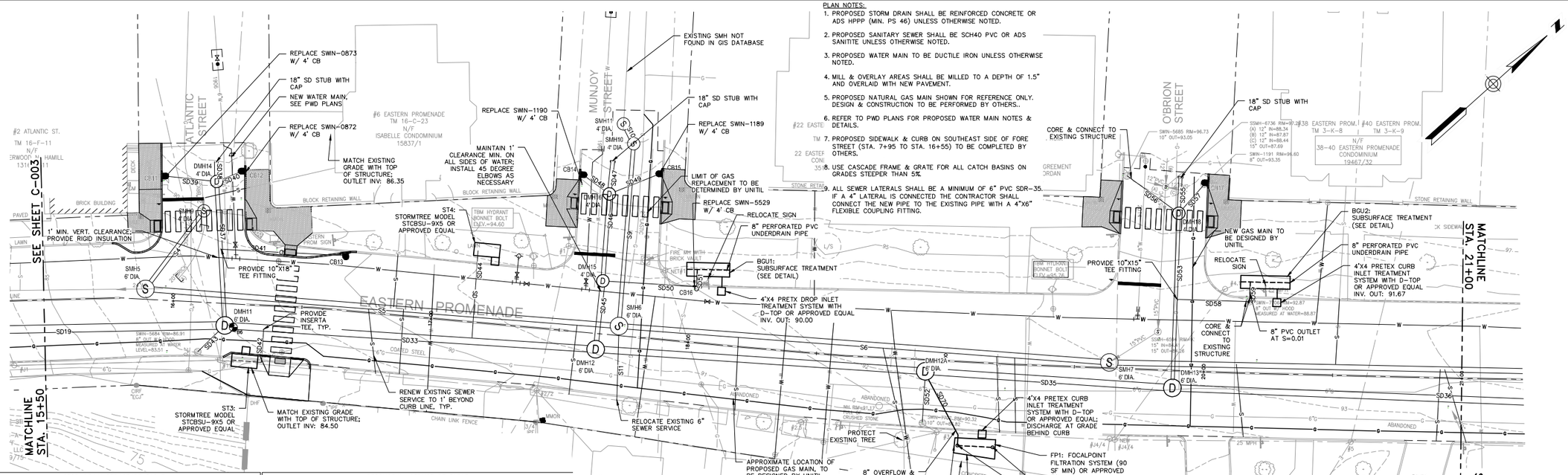
CITY OF PORTLAND RESURGAM

DESIGN BY:	KJT
DRAWN BY:	BCM
CHECKED BY:	DBS
SHEET NAME:	PLAN & PROFILE STA. 10+00 - 15+50
DATE:	04-2021
	PAGE 9 OF 37
SHEET NO.:	C-003
REV.:	
VAULT #:	

\\WOODARDCURRAN.NET\SHARED\PROJECTS\023341.00 PORTLAND, ME - FORE STR SEWER SEP\WIP\DRAWINGS\CIVIL\023341 C100.DWG C-003 8/25/2019

PLAN NOTES:

1. PROPOSED STORM DRAIN SHALL BE REINFORCED CONCRETE OR ADS HPPP (MIN. PS 46) UNLESS OTHERWISE NOTED.
2. PROPOSED SANITARY SEWER SHALL BE SCH40 PVC OR ADS SANITITE UNLESS OTHERWISE NOTED.
3. PROPOSED WATER MAIN TO BE DUCTILE IRON UNLESS OTHERWISE NOTED.
4. MILL & OVERLAY AREAS SHALL BE MILLED TO A DEPTH OF 1.5" AND OVERLAID WITH NEW PAVEMENT.
5. PROPOSED NATURAL GAS MAIN SHOWN FOR REFERENCE ONLY. DESIGN & CONSTRUCTION TO BE PERFORMED BY OTHERS..
6. REFER TO PWD PLANS FOR PROPOSED WATER MAIN NOTES & DETAILS.
7. PROPOSED SIDEWALK & CURB ON SOUTHEAST SIDE OF FORE STREET (STA. 7+95 TO STA. 16+55) TO BE COMPLETED BY OTHERS.
8. USE CASCADE FRAME & GRATE FOR ALL CATCH BASINS ON GRADES STEEPER THAN 5%.
9. ALL SEWER LATERALS SHALL BE A MINIMUM OF 6" PVC SDR-35. IF A 4" LATERAL IS CONNECTED THE CONTRACTOR SHALL CONNECT THE NEW PIPE TO THE EXISTING PIPE WITH A 4"X6" FLEXIBLE COUPLING FITTING.



PLAN
SCALE: 1"=20'

STORMDRAIN STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STA./OFFSET
CB11	4'	89.88		85.60/10"SD/DMH14	15+94/48.0' L
CB12	4'	91.87		86.33/10"SD/DMH14	16+24/51.5' L
CB13	4'	89.99		86.18/10"SD/	16+65/21.2' L
CB14	4'	95.36		89.72/10"SD/DMH16	17+53/60.7' L
CB15	4'	95.60		90.43/10"SD/DMH16	17+85/63.9' L
CB16	4'	91.38	88.81/8"PVC/BGU1	86.90/10"SD/DMH15	18+01/21.6' L
CB17	4'	96.60		92.50/10"SD/DMH18	19+98/73.2' L
DMH11	6'	87.93	76.25/30"SD/DMH12 77.00/18"SD/DMH14 83.07/10"SD/SWN-5684	76.15/36"SD/DMH8	16+21/8.5' R
DMH12	6'	91.10	78.00/30"SD/DMH12A 83.00/21"SD/DMH15	77.90/30"SD/DMH11	17+65/6.1' R
DMH13	6'	92.83	79.54/30"SD/DMH19 87.93/15"SD/DMH18	79.44/30"SD/DMH12A	19+88/6.7' R
DMH14	4'	91.17	85.39/10"SD/CB11 85.40/10"SD/CB12 81.00/18"SD/	78.00/18"SD/DMH11	16+14/47.0' L

STORMDRAIN STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STA./OFFSET
DMH15	4'	91.82	86.00/18"SD/DMH16 86.32/10"SD/CB16	83.75/21"SD/DMH12	17+65/20.5' L
DMH16	4'	95.20	88.67/10"SD/CB14 88.67/10"SD/CB15 88.10/18"SD/	88.00/18"SD/DMH15	17+64/54.3' L
DMH18	4'	96.50	91.92/10"SD/SWN-5685 91.50/10"SD/CB17 91.35/15"SD/	91.25/15"SD/DMH13	19+88/60.9' L
SWN-5684	4'	86.91		83.51/10"SD/DMH11	16+11/19.3' R
SWN-5685	4'	96.73		93.05/10"SD/DMH18	19+68/74.7' L
SWN-7706	4'	92.87	90.39/8"PVC/BGU2	88.87/10"SD/	20+17/27.8' L
SWN-7707	4'	90.32		86.82/10"PVC/DMH12A	18+92/24.2' R

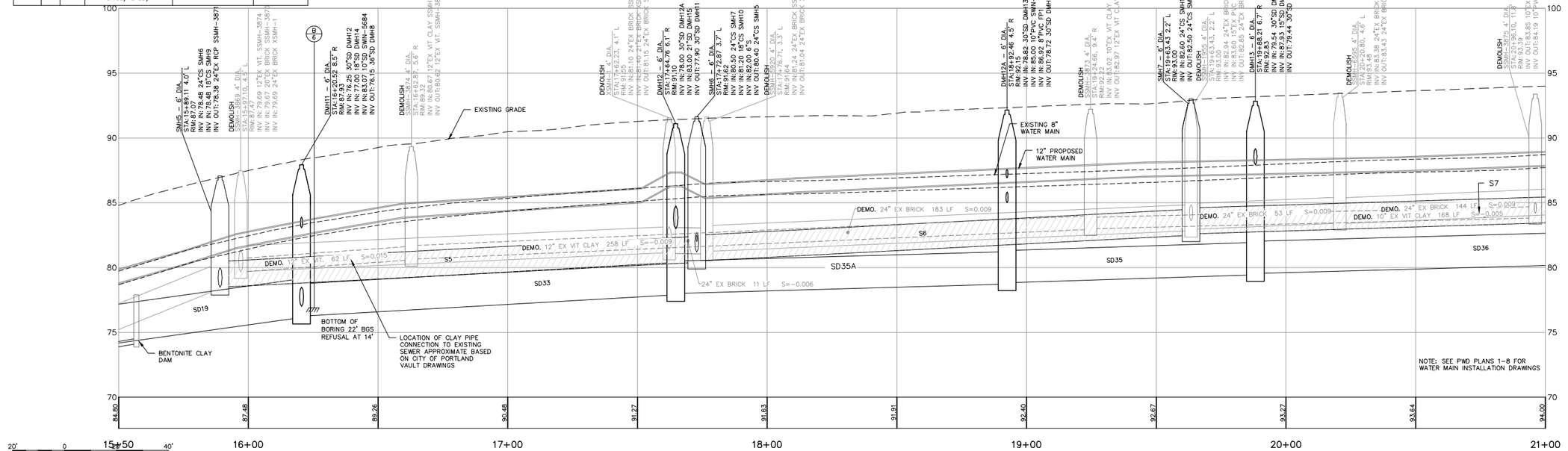
SEWER STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STA./OFFSET
SMH5	6'	87.07	78.48/24"CS/SMH6 78.48/18"CS/SMH9	78.38/24"EX RCP/SSMH-3871	15+89/4.0' L
SMH6	6'	91.62	80.50/24"CS/SMH7 81.20/18"CS/SMH10 82.00/6"S/	80.40/24"CS/SMH5	17+73/3.7' L
SMH7	6'	93.00	82.60/24"CS/SMH12	82.50/24"CS/SMH6	19+63/2.2' L
SMH9	4'	89.98	80.10/20"EX BRICK/	80.00/18"CS/SMH5	16+10/35.4' L
SMH10	4'	97.00	86.58/18"CS/SMH11	86.48/18"CS/SMH6	17+72/74.6' L
SMH11	4'	97.50	87.10/21"EX BRICK/	87.00/18"CS/SMH10	17+67/81.9' L

STORMDRAIN PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
SD19	36" SD	119'	0.029
SD33	30" SD	138'	0.012
SD35	30" SD	90'	0.007
SD35A	30" SD	122'	0.006
SD36	30" SD	205'	0.006
SD39	10" SD	16'	0.013
SD40	10" SD	7'	0.136
SD41	10" SD	46'	0.027
SD42	8" PVC	13'	0.011

STORMDRAIN PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
SD43	10" SD	10'	0.046
SD44	8" PVC	33'	0.010
SD45	21" SD	22'	0.035
SD46	18" SD	30'	0.067
SD47	18" SD	11'	0.123
SD48	10" SD	9'	0.120
SD49	10" SD	17'	0.103
SD50	10" SD	32'	0.018
SD51	8" PVC	1'	0.029

STORMDRAIN PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
SD52	10" PVC	15'	0.123
SD53	15" SD	63'	0.053
SD55	15" SD	12'	0.054
SD56	10" SD	21'	0.054
SD57	10" SD	12'	0.085
SD58	10" SD	26'	0.034
SD70	8" PVC	27'	0.020

SEWER PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
S4	18" CS	33'	0.046
S5	24" CS	178'	0.011
S6	24" CS	184'	0.011
S7	24" CS	222'	0.006
S9	18" CS	66'	0.080
S10	18" CS	5'	0.090
S11	6" S	26'	0.011



BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

PROFILE STA. 15+50 TO STA. 21+00

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

WOODARD & CURRAN

DARRIN B. KUHN
STATE OF MAINE
No. 15118
REGISTERED PROFESSIONAL ENGINEER
8/2/21

REV.	DATE	DESCRIPTION
	8/2/21	ISSUED FOR CONSTRUCTION
		SUBMISSION

PROJECT NAME:
FORE STREET/ EASTERN PROM. SEWER SEPARATION PROJECT

CITY OF PORTLAND, MAINE
DEPARTMENT OF PUBLIC WORKS

212 CANCO ROAD, SUITE B; PORTLAND, MAINE 04103
PHONE (207) 874-8846 FAX (207) 874-8852

CITY OF PORTLAND, MAINE
RESURGAM
OFFICE OF THE CITY CLERK
PORTLAND, MAINE

DESIGN BY:	KJT
DRAWN BY:	BCM
CHECKED BY:	DBS

SHEET NAME:
PLAN & PROFILE STA. 15+50 - 21+00

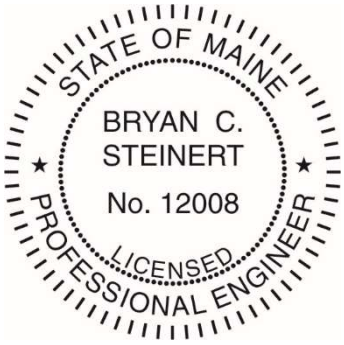
DATE:	04-2021
	PAGE 10 OF 37
SHEET NO.:	C-004
REV.:	
VAULT #:	

\\WOODARDCURRAN.NET\SHARED\PROJECTS\0223341.00 PORTLAND, ME - FORE STR SEWER SEP\WIP\DRAWINGS\CIVIL\0223341 C100 (XING C-004 6/25/2019

HALEY & ALDRICH, INC.
75 Washington Avenue
Suite 1A
Portland, ME 04101
207.482.4600

MEMORANDUM

23 November 2022
Revised 17 February 2023
File No. 39486-881



TO: PF Four Devco, LLC.
David Senus, P.E.

FROM: Haley & Aldrich, Inc.
Tucker P. Jones, P.E., Bryan C. Steinert, P.E., Wayne A. Chadbourne, P.E.

SUBJECT: Geotechnical Design Memorandum
Foreside Block Four Building
58 Fore Street
Portland, Maine

This geotechnical design memorandum (GDM) presents foundation support and geotechnical design recommendations for the subject project (see Figure 1, Project Locus). This GDM has been revised to update the column grid to reflect the change from a steel to a precast concrete parking garage superstructure. Our evaluations and recommendations are based on the proposed improvements shown in an updated and interim Block Four Design Development (DD) drawing set that was provided to Haley & Aldrich, Inc. (Haley & Aldrich) on 7 February 2023. Please note that some of the information and recommendations summarized herein have already been communicated to the project team during in-person meetings and/or via a series of electronic mail (email) messages. However, this GDM serves as the "official" documentation of the foundation support and geotechnical design recommendations for the Block Four building and supersedes the information and recommendations that were included in the original (23 November 2022) GDM. Please also note that this GDM provides geotechnical recommendations for the Block Four building only. Design requirements for the permanent Block Four support of excavation (SOE) system will be provided in a separate SOE drawing set, which is currently being advanced from schematic design (SD) level to DD level.

Please recall that a Geotechnical Data Report (GDR) for the Block Four development was issued on 19 October 2022. The GDR summarizes the subsurface conditions encountered in previous and recent subsurface explorations, and the results of previous and recent laboratory testing completed for the subject project.

This GDM is intended to be used by members of the project team responsible for the design of the proposed Block Four building. Please note that the foundation support and geotechnical design recommendations included herein were developed based on DD-level structural loading information available at the time the original (23 November 2022) memorandum was prepared. Updated structural

loading information reflective of a precast concrete parking garage superstructure type has not been provided. Because of this, we anticipate that the recommendations presented herein may need to be refined as the project advances through final design and development of Construction Documents (CDs). The information contained in the final CDs will take precedence over the information and recommendations provided in this revised GDM.

We have coordinated our work with the following project team members:

- PF Four Devco, LLC. (PFDC) — Owner
- Penobscot General Cont./Turner Const. Co. (PGC/TCCO) — Construction Manager
- Perkins & Will (PW) — Architect
- Thornton Tomasetti (TT) — Structural Engineer
- Woodard & Curran (W&C) — Civil & Environmental Engineer

Elevations

Elevations referenced herein are in feet and reference Portland City Datum (PCD). Portland City Datum relates to tidal datum at the site as follows:

MHHW = El. 5.4 PCD
MLLW = El. -4.5 PCD

Please note that this tidal information is not site-specific and is taken from National Oceanic Atmospheric Administration (NOAA) tidal station No. 8418150 located on the Maine State Pier, Portland, Maine. This is the NOAA tidal station closest to the site. Actual tidal datum elevations at the site may vary from those shown.

Site Location and Proposed Development

The Portland Company complex (site) is located at 58 Fore Street, in the northeastern part of the Portland waterfront and at/near the base of Munjoy Hill as shown in Figure 1, Project Locus. Based on our review of the existing conditions base plan prepared by Owen Haskell, Inc., dated 7 July 2016, we understand that the entire site is approximately 10 acres, which has been subdivided into six development “blocks”, each of which will contain existing and/or proposed buildings of varying size. The subject project (Block Four) is located in the eastern portion of the site and is bound by Fore Street to the north, private property (Trettel) to the east, Block Five to the south and Block Two to the west.

PROPOSED SITE DEVELOPMENT

Based on our review of the original DD set of drawings, prepared by P&W, dated 16 September 2022, it is our understanding that PFDC is proceeding with the design and permitting associated with the Block Four Development, which will generally include the following key elements:

- An approximate 2,000 square foot (sf), six-story Townhouse, which includes ground floor retail space and five above-grade levels of residential units.
- An approximate 84,000 sf, eight to nine-story Parking/Residential structure, which includes four to five levels of residential units on top of four levels of structured parking.

The original DD set of drawings was based on a steel superstructure design for both the Townhouse and Parking/Residential structure. As stated above, an updated DD set of drawings are currently being developed to show the change from steel to precast concrete superstructure, which will be submitted on/about 24 February 2023.

Please refer to Figure 2, Anticipated Foundation Support Plan for the location of the Townhouse and Parking/Residential structure footprints. The following FFEs for the Townhouse and Parking/Residential structures have been established by the project team for the updated DD submission:

Level	Proposed Finish Floor Elevation	
	Townhouse	Parking/Residential Structure
1	El. 16	El. 15 to El. 16*
2	El. 27.5	
3	El. 38.0	
4	El. 48.5	
5	El. 60.7	
6	El. 71.5	
7	NA	El. 82.4
8	NA	El. 93.2
9	NA	El. 104.0

* Note that FFE is at El. 10 at connection into the space below the podium at column line L-10/L-11.

In addition to the key elements described above, ancillary site improvements will include stormwater management, site roadways and parking areas, and utility infrastructure (i.e., water, sewer, natural gas, electricity) needed to service the proposed development.

STRUCTURAL LOADING AND BUILDING PERFORMANCE CRITERIA

Axial compressive column loads for building columns within the Townhouse and Parking/Residential structures were not provided at the time this GDM was prepared. Based on our discussions with TT, it is our understanding that foundations (spread footings and micropile caps) shown on the original DD set of drawings were sized based on an allowable bearing pressure equal to 8 kips per square foot (ksf; for spread footings bearing on bedrock, glacial till or rigid inclusion ground improvement) and an allowable micropile compressive resistance equal to 100 kips per micropile.

Please also note that lateral base shear and uplift forces for the Block Four building were not provided at the time this GDM was prepared. General lateral (base shear) and uplift resistance recommendations are provided in subsequent sections of this memorandum.

Based on our discussions with TT, it is our understanding that post-construction total settlement and differential settlement between adjacent building columns should be limited to a maximum of 1 in. and ½-in. over 20 ft, respectively, over the design life of the buildings, which in our experience is typically on the order of 50 years.

Geotechnical Design Recommendations

GENERAL

This section provides geotechnical design recommendations, including foundation support requirements for the proposed Block Four building. Design and construction of the proposed improvements should be completed in accordance with the requirements of the 2015 International Building Code (IBC Code).

SEISMIC DESIGN CONSIDERATIONS

Seismic site class and seismic design parameters were determined in accordance with the requirements of Section 1613.3.2 of the IBC Code and are based on the subsurface conditions encountered in the test borings completed under the direction of Haley & Aldrich within and immediately adjacent to the proposed Block Four building footprint.

Due to the nature and thickness of the overburden soils that are present at the site, we recommend the site be considered "Site Class D". In addition, we recommend the following values be used by TT to determine the design spectral response acceleration parameters (S_{DS} and S_{D1}) and to calculate base shear for seismic design.

- Site Coefficient for Short Periods (F_a) = 1.600
- Site Coefficient for 1-sec Periods (F_v) = 2.400
- Mapped Spectral Response Acceleration at Short Periods (S_s) = 0.240
- Mapped Spectral Response Acceleration at 1-sec Periods (S_1) = 0.078

Please note that "g" refers to acceleration due to gravity. We do not consider the soils encountered at this site to be liquefaction susceptible.

BUILDING FOUNDATION TYPES

Conventional reinforced concrete spread footings with a soil-supported slab-on-grade for the lowest floor is the most economical foundation system for most low to medium-height buildings provided that a suitable, non-compressible, naturally-deposited inorganic soil or bedrock bearing stratum exists at shallow depth and predicted building settlements are within tolerable limits. In our opinion, the man-placed fill and marine deposit soils that are present within portions of Block Four are unsuitable as building foundation bearing strata. Because of this, foundations must transmit building loads below these soil units, or the soils must be improved to avoid the potential for undesirable post-construction settlements and/or foundation instabilities.

To determine the most suitable foundation support alternatives for the buildings, multiple foundation systems were evaluated with the project team during the SD and DD phases of the project. Factors including but not limited to technical feasibility, constructability, performance, and cost were considered in determining the most suitable foundation support alternatives for the structures. Based on our experience, the subsurface conditions present at the site and our current understanding of the proposed Block Four improvements, it is our opinion that multiple foundation support systems will be needed to support the proposed Block Four building, which include spread footings bearing on glacial till or bedrock, spread footings bearing on rigid inclusion (RI) ground improvement (GI) elements and a load transfer layer (LTL), and rock-socketed, drilled-in micropiles. Recommendations for each foundation support system are presented in the following sections of this GDM.

FOUNDATION DESIGN CRITERIA

Spread/Wall Footings on Glacial Till or Bedrock

Based on the proximity of naturally-deposited glacial till soils and/or bedrock to the anticipated foundation bearing levels shown in the DD set of drawings and the attached Table I, it is our opinion that spread/wall footings are a technically feasible and cost-effective way to support the columns shown in yellow and magenta shading on Figure 2. In general, these columns are located in the eastern and northern portions of the Block Four building footprint (see Table I for list of column locations). Spread footing foundation design recommendations are presented below.

- Conventional reinforced concrete spread and wall footings should bear on naturally-deposited glacial till soils or bedrock. Because of the variability in subsurface conditions present across the site, some minor, localized over-excavation below anticipated footing subgrade level is anticipated to be required to remove fill and/or marine deposit soils from within the zone of influence (ZOI) of the new footings (refer to Table I for more information). The ZOI is defined as the area below footings and below imaginary lines that extend 2 ft laterally beyond the footing outer bottom edges and down on a 1 horizontal to 1 vertical (1H:1V) slope to the top of the naturally-deposited glacial till soils.
- If bedrock is encountered at or above the anticipated footing bearing level, we recommend that bedrock be removed to 6 in. below the bearing level and CGF placed from top of rock to the bottom of footing. Crushed stone could be used in lieu of CGF provided that it is fully encapsulated in a geosynthetic separation fabric (e.g., Mirafi 160N). Placement of this crushed stone will allow for strain compatibility between the footings supported on rock and the footings supported on glacial till or RI GI elements and a LTL.
- Spread and wall footings should be sized based on an allowable bearing pressure equal to 8 ksf at the column locations shown on Figure 2 and summarized in Table I. Although higher bearing pressures are technically feasible in areas where the footings will bear directly on bedrock, we recommend that a uniform bearing pressure (8 ksf) be used for design regardless of bearing condition. We also recommend that all footings be at least 3 ft wide.
- Because the lowest levels of the garage will not be heated, spread and wall footings should bear a minimum of 4.5 ft below top of the lowest adjacent ground floor slab elevation. Spread

footings/mats located in the vicinity of elevator pits, sump pits or other localized depressions will bear at or below the bottom of the pits.

- Footings should also be designed to bear below a reference line drawn upward and outward on a 1.5 horizontal to 1 vertical (1.5H:1V) slope from the bottom of any adjacent utilities or other underground structures. If pressurized pipes are to pass beneath or within 5 ft of soil-bearing foundations, the configuration should be reviewed on a case-by-case basis to determine if special measures are needed to protect the foundations from undermining in the event of pipeline failure.

Spread/Wall Footings on Ground Improvement

To mitigate the risk of post-construction building settlement in areas where unsuitable soils (e.g., man-placed fill or marine deposit soils) are present below anticipated foundation bearing level and where the depth of over-excavation and replacement is considered by Haley & Aldrich to be excessive, we recommend that RI GI elements be installed to support the columns shown in blue shading on Figure 2. In general, these columns are located in the southern and western portions of the Block Four building footprint (see Table I for list of column locations). Installation of RI GI elements will improve the load carrying capacity of the in-situ soils and will aid in transferring structure loads to more competent soil/rock strata, which will allow the columns to be supported on conventional spread footings.

As stated above, multiple foundation systems will be needed to support the proposed structure, each having different stiffnesses, which if not designed appropriately could cause unacceptable amounts of differential post-construction settlement of adjacent building columns. Because of this, the nature of the marine soils at the site, and to more closely match the stiffness of building columns supported on spread footings bearing on glacial till/bedrock and on micropiles (see next section), we recommend that RI GI be used to support the building columns shown in Table I and on Figure 2. In our opinion, ungrouted and grouted stone column GI elements will not provide a stiff enough response to meet the total and differential settlement tolerance stated above.

RI GI elements should also be installed beneath elevators, the Thames Street ramp, and other heavy or settlement-sensitive structures (e.g., transformers, generators, grease traps, etc.), unless their base extends below the man-placed fill and/or marine deposit soils. The need for RI GI for other miscellaneous site features should be reviewed on a case-by-case basis prior to finalizing the CDs. Spread/wall footing, and RI GI design recommendations are presented below.

- Conventional reinforced concrete footings should bear directly on a LTL constructed over the tops of RI GI elements.
- Footings bearing on a LTL and RI GI elements should be sized based on an allowable bearing pressure equal to 6 ksf. This value should be confirmed as early as possible with the RI GI designer, working with Haley & Aldrich and TT.
- The RI GI should be designed to limit the magnitude of stress concentrations on the bottoms of the spread footings. We recommend that the RI GI designer coordinate with TT to ensure that

the RI GI has been designed to limit stress concentrations to within tolerable levels such that structural re-design of the footings is not required.

- RI GI elements should penetrate through the full thickness of the fill and marine deposit soils and bear in/on glacial till or bedrock. Based on available subsurface information, we anticipate that the RI GI elements will be relatively short and will range between 5 and 20-ft long.
- RI GI elements may need to be advanced through cobbles, boulders, and/or other materials that are present in the overburden soils present at the site (specifically the near-surface fill soils). Because of this, we recommend that monetary allowances be provided in the budget in the instance additional time and/or alternative means and methods are needed to penetrate these materials.
- A maximum lateral distance of 2 ft (in plan) should be provided between the center of the outermost RI GI elements and the footing outer edges.
- Footings should be sized and located vertically relative to the FFE, proposed exterior site grades and adjacent utilities or other underground structures in accordance with the recommendations for spread footings bearing on glacial till/bedrock (see previous section of this GDM).
- RI GI elements installed beneath footings will require the use of a LTL. We recommend that the LTL consist of an 8-in. thickness of a compacted blend of ¾-in and 3/8-in. crushed stone, encapsulated by a heavy geotextile. We also recommend that the LTL extend a minimum of 6 in. beyond the footing outer edges.
- The RI GI design should be developed to limit total building foundation settlements to a maximum 1-in., including both immediate settlements of the GI system (i.e., RI GI elements and LTL), and a maximum differential settlement of ½-in. over 20 ft. Load bearing and settlement calculations should be provided in the GI designer's design submittal. Contractor design submittal requirements will be included in the GI specification, which will be prepared by Haley & Aldrich).
- Regardless of the design of the RI GI system, full-scale load testing will be required. Because of this, we recommend that budget pricing include an allowance for one full-scale static load test on an array (e.g., nine; 3x3 grid) of sacrificial RI GI elements prior to production RI element installation to confirm that the design of the GI system (i.e., RI elements, LTL, spread footing) meets the required minimum load bearing and maximum settlement requirements.
- The RI GI designer should identify any concerns related to potential effects of planned nearby construction activities, and any restrictions or requirements on means and methods or construction sequencing that should be imposed to avoid risk to the performance of the RI GI system. We recommend that the overall requirements for RI GI be discussed between Haley & Aldrich, TT and the RI GI designer during the early stages of bidding.

Design and installation of RI GI elements are specific for each project based on the subsurface conditions present at the site, the means/methods of installing the elements, the minimum load bearing criteria and the post-construction settlement tolerance established for the proposed buildings. Furthermore, current industry standard dictates that the design and installation of these types of systems be delivered using a performance-based, design-build approach where the specialty RI GI subcontractor determines the details of the system (e.g., element spacing, element diameter, element configuration beneath the footings, LTL design, etc.) based on the load bearing and post-construction settlement requirements of

the proposed structures as provided by the geotechnical engineer-of-record (i.e., Haley & Aldrich). This approach is currently planned to be used to complete the RI GI design for this project.

Drilled-In Micropiles

Because of the proximity of the existing granite block wall to column line A, the existing site grades along the slope in front of the wall between column lines A and B (approximate), the FFE of the lowest floor slab between column lines A and B (i.e., El. 50.3), and the magnitude of "typical" axial compressive column load along column line A (i.e., 400 to 600 kips based on 100-kip resistance and micropile groups of four or six as shown on the original DD set of drawings), it is our opinion that drilled-in piles (i.e., micropiles) are the most technically feasible system to support the columns shown in green on Figure 2. In general, these columns are located in the northern and western portions of the Block Four building footprint along column line A (see Table I for list of column locations). The use of micropiles at these column locations will help to minimize potentially adverse construction impacts on the existing granite block wall, including undermining the wall which would be needed to install spread footing foundations. Micropile foundation support design recommendations are provided below.

- A micropile should consist of a small diameter (typically less than approximately 12 in.), drilled and grouted concrete element that is typically reinforced with a centralized steel bar and permanent steel casing. Micropiles are constructed by drilling a hole to a predetermined depth, placing reinforcement and tremie grouting the hole. Micropiles gain their load resistance through side friction between the grout and the adjacent soil or bedrock (grout-soil or grout-bedrock frictional resistance). Due to the relatively small pile diameter and due to the differences in vertical micropile deformation needed to mobilize side friction and end bearing resistance (i.e., sufficient vertical deformation must occur such that side frictional resistance is overcome and end bearing resistance is mobilized) the contribution of end-bearing resistance is typically neglected. Since the thickness of overburden soils at micropile column locations support is limited and based on the magnitude of the "typical" axial compressive column load provided by TT, we anticipate that rock sockets will be needed.
- The plan locations of the micropiles should be coordinated with the locations of soil nails that will be installed as part of the permanent support of excavation (SOE) system.
- Structural loads for the buildings should be resisted by 100-kip allowable capacity micropiles drilled and socketed into bedrock, which is based on an 8-in. (minimum) diameter, 10-ft long (minimum) rock socket and a grout-to-bedrock frictional resistance of 10 ksf.
- Micropiles should be drilled using 9-5/8-in. outside diameter (OD) permanent steel casing. The casing should have a minimum yield strength of 60 kips per square inch (ksi) and should extend from the top of the micropile to at least 12 in. into bedrock. The casing should be drilled in and should not be advanced using impact methods.
- Based on a bottom of micropile pile cap elevation between El. 25 and El. 41 (see Table I) and a top of bedrock elevation between El. 0 and El. 12, we anticipate that the micropiles will be approximately 35 to 40-ft long, which includes the 10-ft long rock socket. Accordingly, the permanent steel casing length will be approximately 25 to 30-ft long.

- Micropiles should be reinforced the full-length with a centralized deformed steel bar having a minimum yield strength of 75 ksi. Seismic reinforcement, if required, should be provided in accordance with the requirements of the IBC Code.
- Each micropile should be tremie grouted with grout having a minimum unconfined compressive strength equal to 5,000 pounds per square inch (psi).
- The Contractor will be required to confirm the minimum required ultimate micropile capacity in the field. Because of this, we recommend that budget pricing include an allowance for one full-scale static load test on a sacrificial micropile prior to production micropile installation to confirm the grout-to-bedrock frictional resistance used in design and to establish that the Contractor's means and methods that result in a micropile that meets the specified design and performance requirements.
- Micropiles may need to be advanced through cobbles, boulders, and/or other materials that are present in the fill and glacial till soils present at the site. Because of this, we recommend that monetary allowances be provided in the budget in the instance additional time and/or alternative means and methods are needed to penetrate these materials.

TRANSITIONS AND PROXIMITIES OF DIFFERENT FOUNDATION SYSTEMS

The building designs should incorporate transitions between varying foundation supports; that is between rock-socketed micropiles, spread footings bearing in/on glacial till or bedrock and spread footings bearing on RI GI elements and a LTL. The interfaces of the foundation systems (including framing, flooring, architectural features, utilities, and other facilities) should account for anticipated differential settlements. As the design is finalized, further discussions within the design team are recommended to understand implications of the relationships between the varying types of support and identify any necessary mitigating measures.

SUPPLEMENTAL SUBSURFACE EXPLORATIONS

Because of the differences between the SD and the original and updated set of DD foundation plans, specifically the plan locations and bottom depths of proposed foundations, and because of the variable subsurface conditions present at the site, we recommend that additional test borings and test pits be executed during the final design and CD development phases of the project to further refine the limits of the different foundation support systems. The test pits are needed to determine the bearing elevation of the existing cast-in-place concrete and granite block retaining walls, which is needed to confirm that closest adjacent footings (i.e., along column line A.6 and at A.2-0.2 and A.2-2) can be installed without undermining the existing wall. A summary of the proposed scope of the additional field investigation is provided in the below.

Building Column Location	Proposed Exploration	Approximate Range in Depth (ft)	Comments
A.5-0.6	HA22-TP1	< 5	Needed to determine bottom depth of existing retaining wall and whether foundations will be spread footings on glacial till or drilled-in micropiles
A.5-0.5	HA22-TP2		
A.2-0.2	HA22-TP3		
A.2-2	HA22-TP4		
B-5.6	HA22-203	5 to 10	Needed to determine whether foundation will be spread footing on glacial till or RI GI elements.
B-6.3	HA22-204	10 to 15	
D-4.7	HA22-205	10 to 15	Needed to determine whether foundations will be spread footings bearing on glacial till or RI GI elements
D-5.6	HA22-206	10 to 15	
F-4.7	HA22-208	10 to 15	
J.3-9	HA22-211	15 to 20	Needed to determine whether foundations will be spread footings bearing on bedrock or RI GI elements
L-9	HA22-212	15 to 20	

Please note that the number and location of the proposed test borings summarized above are based on the foundation locations shown on the interim DD foundation plan, which is being developed by TT based on a precast concrete parking garage superstructure. Based on our discussions with you on 17 February 2023, it is our understanding that the proposed test borings summarized above will be completed at the onset of construction by the Contractor or Haley & Aldrich (to be determined). It is also our understanding that the proposed test pits will be completed by Haley & Aldrich during the DD or CD phase of the project.

RESISTANCE OF UPLIFT LOADS

Information related to the location and magnitude of axial uplift (tension) loads were not available at the time this GDM was prepared. However, based on our discussions with TT, it is our understanding the uplift loads will be resisted by the dead weight of the structures and additional uplift load resistance measures (e.g., post-tensioned rock anchors) will not be required.

RESISTANCE OF LATERAL BUILDING LOADS

Information related to the location and magnitude of lateral building loads were not available at the time this GDM was prepared. However, we offer the following general recommendations relative to resistance of lateral base shear forces:

- Frictional resistance between the base of footings and the underlying bearing material should be computed using the ultimate base friction coefficients (tan δ) shown below.

Bearing Stratum	Ultimate Base Friction Coefficient (tan δ)
Glacial Till	0.31
Bedrock/Crushed Stone	0.60
RI GI and LTL	0.35

- If friction alone is not sufficient in resisting the lateral base shear forces, we recommended that consideration be given to the net passive resistance (passive minus active) provided by the in-situ fill surrounding the footings and below grade portions of foundation walls. We recommend that the passive resistance be calculated using an equivalent fluid weight (triangular distribution) of 300 pounds per cubic foot (pcf). The top of the assumed passive zone should be 1 ft below the ground surface unless it is confined by a slab. This value assumes that existing fill material present on site is free-draining and is placed and compacted in lifts during backfilling operations. Please note that the recommend passive resistance assumes that backfill used adjacent to shear wall footings is well-graded granular fill that is placed and compacted in lifts to 95 percent of its maximum dry density.
- A minimum factor of safety for sliding equal to 2.0 should be achieved for resistance of permanent lateral loads.
- We recommend that RI GI elements not be used to resist lateral base shear forces.

Based on our discussion with TT, it is our understanding that a combination of frictional resistance between the base of the footings and the underlying bearing material as well as the net passive resistance provided by the in-situ fill surrounding the footings and below grade portions of foundation walls should be sufficient in resisting lateral base shear forces and no additional lateral load resistance measures are required.

LATERAL EARTH PRESSURES ON BELOW-GRADE FOUNDATION WALLS

Based on our discussions with the project team, it is our understanding that environmentally-impacted fill soils will be generated during foundation excavation and will require either offsite disposal or onsite reuse. Because of this and because of the significant cost premium associated with offsite disposal, it is our understanding the excess fill soils will be used to backfill the space between the permanent SOE system and the lowest level of exterior building foundation wall (approximately 10 to 12 ft vertically).

We recommend that below-grade foundation walls retaining soil on one side and restrained at the top be designed to resist static lateral earth pressures based on an equivalent fluid unit weight of 63 pounds per cubic foot (pcf). Cantilever walls (i.e., walls that are free to rotate at the top) shall be designed using an equivalent fluid unit weight of 45 pcf. The fluid unit weights assume that existing fill materials generated from foundation excavation are placed in a controlled manner and are compacted in lifts adjacent to the walls. These pressures also assume a fully-drained condition exists behind the walls (i.e., perimeter foundation drainage system is installed as recommend below).

GROUND FLOOR SLAB

Based on our understanding of the proposed grading for the project as shown in the DD set of drawings, we recommend that the proposed lowest level ground floor slabs be designed as soil-supported reinforced concrete slabs-on-grade (for finished spaces) or bituminous concrete pavement sections (in parking areas). In our opinion, installation of RI GI elements and construction of a LTL are not needed to support the lowest level slabs-on-grade. Reinforced concrete slabs-on-grade should bear directly on a minimum of 12-in. thick layer of ¾-in. crushed stone or CGF overlying a prepared subgrade and should

be structurally independent of the superstructure (i.e., joint at slab/wall interface). Where bedrock is encountered within 6 in. of the slab bearing level, we recommend that the rock be over-excavated and replaced with crushed stone or CGF. All topsoil, debris and organic soils present at slab subgrade level within the slab footprint should be excavated and replaced with CGF.

The lowest level floor slab generally located between column lines A and B (Level 4) will need to be designed as a structural slab due to the FFE of the slab, the difference in bearing level of the foundations along column lines A and B and proximity to the permanent SOE system.
Based on conversations with the project team, we understand that a bituminous concrete surface is planned for the ground floor slab in the Level 1 parking area. We recommend that the bituminous concrete surface bear directly on subbase and base course materials placed on top of prepared in-situ fill or marine deposit (subgrade) soils. Please note that bituminous concrete placed within a partially enclosed space inside a building footprint could be considered a potential fire hazard and may not be allowed by the building code official.

FOUNDATION DRAINAGE

We recommend that a perimeter foundation and underslab drainage system be installed around and within portions of the proposed Block Four building where excavation is needed to reach the proposed ground floor level. The system will generally include the following:

- A network of 4-in. diameter (underslab drain) and 6-in. diameter (perimeter foundation drain), perforated PVC pipes.
- Drain pipes laid flat with perforations oriented down and embedded mid-depth in a 12-in. (underslab drain) or 18-in. (perimeter foundation drain) thick layer of ¾-in. crushed stone; stone layer fully encapsulated in a geosynthetic separation fabric (e.g., Mirafi 160N). The underslab drain pipes should be located below the proposed subgrade level (i.e., below the bottom of the proposed pavement section).
- Drain pipes should ideally drain by gravity and tie into the existing/proposed stormwater drainage system. The details of how the foundation drainage systems connect to site drainage systems will need to be coordinated with W&C prior to finalizing the CDs.

Haley & Aldrich has been retained to design the perimeter foundation and underslab drainage system and will coordinate with the project team to incorporate the design requirements into the CDs. We are currently in the process of developing the initial foundation drainage plans for the permanent SOE system submission.

In addition, surface runoff should be directed away from the buildings. In general, the finished ground surface immediately around the building should be sloped downward away from the structure. To limit surface water infiltration adjacent to the buildings, it is recommended that the upper 8 in. of backfill within 10 ft of the buildings, in unpaved areas, consist of topsoil or other soil having low permeability.

DAMPPROOFING/WATERPROOFING/VAPOR BARRIERS

In general, based on our review of the proposed site development, we recommend that all below grade foundation walls be dampproofed.

Based on the proposed buildings usage/occupancy as well as the man-placed nature of the near-surface, in-situ soils present at the site, we recommend that a vapor barrier be placed below the proposed floor slab in any finished (non-parking garage) space. We assume that the parking garage space will be well ventilated. The floor slab design and construction should be coordinated with the vapor barrier installer, as the barrier may impact concrete curing and curling.

Construction Considerations

The primary purpose of this section is to comment on items related to geotechnical aspects of the proposed construction. It is written primarily for the geotechnical engineer having responsibility for preparation of geotechnical related plans and specifications. Since it identifies potential construction problems related to foundations and earthwork, it will also aid personnel who monitor the construction activities. Prospective contractors for this project must evaluate the construction problems on the basis of their own knowledge and experience in the Portland, Maine area, and on the basis of similar projects in other localities, taking into account their proposed construction methods, procedures, equipment and personnel.

BEDROCK EXCAVATION

Based on the anticipated bearing level of the spread footings in the southeastern portion of the proposed Parking Garage/Residential building footprint we anticipate that up to approximately 10 ft of bedrock will need to be removed to construct the foundations. In general, rock removal will be required in the southeastern portion of the Block Four footprint. In addition, and as noted above, minor bedrock excavation (i.e., up to approximately 6 in.) will be required where bedrock is present at or above the proposed bottom of footing level. Please refer to Table I for additional information on column locations that will require rock removal.

Based on our review of the bedrock encountered in the subsurface explorations and our experience with similar bedrock types in the Portland area, we anticipate that the upper 2 to 3 ft (approximate) of bedrock could be excavated using conventional earth moving equipment, such as a large excavator outfitted with a hoe-ram. The remaining portion of the bedrock excavation will likely require the use of controlled drilling/blasting techniques.

Based on the depth of rock requiring removal and the plan location of the permanent SOE system, we anticipate that pre-splitting (line drilling) will be required in the southeastern portion of the Parking Garage/Residential building to minimize over-break beyond where the permanent SOE system will be located.

We recommend that a pre-construction survey of adjacent properties and nearby utilities be completed prior to the start of construction. The purpose of the survey is to inspect the site area and existing adjacent buildings to identify potentially vibration sensitive structures, equipment and/or utilities. The survey will also aid in determining limiting vibration criteria that should be established to protect the existing structures, equipment and/or utilities. The need for a geotechnical instrumentation program consisting of crack gages, vertical monitoring points and seismographs should be evaluated during CD development and after the pre-construction survey(s) have been completed. The geotechnical instrumentation program, if needed, should be designed, and implemented to monitor the existing structures, equipment and/or adjacent utilities during construction.

PREPARATION OF CONTRACT DOCUMENTS AND SUBMITTAL REVIEWS

The Contract Documents (plans and specifications) should be written so that the requirements of the documents are consistent with the design intent of the geotechnical recommendations outlined herein. Because of this Haley & Aldrich has been retained to prepare and/or assist the project team in the preparation of the CDs related to the following topics:

- Existing Subsurface Conditions
- Earthwork
- Blasting
- Temporary Dewatering
- Permanent Support of Excavation (soil nail wall)
- Foundation Drainage System
- Rigid Inclusion Ground Improvement

The CDs will require the Contractor and/or the Contractor's engineer to perform analyses and submit results to the designers for review (e.g., blasting, rigid inclusion ground improvement). The design team should be allowed to review the geotechnical-related submittals to ensure that the Contractor's analyses/submittals are in accordance with the intent of the design as outlined herein and ultimately in the CDs. This will enable us to observe compliance with the design concepts, assumptions and specifications, and to facilitate design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

CONSTRUCTION MONITORING

The recommendations contained herein are based on the predictable behavior of a properly engineered and constructed foundation. Monitoring of the foundation construction is required to enable the geotechnical engineer-of-record to verify that the procedures and techniques used during construction are in accordance with the recommendations contained herein and the Contract Documents. Therefore, it is recommended that a geotechnical engineer or experienced technician be present during construction to:

- Install, initialize and monitor geotechnical instrumentation related to the permanent SOE system and blasting.

- Observe and document the construction of the permanent SOE system.
- Observe drilling and blasting and monitor with seismographs.
- Observe and document the installation of RI GI elements, excavation and subgrade preparation and LTL construction.
- Observe final excavation to subgrade and approve foundation and floor slab subgrade surfaces prior to fill placement/foundation construction.
- Observe installation of the foundation drainage system.

We recommend that Haley & Aldrich be retained to provide these services.

Limitations

This memorandum has been prepared for the exclusive use of PFDC relative to the Foreside Block Four Building in Portland, Maine. There are no intended beneficiaries other than PFDC. 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 PFDC for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from PFDC and from Haley & Aldrich. Use of this memorandum by such other person or entity without the written authorization PFDC 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 PFDC, for a purpose other than the Foreside Block Four Building 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.

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 design recommendations presented in this memorandum.

Attachments:

Table I – Recommended Building Foundation Support
Figure 1 - Project Locus
Figure 2 - Anticipated Foundation Support Plan

TABLE I
Recommended Building Foundation Support
Foreside Block Four Development
58 Fore Street
Portland-Maine

Haley & Aldrich-Inc. File No.: 39486-881

Column Location[1]	Lowest Finished Floor Elevation[2,6]	Recommended Bottom of Foundation Elevation[3,6]	Recommended Foundation Support Type[1,4]	Rock Removal Required[5] (Y/N [Approx. Depth])	Overexcavation Required[5] (Y/N [Approx. Depth])	Comments
A-0.5	31.0	24.0	Micropiles	N	N	Level 2 Townhouses
A-1	50.3	25.0	Micropiles	N	N	Level 4 Garage
A-2	50.3	25.0	Micropiles	N	N	Level 4 Garage
A-3	50.3	33.0	Micropiles	N	N	Level 4 Garage
A-T7	50.3	35.0	Micropiles	N	N	Level 4 Garage
A-4.5	50.3	35.0	Micropiles	N	N	Level 4 Garage
A-5	50.3	38.0	Micropiles	N	N	Level 4 Garage
A-T10	50.3	41.0	Micropiles	N	N	Level 4 Garage
A-6.5	50.3	41.0	Footings on Till	N	N	Level 4 Garage
A-7	50.3	42.0	Footings on Till	N	N	Level 4 Garage
A-8	50.3	44.0	Footings on Till	N	N	Level 4 Garage
A-8.7	50.3	45.0	Footing on Till	N	N	Level 4 Garage
A-9.5	50.3	45.0	Footing on Till	N	N	Level 4 Garage
A-10	50.3	45.0	Footing on Till	N	N	Level 4 Garage
A-10.7	50.3	45.0	Footing on Till	N	N	Level 4 Garage
A-11.5	50.3	45.0	Footing on Till	N	N	Level 4 Garage
A-12	50.3	45.0	Footing on Till	N	N	Level 4 Garage
A-13	50.3	45.0	Footing on Till	N	N	Level 4 Garage
WA.1-12	50.3	45.0	Footing on Till	N	N	Level 4 Garage
WB-2	15.0	7.5	Footing on Till	N	Y (3 ft)	Level 1 Garage
A.5-0.5	15.0	8.0	Footing on Till	N	Y (2-3 ft)	Level 1 Garage
WX-0.5	15.0	7.5	Footing on Till	N	Y (2-3 ft)	Level 1 Garage
WX-1	15.0	7.0	Footing on Till	N	Y (3-4 ft)	Level 1 Garage
WX-2	15.0	7.5	Footing on Till	N	Y (3 ft)	Level 1 Garage
B-2	15.0	7.5	Footing on Till	N	Y (3 ft)	Level 1 Garage
B-3	15.0	6.0	Footing on Rock	N	Y (4-5 ft)	Level 1 Garage. Adjacent to Level 1 Garage elevator pit footing
B-5	16.5	9.0	Footing on Rock	N	Y (3 ft)	Level 1/Level 2 Garage Ramp
B-7.9	22.5	17.5	Footing on Till	N	N	Level 1/Level 2 Garage Ramp
B-11	27.5	23.0	Footing on Till	N	N	Level 2 Garage
B-13	38.0	33.5	Footing on Till	N	N	Level 3 Garage
C-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
C-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Garage
C-4	15.0	7.0	Footing on Rock	N	Y (3-4 ft)	Level 1 Garage
C-5	16.5	7.5	Footing on Rock	N	Y (4-5 ft)	Level 1/Level 2 Garage Ramp
C-6	18.5	13.5	Footing on GI	N	N	Level 1/Level 2 Garage Ramp
C-7	20.5	15.5	Footing on GI	N	N	Level 1/Level 2 Garage Ramp
C-7.9/8	22.5	17.5	Footing on Till or GI	N	N	Level 1/Level 2 Garage Ramp
C-9	24.5	19.5	Footing on Till	N	N	Level 1/Level 2 Garage Ramp
C-10	27.0	22.0	Footing on Till	N	N	Level 1/Level 2 Garage Ramp
C-11	27.5	23.0	Footing on Till	N	N	Level 2 Garage
C-13	38.0	33.5	Footing on Till	N	N	Level 3 Garage
WD-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WD-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Garage
WE-3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
D-4	15.0	10.5	Footing on GI	N	N	Level 1 Garage
D-5	16.5	9.0	Footing on Till or GI	N	N	Level 1/Level 2 Garage Ramp
D-6	18.5	10.0	Footing on Till	N	N	Level 1/Level 2 Garage Ramp
D-7	20.5	10.0	Footing on Till	N	N	Level 1/Level 2 Garage Ramp
D-7.9/8	22.5	7.5	Footing on Till	N	Y (2-3 ft)	Level 1/Level 2 Garage Ramp
D-9	24.5	7.0	Footing on Till	N	Y (2-3 ft)	Level 1/Level 2 Garage Ramp
D-10	27.0	7.0	Footing on Rock	N	N	Level 1/Level 2 Garage Ramp
D-11	27.5	9.0	Footing on Rock	N	N	Level 2 Garage
D-13	38.0	26.0	Footing on Till	N	N	Level 3 Garage
WF-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WF-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Garage
E-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Garage
E-2	15.0	10.5	Footing on GI	N	N	Level 1 Garage
E-3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
E-4	15.0	10.5	Footing on GI	N	N	Level 1 Garage
E-5	13.5	9.0	Footing on Till or GI	N	N	Level 1 Garage
E-7.9	12.0	7.5	Footing on Till	N	Y (2-3 ft)	Level 1 Garage
E-9	11.5	7.0	Footing on Till	N	N	Level 1 Garage
E-10	10.5	7.0	Footing on Rock	N	N	Level 1 Garage
E-11	10.5	7.0	Footing on Rock	Y (2-4 ft)	N	Level 1 Garage
E-12	27.5	17.0	Footing on Till	N	N	Level 2 Garage
E-13	26.3	22.0	Footing on Till	N	N	Level 2 Garage
WG-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
F-4	15.0	10.5	Footing on GI	N	N	Level 1 Garage
F-5	13.5	9.0	Footing on Till or GI	N	N	Level 1 Garage
F-6	13.0	8.5	Footing on Till or GI	N	N	Level 1 Garage
F-7	12.5	8.0	Footing on Till	N	N	Level 1 Garage
F-7.9/8	12.0	7.5	Footing on Till	N	Y (2-3 ft)	Level 1 Garage
F-9	11.5	7.0	Footing on Till	N	N	Level 1 Garage
F-10	11.0	7.0	Footing on Rock	N	N	Level 1 Garage
F-11	10.5	7.0	Footing on Rock	Y (2-4 ft)	N	Level 1 Garage
F-13	27.5	21.0	Footing on Till	N	N	Level 2 Garage
WH-3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
WK-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WK-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WJ-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WJ-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WL-2	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WL-3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
G-4	15.0	10.5	Footing on GI	N	N	Level 1 Garage
G-5	13.5	3.5	Footing on GI	N	N	Level 1 Garage. Adjacent to Level 1 Garage elevator pit footing
G-6	13.0	3.5	Footing on GI	N	N	Level 1 Garage. Adjacent to Level 1 Garage elevator pit footing
G-7	12.5	8.0	Footing on Till	N	N	Level 1 Garage
G-7.9/8	12.0	7.5	Footing on GI	N	N	Level 1 Garage
G-9	11.5	7.0	Footing on GI	N	N	Level 1 Garage
G-10	10.5	6.0	Footing on Rock	N	N	Level 1 Garage
G-11	10.5	6.5	Footing on Rock	Y (5-6 ft)	N	Level 1 Garage
G-13	27.5	17.5	Footing on Till	N	N	Level 2 Garage
WM-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WM-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Retail
H-11	10.5	6.5	Footing on Rock	Y (3-4 ft)	N	Level 1 Garage
H-13	27.5	17.0	Footing on Till	N	N	Level 2 Garage. Level 2 elevator pit footing
J-W2	15.0	10.5	Footing on GI	N	N	Level 1 Garage
J-R1	15.0	10.5	Footing on GI	N	N	Level 1 Garage
J-5/R2	13.5	3.5	Footing on GI	N	N	Level 1 Garage. Adjacent to Level 1 Garage elevator pit footing
J-R3	13.0	3.5	Footing on GI	N	N	Level 1 Garage. Adjacent to Level 1 Garage elevator pit footing
J-7.2	17.75	13.0	Footing on GI	N	N	Level 1 Retail
J-7.9/8	17.75	10.0	Footing on GI	N	N	Level 1 Retail
J-R4	21.0	13.0	Footing on GI	N	N	Level 1/Level 2 Retail
J-9	21.0	13.0	Footing on GI	N	N	Level 1/Level 2 Retail

TABLE I
Recommended Building Foundation Support
Foreside Block Four Development
58 Fore Street
Portland-Maine

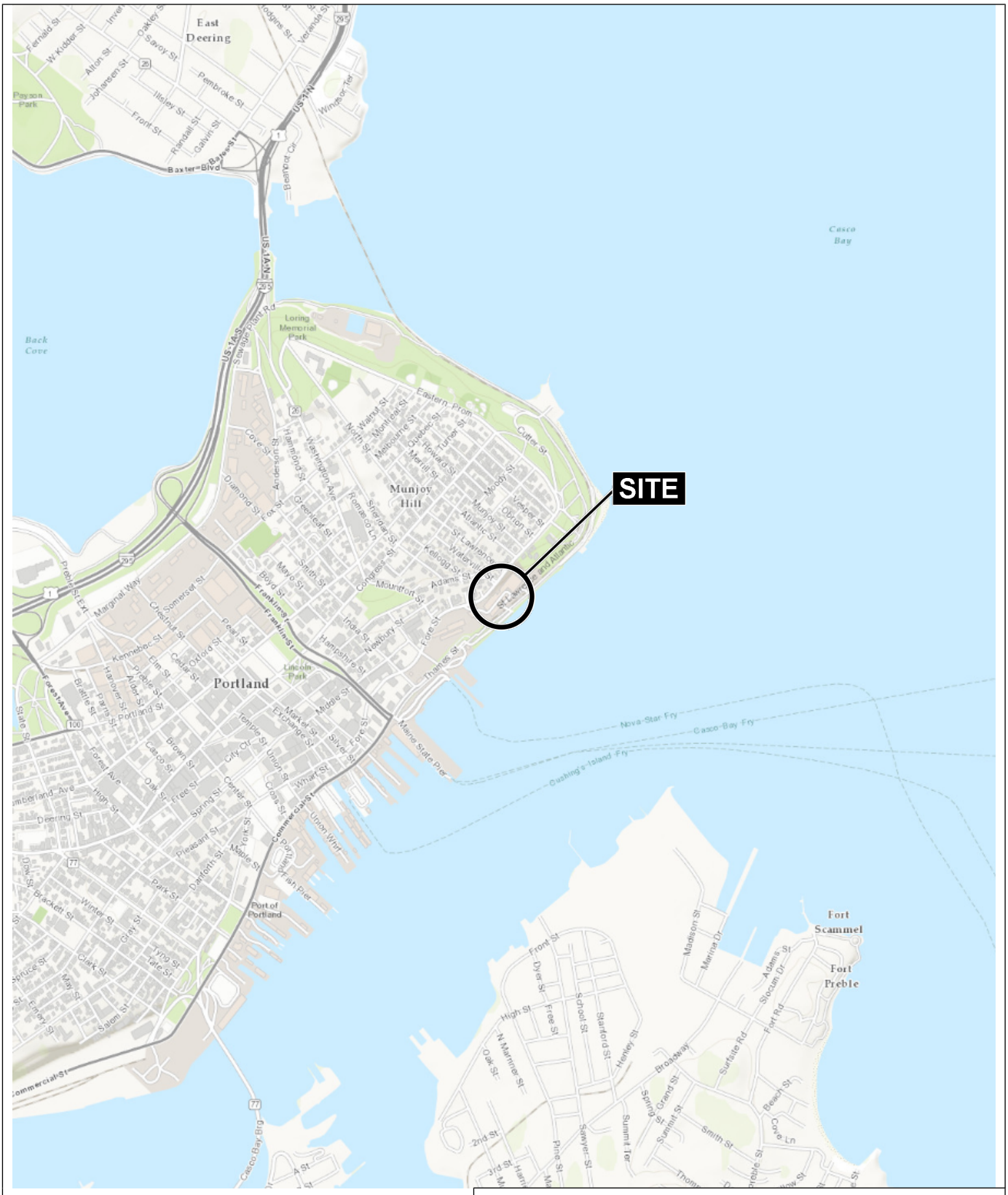
Haley & Aldrich-Inc. File No.: 39486-881

Column Location[1]	Lowest Finished Floor Elevation[2,6]	Recommended Bottom of Foundation Elevation[3,6]	Recommended Foundation Support Type[1,4]	Rock Removal Required[5] (Y/N [Approx. Depth])	Overexcavation Required[5] (Y/N [Approx. Depth])	Comments
J-R5	11.0	7.0	Footing on Till	N	N	Level 1 Garage
J-W8	10.5	6.5	Footing on Rock	Y (1-2 ft)	N	Level 1 Garage
J-11	10.5	6.5	Footing on Rock	Y (3-4 ft)	N	Level 1 Garage
J-13	27.5	17.0	Footing on Till	N	N	Level 2 Garage
WN-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WN-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WN-2	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WN-3	15.0	5.0	Footing on GI	N	N	Level 1 Garage. Adjacent to Level 1 Garage elevator pit footing
WN.5-W5	17.75	13.0	Footing on GI	N	N	Level 1 Retail
WP-1	15.0	10.0	Footing on GI	N	N	Exterior wall footing. Estimated exterior GS El 14.5. Level 1 Retail
WP-1.8	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WP-W3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
WP-R2	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WP-R3	15.0	10.5	Footing on GI	N	N	Level 1 Retail
WP-6.5	17.75	13.0	Footing on GI	N	N	Level 1 Retail
K-2	15.0	10.5	Footing on GI	N	N	Level 1 Retail
K-3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
K-W2	15.0	10.5	Footing on GI	N	N	Level 1 Garage
K-W3	15.0	10.5	Footing on GI	N	N	Level 1 Garage
K-5/W4	15.0	10.5	Footing on GI	N	N	Level 1 Retail
K-R2	15.0	10.5	Footing on GI	N	N	Level 1 Retail
K-R3	15.0	10.5	Footing on GI	N	N	Level 1 Retail
K-7.2	17.75	13.0	Footing on GI	N	N	Level 1 Retail
K-7.9/8	17.75	13.0	Footing on GI	N	N	Level 1 Retail
K-W6	21.0	13.0	Footing on GI	N	N	Level 1/Level 2 Retail
K-W7	21.0	10.0	Footing on Till or GI	N	N	Level 1/Level 2 Retail
K-11/R6	10.0	6.0	Footing on Rock	Y (1-2 ft)	N	Level 1 Podium Space
K-12	10.0	6.0	Footing on Rock	Y (4-6 ft)	N	Level 1 Podium Space
K-13	10.0	6.0	Footing on Rock	Y (8-10 ft)	N	Level 1 Podium Space

Notes:
[1] - Refer to Figure 2, Anticipated Foundation Support Plan, which graphically shows column locations and anticipated foundation support types. Column locations based on precast concrete garage superstructure.
[2] - Interpreted by Haley & Aldrich based on the interim Design Development drawings prepared by Perkins & Will and Thornton Tomasetti, dated 3 February 2023.
[3] - Interpreted by Haley & Aldrich based on the interim Design Development (DD) drawings prepared by Thornton Tomasetti, dated 3 February 2023. In some instances the bottom of foundation elevations shown on the interim DD drawings were raised or lowered by Haley & Aldrich, Inc. based on the lowest finished floor elevations shown and discussions with Thornton Tomasetti.
[4] - "GI" refers to rigid inclusion ground improvement elements and a load transfer layer. "Till" refers to naturally-deposited glacial till. Refer to design memorandum text for design recommendations.
[5] - Determined by Haley & Aldrich based on the assumed bottom of foundation elevations shown and the subsurface conditions present at specific column locations and should be considered approximate. Rock removal depths do not include the additional 6 in. that is recommended be removed from below the bottom of the footings as stated in the GDM.
[6] - Elevations are measured in feet and reference the Portland City Datum (PCD).

	Individual	Date
Prepared By:	TPJ	11/17/2022
Checked By:	WAC	11/17/2022
Reviewed By:	BCS	11/18/2022

REV TPJ/WAC 2/16/23



MAP SOURCE: ESRI

SITE COORDINATES: 43°39'46"N, 70°14'38"W



HALEY ALDRICH

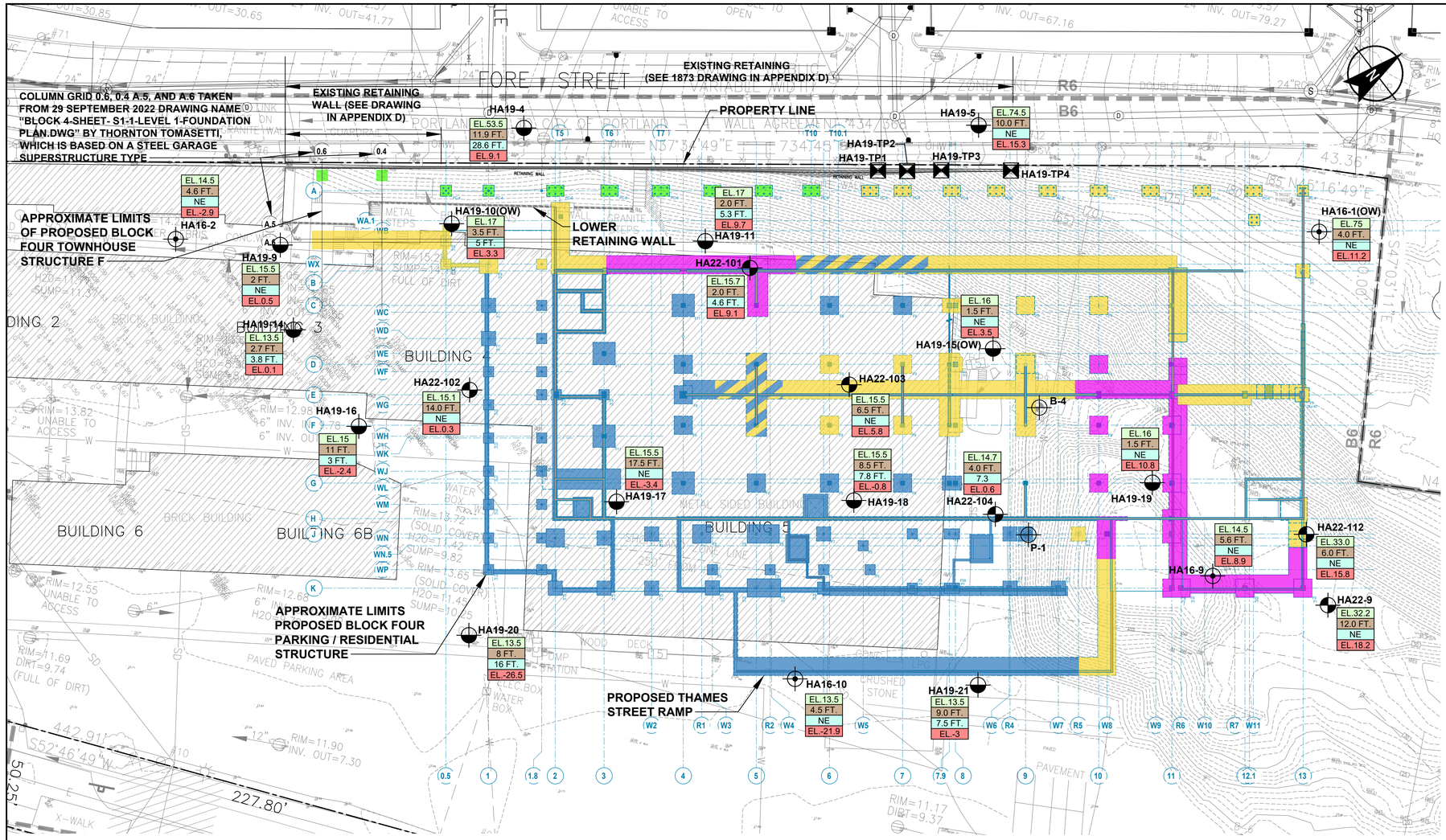
FORESIDE BLOCK FOUR DEVELOPMENT
58 FORE STREET
PORTLAND, MAINE

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
OCTOBER 2022

FIGURE 1

39486-872_1_LOCUS.PDF



LEGEND

- **HA22-1 / HA22-101** — DESIGNATION AND LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF HERMON, MAINE (HA22-1 SERIES) AND NORTHERN TEST BORINGS, INC. OF GORHAM, MAINE (HA22-100 SERIES) UNDER THE DIRECTION OF HALEY & ALDRICH, INC. IN MARCH AND APRIL 2022 (HA22-1 SERIES) AND SEPTEMBER 2022 (HA22-100 SERIES)
- **HA19-TP1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT HAND-EXCAVATED BY PORTLAND FORESIDE DEVELOPMENT COMPANY AND OBSERVED BY HALEY & ALDRICH, INC. ON 10 DECEMBER 2019
- **HA19-1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF LONDONDERRY, NEW HAMPSHIRE UNDER THE DIRECTION OF HALEY & ALDRICH IN JANUARY AND FROM MAY TO JULY 2019
- **HA16-1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS OF LONDONDERRY, NEW HAMPSHIRE UNDER THE DIRECTION OF HALEY & ALDRICH DURING THE PERIOD 13 DECEMBER 2016 TO 5 JANUARY 2017
- **B-3 / P-1** — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING AND AUGER PROBE DRILLED BY GREAT WORKS TEST BORING, INC. OF ROLLINGSFORD, NEW HAMPSHIRE UNDER THE DIRECTION OF S.W. COLE ENGINEERING INC. DURING THE PERIOD 24 TO 26 SEPTEMBER 2007
- **(OW)** — INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE

EXPLORATION DATA BOX

EL. 75 — APPROXIMATE GROUND SURFACE ELEVATION
4.0 FT. — APPROXIMATE FILL THICKNESS
NE — APPROXIMATE MARINE DEPOSIT THICKNESS
EL.11.2 — APPROXIMATE TOP OF WEATHERED BEDROCK OR BEDROCK ELEVATION, WHICHEVER IS HIGHER

"NE" DENOTES STRATUM NOT ENCOUNTERED

ANTICIPATED FOUNDATION SUPPORT LEGEND

- SPREAD FOOTINGS BEARING ON GLACIAL TILL
- SPREAD FOOTINGS BEARING ON ROCK / CRUSHED STONE PAD ON ROCK
- DRILLED-IN ROCK SOCKETED MICROPILES AND PILE CAP
- SPREAD FOOTINGS BEARING ON RIGID INCLUSION GROUND IMPROVEMENT ELEMENTS AND A LOAD TRANSFER LAYER

NOTES

1. BASE PLAN CREATED BY HALEY & ALDRICH, INC. USING THE FOLLOWING REFERENCES:
   a. EXISTING GROUND SURFACE ELEVATION CONTOURS AND THE LOCATION AND ORIENTATION OF EXISTING SITE FEATURES ARE TAKEN FROM THE CAD FILE ENTITLED "XR_EX BASE 2022 (COMPILED).DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 2 MAY 2022.
   b. LOCATION AND ORIENTATION OF THE EXISTING FORE STREET RETAINING WALL TAKEN FROM THE CAD FILE ENTITLED "XR_0232341 EXBASE.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 30 OCTOBER 2019.
   c. LOCATION AND ORIENTATION OF EXISTING STRUCTURES OCCUPYING THE TRETTEL PROPERTY ARE TAKEN FROM THE CAD FILE ENTITLED "PFDC MASTER SITE PLAN V3.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 29 MARCH 2022.
   d. LOCATION OF "B-4" AND "P-1" EXPLORATIONS COMPLETED UNDER THE DIRECTION OF S.W. COLE ENGINEERING, INC. IN SEPTEMBER 2007 ARE TAKEN FROM THE CAD FILE ENTITLED "XR_227007.03-X00C.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 2 AUGUST 2016.
   e. PROPOSED BUILDING LAYOUT, IS TAKEN FROM THE CAD FILES ENTITLED "BLOCK 4-SHEET- S1-1-LEVEL 1-FOUNDATION PLAN.DWG", "BLOCK 4-SHEET-S1-2-LEVEL 2 FRAMING PLAN.DWG", "BLOCK 4-SHEET-S1-3-LEVEL 3 FRAMING PLAN.DWG" AND "BLOCK 4-SHEET-S1-4-LEVEL 4 FRAMING PLAN.DWG" PROVIDED BY THORNTON TOMASETTI OF PORTLAND, MAINE ON 7 FEBRUARY 2023.
2. THE PLAN LOCATION AND ORIENTATION OF THE EXISTING STRUCTURES OCCUPYING THE TRETTEL PROPERTY WERE DETERMINED BY SCALING AND ROTATING REFERENCE DRAWING 1C USING EXISTING PROPERTY LINE INFORMATION AND IS CONSIDERED APPROXIMATE.
3. THE PROPOSED BUILDING LAYOUT WAS DETERMINED BY SCALING AND ROTATING REFERENCE DRAWINGS 1E USING THE EXISTING LOWER RETAINING WALL INFORMATION THAT IS PRESENT IN THE VICINITY OF THE TOWNHOUSE AND IS CONSIDERED APPROXIMATE.
4. THE LOCATION OF GAS, SANITARY AND STORM SEWERS IN FORE STREET ARE TAKEN FROM THE CAD FILE ENTITLED "XR_FORE AS BUILT.DWG" PROVIDED BY WOODARD & CURRAN OF PORTLAND, MAINE ON 4 OCTOBER 2022."
5. THE PLAN LOCATIONS OF "HA16" AND "HA19" SERIES TEST BORINGS WERE DETERMINED BY TAPING DISTANCES TO/FROM EXISTING SITE FEATURES AND ARE CONSIDERED APPROXIMATE. THE PLAN LOCATIONS OF "HA22" SERIES TEST BORINGS WERE DETERMINED BY OWEN HASKELL, INC. USING GPS SURVEY EQUIPMENT UPON THE COMPLETION OF DRILLING.
6. GROUND SURFACE ELEVATIONS AT "HA16" AND "HA19" SERIES TEST BORINGS WERE DETERMINED BY HALEY & ALDRICH, INC. BY INTERPOLATING BETWEEN EXISTING GROUND SURFACE TOPOGRAPHIC CONTOUR INFORMATION AVAILABLE AT THE TIME THE TEST BORINGS WERE COMPLETED AND ARE CONSIDERED APPROXIMATE.
7. GROUND SURFACE ELEVATIONS AT "HA22" SERIES TEST BORINGS WERE DETERMINED BY OWEN HASKELL, INC. USING GPS SURVEY EQUIPMENT UPON THE COMPLETION OF DRILLING.
8. ELEVATIONS ARE FEET AND REFERENCE PORTLAND CITY DATUM.
9. REFER TO TABLE I FOR ADDITIONAL FOUNDATION SUPPORT INFORMATION AND ASSUMPTIONS.
10. THIS PLAN HAS BEEN UPDATED TO INCLUDE A COLUMN GRID AND FOUNDATION PLAN REPRESENTATIVE OF THE PRECAST CONCRETE PARKING GARAGE SUPERSTRUCTURE PROVIDED BY THORNTON TOMASETTI (SEE NOTE 1e). THE COLUMN GRID AND FOUNDATION PLAN SHOWN WAS LOCATED BY HALEY & ALDRICH BY ASSUMING THAT THE PLAN LOCATION OF COLUMN LINE A AND COLUMN LINE 13 WERE UNCHANGED FROM WHAT WAS SHOWN PREVIOUSLY FOR THE STEEL PARKING GARAGE SUPERSTRUCTURE.

0 30 60 90 120
SCALE IN FEET

HALEY ALDRICH

FORESIDE BLOCK FOUR DEVELOPMENT
58 FORE STREET
PORTLAND, MAINE

ANTICIPATED FOUNDATION SUPPORT PLAN

SCALE: AS SHOWN
FEBRUARY 2023

FIGURE 2

Printed: 2/17/2023 3:47 PM
Sheet: D027
Saved by: TAM
\\HALEYALDRICH.COM\SHARE\CP\PROJECTS\39486\GLOBAL CAD\39486-881-D027.DWG

REVOCABLE ENCROACHMENT LICENSE

This Revocable Encroachment License (hereinafter "License") is made and entered into by and between the City of Portland (hereinafter, "City"), a Maine body corporate and politic, with a mailing address of 389 Congress Street, Portland, Maine 04101 and PF Land LLC, a Maine corporation with a mailing address of 110 Thames Street, Portland Maine (hereinafter, "Licensee"), owner of the real property located at 58 Fore Street, Portland, Maine 04101 by virtue of a deed recorded in the Cumberland County Registry of Deeds at Book 37297, Page 78 (the "Property").

RECITALS

WHEREAS, Licensee is the owner of the Property, which is more particularly described in the legal description attached as Exhibit A, hereto; and

WHEREAS, Licensee desires to construct/place and maintain certain improvements consisting of building foundation footings (the "Encroachment") which will encroach into/over real property owned by the City, as depicted on the plan entitled "_____ _____", dated _____, 2023, a copy of which is attached hereto as Exhibit B and incorporated herein by reference (the "Plan"); and

WHEREAS, the Encroachment design was approved by the Planning Board in a Major Site Plan approved on _____, 2023, a copy of which is attached hereto as Exhibit C and incorporated herein by reference (the "Site Plan"); and

WHEREAS, the area occupied by said Encroachment is referred to herein as the "Licensed Area"; and

WHEREAS, the City will allow the Encroachment to encroach into the Licensed Area under the terms and conditions set forth in this License.

NOW, THEREFORE, the City and Licensee agree as follows:

1. Licensee is hereby permitted to bring upon the Licensed Area and areas adjacent thereto workers, materials and machinery necessary to install and maintain the Encroachment over the Licensed Area as shown on the Plan.

2. Licensee is hereby permitted to occupy the Licensed Area only for the purpose of carrying out the installation and maintenance of the Encroachment pursuant to the terms of this License and in accordance with the Plan. Such work shall not substantially interfere with the City's use and maintenance of the Licensed Area.

3. All work performed upon and use of the Licensed Area for the purposes set forth herein shall be at Licensee's sole cost and expense (unless otherwise agreed in writing), the parties acknowledging that there may be temporary interruptions in enjoyment of the City's

property adjacent to the Licensed Areas related to the conduct of any work related to this License. Licensee agrees at its sole expense to restore any portion of the Licensed Areas and adjacent City property affected by work conducted by Licensee under this License to substantially the same condition that it was in prior to such work or as close to that condition as is reasonably practicable. To the extent said adjacent City property is to be reconstructed in accordance with the Approved Site Plan, the adjacent property shall be restored consistent with the Site Plan. Licensee, its successors and assigns, shall defend, indemnify and hold the City, its officers, agents, and employees harmless from any and all claims, including but not limited to claims for damage to City property and reasonable attorney's fees, which arise out of Licensee's use, or the use of Licensee's contractors, of the City's property as described above during the term of the License. The Licensee's obligation to defend, indemnify and hold the City harmless shall survive termination or revocation of this License.

4. Licensee shall be responsible for the proper maintenance of the Encroachment. In the event of damage to the Encroachment and/or the Licensed Area, Licensee shall promptly repair/restore the same. Prior to such repair/restoration, Licensee shall notify the City (in writing and by telephone) at least forty-eight hours before it plans to conduct such repair or restoration and shall work with City staff on the closure, if needed, of any City streets in the vicinity of the property in order to conduct such repair/restoration.

5. Upon prior written notice to Licensee, except in the case of an emergency, Licensee agrees that City may enter and utilize the Licensed Area at any time for the purpose of installing, repairing, replacing, or maintaining improvements to its public facilities or utilities necessary for the health, safety and welfare of the public or for any other public purpose. City shall bear no responsibility or liability for any damage or disruption or other adverse consequences resulting from the Encroachment installed by Licensee, but City will make reasonable efforts to minimize such damage. In the event that any installation, reinstallation, relocation or repair of any existing or future utility or improvements owned by, constructed by or on behalf of the public or at public expense is made costlier by virtue of the construction, maintenance or existence of the Encroachment and use, Licensee shall pay to City an amount equal to such additional cost as reasonably determined by the Director of Public Works or said Director's duly authorized representatives.

6. Licensee agrees, binds and obligates itself, its successors and assigns to procure and maintain throughout the term of this License automobile and comprehensive general liability insurance in the minimum amount of Four Hundred Thousand Dollars ($400,000) (or the amount stated in the Maine Tort Claims Act, as may be amended from time to time) per occurrence for bodily injury, death, or property damage covering its activities hereunder and naming the City as an additional insured thereon. In addition, Licensee shall provide evidence of Workers' Compensation insurance in the statutory amount to the extent it may be required by law. Certificates evidencing such policies shall be delivered to the City and shall provide the City with no less than thirty (30) days prior notice of cancellation or non-renewal. All insurance coverage required herein shall include coverage of all Licensees' contractors and subcontractors.

7. Licensee, by execution of this License, hereby agrees to assume and hereby does assume responsibility for any and all claims and/or damage to persons or property arising out of or in any way related to Licensee's exercise of the rights granted by this License, and does hereby forever waive, release, relinquish, remise, indemnify and discharge the City, its agents, employees, successors and assigns from and against any and all losses, costs or expenses (including reasonable attorneys' fees), damages, demands, liabilities, claims, actions, causes of action, suits, or judgments (collectively, "Claims") whatsoever of every name and nature, in law and in equity, including without limitation those related in any manner to any accident or injury to, or death of, any person, or any damage to property occurring on, in or in the vicinity of the area covered by this License, arising out of the presence in and use by the Licensee of the area covered by this License.

8. This License is assignable to any subsequent owners of the property depicted on the Plan, and in the event of such assignment, Licensee shall notify the City of such assignment no fewer than 10 days prior to the effective date of such assignment.

9. This License, and all of the rights and obligations herein, shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors and assigns.

10. The City may revoke this License six (6) months after receipt by the Licensee of written notice that an Event of Revocation (as defined below) has occurred, identifying such Event of Revocation, provided that such Event of Revocation is not cured within six (6) months after Licensee's receipt of such notice, except as set forth in subsection (d) below. "Event of Revocation" shall mean:

    a) Licensee's non-compliance with any of the terms of this Agreement;

    b) the building shown on the Plan fails to be constructed substantially in accordance with the Plan or any amendments thereto;

    c) the building as shown on the Plan is destroyed, removed or otherwise thereafter ceases to exist on Licensee's property and construction to rebuild said building has not begun within twelve (12) months of said destruction or removal, or

    d) failure to maintain insurance as required under Section 6 above, and such failure is not remedied within thirty (30) days after written notice thereof.

11. Any notice of an Event of Revocation delivered pursuant to Section 10 of this License must be sent by certified mail, return receipt requested to the Licensee at the address first set forth above, or at such other address as the Licensee may provide to the City in writing from time to time.

12. Notwithstanding any other provision herein, in the event that a notice of an Event of Revocation is delivered to Licensee, any mortgagee of Licensee's property shall be entitled to cure the matter set forth in such notice within the time frames set forth in Section 10

hereof, and the City agrees to accept such performance by any such mortgagee of Licensee's obligations hereunder.

IN WITNESS WHEREOF, the City of Portland has caused this License to be executed by Brendan O'Connell, its Finance Director thereunto duly authorized, and PF Land LLC has caused this License to be executed by Casey Prentice, its Manager thereunto duly authorized, as of the day and year first written above.

CITY OF PORTLAND

_____
By: Brendan O'Connell
Its Finance Director

PF Land LLC

_____
By: Casey Prentice
Its Manager

STATE OF MAINE
CUMBERLAND, ss.

_____, 2023

Then personally appeared the above-named Brendan O'Connell, Finance Director of the City of Portland, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said City of Portland.

Before me,

_____
Notary Public/Attorney at Law

STATE OF MAINE
CUMBERLAND, ss.

_____, 2020

Then personally appeared the above-named Casey Prentice, Manager of PF Land LLC, as aforesaid, and acknowledged the foregoing to be his free act and deed in his said capacity, and the free act and deed of said limited liability company.

Before me,

_____
Attorney-at-Law/Notary Public

EXHIBIT A

(Legal Description of Licensee's Property)

EXHIBIT B

(Plan Depicting the Licensed Area and Encroachment)

EXHIBIT C

(Site Plan)

Portland Foreside Development

Transportation Demand Management Plan (Updated)

PREPARED FOR

FORESIDE/

Portland Foreside Development Co.
254 Commercial Street, Suite 105
Portland, ME 04101

PREPARED BY

500 Southborough Drive
South Portland, Maine 04106
207.889.3150

May 26, 2023

Table of Contents

- Introduction 2

  Program Summary and Project Status 3

- Mobility Context 4

  Walking and the Pedestrian Environment 4
  Bicycling Environment and Infrastructure 6
  Public Transit 9
  Parking Facilities and Policy 11

- TDM Coordinator 12

- Trip Reduction Goal 14

  Blocks 1 and 7 14
  Blocks 4, 5 and 6 15

- Trip and Parking Reduction Strategies 16

- Monitoring and Reporting Plan 20

1

Introduction

This updated Transportation Demand Management (TDM) Plan presents a cohesive strategy for the Portland Foreside Development to enhance multimodal accessibility, promote and encourage the use of non-vehicular modes such as walking, biking and transit, and discourage single occupancy vehicles traveling to and from the Development's downtown waterfront location.

The Portland Foreside Development Company ("Portland Foreside") is developing this updated TDM Plan, pursuant to Section 17.3 of the City of Portland Technical Manual (updated November 2022), to promote the use of alternative modes of travel to its 10+ acre development project on the eastern waterfront off Fore Street in Portland, Maine. The original TDM plan was submitted as part of the Phase 1 permitting efforts in 2020. The City of Portland previously granted approval for the Master Development Plan including a MaineDOT Traffic Movement Permit (TMP) in 2017 which required that as a part of Site Plan Review, a TDM Plan be approved for each phase. This updated TDM plan supports the Level III Site Plan Submittal to the City of Portland for Blocks 4, 5 and 6 but also sets the baseline for the entire site moving forward.

The updated TDM Plan intends to implement various strategies to increase multimodal use and promote non-vehicular modes. The strategies aim at encouraging the use of local transit services to promote ridership, encouraging walking and bicycling, supporting carpooling, and disincentivizing vehicular trips via parking pricing.

Program Summary and Project Status

The Portland Foreside Company previously obtained site plan permits for Blocks 1 and 7 which programs and status are summarized in Table 1.

Table 1 Previously Permitted Buildings

Block	Building Name	Land Use	Parking	Status
1	SunLife	95,100 SF Office 9,300 SF Retail	68 Ground Level Parking Spaces	Core and Shell Constructed/91,000 SF of Office Space will be Occupied as of June, 2023
	Building 12	3,200 SF Restaurant 3,200 SF Office 2 Townhouse Condo Units		Core and Shell Constructed/3,000 SF Twelve Restaurant Operating, 3,000 SF of Office will be Occupied Late Summer 2023
7	Marina	150 Seasonal Slips and Transient Boating		Open

Portland Foreside is currently seeking approval for Blocks 4, 5 and 6 as part of the Level III Site Plan Submission to the City of Portland. The proposed project programs by Block are provided in Table 2.

Table 2 Proposed Buildings

Block	Building Name	Land Use	Parking
4	Harbor Hill	225 Apartment Units 22 Townhouse Condo Units 11,951 SF Ground Floor Retail	443 Garage Parking Spaces
5	Promenade Hotel and Residences	128 Key Hotel 43 Condo Units 4,928 SF Retail 18,083 SF Food & Beverage 19,697 SF Spa	35 Parking Spaces
6	Channel Mark	154 Condo Units 9,108 SF Retail	166 Garage Parking Spaces

2

Mobility Context

Understanding the transportation network that is available for employees, residents and visitors of the Portland Foreside Development is important to be able to recommend targeted TDM program elements. This section discusses the alternative modes of transportation that individuals can access the development as well as the opportunities and challenges related to those options.

The traffic analysis associated with the Traffic Movement Permit for the site assumed an auto mode share of 64 percent for the Project trip generation based on data contained in the Portland Plan. Ultimately, however, an alternate mode share of 18 percent was included in the trip estimates and TDM plan with the goal of an additional 5 percent trip reduction associated with the plan.

Walking and the Pedestrian Environment

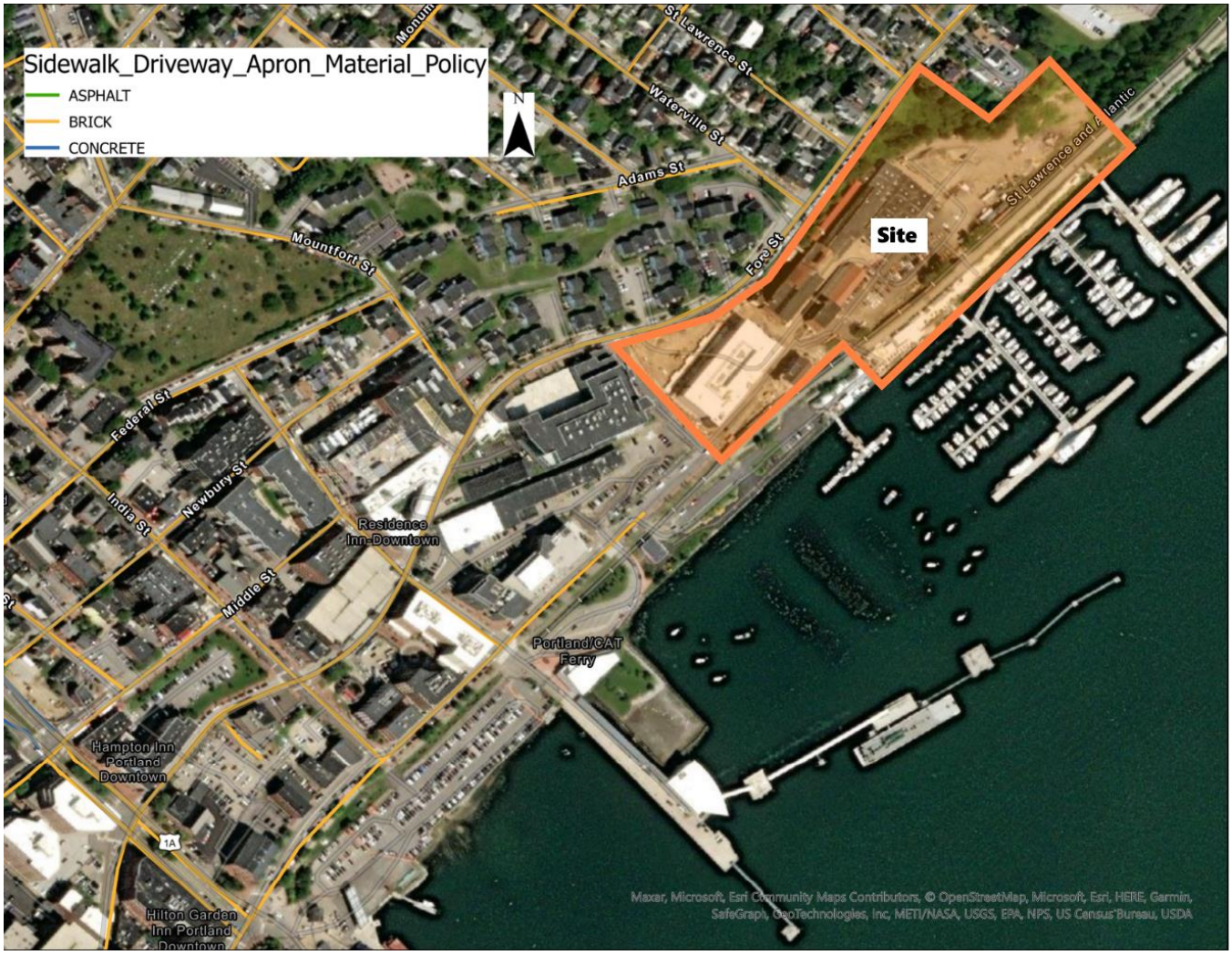
The waterfront development is located on the Eastern Promenade adjacent to a dense residential neighborhood and an urban retail and restaurant hub. These uses are all connected through an extensive network of pedestrian facilities including sidewalks, ramps, and crosswalks. This provides employees, residents and visitors with safe and efficient

pedestrian accommodations to and from the project. There is a mix of concrete, asphalt, stone pavers and brick laid sidewalks dispersed throughout the project area.

As shown in Figure 1, The City's sidewalk policy indicates that new permanent sidewalks in the City right of way will be of brick material. A field visit determined that the sidewalks surrounding Portland Foreside are currently brick along Freedom Way and a combination of brick, asphalt and concrete along Fore Street. Thames Street within the project site is a shared street consisting of stone pavers for the sidewalk, parking and the roadway all at the same grade. Although it is not clear based on this GIS information from City of Portland's Driveway Apron Policy graphic shown below, there are sidewalks on both sides of all of the streets (Fore Street, Freedom Way and Thames Street. surrounding the site). The Eastern Promenade Trail runs along the southeast side of the site along the waterfront connecting pedestrians from the Eastern Promenade to downtown.

Within walking distance of the site are restaurants, retail, offices, residences, and hotels.

Figure 1 – Sidewalk Material Policy



Source: City of Portland Maine, Sidewalks and Driveway Apron Material Policy

Bicycling Environment and Infrastructure

As illustrated in Figure 2, the Eastern Promenade Trail (multi-use path shown with red solid line) runs right through the Foreside Development, separating the marina from the rest of the development. In addition, based on this infrastructure map from the Greater Portland Council of Government, there is a planned shared bicycle lane for Fore Street along the site.

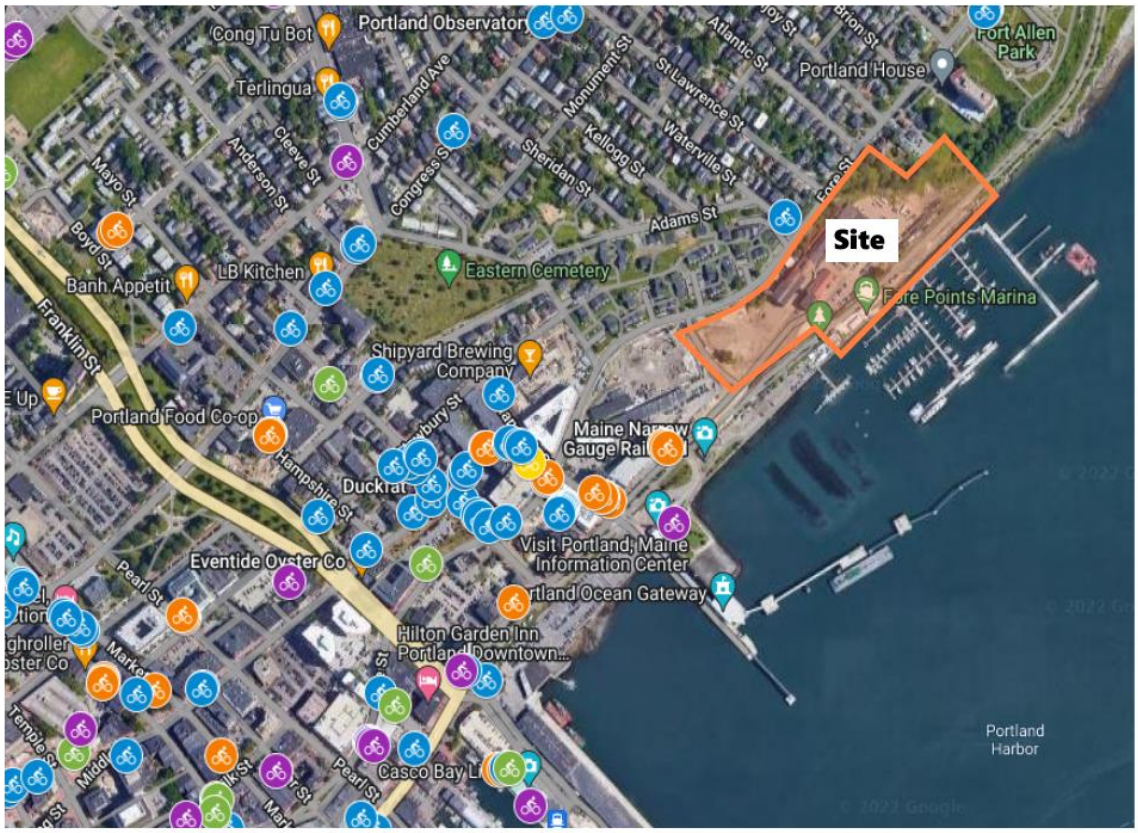
Figure 2- Bicycle and Trail Infrastructure



Source: Greater Portland Councils of Government, Bike Pedestrian Network

In addition to bicycle facilities, there are plenty of bicycle parking opportunities in the area. These opportunities are displayed on Figure 3, which is a Google Map of bicycle rack locations created by Portland Downtown. Blue represents 1-hitch, green is wave racks, purple is wheel benders, orange is u-racks, and yellow is covered bike parking locations.

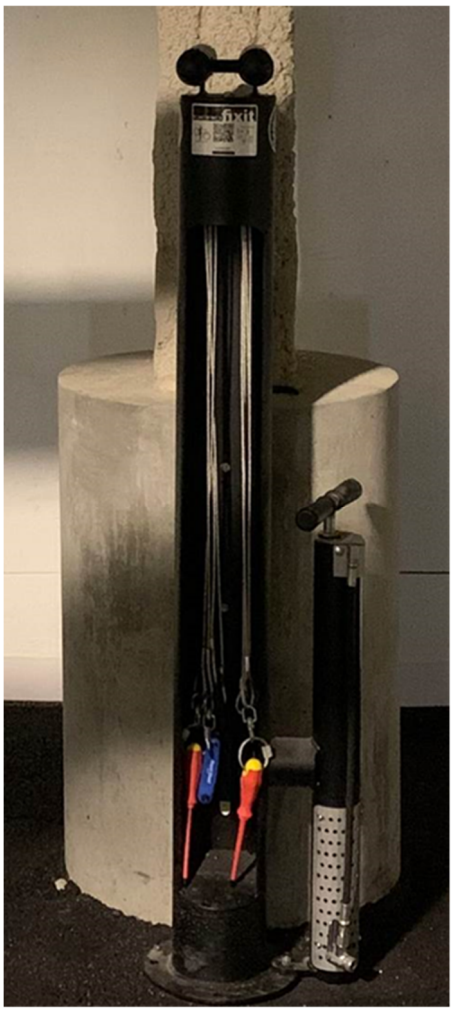
Figure 3 – Existing Bicycle Infrastructure



Source: Portland Downtown, Bike Parking Locations

Bicycle parking at the site was also reviewed. Directly outside the SunLife building, there are two Type A bicycle racks along Fore Street. There are four Type B bicycle racks located on the southeast corner of the SunLife building. For longer-term bicycle parking there are nine vertical bike racks in the garage of the SunLife building. The SunLife building includes a Bike Fix-it station, showers and locker rooms for those who travel by bicycle or walk/run to the site. The Fix-it station is located in the garage as shown in Photograph 1.

Photograph 1 – Fix-It station



The site will provide 178 residential bicycle parking spaces and 39 non-residential bicycle parking spaces once Blocks 4, 5 and 6 are constructed. Portland Foreside will provide showers and lockers for their employees as well.

Portland BIKESHARE provides a bikeshare program with two stations located near the site: Eastern Promenade Trail at Portland Landing and at the Cruise Terminal. The City of Portland has 200 bikes at over 40 stations including pedal and electric bikes. Monthly memberships are available as well as by the minute rentals.

Figure 4 – Existing Portland BIKESHARE Locations

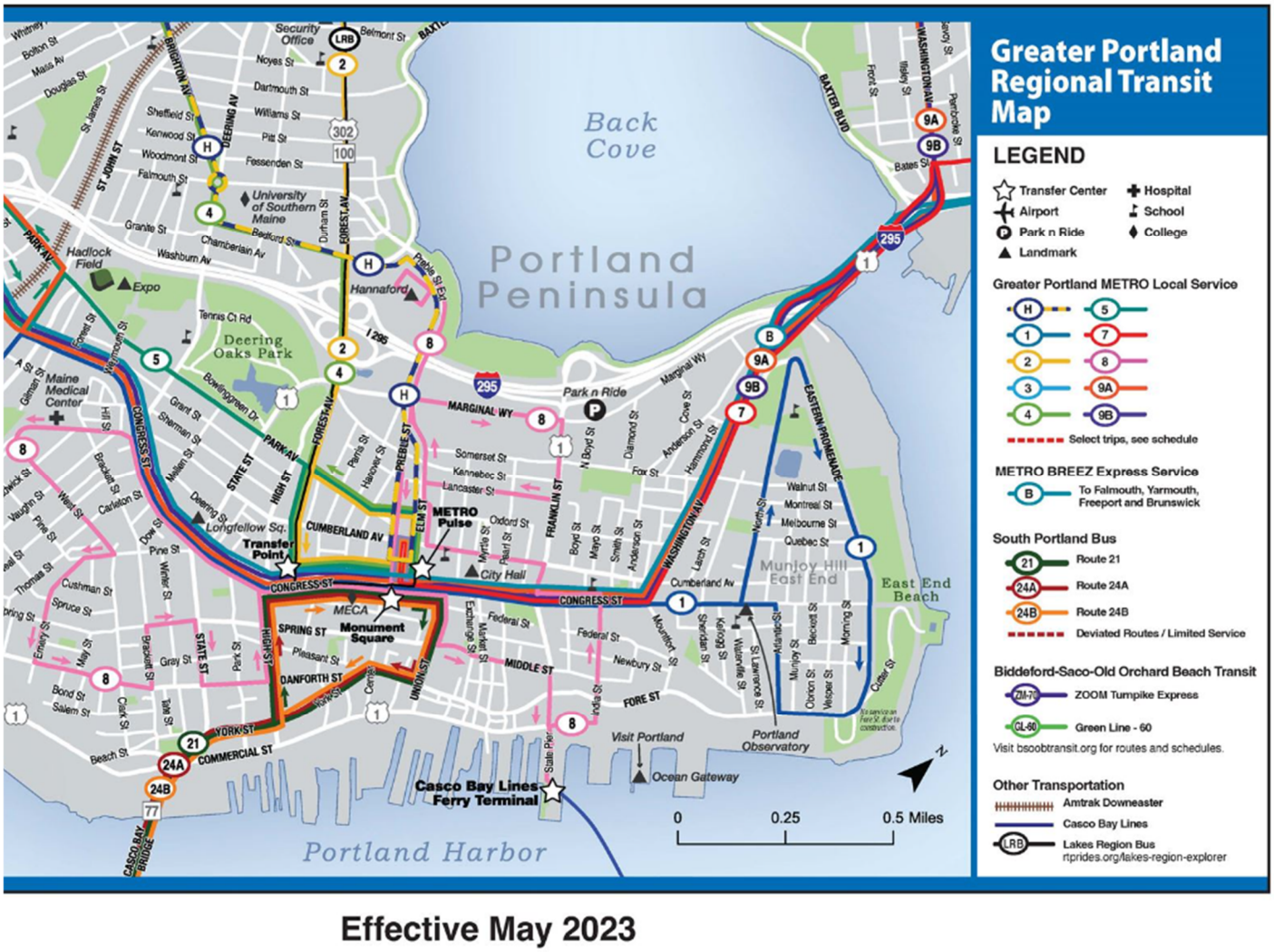


Source: Tandem Mobility, Portland Bikeshare

Public Transit

The site is located within a short walk of several METRO bus stops. Figure 5 illustrates that there are opportunities for employees, residents and visitors to access the Greater Portland Metro bus lines. Route # 8 stops at India Street/Commercial Street within approximately one quarter mile from the site. Bus # 1 stops along Congress Street approximately one third of a mile from the site. Bus # 7, 9 and BRZ stop along Congress Street under half a mile from the site. The distance to the METRO Pulse at Elm Street transit hub corresponds to approximately an 18 minute walk (just under 1 mile).

Figure 5 – Portland Public Transportation Opportunities



Source: Greater Portland Metro, Greater Portland Regional Transit Map

METRO provided an update on their plans for transit in the vicinity of the site.

> *The only significant proposal that has been considered for the Portland Foreside project area is possibly making the Route 8 bus bidirectional; currently it only runs in the counterclockwise direction. At this time we have no plans to introduce any brand new routes…that said, service along Fore Street is something I've flagged for consideration as part of future expansion.*
>
> *In the meantime, the site is still quite transit accessible, being about 1/4 mile away from India Street, where the Route 8 runs, with additional service along Congress Street a short walk (or Route 8 transfer) further.*

Parking Facilities and Policy

A temporary on-site surface parking lot containing 146 spaces currently serves the Marina and Twelve. The parking rate is currently at $5 per hour with a max rate of $40 for 8-24 hours.

The SunLife building provides 68 parking spaces. Short-term paid on-street parking is provided along Thames Street near the SunLife building.

The proposed Block 4 Residential Building (Harbor Hill) will provide 443 parking spaces while the proposed Block 6 Residential Building (Channel Mark) will provide 166 parking spaces. Block 5 (Promenade Hotel and Residences) will provide an additional 35 parking spaces for a site total of 712 parking spaces. The residential parking will be charged at market rate as a separate expense unbundled from rent in order to discourage having a personal vehicle.

3

TDM Coordinator

TDM program management responsibilities will be designated to a single representative associated with the Portland Foreside Development.

Portland Foreside will appoint a TDM Coordinator for the site who will commit to survey employees, residents and visitors to estimate the mode shares as well as understand any barriers to using alternative modes. In the short term, Portland Foreside has hired VHB to perform these services.

The responsibilities of the TDM Coordinator include the following:

- Promote human powered transportation choices to employees, residents and visitors and reduce single occupant vehicles (SOV) trips.
- Coordinate the implementation of TDM strategies with the various tenants and encourage them to conduct new employee orientation to educate regarding their transportation options to and from the site.
- Monitor bike rack usage and make recommendations as needed to accommodate demand.
- Work with the City of Portland, METRO, GoMaine, car share and bike share, and other potential partners to improve access to non-SOV modes

- Recruit and engage participants for any outreach events or campaigns associated with the TDM program
- Coordinate all monitoring and evaluation activities necessary to measure the effectiveness of the TDM program in achieving the targets.
- Develop a TDM Report, which will provide an assessment of strategies implemented to date and outline the activities to be implemented in the upcoming year.
- Conduct Transportation Monitoring
- Administer and review TDM surveys on a yearly basis.
- File annual TDM reports with the City of Portland.

The TDM Coordinator will be the primary point of contact for employers and tenants regarding TDM. The TDM Coordinator will help tenants develop strategies and incentives for employees, residents and customers where applicable. The TDM Coordinator will also work with tenants prior to when they occupy their space to inform them of the robust network of alternative mode choices available to them.

4

Trip Reduction Goal

Portland Foreside is planning for the TDM program to reduce the number of single-occupancy vehicle trips by implementing incentives and infrastructure that encourages the use of alternative travel modes.

Successful implementation of the TDM Plan will reduce automobile trips below what would otherwise be expected. Because only two uses have recently opened at the site, a restaurant and a marina, the goal for this plan will be measured against the estimates created during the permitting process for Blocks 1 and 7 and the trip generation estimates expected as a part of permitting Blocks 4, 5 and 6 and future phases.

Blocks 1 and 7

The original TDM plan included a target auto mode share reduction of 5 percent beyond the assumed alternative mode shares (18 percent) resulting in a decrease of 10 AM Peak Hour trips, 16 PM Peak hour trips and 14 parking spaces for the entire site development.

VHB conducted the annual monitoring program for the existing uses currently occupied: Restaurant (Twelve) and the Marina in the Fall of 2022. VHB worked with Portland Foreside to create a survey for employees of the site to estimate mode shares.

Based on the permitting for Blocks 1 and 7, Block 1 is expected to generate 187 AM Peak Hour vehicle trips and 198 PM Peak Hour vehicle trips prior to internal capture and mode share adjustments. Building 12 is expected to generate 16 AM Peak Hour trips and 37 PM Peak Hour trips. In addition, Block 7 the Marina, is expected to generate 36 AM Peak Hour and 36 PM Peak Hour vehicle trips.

Blocks 4, 5 and 6

The updated Traffic Assessment memorandum dated May 5, 2023 for Block 5 includes updated trip generation for Blocks 1, 2, 4, 5 and 6. The updated trip generation analysis indicates that, after adjusting for alternative modes and internal capture, the site is anticipated to generate 419 AM Peak Hour vehicle trips and 565 PM Peak Hour vehicle trips. To be consistent with the Master Plan for the entire site, there is a goal of a five percent reduction of vehicle trips. Five percent of the trips would result in a reduction of 21 AM Peak Hour vehicle trips and 28 PM Peak Hour vehicle trips. Portland Foreside is committed to implementing the TDM strategies presented in the following section 5 to work towards achieving that goal and beyond.

5

Trip and Parking Reduction Strategies

The Portland Foreside TDM Plan establishes a vision and set of goals for transportation, mobility, and sustainability.

Portland Foreside is taking advantage of the urban site location, providing support for and promoting alternative modes, and discouraging automobile trips in order to achieve success. The table below presents the TDM strategies that Portland Foreside agrees to implement; they are grouped by categories reflected in the City of Portland's *Technical Manual* and include timelines for implementing the various strategies.

Table 3: Proposed TDM Program for Portland Foreside

Strategy		Description	Targeted User/Group	Infrastructure	Incentives	Education	Timeline Years	
							Short-Term (0–2 Years)	Long-Term (2–5 Years)
Walk/Bike	**City Bikeshare – Participation**	Portland Foreside will support participation in the citywide Bikeshare system with the existing stations located at the Eastern Prom Trail at Portland Landing and at the Cruise Terminal.	Primary – Residents and Office Employees who use Alternative Modes to Commute Secondary – Retail and Hotel employees, Retail and Hotel Patrons, Visitors		X		Investigate bikeshare membership for Foreside employees Transportation Coordinator provide information to all tenants	Transportation Coordinator provide information to all tenants
	City Bikeshare – Potential New Location on Site	Portland Foreside is actively investigating a possible Bikeshare station on the Project site.	Primary – Residents and Office Employees who use Alternative Modes to Commute Secondary – Retail and Hotel employees, Retail and Hotel Patrons, Visitors	X			Actively exploring with Bikeshare to choose potential location	Implement
	Bicycle Repair	Portland Foreside will explore the possibility of providing a Fix-it bike station along the Eastern Promenade trail. The SunLife building will provide a compact bike fix-it station in the garage near the hanging bike racks.	Site Residents, Workers and Visitors as well as General Public Amenity	X			Investigate	Implement
	Promote Local Bicycling Activities	Promote the participation in (and facilitation of) local bike activities such as the Portland Slow Ride, Smart Cycling Traffic Skills 101, and Cycling Savvy Events through Bicycle Coalition of Maine. Promote the use of the Eastern Promenade Trail.	Employees, Residents			X	Transportation Coordinator to start promoting	X
	Showers and Lockers for cyclists/runners/ walkers	Portland Foreside will provide showers and lockers for its own employees and will encourage other tenants to do so as well. SunLife will also provide showers and lockers for its employees.	Office Employees	X			Provided upon occupancy	
	Bicycle Parking	There are currently two Type A bicycle racks outside of the SunLife building on Fore Street and four Type B bicycle racks to the southeast of the SunLife building for visitors and all site users. In addition, the SunLife garage provides nine long-term covered vertically mounted bicycle racks for employees. On-site bicycle parking will include 178 residential spaces and 39 non-residential spaces. Increase bicycle parking when warranted.	Office, Hotel and Retail Employees, Residents, Retail Patrons, Visitors	X			Provided upon occupancy	

Strategy		Description	Targeted User/Group	Infrastructure	Incentives	Education	Timeline Years	
							Short-Term (0–2 Years)	Long-Term (2–5 Years)
Transit	**Potential Subsidy and Pre-tax Transit Passes**	Portland Foreside will explore the possibility of providing a transit subsidy for its own office employees. Transportation Coordinator will educate and encourage the other office tenants to offer employees the option of purchasing a pre-tax monthly transit pass and/or provide a subsidy.	Office Employees		X	X	Investigate process and cost implications, investigate Portland Foreside Subsidy	Include Information with Transportation Coordinator Correspondence to all site users Possibly subsidize Portland Foreside transit usage
	GO Maine Program	Portland Foreside will explore the possibility of leveraging GO MAINE programs for employees who use an alternative mode of transportation to travel to work, such as transit or carpool and an emergency ride home benefit to further encourage employees to use alternative means to get to work. GO MAINE also includes a rewards program for current users and a preferential parking program. Employers promote utilization of the GO MAINE programs by streamlining the process to enroll in their programs.	Office Employees		X	X	Transportation Coordinator to investigate demand	Implement as demand dictates/site develops
	Guaranteed Ride Home	Portland Foreside will explore the possibility of promoting a Guaranteed Ride Home Program from GoMaine or a private carpool app to complement alternative mode use.	Office Employees		X		Investigate process and cost implications	Include Information with Transportation Coordinator Correspondence to all site users Implement Portland Foreside Guaranteed Ride Home Program
	Hotel Shuttle Service	Hotel Shuttle service to promote travel to and from hotel for guests. Routes might provide access to the airport, train station etc.	Hotel Patrons	X	X		Investigate	Implement
Carpool	**Establish Carpool System**	Establishment of a carpool system and convenient parking spaces reserved for carpoolers.	Office Employees		X	X	Transportation Coordinator to investigate demand	Implement as demand dictates/site develops
	Carshare Parking	Provide a car-share space on site in the Block 4 garage.	Residents		X		Investigate	Implement
	Carshare Membership	Promote carshare membership.	Residents/Employees			X	Transportation Coordinator to promote	

Strategy		Description	Targeted User/Group	Infrastructure	Incentives	Education	Timeline Years	
							Short-Term (0–2 Years)	Long-Term (2–5 Years)
Parking	**Unbundled Residential Parking**	Unbundle parking cost from the cost of rent. Charge all site users market parking rates.	Residents		X		Implement market rate from beginning	
	Parking Pricing Increase	Increase parking pricing to reflect market rates.	Residents		X			Over time, continue to ensure market rates and unbundled parking
	Electric Vehicle Parking	Provide Level 2 and Level 3 electric vehicle charging stations for 69 vehicles (10%). Install conduits and electrical expansion capacity for an additional 66 Level 2 and Level 3 electric charging stations to meet future capacity (in aggregate, 20%). Currently provide two level 2 electric vehicle charging stations with conduit and capacity for an additional 6 Level 2 electric vehicle charging stations in Building 1A SunLife Building.	Office, Hotel & Retail Employees, Residents, Hotel and Retail Patrons Visitors		X		Incorporate infrastructure in garage during construction	Offer spaces as demand dictates
	Parking Cash Out	A “parking cash out” where employees receive monetary payments in lieu of provided parking, free or reduced public transit passes, or periodic prize drawings for employees using alternative modes of transportation is being considered.	Employees		X		Investigate Options	Transportation Coordinator to provide tenants information
Communications and Marketing	**New Tenant Orientation**	Provide employees and new residents with an orientation and new tenant packet promoting non sov modes as outlined herein.	Employees and Residents			X	Continuous Transportation Coordinator to develop	Continuous
	Transportation Kiosk or Bulletin Board	Identify buildings or site central areas where a Kiosk or Bulletin Board could post transit information, carshare and rideshare opportunities, bicycle and pedestrian information (bikeshare, bike/ped routes, bike parking), and promotions.	Office, Hotel and Retail Employees, Residents, Retail and Hotel Patrons, Visitors			X	Transportation Coordinator to work with tenants to identify locations	Implement
	Transportation Website	Create Transportation page on Portland Foreside website “getting here” that highlights non-automobile methods of travel. Site can provide information on alternative mode. Transportation Coordinator to provide tenants with suggested information for their visitors.	Office, Hotel and Retail Employees, Residents, Retail and Hotel Patrons, Visitors			X	Transportation Coordinator to develop content	Implement

6

Monitoring and Reporting Plan

Program monitoring and evaluation are important components of any successful Transportation Demand Management (TDM) Program because they provide a quantitative benchmark of the program's effectiveness in reducing single occupancy vehicle trips and parking demand. The TDM Coordinator can use the information gathered via the monitoring plan to direct the ongoing implementation of the TDM Program, allowing for adjustments and the introduction of new strategies. Furthermore, via regular periodic reports, Portland Foreside will provide evidence to the City of the applicant's diligence in implementing the program.

There are different methods for collecting the data necessary to monitor a TDM Program, including surveys, program participation documentation, vehicle parking permits and usage data, bicycle parking demand counts and activity logs. Portland Foreside's TDM program monitoring will use person surveys, parking permit data and bicycle parking data in evaluating the effectiveness of the program. Each of these tools is discussed below.

Commute/Travel Survey

On an annual basis, the TDM Coordinator (or contracted company) will administer a survey of employees, residents, hotel and retail patrons and visitors of Portland Foreside

Surveys provide a qualitative understanding of how well TDM program elements are working. The survey will, at a minimum, ask respondents for the type and frequency of modes of transportation used in a typical week (for residents and employees), reasons behind driving alone, and ideas for incentives that would encourage drive-alone respondents to use an alternative mode.

The TDM Coordinator will work with the City of Portland staff to determine the most appropriate time of year to represent a typical week to conduct the monitoring.

Parking Demand Data

The TDM Coordinator will track the number of parked vehicles on the site during the midday period (to capture highest commercial user demand period) and during the late evening (to capture highest resident demand period) during the same data capture window (determined to be a typical week during discussions with the City of Portland). This data will help track the vehicular parking demand on the site over time.

Since Portland Foreside is requesting a partial waiver for the required Electric Vehicle (EV) Parking, the TDM Coordinator will complete annual monitoring of the EV charging demand to determine EV ownership and station use statistics. Should additional EV charging spaces be needed beyond what is initially installed, the report will include a plan to increase the number of EV charging spaces to meet projected demands as warranted.

Bicycle Parking Data

During the same time period as the survey and parking permit review is conducted, the number of bicycles parked in the Portland Foreside bike spaces will be noted. This data will be reviewed for trends in bicycle usage over time.

Transit Usage Data

The TDM Coordinator will work with Metro to track the transit usage of Portland Foreside employees via any pass program implemented for Portland Foreside employees or other site tenants. The data for the same time period as outlined above in the surveys will be obtained and reviewed.

Status and Monitoring Report

Each year that monitoring is conducted, the TDM Coordinator will prepare a report summarizing TDM program status and monitoring results. The report will detail (1) what/when strategies were implemented, (2) an estimate of how many individuals

participated in certain programs, and (3) the lessons learned regarding the most effective TDM strategies.

The data collected regarding vehicle parking, electric vehicle charging use, bicycle parking and transit usage will also be summarized in the monitoring report. This provides separate data sources to verify the changes in the effectiveness of the strategies. Should additional EV charging spaces be needed beyond what was initially installed, the report will include a plan to increase the number of EV charging spaces to meet project demands as warranted.

Consistent with current City guidance, the TDM Coordinator will submit the report to the City of Portland's TDM Program Manager by May 15th of each year. Once the report is submitted, the TDM Coordinator will meet with the City of Portland Planning Department and discuss suggestions for adjustments to the TDM Program.

GORRILL PALMER

300 Southborough Dr., Suite 200
South Portland, Maine 04106
207.800.3169

Traffic Assessment
Portland Foreside, Channel Mark – Block 5
Portland, Maine

Date: May 5, 2023
Subject: Portland Foreside, Channel Mark - Combined Blocks Traffic Assessment
Portland, Maine
To: David Senus, PE – Foreside Development
From: Randy Dunton, PE, PTOE – Gorrill Palmer

Introduction

Gorrill Palmer (GP) has been retained by **Foreside Development Co**. to complete a traffic assessment for the proposed Block 5 of the Portland Foreside Master Development Plan. Block 5 is to accompany the existing Block 1 (which includes the SunLife Office Building and Building 12), as well as the permitted Block 2, and the anticipated Blocks 4 and 6. It is our understanding that submittals seeking approval for Blocks 4 and 6 were submitted to the City in the fall of 2022. It should be noted that all three blocks (4, 5, 6) will be constructed as a single building; however, for the purposes of developing the traffic impact evaluation, it is necessary to sequence this traffic assessment in line with anticipated opening dates. Based on information provided by the Foreside Development Co. team, the proposed Block 5 is to consist of the following:

- Block 5:
  - 128 Key Hotel
  - 43 Condo Units
  - 4,928 SF Retail
  - 18,083 SF Food & Beverage
  - 19,697 SF Spa

While the existing, permitted, and anticipated blocks contain the following:

- Block 1
  - SunLife Office Building (existing, constructed per Traffic Assessment dated November 22, 2019):
    - 95,100 SF Office Space
    - 9,300 SF Retail
  - Building 12 (existing, constructed per Traffic Assessment dated November 22, 2019):
    - 3,200 SF Restaurant
    - 3,200 SF Office
    - 2 Townhouse Condo Units

- Block 2 (permitted, not yet constructed):
  - 17,950 SF Restaurant
  - 17,950 SF Retail
  - 17,900 SF Event Center
  - 12,400 SF Office
- Block 4 (anticipated, submitted fall of 2022):
  - 225 Apartment Units
  - 22 Townhouse Condo Units
  - 11,951 SF Retail
  - 443 Garage Spaces
- Block 6 (anticipated, submitted fall of 2022):
  - 154 Condo Units
  - 9,108 SF of Retail Space
  - 166 Garage Spaces

An existing conditions plan and a site plan are included in Attachment A. The Portland Foreside Master Development Plan received a Traffic Movement Permit (TMP #2016-224) from the City of Portland dated May 26, 2017. The TMP requires, as a condition of approval, that as part of the Site Plan Review by the Planning Board, an updated traffic assessment be approved for each phase of development. The following summarizes the updated traffic assessment for the combination of Blocks 1, 2, 4, 5, and 6.

Previous Traffic Assessment

This traffic assessment is modeled after an assessment associated with this project that was submitted to the City of Portland in November 2019 and approved in January 2020. This previously approved traffic assessment included an analysis for Blocks 1, 2, and 4. It should be noted that at this time, Block 1 (SunLife Office Building and Building 12) has been constructed per what was proposed in that assessment. Block 2 is not yet constructed but is still planned to be constructed per what was proposed in that assessment. The Block 4 described in that assessment is no longer being proposed and the Block 4 described above is proposed in its place. This revised Block 4 and the proposed Block 6 were the subjects of previous separate submittals which were submitted to the City fall of 2022. This traffic assessment intends to follow the same methodologies and approaches as the previous assessments to be consistent with what was originally approved.

Trip Generation

Trip generation for the proposed combined Blocks of the Portland Foreside Master Development Plan has been calculated to compare the combined trip generation to what was approved in the overall site TMP. The Master Development Plan was permitted for 506 trip ends during the AM peak hour of the adjacent street and 585 trip ends during the PM peak hour of the adjacent street. The following summarizes the trip generation calculations for the combined blocks of 1, 2, 4, 5, and 6 and the comparison to the total site approved TMP trip generation.

ITE Trip Generation

The trip generation for the combined blocks has been calculated using the Institute of Transportation Engineers (ITE) publication, *Trip Generation*, Seventh Edition. This was done to be consistent with the means and methods presented in the original submission and consistent with previous traffic assessments for this project. At the time of the original submission, MaineDOT was accepting trip generation calculations for LUC 710 – general office that were based on the eighth edition. Since the space allotted to general office was calculated using the eighth edition in the original submission, it was repeated here. The City of Portland has delegated review authority for TMPs, but they are still required to be in accordance with MaineDOT rules. This methodology is consistent with that used for calculating the trip generation for the approved TMP. The trip generation for the combined blocks has been calculated using the following Land Use Codes (LUCs):

- LUC 710 – General Office
- LUC 931 – Quality Restaurant
- LUC 220 – Apartment
- LUC – 230 – Townhouse / Condo
- LUC 814 – Specialty Retail
- LUC 310 – Hotel
- LUC 492 – Health / Fitness Club

The following table summarizes the ITE trip generation for the site. Detailed trip generation calculations are attached. It should be noted that due to the types of restaurants and that they are expected to be destinations that would draw visitors for at least an hour, they are assumed to operate similarly to quality restaurants. Additionally, as was noted in a previous traffic assessment dated November 2019 for this project, the event space permitted in Block 2 is smaller than the existing event space on site. No credit was taken in the original TMP for the event space. Since the proposed event space is smaller than the existing event space and the uses will be similar, no increase in trips is expected. Therefore, the trip generation for the event space has not been included.

Table 1 – ITE Raw Trip Generation Summary

Use	Size	AM Adj St	PM Adj St
Block 1 – SunLife Office	**Constructed per November 2019 Assessment**		
Office	95,100 SF	180	173
Retail	9,300 SF	7	25
Subtotal		187	198
Block 1 – Building 12	**Constructed per November 2019 Assessment**		
Office	3,200 SF	12	12
Restaurant	3,200 SF	3	24
Residential - Condos	2 units	1	1
Subtotal		16	37
Block 2	**Permitted per November 2019 Assessment**		
Restaurant	17,950 SF	15	134
Retail	17,950 SF	13	49
Office	12,400 SF	35	34
Subtotal		63	217
Block 4	**Under Review**		
Residential - Apartments	225 Units	115	140
Residential - Condos	22 Units	10	12

Retail	11,951 SF	9	32
Subtotal		134	184
Block 6	**Under Review**		
Residential - Condos	154 Units	68	80
Retail	9,108 SF	7	25
Subtotal		75	105
Block 5	**Currently Proposed**		
Residential - Condos	43 Units	19	22
Hotel	128 Units	72	76
Retail	4,928 SF	4	13
Restaurant	18,083 SF	15	135
Spa	19,697 SF	24	80
Subtotal		134	326
Total		**609**	**1067**

As shown in Table 1, the ITE trip generation is forecast to be 609 trip ends during the AM peak hour of the adjacent street and 1,067 trip ends during the PM peak hour of the adjacent street. A trip end is a trip into or out of the site, thus a round trip is equal to two trip ends. The applicable ITE Trip Generation spreadsheets are included in Attachment B.

Shared Use Reduction

The National Cooperative Highway Research Program (NCHRP) 684 Internal Capture Estimation Tool has been used to estimate the traffic that will visit more than one destination without leaving the site. The NCHRP 684 spreadsheet uses the ITE forecast trip generation for each type of land use (office, retail, residential) and estimates the trips that will travel between two uses without leaving the site. This yields an internal trip capture percentage, which is the percentage of trip ends that will travel between two uses. This methodology is consistent with that used for the TMP, the previous traffic assessment, and the MaineDOT. The proposed spa is not represented in the NCHRP spreadsheet but is expected to draw at least 50% of its clientele from the on-site hotel, B4 Townhouses and Apartments, B5 condos, B6 condos, and other onsite businesses, so was added independently. The following tables summarize the AM and PM peak hour internal trip capture percentages for the proposed site.

Table 2 – AM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	205	22	10%	45%	20	10	30
Retail	24	16	46%	50%	11	8	19
Restaurant	17	16	59%	50%	10	8	18
Residential	32	181	6%	5%	2	9	11
Hotel	43	29	0%	28%	0	8	8
All Other Uses (spa)	10	14	50%	50%	5	7	12
Total	**331**	**278**	**15%***	**18%***	**48**	**50**	**98**

Table 3 – PM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	33	186	27%	7%	9	13	22
Retail	65	79	71%	63%	46	50	96
Restaurant	190	103	29%	60%	56	62	118
Residential	166	89	27%	37%	44	33	77
Hotel	41	35	34%	31%	14	11	25
All Other Uses (spa)	40	40	50%	50%	20	20	40
Total	**535**	**532**	**35%***	**35%***	**189**	**189**	**378**

*The percentages are slightly higher than the NCHRP spreadsheets because the spreadsheets do not adequately represent or include the internal capture of the spa, so those reductions were added after the results of the spreadsheets were determined.

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

Table 4 – Shared Use Reduced Trip Generation Summary

Building Use	Trip Generation	
	AM Adj St	PM Adj St
ITE Total	609	1067
Shared Use Reduction	-98	-378
Reduced Subtotal	**511**	**689**

As shown in Table 4, the proposed site with the shared use reduction is forecast to generate 511 trip ends and 689 trip ends during the AM and PM peak hours of the adjacent street respectively. The NCHRP 684 spreadsheets are included in Attachment C.

Other Modes Reduction

In addition to a shared use reduction, a reduction for other modes of transportation can be applied to the trip generation. It can be expected for a site in a downtown area that other modes of transportation will be used to go to and from a given site. These other modes could include things such as public transit, bicycle, carpooling, or walking. This site is adjacent to an existing bus route, as well as located on a pedestrian and bicycle path, so full use of other modes of transportation are readily available. The other modes reduction that was used for the purposes of the November 2019 traffic assessment has been applied to the trip generation in this submission in order to be consistent. The reduction of 18% was recommended by Tom Errico in his comments (Response dated December 20, 2019) based on

census data existing in 2019 and accepted by the City of Portland for multiple projects at that time. The following table summarizes the trip generation including the other modes reduction:

Table 5 – Other Modes Reduced Trip Generation Summary

Building Use	Trip Generation	
	AM Adj St	PM Adj St
Reduced Subtotal	511	689
Other Modes Reduction	-92	-124
Reduced Site Total	**419**	**565**

As shown in the table, the forecast site trip generation for Blocks 1, 2, 4, 5, and 6 is 419 trip ends during the AM peak hour of the adjacent street and 565 trip ends during the PM peak hour of the adjacent street.

Master Plan Trip Generation Comparison

The trip generation for the combined Blocks 1, 2, 4, 5, and 6 has been compared to the permitted trip generation to ensure that it does not exceed the permitted amount. The site was permitted for 506 trip ends during the AM peak hour of the adjacent street and 585 trip ends during the PM peak hour of the adjacent street. The following table summarizes the trip generation comparison:

Table 6 – Trip Generation Comparison Summary

Trip Generation	Trip Generation	
	AM Adj St	PM Adj St
Permitted	506	585
Forecast Combined Blocks	419	565
Remaining Permitted Trips	**87**	**20**

As shown in Table 6, the combined blocks trip generation is 87 AM peak hour trip ends and 20 PM peak hour trip ends **less** than the permitted site trip generation.

It should be noted that the methodology used to arrive at this trip generation will need to be generated every time new development is proposed, because the results are dependent on the overall total uses on the site and the mixture of those uses. The results would be inaccurate to simply calculate the trip generation of new uses and add to the 419 & 565 trips identified above.

Parking Demand

The forecast parking demand for the combined blocks has been based on a combination of City Ordinance parking demand, the ITE Parking Generation Manual, 5th Edition, and published data / engineering judgement. First, the number of spaces required for each use was calculated based on the

ITE Parking Generation Manual, 5th Edition. This method was chosen over the methods presented in the City Ordinance because the ITE method generally leads to more parking being required, and the intent was to be conservative. For example, ITE requires 10.52 parking spaces per 1,000 SF of floor area for a restaurant (0.01052), while the City Ordinance requires 1 parking space per 150 SF of floor area (0.0067). The number of spaces required for each use were then distributed throughout each hour of the day using factors specific to each use presented in the ITE Parking Generation Manual, 5th Edition. Then, the number of spaces required for each use was summed for each hour of the day. A mixed use reduction of 23% (average of 14% AM & 32% PM provided in NCHRP spreadsheest) was applied. This is conservative since the peak parking demand is forecast to occur during the PM peak hours and is not taking credit for the full 32%. Finally, an 18% other modes reduction (based on Tom Errico's recommendation) was applied to the data. Shared parking methodology reflects that the demand for different uses will peak during different times of day; however, when parking spaces are designated for a single use, they cannot be used to satisfy shared parking demand.

The existing parking arrangement on site is difficult to break down as it is an ongoing construction site and as work moves around different areas of the property, portions of parking areas may be unavailable for a period of time. To date, a 68-space parking garage beneath Building 1 and a 146-space surface parking lot along the southern lot line have been constructed, for a total of 214 spaces. A site parking figure has been included in Attachment A. It should be noted that the 2 "drop-off spaces" listed in the surface lot and the 9 "permanent on-street parking" spaces are not included in this total. The "interim parking expansion" and the "future expanded parking zone" are not included in this total either as the future expansion is not yet available and the interim expansion will be significantly affected by the construction of Blocks 4, 5, and 6. It should be noted that the 146-space surface parking lot will be removed once the proposed garage in Block 4 is open. Therefore, for the purposes of this analysis, the site currently has 68 spaces that will be available upon completion of Blocks 4, 5, and 6.

It is assumed that the combined blocks will all utilize the parking garages on Blocks 1, 4, 5, and 6; and that no parking spaces are designated for a specific use. Since no parking spaces are designated for a single use, the shared parking demand methodology is applicable. The combined shared parking demand spreadsheet is included in Attachment C.

Based on the methodology described above, the peak parking demand for the combined blocks is forecast to be 696 spaces and is forecast to occur from 7:00 PM to 8:00 PM, with all other hours considerably less demand. When a parking facility is approximately 85% occupied, it is considered to be the "practical capacity" of the parking facilities. This is because an unfamiliar driver may not see empty parking spaces when the lot is almost completely occupied, especially in a larger parking area. This is typically reserved for a parking facility where drivers are unfamiliar with the parking area and for parking areas that are at the "practical capacity" for several hours throughout the day, and not just a single spike. Since approximately 50% of the users at the peak time of 7:00 PM to 8:00 PM are residents of the complex (i.e. familiar with the parking) and the 696 parking spaces identified is a spike of one hour, with the remainder of the day requiring considerably less parking, the "practical capacity" is not applicable for this situation. Complete parking demand calculations are presented in the shared parking demand spreadsheet included as Attachment C.

As it exists today, the development contains 68 parking spaces that are to remain upon completion of Block 5. Block 4, which is to be constructed before Block 5, proposes to add an additional 443 spaces while Block 6, which is also to be constructed before Block 5, proposes to add an additional 166 spaces for a total of 677 "pre-existing" spaces. The development of Block 5 proposes to add 35 parking spaces for a site total number of 712 parking spaces. Based on a review of the parking demand spreadsheet and the parking demand throughout the day, these 712 parking spaces will accommodate all the parking demands throughout the day, inclusive of the peak hour demand of 696 spaces.

Bicycle Parking

Per City Ordinance, new uses are required to provide bicycle accommodations based on the type of use. Residential structures are required to provide 2 bicycle spaces for every 5 dwelling units. Non-residential structures are required to provide 2 bicycle parking spaces for every 10 vehicle parking spaces for the first 100 required spaces, plus one bicycle parking space for every 20 required vehicle parking spaces over the 100 vehicle parking spaces. Since the proposed development is utilizing shared parking, and therefore, there are not a set number of spaces allotted to non-residential uses, the peak number of spaces attributed to non-residential uses during any hour – as determined by the shared parking demand spreadsheet – was used for the purposes of this calculation. The peak non-residential parking demand was determined to be 464 spaces, which occurs during the 7:00 PM to 8:00 PM hour. The following table shows the required bicycle parking to meet the Ordinance bicycle parking requirements:

Table 7 - Bicycle Parking Summary

Use	Bicycle parking Demand
Parking Variables	464 Non-Residential Vehicle Spaces, 446 Residential Units
Residential Bicycle Spaces	178
Non-Residential Bicycle Spaces	39
Total	**217**

As shown in Table 7, the site will require 217 bicycle parking spaces to meet the City Ordinance requirements for bicycle accommodations.

Conclusions

The following is a summary of the conclusions:

1. The trip generation for the combined blocks is forecast to be 419 trip ends during the AM peak hour of the adjacent street and 565 trip ends during the PM peak hour of the adjacent street. The combined blocks trip generation is 87 AM peak hour trip ends and 20 PM peak hour trip ends **less** than the permitted site trip generation.

2. The peak parking demand for the site is forecast to be 696 spaces and is forecast to occur from 7:00 PM to 8:00 PM. Prior to the construction of Block 5 the site is expected to have 677 parking

spaces. Block 5 is expected to add an additional 35 parking spaces, for a total of 712 spaces. Based on a review of the parking demand spreadsheet and the parking demand throughout the day, these 712 parking spaces will accommodate the forecast parking demand of the site.

3. The combined blocks are required to provide 217 bicycle parking spaces, based on the peak demand for non-residential vehicle parking spaces and the residential units. However, this assumes bicycle parking demand for all uses concurrently, which will not be the case. Therefore, actual demand should be less.

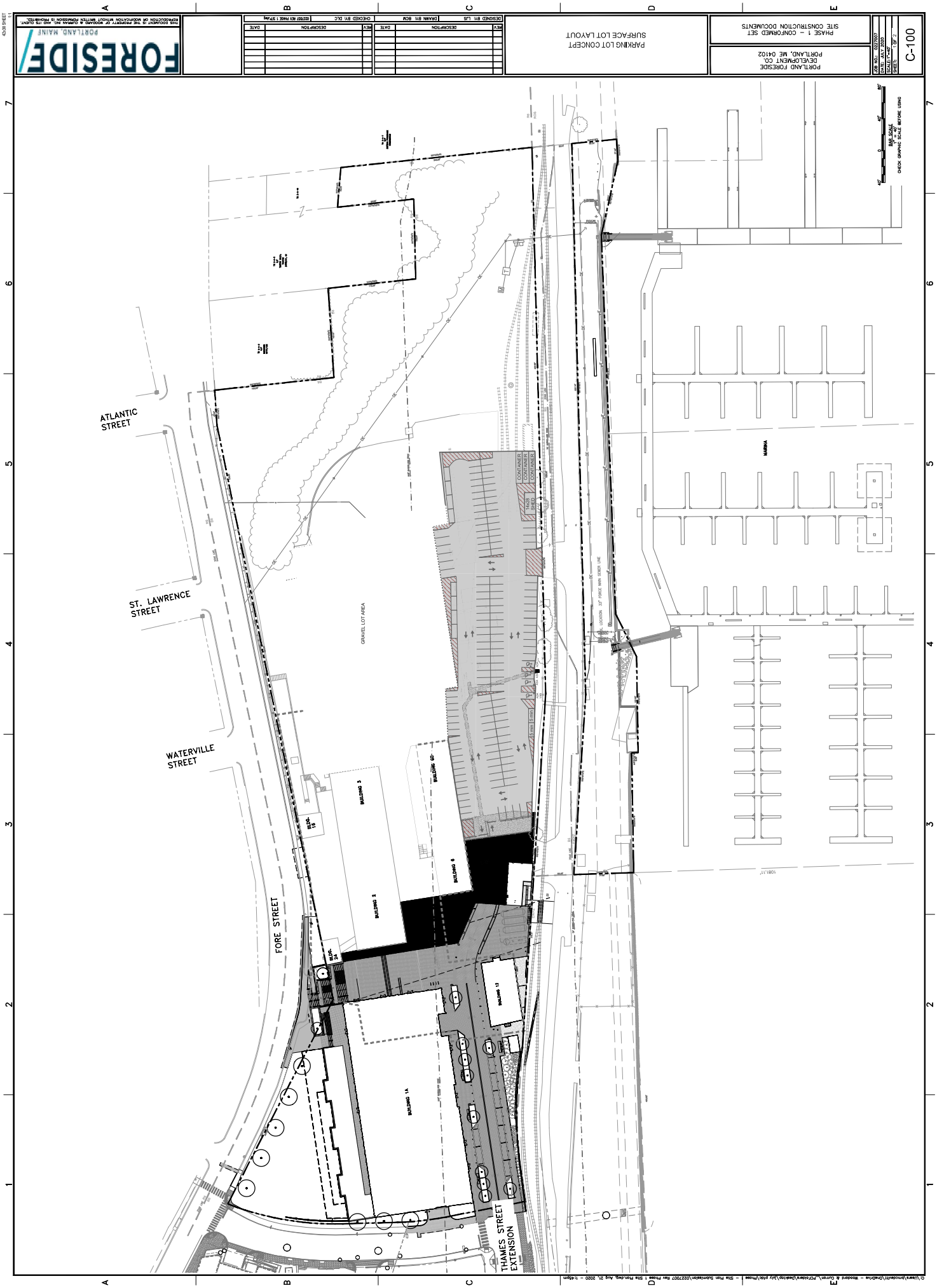
Attachments

Attachment A – Existing Conditions & Site Plans
Attachment B – Trip Generation Spreadsheets
Attachment C – NCHRP 684 & Shared Parking Demand Spreadsheets

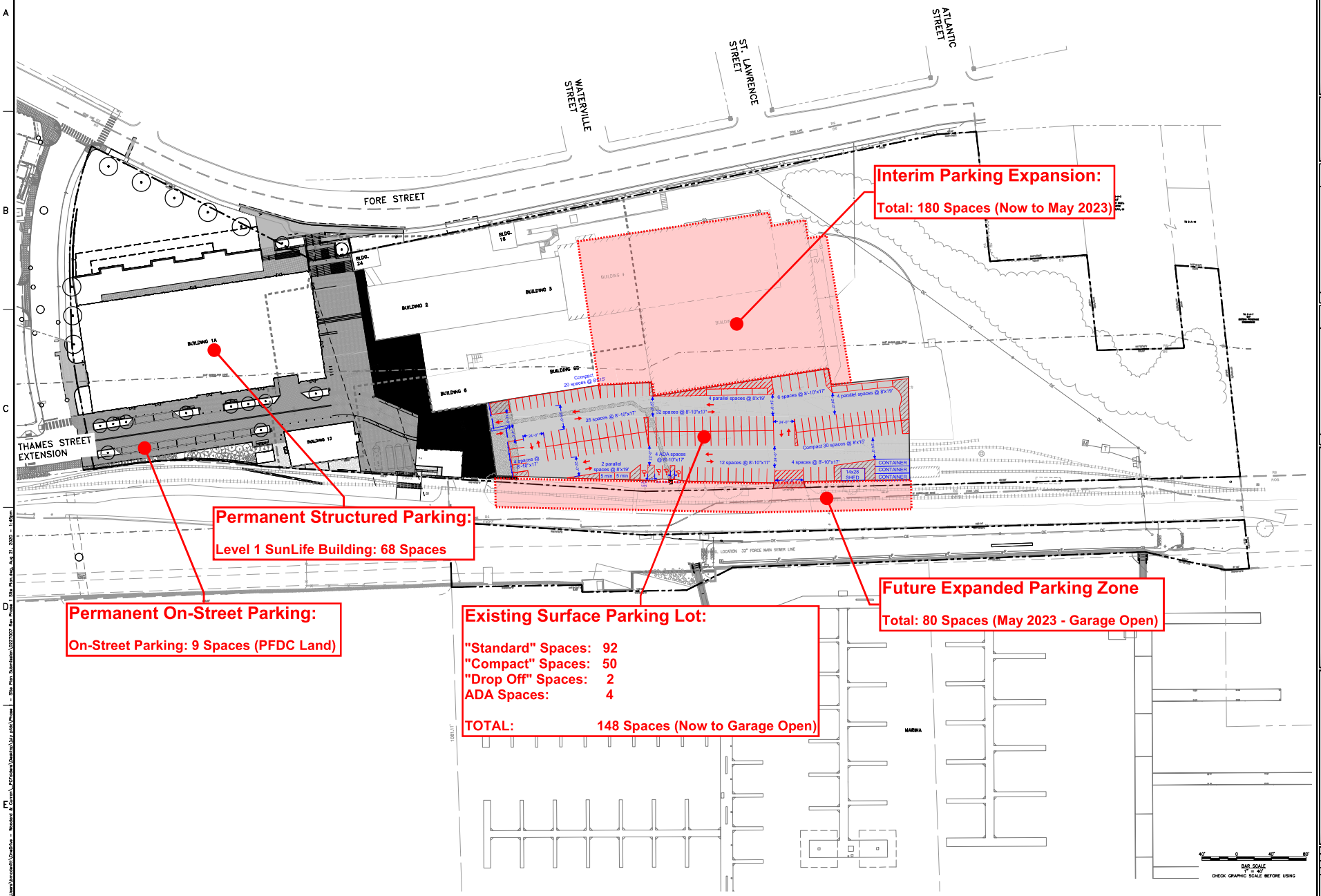
u:\4060_portland foreside block 5_portland\n traffic\block 5 - 05-05-23 combined blocks.docx

Attachment A

Existing Conditions & Site Plans


ATLANTIC STREET
ST. LAWRENCE STREET
WATERVILLE STREET
FORE STREET
THAMES STREET EXTENSION
GRAVEL LOT AREA
MARINA
CONTAINER
CONTAINER
CONTAINER
TAGS SHED
BUILDING 1A
BUILDING 2
BUILDING 3
BUILDING 6
BUILDING 12
BLDG. 24
FLOOR
PARKING LOT CONCEPT
SURFACE LOT LAYOUT
PHASE 1 – CONFORMED SET
SITE CONSTRUCTION DOCUMENTS
PORTLAND FORESIDE
DEVELOPMENT CO.
PORTLAND, ME 04102
C-100
FORESIDE
PORTLAND, MAINE

Site Parking Plan



PARKING LOT CONCEPT
SURFACE LOT LAYOUT

PORTLAND EXPOSE
DEVELOPMENT, LLC
PORTLAND, ME 04102

PHASE 1 – CONFORMED SET
SITE CONSTRUCTION DOCUMENTS

JOB NO.: 0227007
DATE: JULY 2020
SCALE: 1"=40'
SHEET: 1 OF 2

C-100


Block 1B
(Future)
Block 1
(Complete)
Block 2
(Permitted)
Block 3
(Future)
Block 4
(Submitted)
Block 5
(Current Application)
Block 6
(Submitted)
Block 7
(Complete)

Attachment B

ITE Trip Generation Spreadsheets

JN: 3138.03
Project Description: Portland Foreside
Project Location: Portland, Maine
Date: 11/11/2019
Calculated By: EAL

Gorrill Palmer Consulting Engineers
707 Sable Oaks Drive
South Portland, ME 04106

General Office Building
Land Use Code (LUC) 710

Square Feet 95,100

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	1283	78	50%	50%	642	641	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**180**	**217**	**90%**	**10%**	**162**	**18**	**0.83**
PM Peak Hour	**T = 1.12 (X) + 78.81**	**185**	**235**	**15%**	**85%**	**28**	**157**	**0.82**
Saturday	T = 2.14 (X) + 18.47	222	17	50%	50%	111	111	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	35	10	55%	45%	19	16	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 11.01 (X)	1047	78	50%	50%	524	523	---
AM Peak Hour	T = 1.55 (X)	147	217	90%	10%	132	15	---
PM Peak Hour	T = 1.49 (X)	142	235	15%	85%	21	121	---
Saturday	T = 2.37 (X)	225	17	50%	50%	113	112	---
Saturday Peak Hour of Gen.	**T = 0.41 (X)**	**39**	**10**	**50%**	**50%**	**20**	**19**	**---**

* Percentages rounded to nearest 5%

PM Peak Hour:	T = 1.49/1.55 (AM Peak)	173		15%	85%	26	147	0.82

JN: 3138.03
Project Description: Portland Foreside
Project Location: Portland, Maine
Date: 11/11/2019
Calculated By: EAL
Checked By:

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

Specialty Retail Center- (7th Edition)
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 9,300

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 44.32 (X)	412	4	50%	50%	206	206	---
Peak Hour of Adjacent Street Traffic 7-9 AM**	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 2.71 (X)**	**25**	**5**	**45%**	**55%**	**11**	**14**	**---**
AM Peak Hour of Generator	**T = 6.84 (X)**	**64**	**4**	**50%**	**50%**	**32**	**32**	**---**
PM Peak Hour of Generator	**T = 5.02 (X)**	**47**	**3**	**55%**	**45%**	**26**	**21**	**---**
Saturday	T = 42.04 (X)	391	3	50%	50%	196	195	---
Saturday Peak Hour of Gen.***	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM**	**T = 0.275 (PM Peak Hour)**	**7**		**60%**	**40%**	**4**	**3**	
Saturday Peak Hour***	**T = 1.325 (PM Peak Hour)**	**33**		**50%**	**50%**	**17**	**16**	

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center
* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 42.78 (X) + 37.66	436	4	50%	50%	218	218	0.69
Peak Hour of Adjacent Street Traffic 7-9 AM	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.40 (X) + 21.48	44	5	45%	55%	20	24	0.98
AM Peak Hour of Generator	T = 4.91 (X) + 115.59	161	4	50%	50%	81	80	0.90
PM Peak Hour of Generator	---	---	---	---	---	---	---	---
Saturday	---	---	---	---	---	---	---	---
Saturday Peak Hour of Gen.	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM***	T = 0.275 (PM Peak Hour)	12		60%	40%	7	5	
Saturday Peak Hour***	T = 1.325 (PM Peak Hour)	58		50%	50%	29	29	

* Percentages rounded to nearest 5%
(---) Not Given

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN:	3138.03	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	South Portland, ME 04106
Date:	11/11/2019	
Calculated By:	EAL	

Quality Restaurant
Land Use Code (LUC) 931

Gross Floor Area (ft^2): 3,200

Time Period	ITE Trip Rate (Average Rate)	Trip Ends	Directional Split		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	T = 89.95 (X)	288	50%	50%	144	144
AM Peak Adjacent Street	T = 0.81 (X)	3	50%	50%	2	1
PM Peak Adjacent Street	T = 7.49 (X)	24	65%	35%	16	8
AM Peak of Generator	T = 5.57 (X)	18	80%	20%	14	4
PM Peak of Generator	T = 9.02 (X)	29	60%	40%	17	12
Saturday	T = 94.36 (X)	302	50%	50%	151	151
Saturday Peak Hour of Gen.	T = 10.82 (X)	35	60%	40%	21	14

JN: 3138.03
Project Description: Portland Foreside
Project Location: Portland, Maine
Date: 11/11/2019
Calculated By: EAL

Gorrill Palmer Consulting Engineers
707 Sable Oaks Drive
South Portland, ME 04106

General Office Building
Land Use Code (LUC) 710

Square Feet 3,200

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	94	78	50%	50%	47	47	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**12**	**217**	**90%**	**10%**	**11**	**1**	**0.83**
PM Peak Hour	**T = 1.12 (X) + 78.81**	**82**	**235**	**15%**	**85%**	**12**	**70**	**0.82**
Saturday	T = 2.14 (X) + 18.47	25	17	50%	50%	13	12	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	2	10	55%	45%	1	1	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 11.01 (X)	35	78	50%	50%	18	17	---
AM Peak Hour	T = 1.55 (X)	5	217	90%	10%	5	0	---
PM Peak Hour	T = 1.49 (X)	5	235	15%	85%	1	4	---
Saturday	T = 2.37 (X)	8	17	50%	50%	4	4	---
Saturday Peak Hour of Gen.	**T = 0.41 (X)**	**1**	**10**	**50%**	**50%**	**1**	**0**	**---**

* Percentages rounded to nearest 5%

PM Peak Hour:	T = 1.49/1.55 (AM Peak)	12		15%	85%	2	10	0.82

JN:	4034	Gorrill Palmer
Project Description:	58 Fore Street	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	August 30, 2022	South Portland, Maine 04106

Residential Condominium/Townhouse
Land Use Code (LUC) 230

Dwelling Units: 2

Average Rate

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	**T = 5.86 (X)**	**54**	**12**	**50%**	**50%**	**6**	**6**	**N/A**
Peak Hour of Adjacent Street Traffic 7-9 AM	**T = 0.44 (X)**	**59**	**1**	**15%**	**85%**	**0**	**1**	**N/A**
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 0.52 (X)**	**62**	**1**	**65%**	**35%**	**1**	**0**	**N/A**
AM Peak Hour of Generator	T = 0.44 (X)	52	1	20%	80%	0	1	N/A
PM Peak Hour of Generator	T = 0.52 (X)	50	1	65%	35%	1	0	N/A
Saturday	T = 5.67 (X)	30	11	50%	50%	6	5	N/A
Saturday Peak Hour of Gen.	T = 0.47 (X)	27	1	55%	45%	1	0	N/A

* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln(T) = 0.85 Ln(X) + 2.55	54	23	50%	50%	12	11	0.83
Peak Hour of Adjacent Street Traffic 7-9 AM	Ln(T) = 0.80 Ln(X) + 0.26	59	2	15%	85%	0	2	0.76
Peak Hour of Adjacent Street Traffic 4-6 PM	Ln(T) = 0.82 Ln(X) + 0.32	62	2	65%	35%	1	1	0.80
AM Peak Hour of Generator	Ln(T) = 0.82 Ln(X) + 0.17	52	2	20%	80%	0	2	0.80
PM Peak Hour of Generator	T = 0.34 (X) + 38.31	50	39	65%	35%	25	14	0.83
Saturday	T = 3.62 (X) + 427.93	30	435	50%	50%	218	217	0.84
Saturday Peak Hour of Gen.	T = 0.29 (X) + 42.63	27	43	55%	45%	24	19	0.84

* Percentages rounded to nearest 5%

JN:	3138.03	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	South Portland, ME 04106
Date:	11/11/2019	
Calculated By:	EAL	

Quality Restaurant
Land Use Code (LUC) 931

Gross Floor Area (ft^2): 17,950

Time Period	ITE Trip Rate (Average Rate)	Trip Ends	Directional Split		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	T = 89.95 (X)	1615	50%	50%	808	807
AM Peak Adjacent Street	T = 0.81 (X)	15	50%	50%	8	7
PM Peak Adjacent Street	T = 7.49 (X)	134	65%	35%	87	47
AM Peak of Generator	T = 5.57 (X)	100	80%	20%	80	20
PM Peak of Generator	T = 9.02 (X)	162	60%	40%	97	65
Saturday	T = 94.36 (X)	1694	50%	50%	847	847
Saturday Peak Hour of Gen.	T = 10.82 (X)	194	60%	40%	116	78

JN:	3138.03	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	11/11/2019	South Portland, Maine 04106
Calculated By:	EAL	
Checked By:		

Specialty Retail Center- (7th Edition)
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 17,950

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 44.32 (X)	796	4	50%	50%	398	398	---
Peak Hour of Adjacent Street Traffic 7-9 AM**	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 2.71 (X)**	**49**	**5**	**45%**	**55%**	**22**	**27**	**---**
AM Peak Hour of Generator	**T = 6.84 (X)**	**123**	**4**	**50%**	**50%**	**62**	**61**	**---**
PM Peak Hour of Generator	**T = 5.02 (X)**	**90**	**3**	**55%**	**45%**	**50**	**40**	**---**
Saturday	T = 42.04 (X)	755	3	50%	50%	378	377	---
Saturday Peak Hour of Gen.***	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM**	**T = 0.275 (PM Peak Hour)**	**13**		**60%**	**40%**	**8**	**5**	
Saturday Peak Hour***	**T = 1.325 (PM Peak Hour)**	**65**		**50%**	**50%**	**33**	**32**	

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center
* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 42.78 (X) + 37.66	806	4	50%	50%	403	403	0.69
Peak Hour of Adjacent Street Traffic 7-9 AM	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.40 (X) + 21.48	65	5	45%	55%	29	36	0.98
AM Peak Hour of Generator	T = 4.91 (X) + 115.59	204	4	50%	50%	102	102	0.90
PM Peak Hour of Generator	---	---	---	---	---	---	---	---
Saturday	---	---	---	---	---	---	---	---
Saturday Peak Hour of Gen.	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM***	T = 0.275 (PM Peak Hour)	18		60%	40%	11	7	
Saturday Peak Hour***	T = 1.325 (PM Peak Hour)	86		50%	50%	43	43	

* Percentages rounded to nearest 5%
(---) Not Given

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN: 3138.03
Project Description: Portland Foreside
Project Location: Portland, Maine
Date: 11/11/2019
Calculated By: EAL

Gorrill Palmer Consulting Engineers
707 Sable Oaks Drive
South Portland, ME 04106

General Office Building
Land Use Code (LUC) 710

Square Feet 12,400

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution		R^2
				IN	OUT	IN	OUT	
Weekday	Ln (T) = 0.77 Ln (X) + 3.65	267	78	50%	50%	134	133	0.80
AM Peak Hour	**Ln (T) = 0.80 Ln (X) + 1.55**	**35**	**217**	**90%**	**10%**	**32**	**3**	**0.83**
PM Peak Hour	**T = 1.12 (X) + 78.81**	**93**	**235**	**15%**	**85%**	**14**	**79**	**0.82**
Saturday	T = 2.14 (X) + 18.47	45	17	50%	50%	23	22	0.66
Peak Hour of Generator	Ln (T) = 0.81 Ln (X) - 0.12	7	10	55%	45%	4	3	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution		R^2
				IN	OUT	IN	OUT	
Weekday	T = 11.01 (X)	137	78	50%	50%	69	68	---
AM Peak Hour	T = 1.55 (X)	19	217	90%	10%	17	2	---
PM Peak Hour	T = 1.49 (X)	18	235	15%	85%	3	15	---
Saturday	T = 2.37 (X)	29	17	50%	50%	15	14	---
Saturday Peak Hour of Gen.	**T = 0.41 (X)**	**5**	**10**	**50%**	**50%**	**3**	**2**	**---**

* Percentages rounded to nearest 5%

PM Peak Hour:	T = 1.49/1.55 (AM Peak)	34		15%	85%	5	29	0.82

JN:	4034	Gorrill Palmer
Project Description:	58 Fore Street	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	9/14/2022	South Portland, Maine 04106

Apartment
Land Use Code (LUC) 220

Dwelling Units: 225

Average Rate

Time Period	ITE Trip Rate	Sample Size	Trip Ends		Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 6.72 (X)	86	1512		50%	50%	756	756	N/A
AM Peak Hour of Adj. Street Traffic	T = 0.51 (X)	78	115		20%	80%	23	92	N/A
PM Peak Hour of Adj. Street Traffic	T = 0.62 (X)	90	140		65%	35%	91	49	N/A
AM Peak Hour of Generator	T = 0.55 (X)	81	124		30%	70%	37	87	N/A
PM Peak Hour of Generator	T = 0.67 (X)	83	151		60%	40%	91	60	N/A
Saturday	T = 6.39 (X)	15	1438		50%	50%	719	719	N/A
Saturday Peak Hour of Gen.	T = 0.52 (X)	14	117	**	50%	50%	59	58	N/A

* Percentages rounded to nearest 5%

** Not Available (Assumption)

Fitted Curve Equation

Time Period	ITE Trip Rate	Sample Size	Trip Ends		Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 6.01 (X) + 150.35	86	1503		50%	50%	751	752	0.88
AM Peak Hour of Adj. Street Traffic	T = 0.49 (X) + 3.73	78	114		20%	80%	23	91	0.83
PM Peak Hour of Adj. Street Traffic	T = 0.55 (X) + 17.65	90	141		65%	35%	92	49	0.77
AM Peak Hour of Generator	T = 0.53 (X) + 4.21	81	123		30%	70%	37	86	0.82
PM Peak Hour of Generator	T = 0.60 (X) + 17.52	83	153		60%	40%	92	61	0.80
Saturday	T = 7.85 (X) - 256.19	15	1510		50%	50%	755	755	0.85
Saturday Peak Hour of Gen.	T = 0.41 (X) + 19.23	14	111	**	50%	50%	56	55	0.56

* Percentages rounded to nearest 5%

** Not Available (Assumption)

JN:	4034	Gorrill Palmer
Project Description:	58 Fore Street	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	September 14, 2022	South Portland, Maine 04106

Residential Condominium/Townhouse
Land Use Code (LUC) 230

Dwelling Units: 22

Average Rate

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	**T = 5.86 (X)**	**54**	**129**	**50%**	**50%**	**65**	**64**	**N/A**
Peak Hour of Adjacent Street Traffic 7-9 AM	**T = 0.44 (X)**	**59**	**10**	**15%**	**85%**	**2**	**8**	**N/A**
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 0.52 (X)**	**62**	**11**	**65%**	**35%**	**7**	**4**	**N/A**
AM Peak Hour of Generator	T = 0.44 (X)	52	10	20%	80%	2	8	N/A
PM Peak Hour of Generator	T = 0.52 (X)	50	11	65%	35%	7	4	N/A
Saturday	T = 5.67 (X)	30	125	50%	50%	63	62	N/A
Saturday Peak Hour of Gen.	T = 0.47 (X)	27	10	55%	45%	6	4	N/A

* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln(T) = 0.85 Ln(X) + 2.55	54	177	50%	50%	89	88	0.83
Peak Hour of Adjacent Street Traffic 7-9 AM	Ln(T) = 0.80 Ln(X) + 0.26	59	15	15%	85%	2	13	0.76
Peak Hour of Adjacent Street Traffic 4-6 PM	Ln(T) = 0.82 Ln(X) + 0.32	62	17	65%	35%	11	6	0.80
AM Peak Hour of Generator	Ln(T) = 0.82 Ln(X) + 0.17	52	15	20%	80%	3	12	0.80
PM Peak Hour of Generator	T = 0.34 (X) + 38.31	50	46	65%	35%	30	16	0.83
Saturday	T = 3.62 (X) + 427.93	30	508	50%	50%	254	254	0.84
Saturday Peak Hour of Gen.	T = 0.29 (X) + 42.63	27	49	55%	45%	27	22	0.84

* Percentages rounded to nearest 5%

JN:	3138.03	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	9/21/2022	South Portland, Maine 04106
Calculated By:	BP	
Checked By:	RED	

Specialty Retail Center- (7th Edition)
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 11,951

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 44.32 (X)	530	4	50%	50%	265	265	---
Peak Hour of Adjacent Street Traffic 7-9 AM**	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 2.71 (X)**	**32**	**5**	**45%**	**55%**	**14**	**18**	**---**
AM Peak Hour of Generator	**T = 6.84 (X)**	**82**	**4**	**50%**	**50%**	**41**	**41**	**---**
PM Peak Hour of Generator	**T = 5.02 (X)**	**60**	**3**	**55%**	**45%**	**33**	**27**	**---**
Saturday	T = 42.04 (X)	502	3	50%	50%	251	251	---
Saturday Peak Hour of Gen.***	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM**	**T = 0.275 (PM Peak Hour)**	**9**		**60%**	**40%**	**5**	**4**	
Saturday Peak Hour***	**T = 1.325 (PM Peak Hour)**	**42**		**50%**	**50%**	**21**	**21**	

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center
* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 42.78 (X) + 37.66	549	4	50%	50%	275	274	0.69
Peak Hour of Adjacent Street Traffic 7-9 AM	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.40 (X) + 21.48	50	5	45%	55%	23	27	0.98
AM Peak Hour of Generator	T = 4.91 (X) + 115.59	174	4	50%	50%	87	87	0.90
PM Peak Hour of Generator	---	---	---	---	---	---	---	---
Saturday	---	---	---	---	---	---	---	---
Saturday Peak Hour of Gen.	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM***	T = 0.275 (PM Peak Hour)	14		60%	40%	8	6	
Saturday Peak Hour***	T = 1.325 (PM Peak Hour)	66		50%	50%	33	33	

* Percentages rounded to nearest 5%
(---) Not Given

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN:	4035	Gorrill Palmer
Project Description:	58 Fore Street	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	September 21, 2022	South Portland, Maine 04106

Residential Condominium/Townhouse
Land Use Code (LUC) 230

Dwelling Units: 154

Average Rate

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	**T = 5.86 (X)**	**54**	**902**	**50%**	**50%**	**451**	**451**	**N/A**
Peak Hour of Adjacent Street Traffic 7-9 AM	**T = 0.44 (X)**	**59**	**68**	**15%**	**85%**	**10**	**58**	**N/A**
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 0.52 (X)**	**62**	**80**	**65%**	**35%**	**52**	**28**	**N/A**
AM Peak Hour of Generator	T = 0.44 (X)	52	68	20%	80%	14	54	N/A
PM Peak Hour of Generator	T = 0.52 (X)	50	80	65%	35%	52	28	N/A
Saturday	T = 5.67 (X)	30	873	50%	50%	437	436	N/A
Saturday Peak Hour of Gen.	T = 0.47 (X)	27	72	55%	45%	40	32	N/A

* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln(T) = 0.85 Ln(X) + 2.55	54	926	50%	50%	463	463	0.83
Peak Hour of Adjacent Street Traffic 7-9 AM	Ln(T) = 0.80 Ln(X) + 0.26	59	73	15%	85%	11	62	0.76
Peak Hour of Adjacent Street Traffic 4-6 PM	Ln(T) = 0.82 Ln(X) + 0.32	62	86	65%	35%	56	30	0.80
AM Peak Hour of Generator	Ln(T) = 0.82 Ln(X) + 0.17	52	74	20%	80%	15	59	0.80
PM Peak Hour of Generator	T = 0.34 (X) + 38.31	50	91	65%	35%	59	32	0.83
Saturday	T = 3.62 (X) + 427.93	30	985	50%	50%	493	492	0.84
Saturday Peak Hour of Gen.	T = 0.29 (X) + 42.63	27	87	55%	45%	48	39	0.84

* Percentages rounded to nearest 5%

JN:	3138.03	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	9/14/2022	South Portland, Maine 04106
Calculated By:	BP	
Checked By:	RED	

Specialty Retail Center- (7th Edition)
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 9,108

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 44.32 (X)	404	4	50%	50%	202	202	---
Peak Hour of Adjacent Street Traffic 7-9 AM**	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 2.71 (X)**	**25**	**5**	**45%**	**55%**	**11**	**14**	**---**
AM Peak Hour of Generator	**T = 6.84 (X)**	**62**	**4**	**50%**	**50%**	**31**	**31**	**---**
PM Peak Hour of Generator	**T = 5.02 (X)**	**46**	**3**	**55%**	**45%**	**25**	**21**	**---**
Saturday	T = 42.04 (X)	383	3	50%	50%	192	191	---
Saturday Peak Hour of Gen.***	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM**	**T = 0.275 (PM Peak Hour)**	**7**		**60%**	**40%**	**4**	**3**	
Saturday Peak Hour***	**T = 1.325 (PM Peak Hour)**	**33**		**50%**	**50%**	**17**	**16**	

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center
* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 42.78 (X) + 37.66	427	4	50%	50%	214	213	0.69
Peak Hour of Adjacent Street Traffic 7-9 AM	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.40 (X) + 21.48	43	5	45%	55%	19	24	0.98
AM Peak Hour of Generator	T = 4.91 (X) + 115.59	160	4	50%	50%	80	80	0.90
PM Peak Hour of Generator	---	---	---	---	---	---	---	---
Saturday	---	---	---	---	---	---	---	---
Saturday Peak Hour of Gen.	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM***	T = 0.275 (PM Peak Hour)	12		60%	40%	7	5	
Saturday Peak Hour***	T = 1.325 (PM Peak Hour)	57		50%	50%	29	28	

* Percentages rounded to nearest 5%
(---) Not Given

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN:	4060
Project Description:	Portland Foreside
Project Location:	Portland, Maine
Date:	March 27, 2023
Calculated By:	BP
Checked By:	RED

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

Hotel
Land Use Code (LUC) 310

Rooms: 128

Average Rate

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split*		Directional Distribution		R^2
				IN	OUT	IN	OUT	
Weekday	T = 8.17 (X)	10	1046	50%	50%	523	523	-
AM Peak Adjacent Street	T = 0.56 (X)	20	72	60%	40%	43	29	-
PM Peak Adjacent Street	T = 0.59 (X)	25	76	55%	45%	42	34	-
AM Peak Hour of Generator	T = 0.52 (X)	32	67	55%	45%	37	30	-
PM Peak Hour of Generator	T = 0.61 (X)	35	78	60%	40%	47	31	-
Saturday	T = 8.19 (X)	8	1048	50%	50%	524	524	-
Saturday Peak Hour of Gen.	T = 0.72 (X)	9	92	55%	45%	51	41	-

* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split*		Directional Distribution		R^2
				IN	OUT	IN	OUT	
Weekday	T = 8.95 (X) - 373.16	10	772	50%	50%	386	386	0.98
AM Peak Hour of Adjacent Street Traffic	Ln(T) = 1.24 Ln(X) - 2.00	20	56	60%	40%	34	22	0.75
PM Peak Hour of Adjacent Street Traffic	--	25	--	55%	45%	--	--	--
AM Peak Hour of Generator	Ln(T) = 0.87 Ln(X) + 0.02	32	69	55%	45%	38	31	0.54
PM Peak Hour of Generator	Ln(T) = 1.00 Ln(X) - 0.58	35	72	60%	40%	43	29	0.64
Saturday	T = 9.62 (X) - 294.56	8	937	50%	50%	469	468	0.93
Saturday Peak Hour of Gen.	T = 0.69 (X) + 4.32	9	93	55%	45%	51	42	0.80

* Percentages rounded to nearest 5%

JN:	4060	Gorrill Palmer
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	March 27, 2023	South Portland, Maine 04106

Residential Condominium/Townhouse
Land Use Code (LUC) 230

Dwelling Units: 43

Average Rate

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	**T = 5.86 (X)**	**54**	**252**	**50%**	**50%**	**126**	**126**	**N/A**
Peak Hour of Adjacent Street Traffic 7-9 AM	**T = 0.44 (X)**	**59**	**19**	**15%**	**85%**	**3**	**16**	**N/A**
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 0.52 (X)**	**62**	**22**	**65%**	**35%**	**14**	**8**	**N/A**
AM Peak Hour of Generator	T = 0.44 (X)	52	19	20%	80%	4	15	N/A
PM Peak Hour of Generator	T = 0.52 (X)	50	22	65%	35%	14	8	N/A
Saturday	T = 5.67 (X)	30	244	50%	50%	122	122	N/A
Saturday Peak Hour of Gen.	T = 0.47 (X)	27	20	55%	45%	11	9	N/A

* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Sample Size	Trip Ends	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	Ln(T) = 0.85 Ln(X) + 2.55	54	313	50%	50%	157	156	0.83
Peak Hour of Adjacent Street Traffic 7-9 AM	Ln(T) = 0.80 Ln(X) + 0.26	59	26	15%	85%	4	22	0.76
Peak Hour of Adjacent Street Traffic 4-6 PM	Ln(T) = 0.82 Ln(X) + 0.32	62	30	65%	35%	20	10	0.80
AM Peak Hour of Generator	Ln(T) = 0.82 Ln(X) + 0.17	52	26	20%	80%	5	21	0.80
PM Peak Hour of Generator	T = 0.34 (X) + 38.31	50	53	65%	35%	34	19	0.83
Saturday	T = 3.62 (X) + 427.93	30	584	50%	50%	292	292	0.84
Saturday Peak Hour of Gen.	T = 0.29 (X) + 42.63	27	55	55%	45%	30	25	0.84

* Percentages rounded to nearest 5%

JN:	4060	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	Suite 30
Date:	4/27/2023	South Portland, Maine 04106
Calculated By:	RED	
Checked By:		

Specialty Retail Center- (7th Edition)
Land Use Code (LUC) 814

Gross Floor Area (ft^2): 4,928

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 44.32 (X)	218	4	50%	50%	109	109	---
Peak Hour of Adjacent Street Traffic 7-9 AM**	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	**T = 2.71 (X)**	**13**	**5**	**45%**	**55%**	**6**	**7**	**---**
AM Peak Hour of Generator	**T = 6.84 (X)**	**34**	**4**	**50%**	**50%**	**17**	**17**	**---**
PM Peak Hour of Generator	**T = 5.02 (X)**	**25**	**3**	**55%**	**45%**	**14**	**11**	**---**
Saturday	T = 42.04 (X)	207	3	50%	50%	104	103	---
Saturday Peak Hour of Gen.***	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM**	**T = 0.275 (PM Peak Hour)**	**4**		**60%**	**40%**	**2**	**2**	
Saturday Peak Hour***	**T = 1.325 (PM Peak Hour)**	**17**		**50%**	**50%**	**9**	**8**	

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center
* Percentages rounded to nearest 5%

Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 42.78 (X) + 37.66	248	4	50%	50%	124	124	0.69
Peak Hour of Adjacent Street Traffic 7-9 AM	---	---	---	---	---	---	---	---
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 2.40 (X) + 21.48	33	5	45%	55%	15	18	0.98
AM Peak Hour of Generator	T = 4.91 (X) + 115.59	140	4	50%	50%	70	70	0.90
PM Peak Hour of Generator	---	---	---	---	---	---	---	---
Saturday	---	---	---	---	---	---	---	---
Saturday Peak Hour of Gen.	---	---	---	---	---	---	---	---
AM Peak of Adjacent Street 7-9 AM***	T = 0.275 (PM Peak Hour)	9		60%	40%	5	4	
Saturday Peak Hour***	T = 1.325 (PM Peak Hour)	44		50%	50%	22	22	

* Percentages rounded to nearest 5%
(---) Not Given

**Based on ratio of AM/PM traffic for LUC 820, Shopping Center
***Saturday Peak Hour comes from a ratio of PM to Saturday trip rates from LUC 820 - Shopping Center

JN:	4060	Gorrill Palmer Consulting Engineers
Project Description:	Portland Foreside	707 Sable Oaks Drive
Project Location:	Portland, Maine	South Portland, ME 04106
Date:	3/27/2023	
Calculated By:	RED	

Quality Restaurant
Land Use Code (LUC) 931

Gross Floor Area (ft^2): 18,083

Time Period	ITE Trip Rate (Average Rate)	Trip Ends	Directional Split		Directional Distribution	
			IN	OUT	IN	OUT
Weekday	T = 89.95 (X)	1627	50%	50%	814	813
AM Peak Adjacent Street	T = 0.81 (X)	15	50%	50%	8	7
PM Peak Adjacent Street	T = 7.49 (X)	135	65%	35%	88	47
AM Peak of Generator	T = 5.57 (X)	101	80%	20%	81	20
PM Peak of Generator	T = 9.02 (X)	163	60%	40%	98	65
Saturday	T = 94.36 (X)	1706	50%	50%	853	853
Saturday Peak Hour of Gen.	T = 10.82 (X)	196	60%	40%	118	78

JN: 4060
Project Description: Portland Foreside
Project Location: Portland, Maine
Date: 4/27/2023

Gorrill-Palmer Consulting Engineers, Inc.
P.O. Box 1237
15 Shaker Road
Gray, Maine 04039

Health/Fitness Club
Land Use Code (LUC) 492

Gross Floor Area (ft^2): 19,697

Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split * IN	Directional Split * OUT	Directional Distribution IN	Directional Distribution OUT	R^2
Weekday	T = 32.93 (X)	649	1	50%	50%	325	324	---
Peak Hour of Adjacent Street Traffic 7-9 AM**	T = 1.21 (X)	24	3	40%	60%	10	14	
Peak Hour of Adjacent Street Traffic 4-6 PM	T = 4.05 (X)	80	3	50%	50%	40	40	---
AM Peak Hour of Generator	T = 1.41 (X)	28	3	40%	60%	11	17	---
PM Peak Hour of Generator	T = 4.06 (X)	80	3	50%	50%	40	40	---
Saturday	T = 20.87 (X)	411	3	50%	50%	206	205	---
Saturday Peak Hour of Gen.***	T = 2.60 (X)	51	3	50%	50%	26	25	---

* Percentages rounded to nearest 5%

Attachment C

NCHRP 684 & Shared Parking Demand spreadsheets

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	58 Fore Street Redevelopment	**Organization:**	GP
Project Location:	Portland, Maine	**Performed By:**	RED
Scenario Description:	Block 5	**Date:**	4/27/2023
Analysis Year:		**Checked By:**	
Analysis Period:	AM Street Peak Hour	**Date:**	

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

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	110,700	SF	227	205	22
Retail	814	53,292	SF	40	24	16
Restaurant	931	30,514	SF	33	17	16
Cinema/Entertainment				0		
Residential	220/230	455	Units	213	32	181
Hotel	310	130	Units	72	43	29
All Other Land Uses[2]	492			24	10	14
Total				609	331	278

Table 2-A: Mode Split and Vehicle Occupancy Estimates

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

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

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

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	4	0	0	0
Retail	5		2	0	1	0
Restaurant	5	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	2	3	0		0
Hotel	6	1	1	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	609	331	278
Internal Capture Percentage	14%	13%	15%
External Vehicle-Trips[3]	523	288	235
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

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

Land Use	Entering Trips	Exiting Trips
Office	10%	45%
Retail	46%	50%
Restaurant	59%	50%
Cinema/Entertainment	N/A	N/A
Residential	6%	5%
Hotel	0%	28%

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

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

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

[4]Person-Trips

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

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	58 Fore Street Redevelopment
Analysis Period:	AM Street Peak Hour

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

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	205	205	1.00	22	22
Retail	1.00	24	24	1.00	16	16
Restaurant	1.00	17	17	1.00	16	16
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	32	32	1.00	181	181
Hotel	1.00	43	43	1.00	29	29

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	14	0	0	0
Retail	5		2	0	2	0
Restaurant	5	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	2	36	0		0
Hotel	22	4	3	0	0	

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	4	0	0	0
Retail	8		9	0	1	0
Restaurant	29	2		0	2	2
Cinema/Entertainment	0	0	0		0	0
Residential	6	4	3	0		0
Hotel	6	1	1	0	0	

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

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	20	185	205	185	0	0
Retail	11	13	24	13	0	0
Restaurant	10	7	17	7	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	30	32	30	0	0
Hotel	0	43	43	43	0	0
All Other Land Uses[3]	0	10	10	10	0	0

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

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	10	12	22	12	0	0
Retail	8	8	16	8	0	0
Restaurant	8	8	16	8	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	9	172	181	172	0	0
Hotel	8	21	29	21	0	0
All Other Land Uses[3]	0	14	14	14	0	0

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

[2]Person-Trips

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

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

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	58 Fore Street Redevelopment	**Organization:**	GP
Project Location:	Portland, Maine	**Performed By:**	RED
Scenario Description:	Block 5	**Date:**	4/27/2023
Analysis Year:		**Checked By:**	
Analysis Period:	PM Street Peak Hour	**Date:**	

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

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	110,700	SF	219	33	186
Retail	814	53,292	SF	144	65	79
Restaurant	931	30,514	SF	293	190	103
Cinema/Entertainment				0		
Residential	220/230	455	Units	255	166	89
Hotel	310	130	Units	76	41	35
All Other Land Uses[2]				80	40	40
Total				1067	535	532

Table 2-P: Mode Split and Vehicle Occupancy Estimates

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

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

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

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	4	0	4	0
Retail	2		23	0	21	4
Restaurant	3	33		0	19	7
Cinema/Entertainment	0	0	0		0	0
Residential	4	7	19	0		3
Hotel	0	1	10	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,067	535	532
Internal Capture Percentage	32%	32%	32%
External Vehicle-Trips[3]	729	366	363
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

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

Land Use	Entering Trips	Exiting Trips
Office	27%	7%
Retail	71%	63%
Restaurant	29%	60%
Cinema/Entertainment	N/A	N/A
Residential	27%	37%
Hotel	34%	31%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
[4]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	58 Fore Street Redevelopment
Analysis Period:	PM Street Peak Hour

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

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	33	33	1.00	186	186
Retail	1.00	65	65	1.00	79	79
Restaurant	1.00	190	190	1.00	103	103
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	166	166	1.00	89	89
Hotel	1.00	41	41	1.00	35	35

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		37	7	0	4	0
Retail	2		23	3	21	4
Restaurant	3	42		8	19	7
Cinema/Entertainment	0	0	0		0	0
Residential	4	37	19	0		3
Hotel	0	6	24	0	1	

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	4	0	7	0
Retail	10		55	0	76	7
Restaurant	10	33		0	27	29
Cinema/Entertainment	2	3	6		7	0
Residential	19	7	27	0		5
Hotel	0	1	10	0	0	

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

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	9	24	33	24	0	0
Retail	46	19	65	19	0	0
Restaurant	56	134	190	134	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	44	122	166	122	0	0
Hotel	14	27	41	27	0	0
All Other Land Uses[3]	0	40	40	40	0	0

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

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	13	173	186	173	0	0
Retail	50	29	79	29	0	0
Restaurant	62	41	103	41	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	33	56	89	56	0	0
Hotel	11	24	35	24	0	0
All Other Land Uses[3]	0	40	40	40	0	0

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

[2]Person-Trips

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

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

05-05-2023 Combined Shared Parking Demand 5th Edition

	Block 1 - SunLife Office Building					Block 4					Block 1 - Building 12							Block 2						
	Block 1A		Block 1A		Total for Block 1A	Block 4		Block 4		Total for Block 4	Building 12		Building 12		Building 12		Total for Building 12	Block 2		Block 2		Block 2		Total for Block 2
	Office (4)		Specialty Retail (5)			Specialty Retail (5)		Residential (3)			Office (4)		Restaurant (6)		Residential (3)			Office (4)		Restaurant (6)		Specialty Retail (5)		
Rate	2.39	2.39 / 1,000 sf	1.95	1.95 / 1,000 sf		1.95	1.95 / 1,000 sf	1.21	1.21 per Unit		2.39	2.39/1,000 sf	95.0570	10.52 / 1000 sf	1.21	1.21 per Unit		2.39	2.39 / 1,000 sf	95.0570	10.52/1000	1.95	1.95 / 1,000 sf	
Monthly Adjustment	1000		1000	1		1000	1		1		1000					1		1000				1000	1	
SQF or Unit	95,100	95100 sf	9,300	9300 sf		11,951	11951 sf	247	247 Units		3,200	3,200 sf	3,200	3,200 sf	2	2 Units		12,400	12400 sf	17,950	17950 sf	17,950	17950 sf	
6:00AM	0.00	0	0.00	0	0	0.00	0	0.90	269	269	0.00	0	0.00	0	0.90	2	2	0.00	0	0.00	0	0.00	0	0
7:00AM	0.13	30	0.00	0	30	0.00	0	0.77	230	230	0.13	1	0.00	0	0.77	2	3	0.13	4	0.00	0	0.00	0	4
8:00AM	0.48	109	0.15	3	112	0.15	3	0.56	167	170	0.48	4	0.00	0	0.56	1	5	0.48	14	0.00	0	0.15	5	19
9:00AM	0.88	200	0.32	6	206	0.32	7	0.45	134	141	0.88	7	0.00	0	0.45	1	8	0.88	26	0.00	0	0.32	11	37
10:00AM	1.00	227	0.54	10	237	0.54	13	0.40	120	133	1.00	8	0.00	0	0.40	1	9	1.00	30	0.00	0	0.54	19	49
11:00AM	1.00	227	0.71	13	240	0.71	17	0.37	111	128	1.00	8	0.20	7	0.37	1	16	1.00	30	0.20	38	0.71	25	93
12:00PM	0.85	193	0.99	18	211	0.99	23	0.36	108	131	0.85	7	0.51	17	0.36	1	25	0.85	25	0.51	96	0.99	35	156
1:00PM	0.84	191	1.00	18	209	1.00	23	0.36	108	131	0.84	6	0.56	19	0.36	1	26	0.84	25	0.56	106	1.00	35	166
2:00PM	0.93	211	0.90	16	227	0.90	21	0.37	111	132	0.93	7	0.40	13	0.37	1	21	0.93	28	0.40	76	0.90	32	136
3:00PM	0.94	214	0.83	15	229	0.83	19	0.43	129	148	0.94	7	0.27	9	0.43	1	17	0.94	28	0.27	51	0.83	29	108
4:00PM	0.85	193	0.81	15	208	0.81	19	0.45	134	153	0.85	7	0.27	9	0.45	1	17	0.85	25	0.27	51	0.81	28	104
5:00PM	0.56	127	0.84	15	142	0.84	20	0.55	164	184	0.56	4	0.39	13	0.55	1	18	0.56	17	0.39	74	0.84	29	120
6:00PM	0.20	45	0.86	16	61	0.86	20	0.66	197	217	0.20	2	0.71	24	0.66	2	28	0.20	6	0.71	134	0.86	30	170
7:00PM	0.11	25	0.80	15	40	0.80	19	0.73	218	237	0.11	1	1.00	34	0.73	2	37	0.11	3	1.00	189	0.80	28	220
8:00PM	0.00	0	0.63	11	11	0.63	15	0.77	230	245	0.00	0	0.97	33	0.77	2	35	0.00	0	0.97	183	0.63	22	205
9:00PM	0.00	0	0.42	8	8	0.42	10	0.86	257	267	0.00	0	0.00	0	0.86	2	2	0.00	0	0.00	0	0.42	15	15
10:00PM	0.00	0	0.15	3	3	0.15	3	0.92	275	278	0.00	0	0.00	0	0.92	2	2	0.00	0	0.00	0	0.15	5	5
Dedicated spaces	0.00	0	0.00	0	0	0.00	0			0	0.00	0	0.00	0			0	0.00	0	0.00	0	0.00	0	0

(1) Based on the results from the NCHRP 684 Internal Trip Capture Estimation Tool

(2) Based on Commute to Work data from the 2009-2013 ACS by Census Tract for the City of Portland provided by GPCOG

(3 Time of Day distrubution for Dense Multi-use Urban, Rate for General Urban/Suburban

(4) Time of day distribution and rate based on General Urban/Suburban

(5) Time of day distrubution and rate based on Shopping Center, General Urban/Suburban, weekday (non-December)

(6) Time of day distrubution and rate based on Quality Restaurant, General Urban/Suburban, weekday (Monday-Thursday)

(7) Time of day distrubution and rate based on Hotel, General Urban/Suburban, weekday

(8) Time of day distrubution and rate based on Health / Fitness Club, weekday.

05-05-2023 Combined Shared Parking Demand 5th Edition

Block 5											Block 6					Shared Spaces					
																Combined Subtotal					
Block 5		Block 5		Block 5		Block 5		Block 5		Total for Block 5	Block 6		Block 6		Total for Block 6						
Hotel (7)		Specialty Retail (5)		Restaurant (6)		Residential (3)		Spa (8)			Specialty Retail (5)		Residential (3)								
1.1	1.1 per room	1.95	1.95 / 1,000 sf	95.0570	10.52/1000	1.21	1.21 per Unit	232.5581	4.3 / 1000SF		1.95	1.95 / 1,000 sf	1.21	1.21 per Unit		Combined Subtotal	Mixed Use Reduction (1)	Other Modes Reduction (2)	Reduced Total	Non-Residential Spaces	Residential Spaces
		1000	1				1	1000			1000	1		1			23%	18.0%			
128	128 room	4,928		18,083		43	43 Units	19,697	19660 SF		9,108	9108 sf	154	154 Units							
0.91	128	0.00	0	0.00	0	0.90	47	0.00	0	175	0.00	0	0.90	168	168	614	141	85	388	101	287
0.89	125	0.00	0	0.00	0	0.77	40	0.00	0	165	0.00	0	0.77	143	143	575	132	80	363	118	245
0.90	127	0.15	1	0.00	0	0.56	29	0.00	0	157	0.15	3	0.56	104	107	570	131	79	360	182	178
1.00	141	0.32	3	0.00	0	0.45	23	0.00	0	167	0.32	6	0.45	84	90	649	149	90	410	267	143
0.98	138	0.54	5	0.00	0	0.40	21	0.62	53	216	0.54	10	0.40	75	85	729	168	101	460	332	128
0.89	125	0.71	7	0.20	38	0.37	19	0.55	47	236	0.71	13	0.37	69	82	795	183	110	502	384	118
0.85	120	0.99	10	0.51	97	0.36	19	0.44	37	282	0.99	18	0.36	67	85	890	205	123	562	447	115
0.75	106	1.00	10	0.56	107	0.36	19	0.41	35	275	1.00	18	0.36	67	85	892	205	124	563	448	115
0.81	114	0.90	9	0.40	76	0.37	19	0.36	30	249	0.90	16	0.37	69	85	850	196	118	536	418	118
0.70	99	0.83	8	0.27	51	0.43	22	0.41	35	215	0.83	15	0.43	80	95	812	187	113	512	375	137
0.74	104	0.81	8	0.27	51	0.45	23	0.69	58	245	0.81	14	0.45	84	98	825	190	114	521	378	143
0.65	92	0.84	8	0.39	74	0.55	29	0.96	81	284	0.84	15	0.55	102	117	865	199	120	546	372	174
0.73	103	0.86	8	0.71	135	0.66	34	1.00	85	365	0.86	15	0.66	123	138	979	225	136	618	408	210
0.78	110	0.80	8	1.00	190	0.73	38	0.85	72	418	0.80	14	0.73	136	150	1102	253	153	696	464	232
0.93	131	0.63	6	0.97	185	0.77	40	0.00	0	362	0.63	11	0.77	143	154	1012	233	140	639	394	245
0.96	135	0.42	4	0.00	0	0.86	45	0.00	0	184	0.42	7	0.86	160	167	643	148	89	406	132	274
0.95	134	0.15	1	0.00	0	0.92	48	0.00	0	183	0.15	3	0.92	171	174	645	148	89	408	115	293

GORRILL PALMER

300 Southborough Dr., Suite 200
South Portland, Maine 04106
207.800.3169

Traffic Response
Blocks 4, 5, & 6 Portland Foreside
Portland, Maine

Date: June 23, 2023
Subject: Portland Foreside, Combined Blocks Traffic Assessment Response
Portland, Maine
To: David Senus, PE – Foreside Development
From: Randy Dunton, PE, PTOE – Gorrill Palmer

Introduction

The purpose of this memo is to respond to traffic comments received from the City regarding Blocks 4, 5, & 6 of the Foreside Development. The following are the original City comments in *italics* followed by our response in **bold**.

Comment:

The Trip Generation estimate included in the Traffic Assessment shall be based on the 11th Edition of the ITE Trip Generation publication. This was discussed and confirmed with MaineDOT's State Traffic Engineer. Please provide updated Trip Generation estimates accordingly.

Response: The trip generation estimate provided with the application was based upon the 7th Edition of the ITE because that was the edition that was in effect when the Master Development Plan was approved. Normal practice would be to review phases of that project using the edition in effect at the time of original approval, so that we compare apples to apples. For example, it is what we used for the first phase of this project. This comment asks us to provide estimates based upon the 11th Edition. We have provided those estimates below, but note that we are no longer comparing apples to apples, as it relates to the MDP approval. Below are revised tables associated with the trip generation for Blocks 4, 5, & 6 based on the ITE Trip Generation Manual, 11th Edition. The other blocks in Table 1 have already been constructed or permitted.

Raw Trip Generation:

It should be noted that the Specialty Retail use that was available in the 7th Edition and used in the previous submittal is not available in the 11th Edition. For that reason, that same square footage was divided into Quality Restaurant, High Turnover Restaurant, and Apparel Store.

Table 1 – Raw Trip Generation

Use	Size	AM Adj St	PM Adj St
Block 1 – SunLife Office	**Constructed per November 2019 Assessment**		
Office	95,100 SF	180	173
Retail	9,300 SF	7	25
Subtotal		187	198
Block 1 – Building 12	**Constructed per November 2019 Assessment**		
Office	3,200 SF	12	12
Restaurant	3,200 SF	3	24
Residential - Condos	2 units	1	1
Subtotal		16	37
Block 2	**Permitted per November 2019 Assessment**		
Restaurant	17,950 SF	15	134
Retail	17,950 SF	13	49
Office	12,400 SF	35	34
Subtotal		63	217
Block 4	**Under Review**		
Multifamily (Mid-Rise)	247 Units	91	96
Quality Restaurant	2,988	2	23
High Turnover Restaurant	2,988	29	27
Apparel Store	5,975	6	25
Subtotal		128	171
Block 5	**Under Review**		
Multifamily (Mid-Rise)	43 Units	16	17
Hotel	128 Units	59	76
Quality Restaurant	19,315	14	151
High Turnover Restaurant	1,232	11	11
Apparel Store	2,464	3	10
Spa (Health / Fitness Club)	19,697 SF	26	68
Subtotal		129	333
Block 6	**Under Review**		
Multifamily (Mid-Rise)	154 Units	57	60
Quality Restaurant	2,277	2	18
High Turnover Restaurant	2,277	22	21
Apparel Store	4,554	5	19
Subtotal		86	118
Total		**609**	**1074**

As seen from the above table, the forecast trip generation is 609 & 1074 trip ends for the AM and PM peak hours of the adjacent street respectively. This is zero change from the previous forecast trip ends for the AM peak hour and an increase of 7 trip ends for the PM peak hour of adjacent street traffic.

Shared Use Reduction:

Table 2 – AM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	205	22	13	82	26	18	44
Retail	23	11	43	45	10	5	15
Restaurant	53	45	49	42	26	19	45
Residential	38	127	8	12	3	15	18
Hotel	33	26	3	35	1	9	10
All Other Uses (spa)	13	13	50	50	7	7	14
Total	**365**	**244**	**20***	**30***	**73**	**73**	**146**

*The percentages are slightly higher than the NCHRP spreadsheets because the spreadsheets do not adequately represent or include the internal capture of the spa, so those reductions were added after the results of the spreadsheets were determined.

Table 3 – PM Peak Hour Adjacent Street NCHRP 684 Internal Trip Capture

Land Use	ITE Trip Generation		Internal Capture %		Internal Capture Trip Ends		
	Enter	Exit	Enter	Exit	Enter	Exit	Total
Office	33	186	24	8	8	14	22
Retail	61	67	70	60	43	40	83
Restaurant	269	140	19	44	51	62	113
Residential	107	67	36	37	38	25	63
Hotel	39	37	38	38	15	14	29
All Other Uses (spa)	39	29	50	50	20	20	40
Total	**548**	**526**	**32***	**33***	**175**	**175**	**350**

*The percentages are slightly higher than the NCHRP spreadsheets because the spreadsheets do not adequately represent or include the internal capture of the spa, so those reductions were added after the results of the spreadsheets were determined.

Table 4 – Shared Use Reduced Trip Generation Summary

Building Use	Trip Generation	
	AM Adj St	PM Adj St
ITE Total	609	1074
Shared Use Reduction	-146	-350
Reduced Subtotal	**463**	**724**

Other Modes Reduction:

In an email from Tom Errico to Randy Dunton dated 6/22/23, "The City suggests use of a 20% non-auto trip factor."

Table 5 – Other Modes Reduced Trip Generation Summary

Building Use	Trip Generation	
	AM Adj St	PM Adj St
Reduced Subtotal	463	724
Other Modes Reduction	-93	-145
Reduced Site Total	**370**	**579**

Master Plan Trip Generation Comparison:

Table 6 – Trip Generation Comparison Summary

Trip Generation	Trip Generation	
	AM Adj St	PM Adj St
Permitted	506	585
Forecast Combined Blocks	370	579
Remaining Permitted Trips	**136**	**6**

As summarized in Table 6, after completion of Blocks 4, 5, and 6, the site is forecast to have 136 AM and 6 PM trip ends remaining to meet their permitted trip ends. It should be noted that an additional 99 trip ends above what was permitted is allowed before a Traffic Movement Permit modification is required.

Bicycle Parking:

Table 7 - Bicycle Parking Summary

Use	Bicycle parking Demand
Parking Variables	499 Non-Residential Vehicle Spaces, 446 Residential Units
Residential Bicycle Spaces	178
Non-Residential Bicycle Spaces	40
Total	**218**

Comment:

The reduction assumptions used in prior analysis should be revisited and documentation should be provided in support of suggested trip reduction factors given current conditions. Please provide revised documentation accordingly.

Response:

As identified above in the previous response (Other Modes Reduction), the 20% non-auto trip factor provided by the City was used for the revised trip evaluation.

Comment:

The applicant shall provide the EXCEL spreadsheet for the parking demand analysis for review and approval. Adjustments to mode share and internal capture may be necessary following the changed to methods used in the traffic study noted above.

Response:

As requested, a readable EXCEL spreadsheet of the parking summary has been sent to the City and their traffic peer reviewer. A hard copy is provided as an attachment to this response.

Attachments

Attachment A – Supporting information

u:\4060_portland foreside block 5_portland\n traffic\summary response memo - 06-23-23 .docx

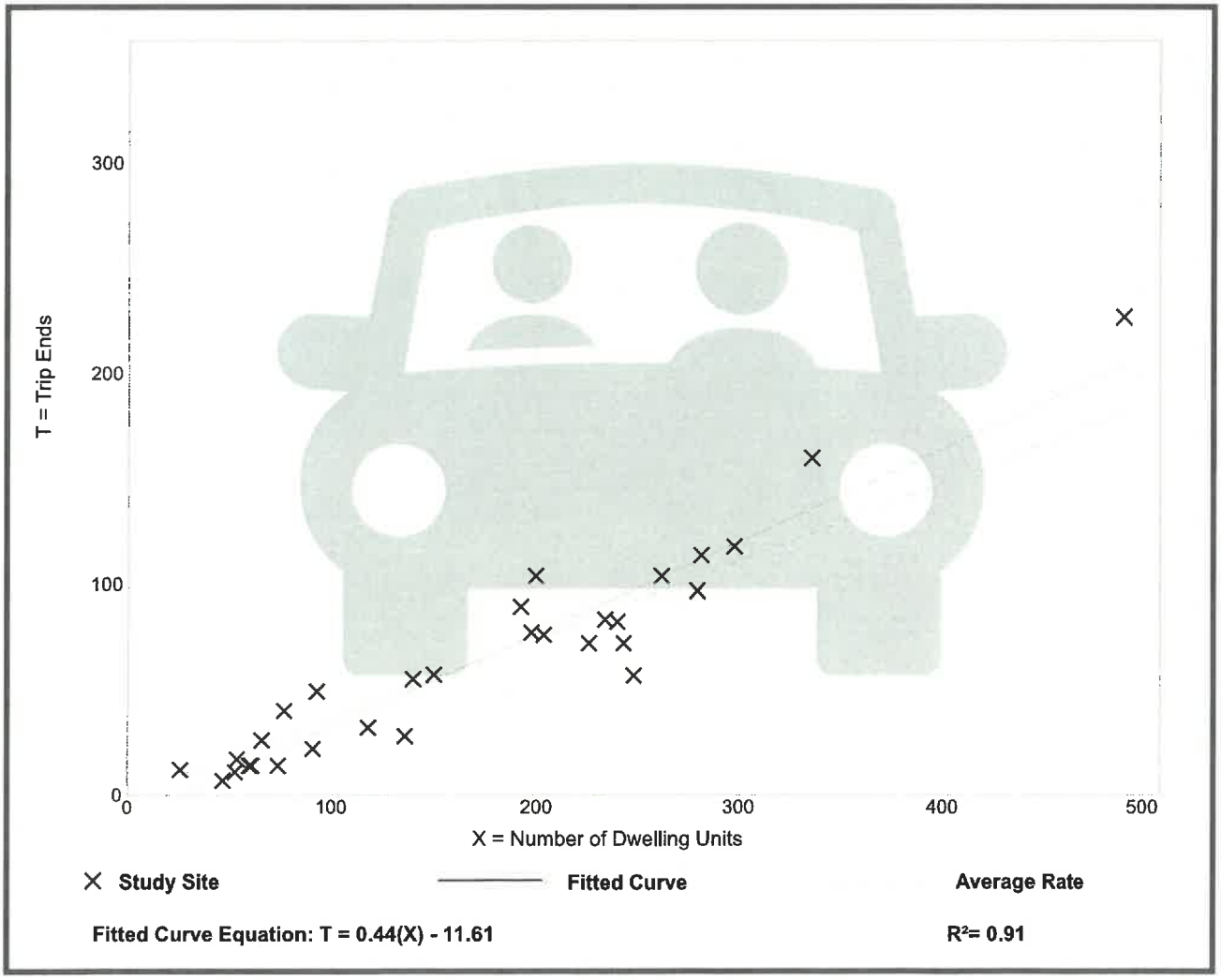
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 30
Avg. Num. of Dwelling Units: 173
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

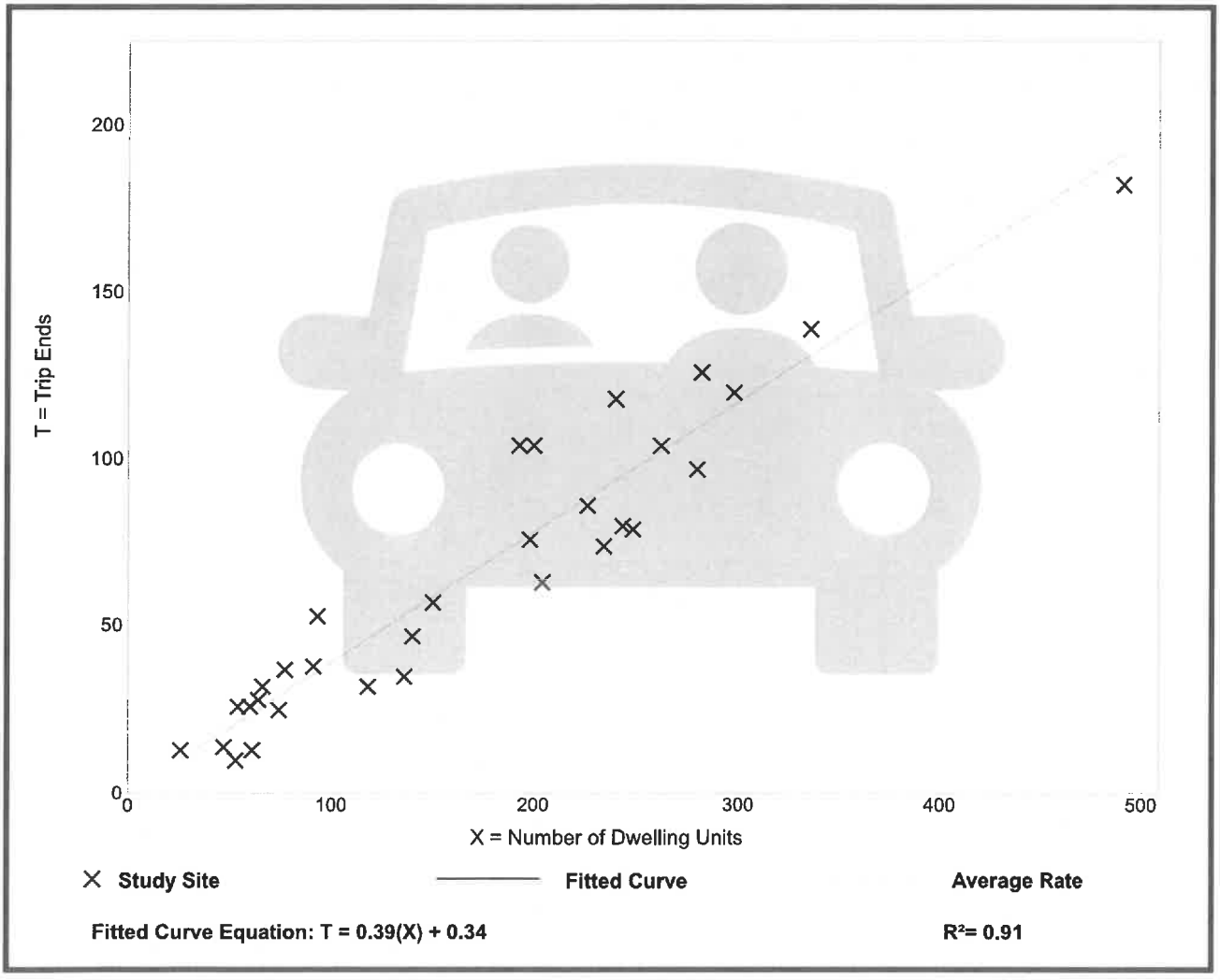
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. Num. of Dwelling Units: 169
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

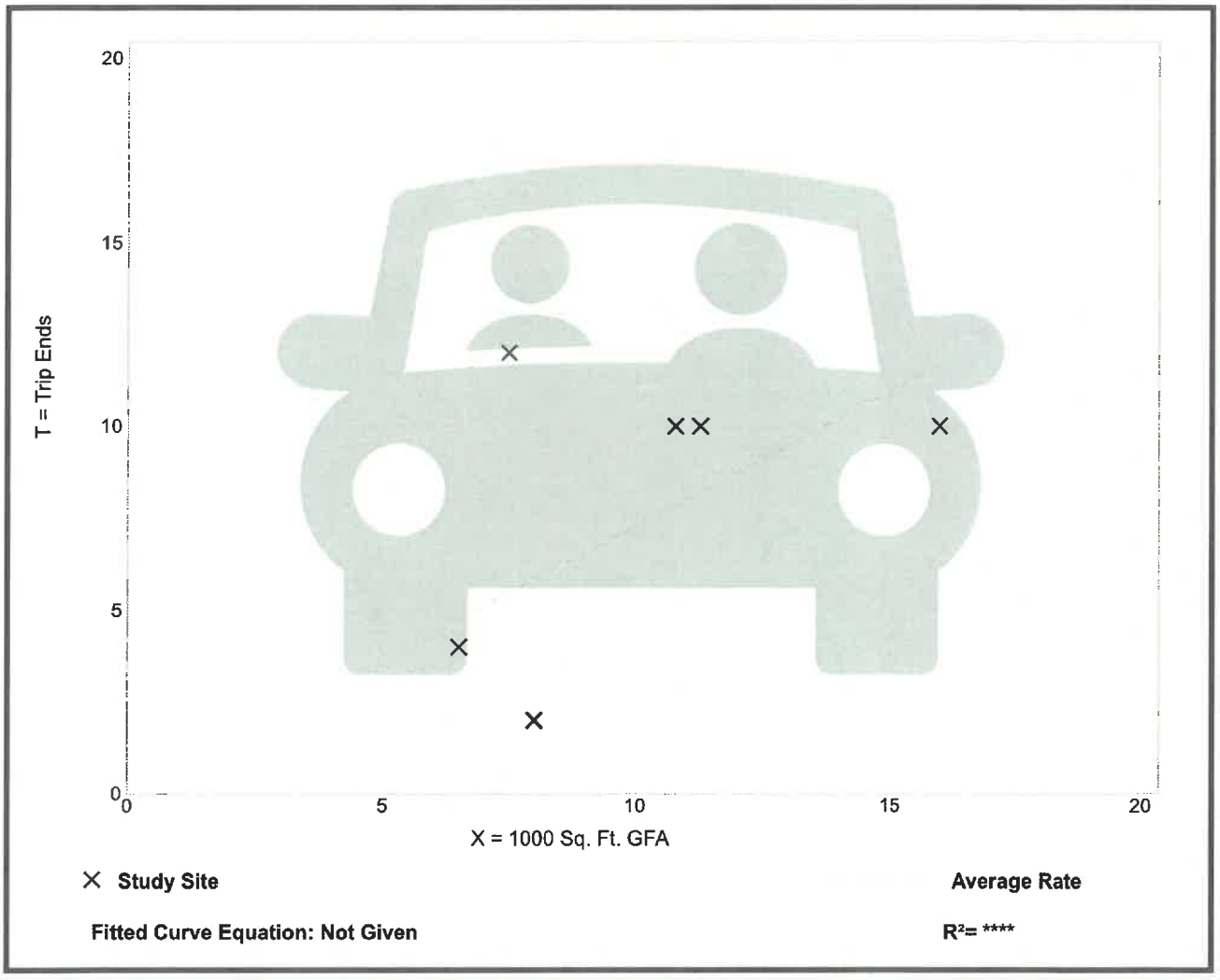
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. 1000 Sq. Ft. GFA: 10
Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.73	0.25 - 1.60	0.42

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

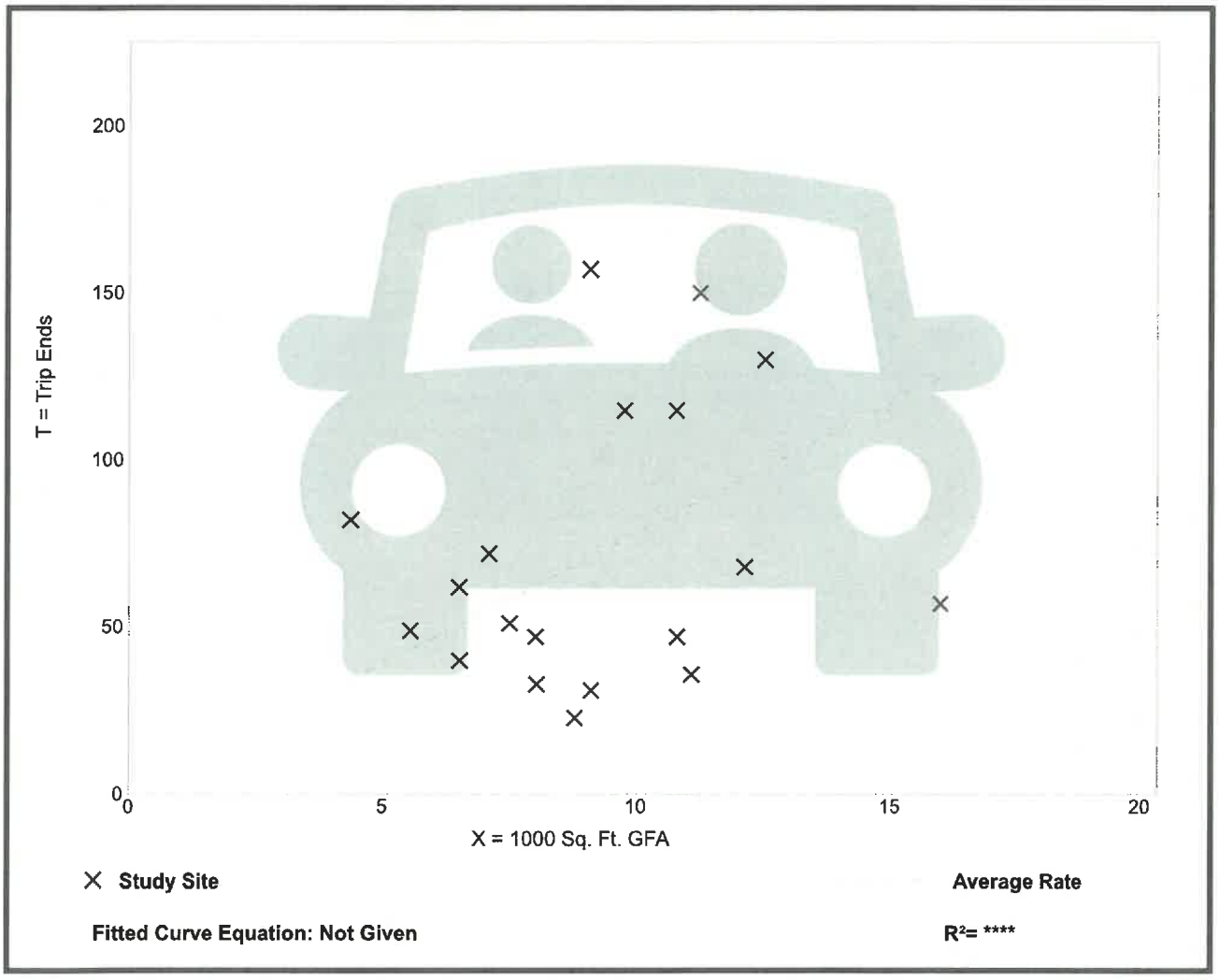
Fine Dining Restaurant
(931)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 19
Avg. 1000 Sq. Ft. GFA: 9
Directional Distribution: 67% entering, 33% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.80	2.62 - 18.68	4.49

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

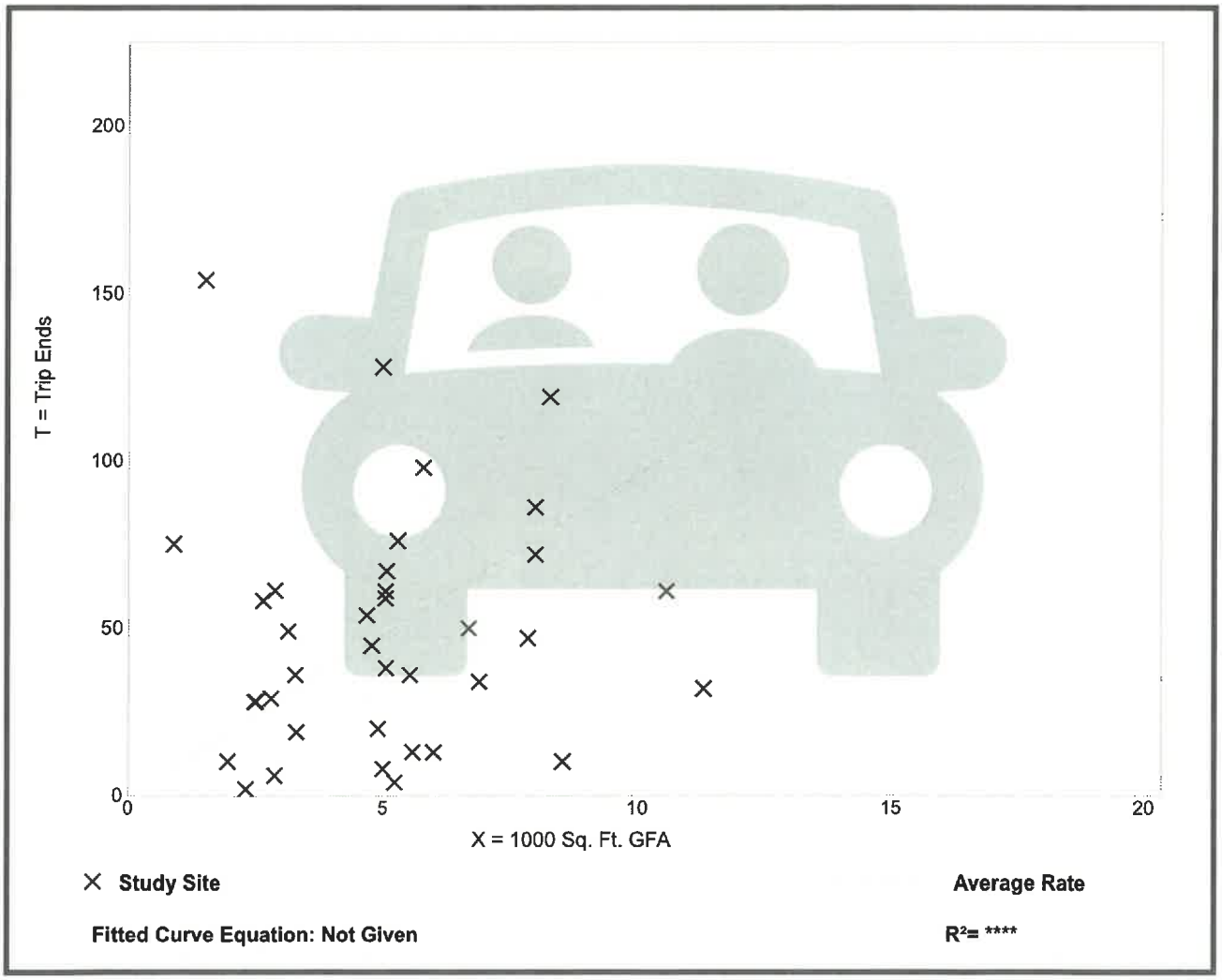
High-Turnover (Sit-Down) Restaurant
(932)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	37
Avg. 1000 Sq. Ft. GFA:	5
Directional Distribution:	55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.57	0.76 - 102.39	11.61

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

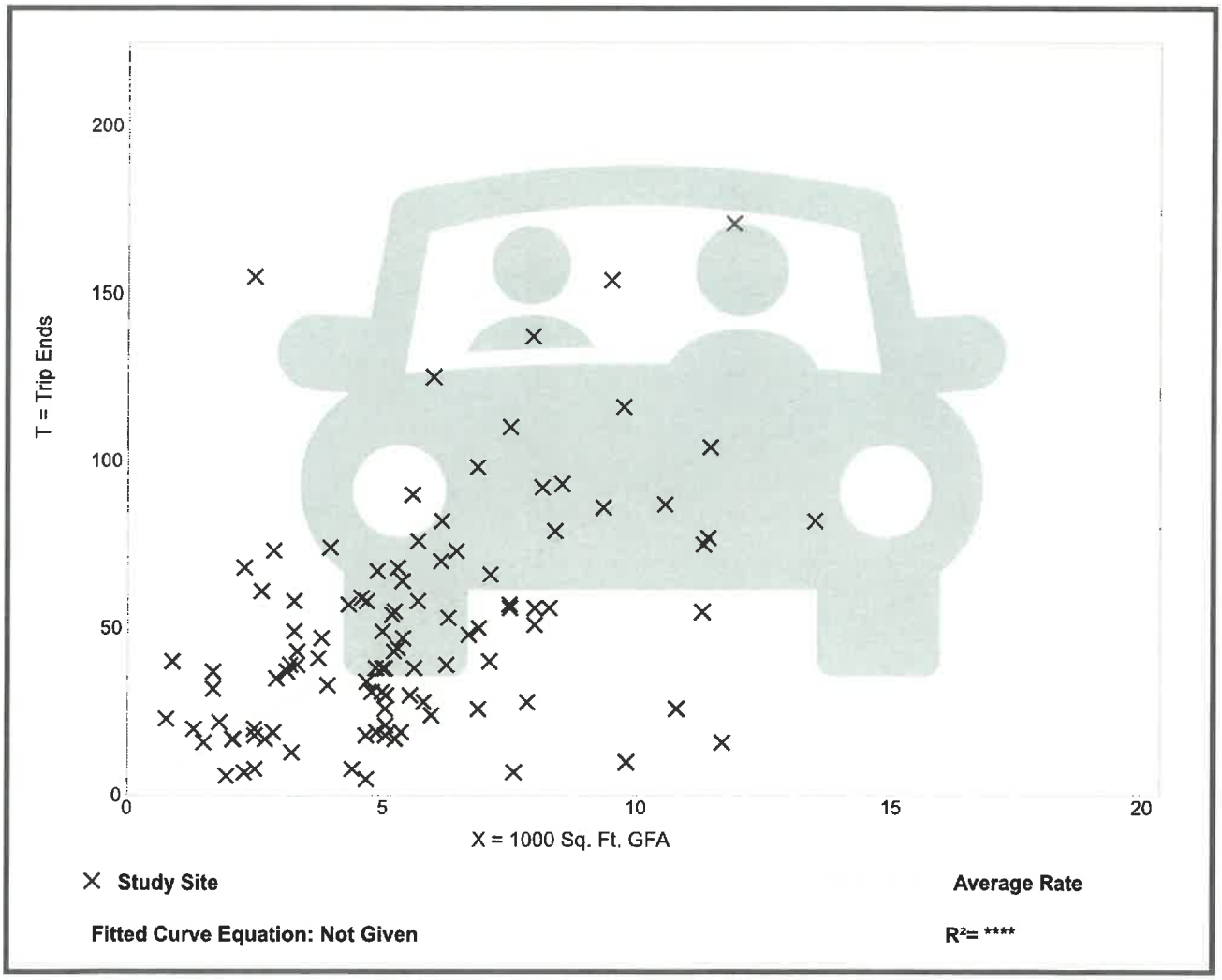
High-Turnover (Sit-Down) Restaurant
(932)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	104
Avg. 1000 Sq. Ft. GFA:	6
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

Apparel Store
(876)

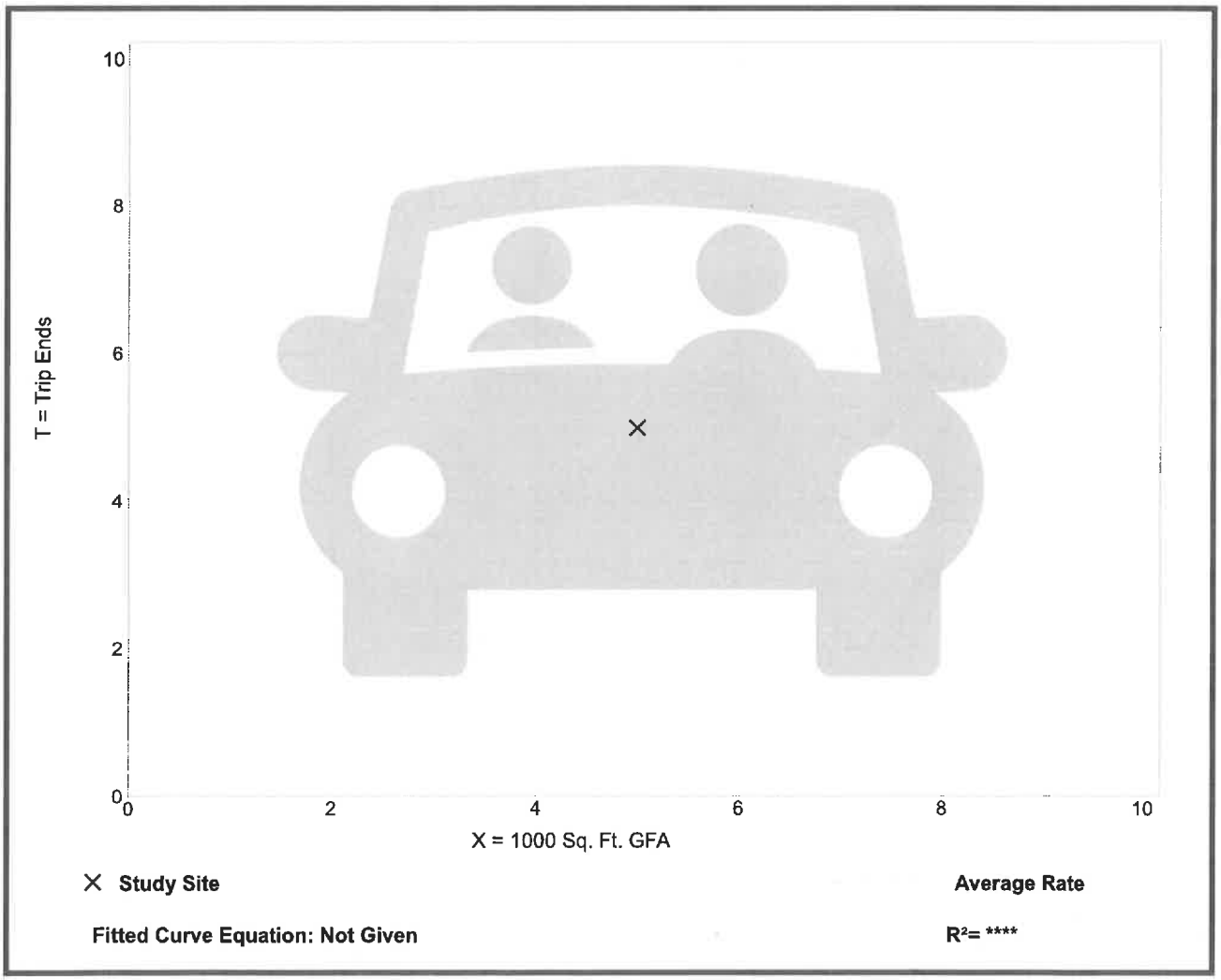
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 80% entering, 20% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.00	1.00 - 1.00	*

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

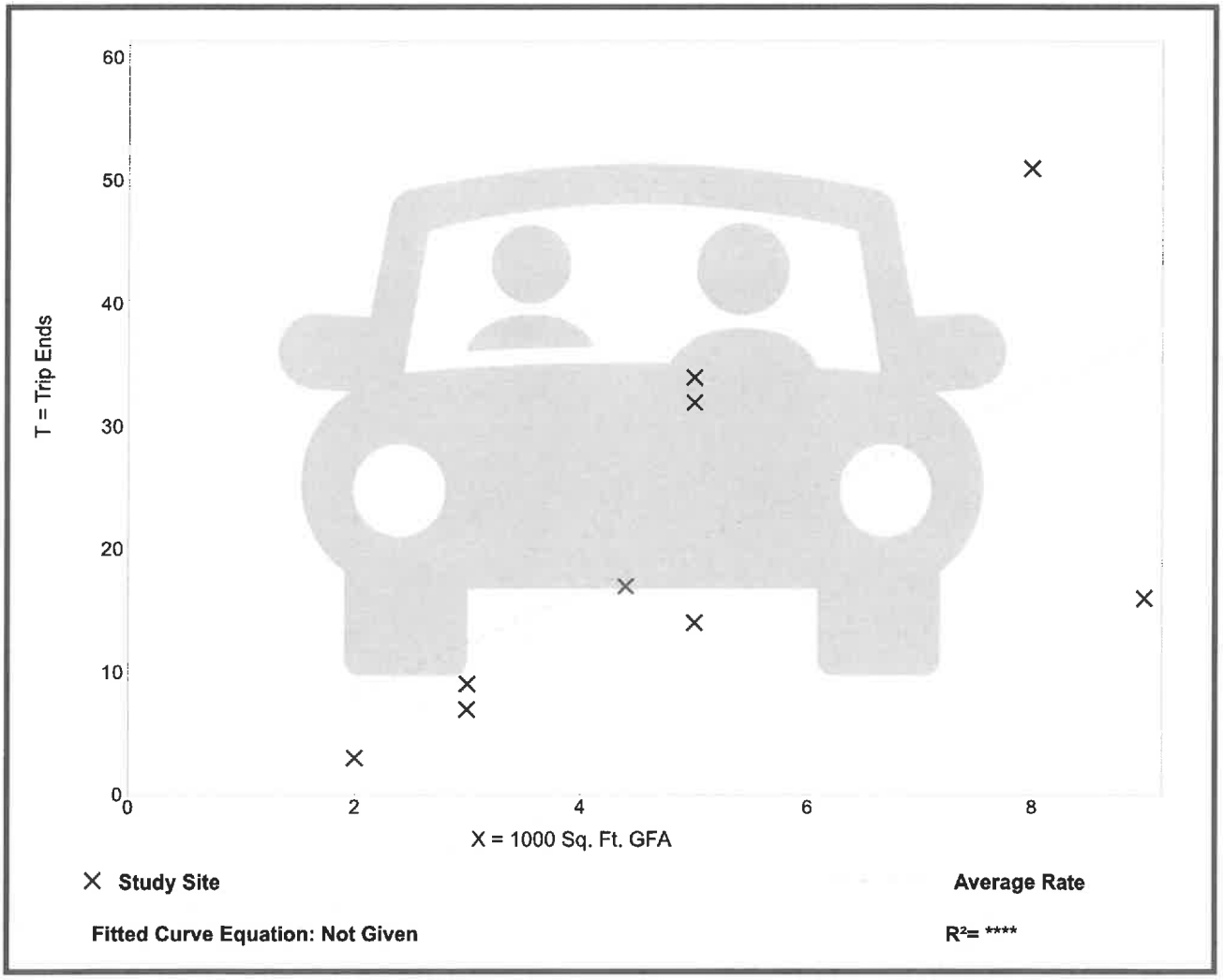
Apparel Store
(876)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	9
Avg. 1000 Sq. Ft. GFA:	5
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.12	1.50 - 6.80	2.18

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

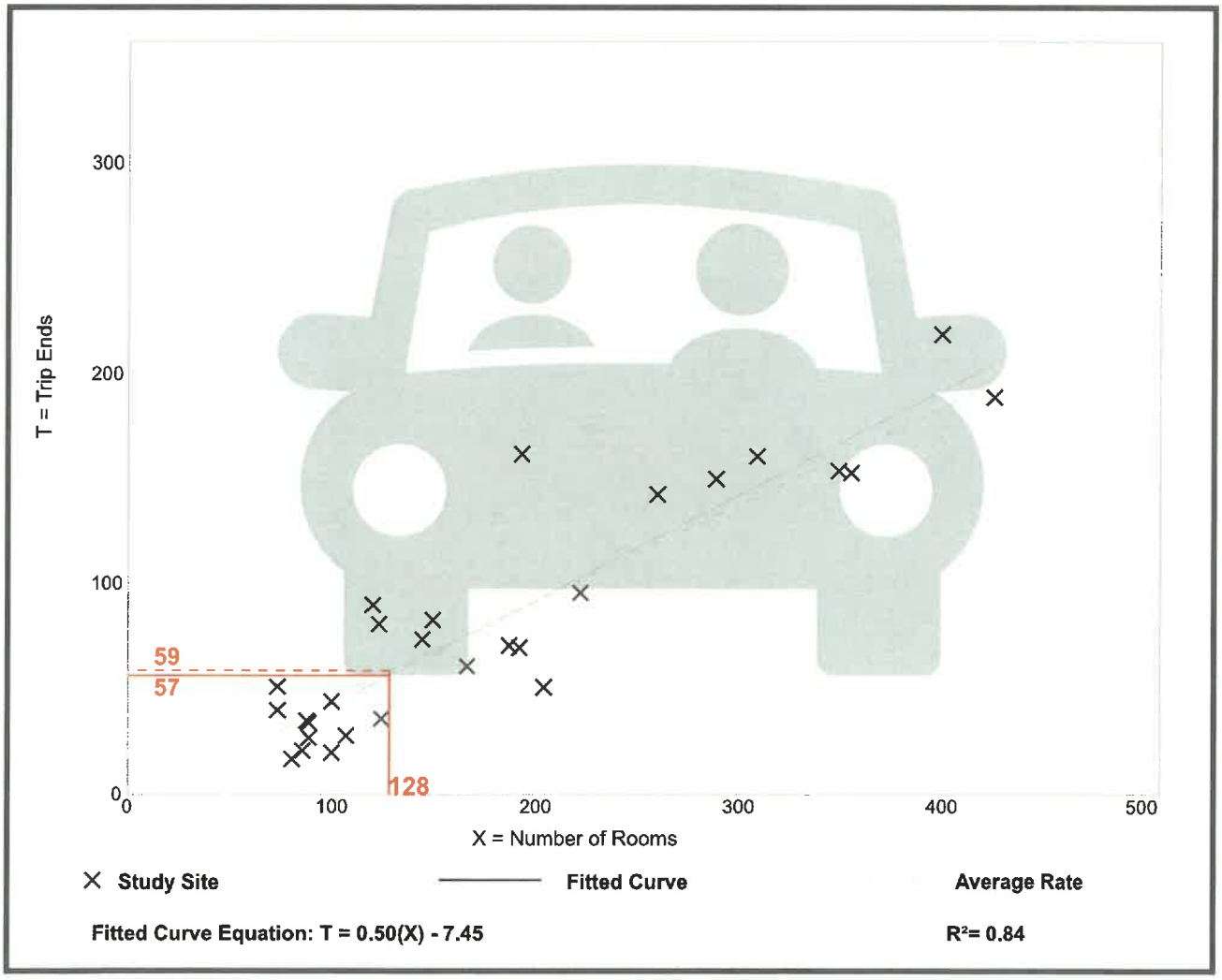
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. Num. of Rooms: 182
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.46	0.20 - 0.84	0.14

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

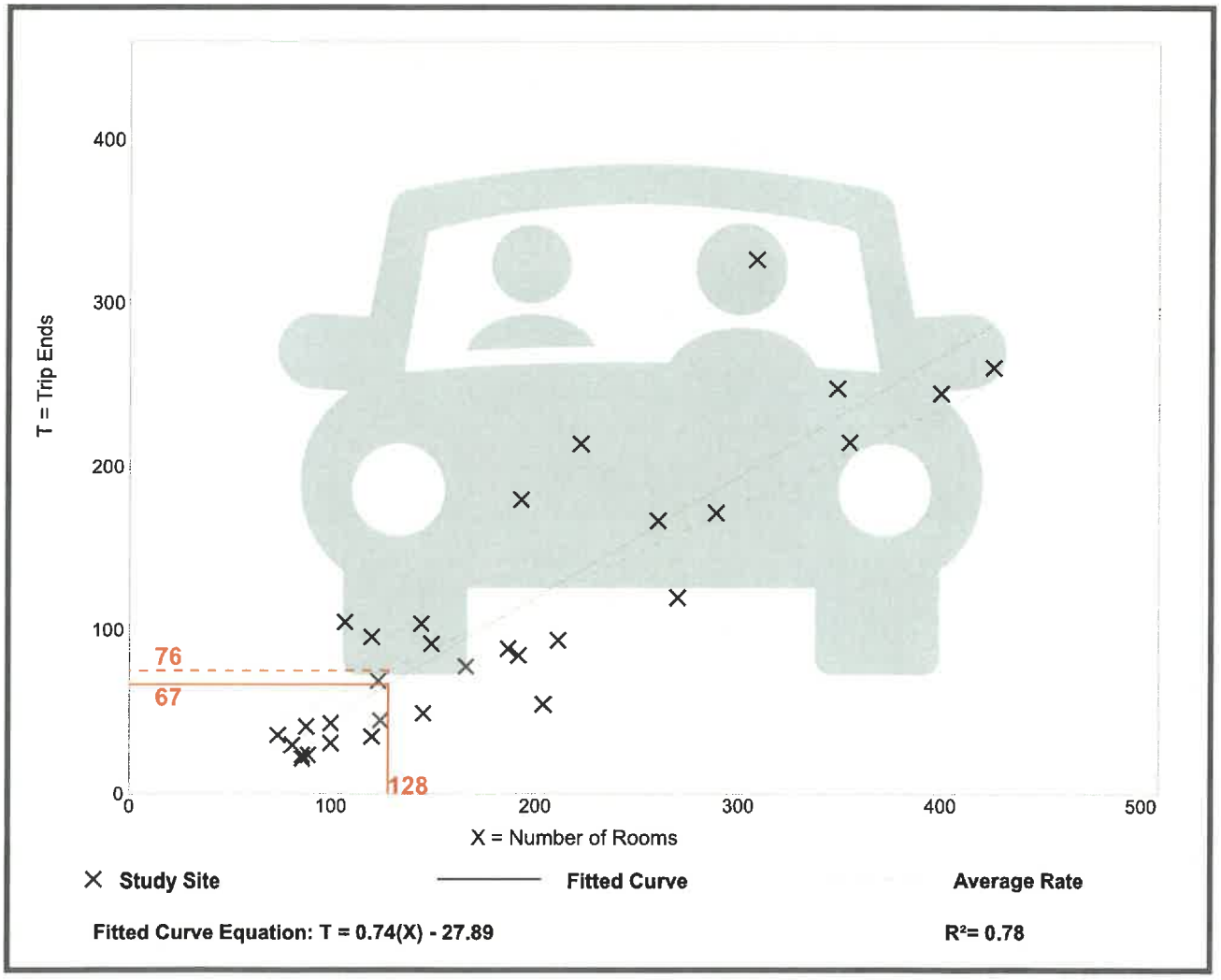
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. Num. of Rooms: 186
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.59	0.26 - 1.06	0.22

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

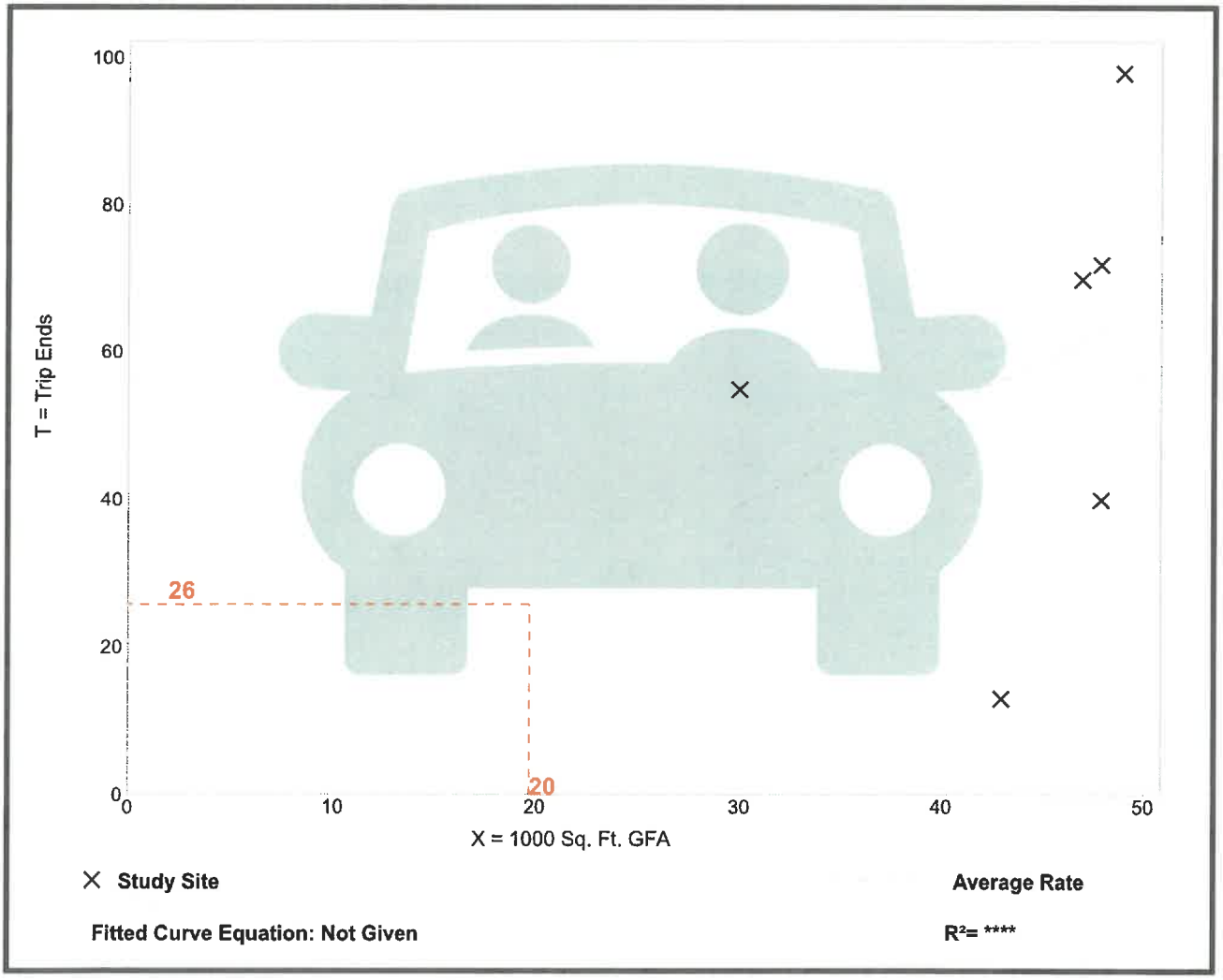
Health/Fitness Club
(492)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 44
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.31	0.30 - 2.00	0.64

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

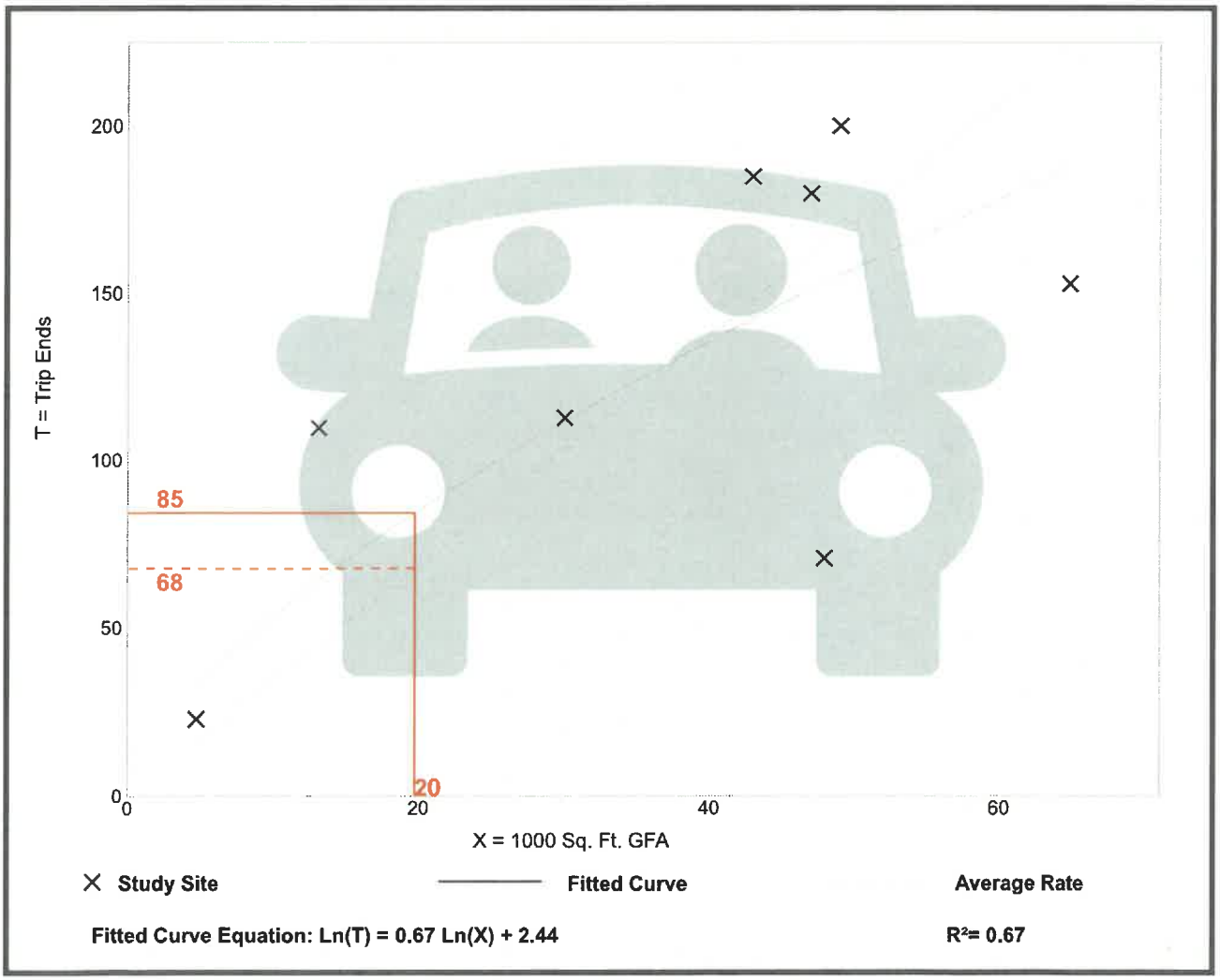
Health/Fitness Club
(492)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. 1000 Sq. Ft. GFA: 37
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.45	1.48 - 8.37	1.57

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	58 Fore Street Redevelopment	**Organization:**	GP
Project Location:	Portland, Maine	**Performed By:**	RED
Scenario Description:	Block 5	**Date:**	6/22/2023
Analysis Year:		**Checked By:**	
Analysis Period:	AM Street Peak Hour	**Date:**	

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

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	110,700	SF	227	205	22
Retail	814	53,292	SF	34	23	11
Restaurant	931	30,514	SF	98	53	45
Cinema/Entertainment				0		
Residential	220/230	455	Units	165	38	127
Hotel	310	130	Units	59	33	26
All Other Land Uses[2]	492			26	13	13
Total				609	365	244

Table 2-A: Mode Split and Vehicle Occupancy Estimates

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

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

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

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	12	0	0	0
Retail	3		1	0	1	0
Restaurant	14	2		0	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	3	1	11	0		0
Hotel	6	1	2	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	609	365	244
Internal Capture Percentage	22%	18%	27%
External Vehicle-Trips[3]	477	299	178
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

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

Land Use	Entering Trips	Exiting Trips
Office	13%	82%
Retail	43%	45%
Restaurant	49%	42%
Cinema/Entertainment	N/A	N/A
Residential	8%	12%
Hotel	3%	35%

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

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

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

[4]Person-Trips

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

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	58 Fore Street Redevelopment
Analysis Period:	AM Street Peak Hour

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

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	205	205	1.00	22	22
Retail	1.00	23	23	1.00	11	11
Restaurant	1.00	53	53	1.00	45	45
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	38	38	1.00	127	127
Hotel	1.00	33	33	1.00	26	26

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	14	0	0	0
Retail	3		1	0	2	0
Restaurant	14	6		0	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	3	1	25	0		0
Hotel	20	4	2	0	0	

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	12	0	0	0
Retail	8		27	0	1	0
Restaurant	29	2		0	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	6	4	11	0		0
Hotel	6	1	3	0	0	

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

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	26	179	205	179	0	0
Retail	10	13	23	13	0	0
Restaurant	26	27	53	27	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	35	38	35	0	0
Hotel	1	32	33	32	0	0
All Other Land Uses[3]	0	13	13	13	0	0

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

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	18	4	22	4	0	0
Retail	5	6	11	6	0	0
Restaurant	19	26	45	26	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	15	112	127	112	0	0
Hotel	9	17	26	17	0	0
All Other Land Uses[3]	0	13	13	13	0	0

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

[2]Person-Trips

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

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

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	58 Fore Street Redevelopment	**Organization:**	GP
Project Location:	Portland, Maine	**Performed By:**	RED
Scenario Description:	Block 5	**Date:**	6/22/2023
Analysis Year:		**Checked By:**	
Analysis Period:	PM Street Peak Hour	**Date:**	

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

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	110,700	SF	219	33	186
Retail	814	53,292	SF	128	61	67
Restaurant	931	30,514	SF	409	269	140
Cinema/Entertainment				0		
Residential	220/230	455	Units	174	107	67
Hotel	310	130	Units	76	39	37
All Other Land Uses[2]				68	39	29
Total				1074	548	526

Table 2-P: Mode Split and Vehicle Occupancy Estimates

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

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

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

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	5	0	4	0
Retail	1		19	0	17	3
Restaurant	4	31		0	17	10
Cinema/Entertainment	0	0	0		0	0
Residential	3	6	14	0		2
Hotel	0	1	13	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,074	548	526
Internal Capture Percentage	29%	28%	29%
External Vehicle-Trips[3]	764	393	371
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

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

Land Use	Entering Trips	Exiting Trips
Office	24%	8%
Retail	70%	60%
Restaurant	19%	44%
Cinema/Entertainment	N/A	N/A
Residential	36%	37%
Hotel	38%	38%

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
[4]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	58 Fore Street Redevelopment
Analysis Period:	PM Street Peak Hour

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

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	33	33	1.00	186	186
Retail	1.00	61	61	1.00	67	67
Restaurant	1.00	269	269	1.00	140	140
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	107	107	1.00	67	67
Hotel	1.00	39	39	1.00	37	37

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		37	7	0	4	0
Retail	1		19	3	17	3
Restaurant	4	57		11	25	10
Cinema/Entertainment	0	0	0		0	0
Residential	3	28	14	0		2
Hotel	0	6	25	0	1	

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

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	5	0	4	0
Retail	10		78	0	49	7
Restaurant	10	31		0	17	28
Cinema/Entertainment	2	2	8		4	0
Residential	19	6	38	0		5
Hotel	0	1	13	0	0	

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

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	8	25	33	25	0	0
Retail	43	18	61	18	0	0
Restaurant	51	218	269	218	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	38	69	107	69	0	0
Hotel	15	24	39	24	0	0
All Other Land Uses[3]	0	39	39	39	0	0

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

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	14	172	186	172	0	0
Retail	40	27	67	27	0	0
Restaurant	62	78	140	78	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	25	42	67	42	0	0
Hotel	14	23	37	23	0	0
All Other Land Uses[3]	0	29	29	29	0	0

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

[2]Person-Trips

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

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

06-22-2023 Combined Shared Parking Demand 5th Edition

	Block 1 - SunLife Office Building					Block 4								Block 1 - Building 12							Block 2						
	Block 1A		Block 1A		Total for Block 1A	Block 4		Block 4		Block 4		Block 4		Total for Block 4	Building 12		Building 12		Building 12		Total for Building 12	Block 2		Block 2		Block 2		Total for Block 2
	Office (4)		Specialty Retail (5)			Qual. Rest (6)		High Turn Rest (9)		Specialty Retail (5)		Multi Fam (Mid) (3)			Office (4)		Qual. Rest (6)		Residential (3)			Office (4)		Qual. Rest (6)		Specialty Retail (5)		
Rate	2.39	2.39 / 1,000 sf	1.95	1.95 / 1,000 sf		95.0570	10.52 / 1000 sf	105.9322	9.44 / 1000 SF	1.95	1.95 / 1,000 sf	1.21	1.21 per Unit		2.39	2.39/1,000 sf	95.0570	10.52 / 1000 sf	1.21	1.21 per Unit		2.39	2.39 / 1,000 sf	95.0570	10.52/1000	1.95	1.95 / 1,000 sf	
Monthly Adjustment	1000		1000	1						1000	1		1		1000					1		1000				1000	1	
SQF or Unit	95,100	95100 sf	9,300	9300 sf		2988		2988		5,975	5975	247	247 Units		3,200	3,200 sf	3,200	3,200 sf	2	2 Units		12,400	12400 sf	17,950	17950 sf	17,950	17950 sf	
6:00AM	0.00	0	0.00	0	0	0.00	0	0.10	3	0.00	0	0.90	269	272	0.00	0	0.00	0	0.90	2	2	0.00	0	0.00	0	0.00	0	0
7:00AM	0.13	30	0.00	0	30	0.00	0	0.25	7	0.00	0	0.77	230	237	0.13	1	0.00	0	0.77	2	3	0.13	4	0.00	0	0.00	0	4
8:00AM	0.48	109	0.15	3	112	0.00	0	0.68	19	0.15	2	0.56	167	188	0.48	4	0.00	0	0.56	1	5	0.48	14	0.00	0	0.15	5	19
9:00AM	0.88	200	0.32	6	206	0.00	0	0.72	20	0.32	4	0.45	134	158	0.88	7	0.00	0	0.45	1	8	0.88	26	0.00	0	0.32	11	37
10:00AM	1.00	227	0.54	10	237	0.00	0	0.77	22	0.54	6	0.40	120	148	1.00	8	0.00	0	0.40	1	9	1.00	30	0.00	0	0.54	19	49
11:00AM	1.00	227	0.71	13	240	0.20	6	0.83	23	0.71	8	0.37	111	148	1.00	8	0.20	7	0.37	1	16	1.00	30	0.20	38	0.71	25	93
12:00PM	0.85	193	0.99	18	211	0.51	16	1.00	28	0.99	12	0.36	108	164	0.85	7	0.51	17	0.36	1	25	0.85	25	0.51	96	0.99	35	156
1:00PM	0.84	191	1.00	18	209	0.56	18	0.91	26	1.00	12	0.36	108	164	0.84	6	0.56	19	0.36	1	26	0.84	25	0.56	106	1.00	35	166
2:00PM	0.93	211	0.90	16	227	0.40	13	0.56	16	0.90	10	0.37	111	150	0.93	7	0.40	13	0.37	1	21	0.93	28	0.40	76	0.90	32	136
3:00PM	0.94	214	0.83	15	229	0.27	8	0.42	12	0.83	10	0.43	129	159	0.94	7	0.27	9	0.43	1	17	0.94	28	0.27	51	0.83	29	108
4:00PM	0.85	193	0.81	15	208	0.27	8	0.42	12	0.81	9	0.45	134	163	0.85	7	0.27	9	0.45	1	17	0.85	25	0.27	51	0.81	28	104
5:00PM	0.56	127	0.84	15	142	0.39	12	0.64	18	0.84	10	0.55	164	204	0.56	4	0.39	13	0.55	1	18	0.56	17	0.39	74	0.84	29	120
6:00PM	0.20	45	0.86	16	61	0.71	22	0.87	25	0.86	10	0.66	197	254	0.20	2	0.71	24	0.66	2	28	0.20	6	0.71	134	0.86	30	170
7:00PM	0.11	25	0.80	15	40	1.00	31	0.79	22	0.80	9	0.73	218	280	0.11	1	1.00	34	0.73	2	37	0.11	3	1.00	189	0.80	28	220
8:00PM	0.00	0	0.63	11	11	0.97	30	0.65	18	0.63	7	0.77	230	285	0.00	0	0.97	33	0.77	2	35	0.00	0	0.97	183	0.63	22	205
9:00PM	0.00	0	0.42	8	8	0.00	0	0.42	12	0.42	5	0.86	257	274	0.00	0	0.00	0	0.86	2	2	0.00	0	0.00	0	0.42	15	15
10:00PM	0.00	0	0.15	3	3	0.00	0	0.21	6	0.15	2	0.92	275	283	0.00	0	0.00	0	0.92	2	2	0.00	0	0.00	0	0.15	5	5
Dedicated spaces	0.00	0	0.00	0	0					0.00	0			0	0.00	0	0.00	0			0	0.00	0	0.00	0	0.00	0	0

(1) Based on the results from the NCHRP 684 Internal Trip Capture Estimation Tool (Average of 22% & 29%)

(2) Provided by City of Portland in an email from Tom Errico to Randy Dunton dated 6/22/23

(3 Time of Day distrubution for Dense Multi-use Urban, Rate for General Urban/Suburban

(4) Time of day distribution and rate based on General Urban/Suburban

(5) Time of day distrubution and rate based on Shopping Center, General Urban/Suburban, weekday (non-December)

(6) Time of day distrubution and rate based on Quality Restaurant, General Urban/Suburban, weekday (Monday-Thursday)

(7) Time of day distrubution and rate based on Hotel, General Urban/Suburban, weekday

(8) Time of day distrubution and rate based on Health / Fitness Club, weekday.

(9) Based on ITE Parking Generation 5th Edition using SF for High Turnover Rest

06-22-2023 Combined Shared Parking Demand 5th Edition

Block 5													Block 6									Shared Spaces					
																						Combined Subtotal					
Block 5		Block 5		Block 5		Block 5		Block 5		Block 5		Total for Block 5	Block 6		Block 6		Block 6		Block 6		Total for Block 6						
Hotel (7)		Specialty Retail (5)		High Turn Rest (9)		Qual Rest (6)		Multi Fam (Mid) (3)		Spa (8)			Qual Rest (6)		High Turn Rest (9)		Specialty Retail (5)		Multi Fam (Mid) (3)								
1.1	1.1 per room	1.95	1.95 / 1,000 sf	105.9322	9.44 / 1000 SF	95.0570	10.52/1000	1.21	1.21 per Unit	232.5581	4.3 / 1000SF		95.0570	10.52/1000	105.9322	9.44 / 1000 SF	1.95	1.95 / 1,000 sf	1.21	1.21 per Unit		Combined Subtotal	Mixed Use Reduction (1)	Other Modes Reduction (2)	Reduced Total	Non-Residential Spaces	Residential Spaces
		1000	1						1	1000							1000	1		1			26%	20.0%			
128	128 room	2,464		1232		19,315		43	43 Units	19,697	19660 SF		2277		2277		4,554	4554 sf	154	154 Units							
0.91	128	0.00	0	0.10	1	0.00	0	0.90	47	0.00	0	176	0.00	0	0.10	2	0.00	0	0.90	168	170	620	158	92	370	105	265
0.89	125	0.00	0	0.25	3	0.00	0	0.77	40	0.00	0	168	0.00	0	0.25	5	0.00	0	0.77	143	148	590	150	88	352	126	226
0.90	127	0.15	1	0.68	8	0.00	0	0.56	29	0.00	0	165	0.00	0	0.68	15	0.15	1	0.56	104	120	609	155	91	363	199	164
1.00	141	0.32	2	0.72	8	0.00	0	0.45	23	0.00	0	174	0.00	0	0.72	15	0.32	3	0.45	84	102	685	175	102	408	276	132
0.98	138	0.54	3	0.77	9	0.00	0	0.40	21	0.62	53	223	0.00	0	0.77	17	0.54	5	0.40	75	97	763	195	114	454	336	118
0.89	125	0.71	3	0.83	10	0.20	41	0.37	19	0.55	47	245	0.20	5	0.83	18	0.71	6	0.37	69	98	840	214	125	501	392	109
0.85	120	0.99	5	1.00	12	0.51	104	0.36	19	0.44	37	296	0.51	12	1.00	21	0.99	9	0.36	67	109	961	245	143	573	467	106
0.75	106	1.00	5	0.91	11	0.56	114	0.36	19	0.41	35	289	0.56	13	0.91	20	1.00	9	0.36	67	109	963	246	143	574	468	106
0.81	114	0.90	4	0.56	7	0.40	81	0.37	19	0.36	30	256	0.40	10	0.56	12	0.90	8	0.37	69	99	889	227	132	530	421	109
0.70	99	0.83	4	0.42	5	0.27	55	0.43	22	0.41	35	220	0.27	6	0.42	9	0.83	7	0.43	80	102	835	213	124	498	371	127
0.74	104	0.81	4	0.42	5	0.27	55	0.45	23	0.69	58	250	0.27	6	0.42	9	0.81	7	0.45	84	106	848	216	126	506	374	132
0.65	92	0.84	4	0.64	7	0.39	79	0.55	29	0.96	81	292	0.39	9	0.64	14	0.84	7	0.55	102	132	908	232	135	541	380	161
0.73	103	0.86	4	0.87	10	0.71	144	0.66	34	1.00	85	380	0.71	17	0.87	19	0.86	8	0.66	123	167	1060	270	158	632	438	194
0.78	110	0.80	4	0.79	9	1.00	203	0.73	38	0.85	72	436	1.00	24	0.79	17	0.80	7	0.73	136	184	1197	305	178	714	499	215
0.93	131	0.63	3	0.65	8	0.97	197	0.77	40	0.00	0	379	0.97	23	0.65	14	0.63	6	0.77	143	186	1101	281	164	656	430	226
0.96	135	0.42	2	0.42	5	0.00	0	0.86	45	0.00	0	187	0.00	0	0.42	9	0.42	4	0.86	160	173	659	168	98	393	140	253
0.95	134	0.15	1	0.21	2	0.00	0	0.92	48	0.00	0	184	0.00	0	0.21	5	0.15	1	0.92	171	177	654	167	97	390	120	270

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.
Current Department of Public Works Requirements for Driveway Aprons	Per discussions with City DPW staff, driveways should be continuously graded without pedestrian ramps.	Driveway apron at the Fore Street garage to be graded with pedestrian ramps on both sides.	The steepness of the existing Fore Street slope does not allow for a continuously graded driveway apron.
City of Portland Technical Manual Section 1 - Transportation Systems - Subsection 1.17 Electric Vehicle Infrastructure	New structured garages shall provide EV charging to 20% of parking spaces. Remaining spaces must be served by sufficient conduit, wiring, and electrical service to allow for future installation of electric vehicle supply equipment.	78 Charging Stations (11% of garage spaces) with plan to increase the number of EV charging stations within the garage, over time, up to 142 (20%) as EV charging demand grows.	See Section 2.6 of the Site Plan Narrative (Permitting and Zoning) for waiver justification.
City of Portland Technical Manual Section 5 - Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management Section IV.	...provide the following submission items...Flooding Standard: Subcatchment plans with flow paths, full hydrology computations/model output of pre- and post-development conditions, summary of pre- and post-development	The project site received a waiver of the Flooding Standard as part of the Master Development Plan. This waiver will continue to remain in place for the current phase of work.	As described in our Stormwater Management report, our site discharges directly to Casco Bay, part of a tidal body of water, via the outfall discharge.

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 19

June 23, 2023

ATTN: Bradley Roland, P.E.
Department of Public Works
212 Canco Road
Portland, ME 04103

Re: 58 Fore Street Phase 2 – Request for Evidence of Ability to Serve

Dear Mr. Roland:

On behalf of Portland Foreside Development Company, Woodard & Curran is submitting this ability to serve request letter for the next phase of development at 58 Fore Street in Portland, Maine. The proposed Phase 2 work includes the following:

- Block 4: Construction a four-level structured parking garage with overlying rental apartment units and townhouses (245 units total) and ground-level restaurant, café and retail space.
- Block 5: Construction of hotel, residential condominiums, ground-level retail and restaurant, and fitness center and spa.
- Block 6: Construction of residential condominiums (153 units total) with amenities including fitness center, spa, heated pool, and rooftop garden, and ground-level restaurant, café and retail space.
- Eastern Promenade Property: Demolition of two rental apartment buildings (5 units total).

Upon completion, the proposed project is anticipated to discharge 141,600 gallons of wastewater per day. This estimate is based on the preliminary design of the buildings. We do not anticipate changes that would result in significant increases but will notify the City if design development results in any major changes.

Please refer to the enclosed Utility Plans for the location and size of proposed utility service connections. All connections proposed as part of this project will connect to the City's sewer via private site mains that have already been installed, and no direct connections to City infrastructure are required. Grease traps with 3,000-gallon capacity will be specified within the buildings to manage flows from anticipated restaurant spaces – we are currently working with the project architects to determine if this should be specified as internal or external structures. A private pump station has been designed to manage wastewater from the current and future phases of development and is proposed to be installed with this phase of work. All wastewater will exit the site via a gravity sewer connection previously installed in the Thames Street Extension.

We have submitted to the City of Portland Planning Department for approval of the Major Site Plan application and will appreciate documentation regarding the City's ability to collect

wastewater from the proposed development. 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, P.E.
Technical Manager

Enclosures: Utility Plan
Wastewater Application
Design Flow Calculations

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: **June 23, 2023**

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: **58 Fore Street**

Chart Block Lot Number: **018 A001**

Proposed Use: **Mixed Use Development**
Previous Use: **Industrial**
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.

Proposed on-site sewer main

Site Category		
	Commercial *(see part 4 below)*	X
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	X
	Other *(specify)*	X

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: **Charles Tetelman** Phone: _____
Owner/Developer Name: **Portland Foreside Development Company, c/o David Senus, PE**
Owner/Developer Address: **254 Commercial Street, Suite 118, Portland, ME 04101**
Phone: **(207) 558-3704** Fax: **N/A** E-mail: **das@portlandforeside.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: **141,600 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)*
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:
Size of External Grease Interceptor:
Retention Time:
Peaking Factor/ Peak Times:

Complete grease trap needs are TBD and are anticipated to be located within building restaurant spaces. As final design layout progresses, more information can be provided.

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 **N/A**

Estimated Industrial Process Wastewater Flows Generated: _____ GPD
Do you currently hold Federal or State discharge permits? Yes ____ No ____
Is the process wastewater termed categorical under CFR 40? Yes ____ No ____
OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*
Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

PFDC Block 4				
Facility	Unit	Design Flow/Unit	Quantity	Design Flow (gpd)
Parking Garage	Toilet	325	0	0
Restaurant (Eating place, 3 meals/day)	Seat	30	70	2100
	Employee	12	14	168
Restaurant (Eating place, 2 meals/day)	Seat	20	43	860
	Employee	12	9	108
Retail (Employees at place of employment with no showers)	Employee	12	22	264
Residential (single-family dwelling unit w/ 2 or less bedrooms)	Dwelling Unit	180	229	41220
Residential (single-family dwelling unit w/ 3 bedrooms)	Dwelling Unit	270	18	4860
			Total	**49580**

PFDC Block 5				
Facility	Unit	Design Flow/Unit	Quantity	Design Flow (gpd)
Restaurant (Eating place, 3 meals/day)	Seat	30	469	14070
	Employee	12	63	756
Restaurant (Eating place, 2 meals/day)	Seat	20	173	3460
	Employee	12	35	420
Retail (Employees at place of employment with no showers)	Employee	12	13	156
Residential (single-family dwelling unit w/ 2 or less bedrooms)	Dwelling Unit	180	16	2880
Residential (single-family dwelling unit w/ 3 bedrooms)	Dwelling Unit	270	6	1620
Hotel (Hotel rooms with private baths)	Room w/bath	100	158	15800
	Employee	12	100	1200
Hotel room with kitchen	Bed	60	42	2520
Laundry, self-service	Machine	300	8	2400
Fitness, exercise, karate or dance center	100 SF	50	71.3	3565
Swimming pools, Bathhouses & Spas	Toilet	250	13	3250
			Total	**52097**

PFDC Block 6				
Facility	Unit	Design Flow/Unit	Quantity	Design Flow (gpd)
Parking Garage	Toilet	325	0	0
Restaurant (Eating place, 3 meals/day)	Seat	30	183	5490
	Employee	12	37	444
Restaurant (Eating place, 2 meals/day)	Seat	20	183	3660
	Employee	12	7	84
Retail (Employees at place of employment with no showers)	Employee	12	7	84
Residential (single-family dwelling unit w/ 2 or less bedrooms)	Dwelling Unit	180	127	22860
Residential (single-family dwelling unit w/ 3 bedrooms)	Dwelling Unit	270	27	7290
Heated Pool	Toilet	250	0	0
Spa	Toilet	250	0	0
			Total	**39912**

Combined Design Flow to Private Pump Station/Thames Street	
Total	**141589**

Eastern Promenade Property (Net)				
Facility	Unit	Design Flow/Unit	Quantity	Design Flow (gpd)
Residential (single-family dwelling unit w/ 2 or less bedrooms)	Dwelling Unit	180	-5	-900
			Total	**-900**

Net Design Flow to Eastern Promenade	
Total	**-900**

https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/documents/SubsurfaceWastewaterDisposalRulesProposal.pdf

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 20

March 2, 2023

MEANS Group
Portland Water District
225 Douglass Street
Portland, ME 04104

Re: 58 Fore Street Phase 2 – Blocks 4 & 6 – Request for Evidence of Capacity to Serve

To Whom It May Concern:

On behalf of Portland Foreside Development Company, Woodard & Curran is submitting this ability to serve request letter for the next phase of development at 58 Fore Street in Portland, Maine.

The proposed work as part of this Phase includes the following:

- Block 4: Construction a four-level structured parking garage with overlying rental apartment units and townhouses (245 units total) and ground-level restaurant, café and retail space; these ground-level spaces are being proposed as "core and shell" construction at this time without specific uses in place.
- Block 6: Construction of residential condominiums (153 units total) with amenities including fitness center, spa, heated pool, and rooftop garden, and ground-level restaurant, café and retail space.
- Eastern Promenade Property: Demolition of two rental apartment buildings (5 units total).

Upon completion, this phase of the proposed site development is anticipated to require 107,400 gallons of water per day. This is a conservative estimate based on the proposed uses within the building, including full fit-out of the spaces in Block 4 that are proposed now for just core and shell construction. We are working with our project architects and their design teams to identify fixture counts as building design advances, but do not anticipate that will significantly impact water usage numbers. We will provide the PWD excel file with fixture counts separately once the numbers have been confirmed.

We have attached our utility plan showing site water utility locations. All Block 4 and Block 6 service connections will be located within the private site, connecting to the private water main. Block 4 will contain a meter room, similar to what was installed within Building 1A as part of Phase 1 of the project.

We are currently in the site plan review process with the City of Portland for multiple projects on the site with water infrastructure impacts. We have a utility enabling project that is proposed for a Minor Site Plan amendment to include the water service installation in Fore Street. We have a Major Site Plan application in to the City for the combined construction of Blocks 4 and 6, and documentation regarding the Portland Water District's ability to serve the proposed development with potable water will be provided to the City as part of this permit process. We are also in the process of preparing an application for a Major Site Plan for Block 5, a proposed hotel, and will be submitting a separate ability to serve request for that portion of the work as well.

We would like to meet with the Portland Water District in the near future to review the current status of the various phases of the project. We would plan to review the water meter requirements associated with the Block 4 installation and revisit the installation of the water service in Fore Street to make sure we understand all of the review and approval requirements that need to be completed prior to construction of this service, which is anticipated for this spring to align with the City of Portland's anticipated paving schedule.

Please let us know if any additional information is required to evaluate the service capacity for the site or if you have any questions on our proposed layout. We appreciate your assistance and look forward to meeting with you to discuss the project further. 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

Enclosure: Utility Plan

cc: Portland Foreside Development Co

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

March 2, 2023

ATTN: Bradley Roland, P.E.
Department of Public Works
212 Canco Road
Portland, ME 04103

Re: 58 Fore Street Blocks 4 & 6 – Request for Evidence of Ability to Serve

Dear Mr. Roland:

On behalf of Portland Foreside Development Company, Woodard & Curran is submitting this ability to serve request letter for the next phase of development at 58 Fore Street in Portland, Maine. The proposed work includes the following:

- Block 4: Construction a four-level structured parking garage with overlying rental apartment units and townhouses (245 units total) and ground-level restaurant, café and retail space.
- Block 6: Construction of residential condominiums (153 units total) with amenities including fitness center, spa, heated pool, and rooftop garden, and ground-level restaurant, café and retail space.
- Eastern Promenade Property: Demolition of two rental apartment buildings (5 units total).

Upon completion, the proposed project is anticipated to discharge 89,500 gallons of wastewater per day. This estimate is based on the preliminary design of the buildings. We do not anticipate changes that would result in significant increases but will notify the City if design development results in any major changes.

Please refer to the enclosed Utility Plan for the location and size of proposed utility service connections. All connections proposed as part of this project will connect to the City's sewer via private site mains that have already been installed, and no direct connections to City infrastructure are required. Grease traps with 3,000-gallon capacity will be specified within the buildings to manage flows from anticipated restaurant spaces – we are currently working with the project architects to determine if this should be specified as internal or external structures. A private pump station has been designed to manage wastewater from the current and future phases of development and is proposed to be installed with this phase of work. All wastewater will exit the site via a gravity sewer connection previously installed in the Thames Street Extension.

We have submitted to the City of Portland Planning Department for approval of the Major Site Plan application and will appreciate documentation regarding the City's ability to collect wastewater from the proposed development. 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, P.E.
Technical Manager

Enclosures: Utility Plan
Wastewater Application

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: **March 1, 2023**

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: **58 Fore Street**

Chart Block Lot Number: **018 A001**

Proposed Use: **Mixed Use Development**
Previous Use: **Industrial**
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.

Proposed on-site sewer main

Site Category		
	Commercial *(see part 4 below)*	X
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	X
	Other *(specify)*	X

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: **Charles Tetelman** Phone: _____
Owner/Developer Name: **Portland Foreside Development Company, c/o David Senus, PE**
Owner/Developer Address: **254 Commercial Street, Suite 118, Portland, ME 04101**
Phone: **(207) 558-3704** Fax: **N/A** E-mail: **das@portlandforeside.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: **89,500 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)*
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:
Size of External Grease Interceptor:
Retention Time:
Peaking Factor/ Peak Times:

Complete grease trap needs are TBD and are anticipated to be located within building restaurant spaces. As final design layout progresses, more information can be provided.

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 **N/A**

Estimated Industrial Process Wastewater Flows Generated: _____ GPD
Do you currently hold Federal or State discharge permits? Yes ____ No ____
Is the process wastewater termed categorical under CFR 40? Yes ____ No ____
OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*
Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

30x42
PLOT SCALE: 100 = 1'-0"

FORE STREET
BLDG. 16
BUILDING 2
BUILDING 3
BUILDING 6B
BUILDING 6
BLOCK 4 (NEW BUILDING CONSTRUCTION)
BLOCK 5 (FUTURE BUILDING CONSTRUCTION NOT IN CONTRACT)
BLOCK 6 (FUTURE BUILDING CONSTRUCTION NOT IN CONTRACT)
SHORELAND ZONE LINE 250' FROM HAT
ZONE LINE
R6 B6
B6 R6
B-3
EXISTING MARINA
PH. 1
EWPZ
TRANS
POTENTIAL PAD MOUNTED TRANSFORMER LOCATION
POTENTIAL PAD MOUNTED TRANSFORMER LOCATION
12" DI WATER SERVICE ENTRY; WATER RPZ & BACKFLOW PREVENTER INSTALLED INSIDE BUILDING, REFER TO MEP PLANS
GAS METER
6" SANITARY SEWER
SMH 14
SMH 6
SMH 5
SMH 4
SMH 3
SMH 2
SMH 1
CAP 4" SANITARY SEWER FOR FUTURE CONNECTION
CAP 6" SANITARY SEWER FOR FUTURE CONNECTION
CAP 4" SANITARY SEWER FOR FUTURE CONNECTION
PROVIDE VALVE & CAP AT ALL GAS STUBS, TYP.
PROVIDE HYDRANT, TYP.
6" WATER SERVICE WITH VALVE & HYDRANT
GAS METER
12" DI WATER
PROVIDE 2" BLOW-OFF VALVE & THRUST BLOCK AT ALL WATER STUBS, TYP.
CAP 6" SANITARY SEWER FOR FUTURE CONNECTION
CAP 4" SANITARY SEWER FOR FUTURE CONNECTION
CAP 4" SANITARY SEWER FOR FUTURE CONNECTION
GAS METER
6" WATER SERVICE W/ VALVE & HYDRANT
CONNECT TO EXISTING WATER MAIN
CONNECT TO EXISTING FORCEMAIN
CONDUITS FOR ELECTRICAL & COMMUNICATIONS, REFER TO MEP PLANS
6" SANITARY SEWER
OIL WATER SEPARATOR
O/W SEP. 2
6" SANITARY SEWER
6" SANITARY SEWER
PROVIDE HYDRANT
6" SANITARY SEWER
6" SANITARY SEWER
CAP UTILITIES; COORDINATE TRANSITION TO BUILDING STRUCTURE WITH BLOCK 6 PROJECT
EARTHEN RAMP
EARTHEN RAMP
APPROXIMATE EXTENT OF BELOW GRADE PODIUM
12" DI WATER SERVICE
6" PLASTIC COATED STEEL GAS SERVICE, TYP.
CONDUITS FOR ELECTRICAL & COMMUNICATIONS, REFER TO MEP PLANS
PROVIDE 2" BLOW-OFF VALVE & THRUST BLOCK AT ALL WATER STUBS, TYP.
CONNECT TO EXISTING WATER MAIN, PROVIDE THRUST BLOCK
CAP 6" SANITARY SEWER FOR FUTURE CONNECTION
FUTURE BLOCK 5 BUILDING, SEE INTERIM CONDITIONS SHEET
BELOW GRADE STORMWATER STORAGE
SANITARY SEWER PUMP STATION, SEE DETAIL
PUMP STATION
ELECTRICAL CONDUIT, SEE SITE ELECTRICAL PLANS
JELLYFISH 2
DMH 10
DMH 11
WC-70
WC-72
WC-73
WC-71

REFER TO SHEET C-104 FOR PIPE & STRUCTURE SCHEDULES

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

BLOCK 4 - HARBOR HILL

REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	SEPTEMBER 2022
SCALE:	1"=20'
DESIGNED BY:	LJS/BCM
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	BLOCK 4 SITE PLANS.dwg

DRAWING TITLE:
CIVIL UTILITY PLAN

DRAWING NO:
C-102
SHEET: 6 OF 15

C:\Users\bmoskovitz\OneDrive - Woodard & Curran_PC\Folders\Desktop\PTDC\Block 4\Block 4 Site Plans.dwg, Sep 29, 2022 - 9:13am, BMOSKOVITZ

Mary McCrann

From: COUGH, JAMES <jcough@cmpco.com> on behalf of COUGH, JAMES
Sent: Thursday, July 20, 2023 2:45 PM
To: Mary McCrann
Cc: ENDSLEY, JASON; BOUCHER BOUCHER, ANTHONY; Brian Gardner
Subject: CMP Three Phase Service Process and Ability to Serve Letter
Attachments: Easement_Information_Worksheet.doc; Standard Easement Sample.pdf; blank W9.pdf; August 2022 EDET.xlsx; PFDC Illustrative Site Plan_2023.07.18.pdf

Mary McCrann, AICP | Director of Strategic Initiatives
Foreside Development Co.
110 Thames Street | Suite 200 | Portland, ME 04101

RE: Portland Foreside Ability to Serve for Blocks 4, 5 & 6
Fore Street, Portland, ME
Letter of Ability to Serve

SAP TBD

Project Description:

The Portland Foreside project includes the redevelopment of a 10.7 acre former industrial site into a mixed use property. The site has previously received electrical power to support the first phase of development, which includes a marina, and mixed use buildings containing primarily office and retail uses. The Project's Phase 2 work which includes the proposed Blocks 4, 5 and 6. The proposed mix of uses in Phase 2 includes the following:

Use	Block 4	Block 5	Block 6
Residential	247 units (Apartment & Townhome)	43 units (Condominium)	154 units (Condominium)
Hotel	N/A	128 units	N/A
Retail/Service/Restaurant	47,035 SF	42,708 SF	9,108 SF

The three blocks will all be built over a common parking plinth, with approximately 644 garage parking spaces proposed. The site area surrounding the three Blocks will be developed for pedestrian and vehicular access with site lighting proposed throughout the property.

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 CMP at 800-565-3181.

Here is our typical process for getting your three phase service installed. If you have any questions, please let us 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. There are additional requirements for primary metered Solar Service Installations listed in the Chapter 324 Interconnections section below. Please refer to CMP Installation Checklists for other installations.

- Call 800-750-4000 option 4 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. If the loads are over 500 kw, more in depth load studies may be required with our Distribution Planning and Transmission Planning Departments. Be advised that these will involve more detailed load information, a load study agreement (signed contract), as well as other items. This additional study process may add up to two additional months to completion of the job. In addition, the study results may require system upgrades that may not meet with your desired time frames. We will work with your team on any required upgrades to facilitate project phasing if possible. Additional costs for system upgrades will be accordance with our Terms & Conditions.
- Submit the easement information worksheet, including where any CMP structures may be on ANY private property (Poles, Wires, Anchors). You are responsible for obtaining all information for all required easements. 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.
- For Primary Metered installations (including PV), please have the access road in for pole staking.
- 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 scheduled once the preliminary information is complete. This will allow us to cost out the job and develop a CMP Invoice. The invoice is typically generated 5-6 weeks after the design appointment. This expires after 90 days from the invoice date.
- Submit completed W9 so that your bill can be properly processed. This is a new CMP process.
- 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. System impact studies and remedies may also add to expected energization lead time. 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.

As you may be aware, there are global supply chain issues impacting the utility industry. CMP is closely monitoring and managing their inventory in order to serve our customers. Larger padmount transformers may not be readily available for the date that you will need to be energized. Please consider this as part of your construction plan. The energy service advisor will continue to work closely with you and let you know as soon as the transformer becomes available. Should you have any questions or concerns throughout this process, please do not hesitate to contact your ESA directly at the number or email provided.

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 An additional resource is our Distribution Construction Standards: CMP Distribution Construction Standards CMP Distribution Construction Standards.

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.

In addition, we have recently added on an online map that shows single phase and three phase power locations within CMP. Here is that link: CMP ArcGIS Information

Metering:

All metering (including locations) must be preapproved by CMP. If you have any questions, please consult the CMP Handbook of Standard Requirements

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: Polyphase Line Extension.

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
W9

Regards,

Jamie

Jamie Cough
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207.629.1489

Please consider the environment before printing this email.
If you have received this message in error, please notify the sender and immediately delete this message and any attachment hereto and/or copy hereof, as such message contains confidential information intended solely for the individual or entity to whom it is addressed. The use or disclosure of such information to third parties is prohibited by law and may give rise to civil or criminal liability.
The views presented in this message are solely those of the author(s) and do not necessarily represent the opinion of Avangrid, Inc. or any company of its group. Neither Avangrid, Inc. nor any company of its group guarantees the integrity, security or proper receipt of this message. Likewise, neither Avangrid, Inc. nor any company of its group accepts any liability whatsoever for any possible damages arising from, or in connection with, data interception, software viruses or manipulation by third parties.

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 22

NEIGHBORHOOD MEETING MINUTES

Portland Foreside Development Company – Neighborhood Meeting #1

PROJECT: Portland Foreside Development Company – Block 4 & Block 6
MEETING DATE: 12/20/2022

LOCATION: East End School, Portland
ISSUED DATE: 4/18/2023

ATTENDEES:

Presenters/Representatives
David Senus – PFDC
Mary McCrann – PFDC
Shelby Burgau - PFDC
Darrin Stairs – Woodard & Curran (W&C)
Lauren Swett – Woodard & Curran (W&C)

Public
Kelly Walker
Ted Kurtz
Roger Trettel
Denise Preisser
Bonnie Coplon
Peter & Pam Macomber
Gayle Briggs & Joe Sukaskas
Rick & Barbara Reisso
Laura Lee Sanyo
Barbara Vestal
Teresa & Michael Cantara
Pamela Day
Dan Haley
Debby Murray
Robin Whitten
Ned Chester
Mary Rhoads
Brian Ricks
Peter Bass
Rob & Robin Whitten
William Brennan

Total recorded attendance 31. Please note that there were over 45 attendees present, but some elected not to sign in.

In person began at 6:00 p.m.

Project Presentation & Content

- Welcome and Introductions provided by Darrin Stairs, W&C
- Project Background presentation provided by David Senus, PFDC
  - Prior permitting timeline
  - Master Development Plan
  - Work Completed to Date - Marina, Phase 1
- Proposed Phase 2 presentation provided by Darrin Stairs, W&C

- Overview of Blocks 4 and 6 Scope
- Review of proposed architecture for Block 4 and 6, highlighting what has changed since the Master Development Plan

- Information provided on available public tours on the site, presented by Mary McCrann, PFDC

Record of Feedback

Following the project presentation, there was a question and answer period with attendees. The following topics were discussed:

- Discussion about Block 4 and 6 Building Structure and Architecture
  - Reviewed proposed building architecture further
  - Reviewed proposed building heights
  - Specific discussion of Block 6 height relative to the adjacent Portland House
  - Noted that current number of stories is not planned to change
- Discussion about geotechnical design
  - The design does consider the presence of some marinae clay on the site, but this site is mostly fill soil that will be a good condition for construction
- Discussion about scale and scope of project
  - It was noted that the proposed project is consistent with the City's Eastern Waterfront Master Plan.
  - The project proposes a mix of types of housing, welcoming pedestrian access, and public spaces that will make the area open and welcome to all.
  - The project will have a mix of different price points
  - The project will include both apartments and condominiums
- Discussion about timing and length of construction
  - Concern raised about noise and impact on neighbors
  - Asked for notice about timing and types of construction activities (potentially a website?)
  - Anticipating a start in 2023 with completion in 2025 or 2026
- Discussion about Inclusionary Zoning and residential unit types
  - Planning for Market Rate Apartments on Block 4
  - Block 4 units will provide for 10% units to meet inclusionary zoning
  - Block 6 will pay in lieu fee to meet inclusionary zoning
- Discussion about plans for recently purchased Eastern Promenade property
  - Portion of property incorporated into Block 6
  - Only two buildings on property to be demolished; these two buildings have been determined to be non-contributing structures to the Munjoy Hill Historic District
- Planning to keep remaining buildings as rental units Questions about traffic
  - How is traffic from Franklin Arterial and Commercial Street to be addressed as part of this project?
    - The project has a Traffic Movement Permit with a per-trip fee paid for use by the City to make traffic improvements.
  - Are any other egress points possible?
    - Site study has shown no. Freedom Way is a private street.

- Will there be restrictions on who can use certain site entrances?
    - Not planning on restrictions at this time.

- Questions about parking
    - How will parking be accessed?
        - Access will be from entrances on Fore Street and on Thames Street internal to the site
    - Will condo and apartment owners be provided with parking spaces? Will area businesses be offered space?
        - The final parking assignment approach is being determined by the sales department. Programs are being developed to provide more efficiency in parking on the site, including possible bike and car share programs.
        - Parking will be available for on-site retail workers and shoppers
    - How will EV charging be accessed?
        - There will be multiple levels that will likely include both pay-to-park/charge and valet.
- Questions about electrical utility
    - Will Fore Street lines be placed underground?
        - It was noted that a prior study about placing electrical utility underground and it was decided by City not to complete at this time.
    - Are any more poles or transformers needed?
        - CMP is working on the load study to confirm electrical design. Anticipate that the one entrance completed already into the site is adequate, and all transformers are within the site.
- Questions asked about work outside of current project scope
    - Questions about rail/trail changes
        - The trail and rail lines will be moved over along the whole length of the project area
        - Construction documents are complete, and anticipate construction in late 2023, early 2024
        - The land swap required to complete this work was approved by the City Council
    - Questions about Block 2 Historic Core
        - Attendees inquired about the status of this part of the project
        - Clarified as part of previously permitted Phase 1, construction documents completed, working on some changes
        - PFDC working with Project for Public Spaces on plan for modifications Block 2, and will plan on a public meeting in the future to provide more information
        - Block 2 will include mix of retail, public market space, event space, and office space
    - Questions about Block 5, future work
        - Block 5 to be hotel, condosand retail, to be put forward to City in 2023
        - Height takes into consideration view corridors

List of Plans, Documents or Drawings Shared

The following information was shared via the PowerPoint presentation given at the meeting:

- Permitting timeline
- Master Development Plan & Rendering
- Work completed to date including Fore Points Marina
- Phase 1 work completed to date (Sun Life, Building 12, Infrastructure, Public Stair Access)
- Phase 2 (Block 4 & 6)
    - Details of each phase including SF, number of units, vehicle parking and bike parking
    - Block 4 & Block 6 master development plan rendering
    - Block 4 & Block 6 current design model/renderings
- Summary of Foreside Development Public Tours

Meeting Close

- The meeting closed at 7:45 and the project team thanked attendees and noted that a second Neighborhood Meeting would follow on January 11, 2023.

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Neighborhood Meeting Sign-In Sheet

Woodard & Curran

DATE: December 20, 2022

RE: Portland Foreside Phase 2 Neighborhood Meeting Sign-In Sheet

---

Dear Neighbors,

Thank you for attending tonight's public Neighborhood Meeting at the East End School for the proposed development of Phase 2 of the Portland Foreside project to be located at 58 Fore Street in Portland, Maine. Please sign in below.

Thank you,

Portland Foreside Project Team

Name	Email
Kelly Walker	kellytwalker47@gmail.com
Ted Kurtz	tedk13@roadrunner.com
Roger Trettel	rogertrettel@gmail.com
Denise Preisser	depreisser@hotmail.com
Bonnie Caplan	bcaplan@gmail.com
Peter & Pam Macomber	peter@macomber.com
GAYLE BRIGGS + JOE SULLIVAN	GJ2017@maine.rr.com
Rick and Barbara Russo	45 Eastern Promenade
Laura Lee Sawyer	Sunsetsuite42@gmail.com 42 North St.

Woodard & Curran

Name	Email
Barbara Vestal	vestal@millerphalon.com
TERESA & MICHAEL CANTARA	45EP8C@GMAIL.COM
Pamela Day	pday2304@gmail.com
DAN HALEY	Daniel.T.Haley@gmail.com
Debby Murray	debbym@gwi.net
Robin Whitten	robin@audiofilemagazine.com

Woodard & Curran

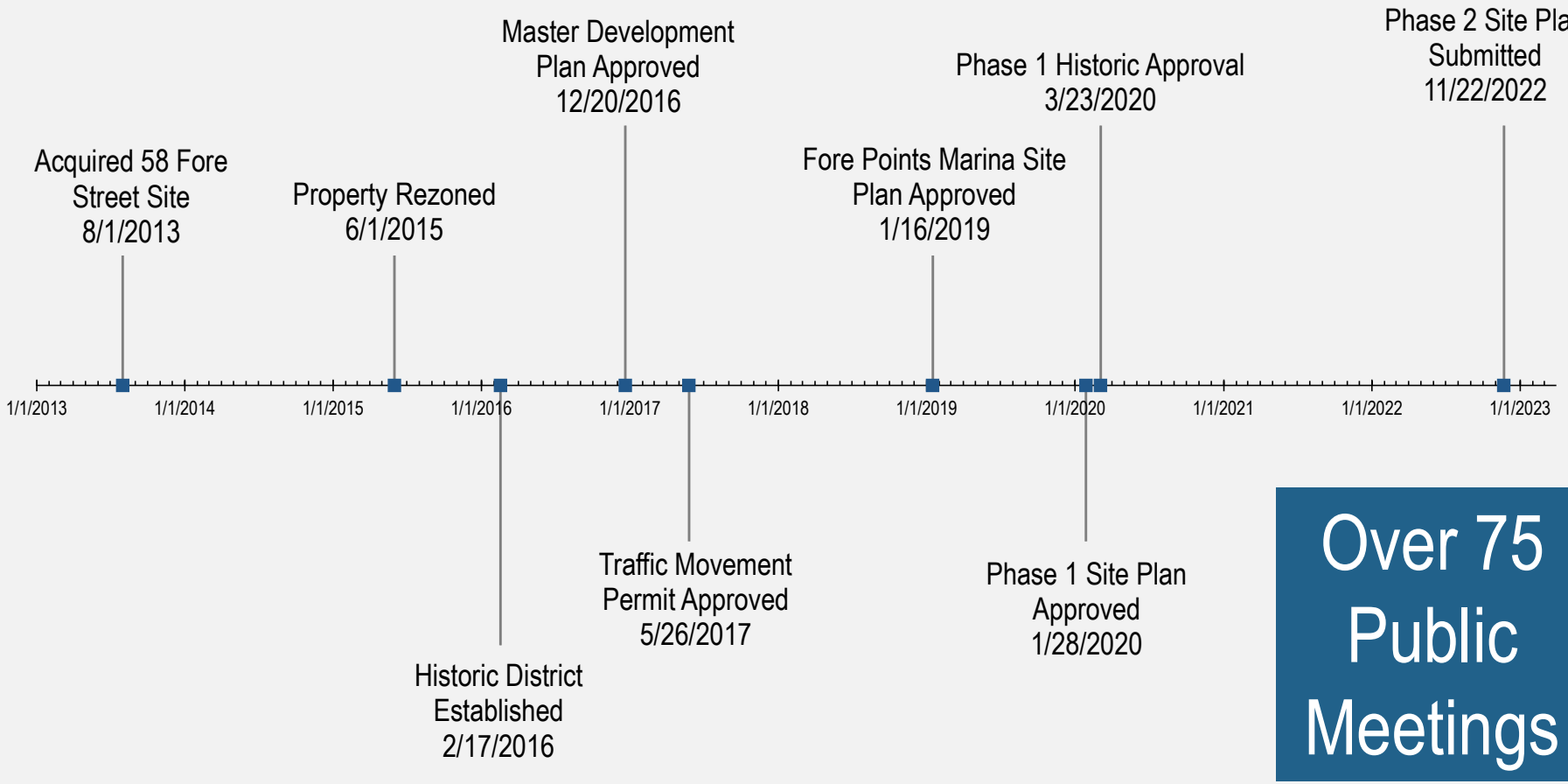
Name	Email
Neil Chester	Chesterc chesterand vestal.com
Mary Rhoads	rhoadsmg@gmail.com
Brian Ricks	brian.ricks@gmail.com
KATHLEEN BENDER	kabendr@icloud.com
PETER BASS	
of ROBIN ROB WHITTEN	ROB@WHITTENARCHITECTS.COM
William Brennan	WilliamBrennan207@GMAIL.COM

Portland Foreside Development Company

Phase 2 – Blocks 4 & 6 – Neighborhood Meeting – December 20, 2022 & January 11, 2023



PORTLAND FORESIDE PERMITTING TIMELINE



Over 75 Public Meetings

MASTER DEVELOPMENT PLAN



MASTER DEVELOPMENT PLAN



COMPLETED TO DATE



FORE POINTS MARINA



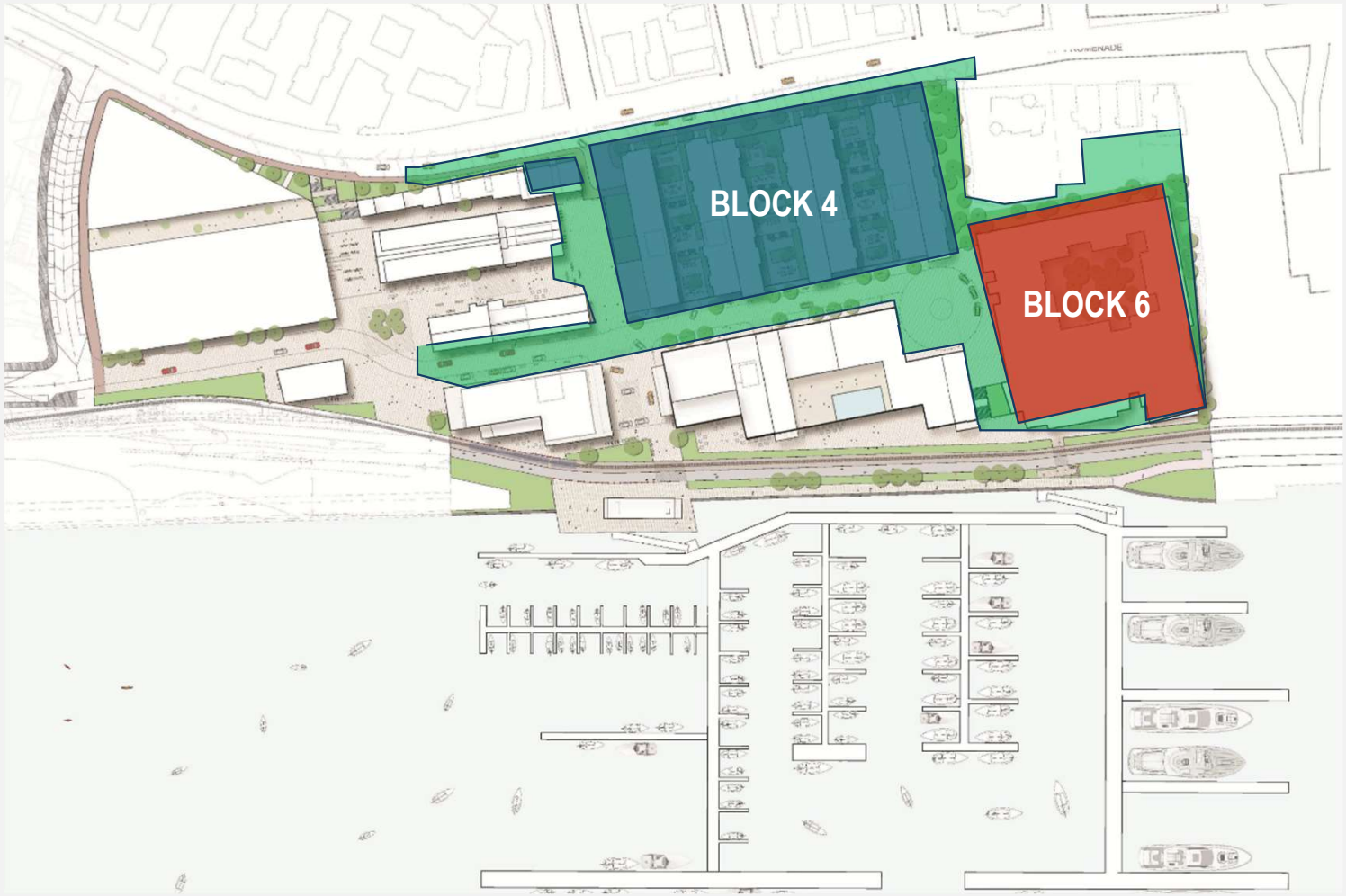
PHASE 1 – SUN LIFE BUILDING AND BUILDING 12



PHASE 1 – FORE STREET STAIR PUBLIC ACCESS



PHASE 2 – BLOCKS 4 AND 6



PHASE 2

Use	Proposed Block 4	Proposed Block 6
Residential	211,180 SF 225 Apartments 22 Townhomes	196,660 SF 154 Condos
Retail, Service, Restaurant	11,950 SF	9,108 SF
Vehicle Parking	202,670 SF 454 spaces	86,068 SF 242 spaces
Bicycle Parking	100 Internal 20 External	70 Internal 12 External

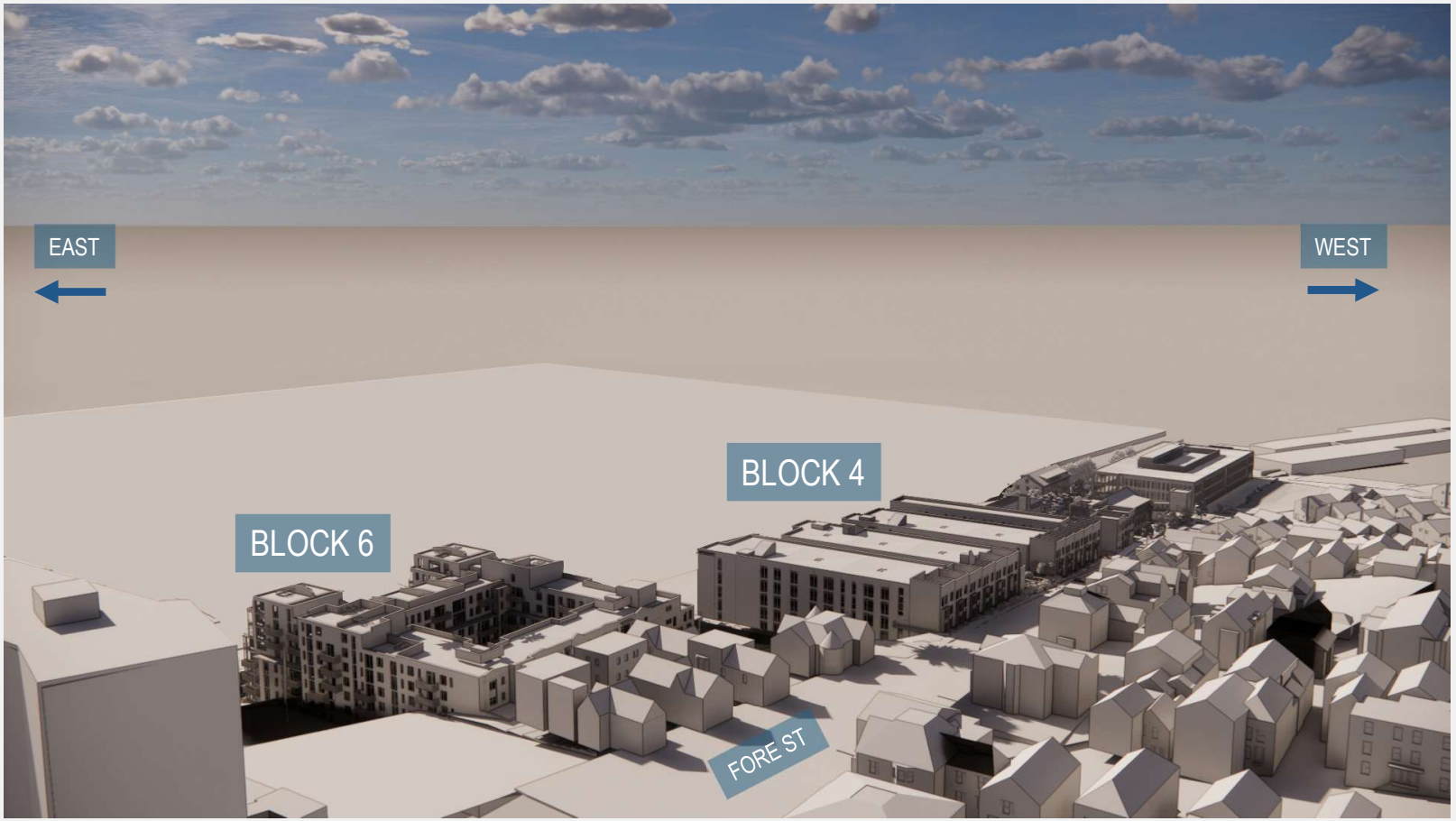
PHASE 2 - MASTER DEVELOPMENT PLAN



PHASE 2 – CURRENT DESIGN



PHASE 2 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – MASTER DEVELOPMENT PLAN



BLOCK 4 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – CURRENT DESIGN



BLOCK 6



BLOCK 6 – MASTER DEVELOPMENT PLAN



BLOCK 6 – CURRENT DESIGN



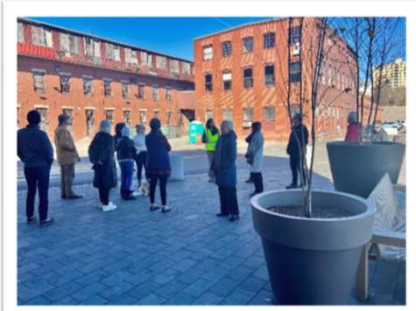
BLOCK 6



BLOCK 6 – CURRENT DESIGN



PORTLAND FORESIDE PUBLIC TOURS



- Informative Public Walking Tours Available
  - Started in September 2022
  - Continuing Wednesdays 11:30am to 12:30pm
- Please contact Sarah Hach to register/attend a tour in the New Year | Sarah.Hach@prenticeorg.com










58
FORE
ST.
THE
PORTLAND
COMPANY
MARINE COMPLEX
THANK YOU!
FORESIDE
DEVELOPMENT
Woodard & Curran

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 23

NEIGHBORHOOD MEETING MINUTES

Portland Foreside Development Company – Neighborhood Meeting #2

PROJECT: Portland Foreside Development Company – Block 4 & Block 6
MEETING DATE: 1/11/2023

LOCATION: East End School, Portland
ISSUED DATE: 4/18/2023

ATTENDEES:

Presenters/Representatives
David Senus – PFDC
Mary McCrann – PFDC
Darrin Stairs – Woodard & Curran (W&C)
Lauren Swett – Woodard & Curran (W&C)

Public
Roger Trettel
Terry & Susan Ingalls
Pam & Peter Macomber
Elena Schmidt
Berry Manter
Carol McCracken
Mark MacLeod & Roberta DeDonto
Kelly Walker
Heather Abt
Alex Kapplman
Joe Lewis

Total recorded attendance 18. Please note that there were over 30 attendees present, but some elected not to sign in.

In person meeting began at 6:00 p.m.

Project Presentation

- Welcome and Introductions provided by Darrin Stairs, W&C
- Project Background presentation provided by David Senus, PFDC
  - Prior permitting timeline
  - Master Development Plan
  - Work Completed to Date - Marina, Phase 1
- Proposed Phase 2 presentation provided by Darrin Stairs, W&C
  - Overview of Blocks 4 and 6 Scope
  - Review of proposed architecture for Block 4 and 6, highlighting what has changed since the Master Development Plan
- Information provided on available public tours on the site, presented by Mary McCrann, PFDC

Record of Feedback

Following the project presentation, there was a question and answer period with attendees. The following topics were discussed:

- Discussion about Block 4 and 6 Building Structure and Architecture
    - Reviewed proposed building architecture further
    - Reviewed proposed building heights
    - Specific discussion of Block 6 height relative to the adjacent Portland House and relative to the north elevation
    - Discussion on view corridors
- Questions about electrical utility
    - Will Fore Street lines be placed underground?
        - It was noted that a prior study about placing electrical utility underground and it was decided by City not to complete at this time.
    - Fore Street renderings will be updated to show electrical utility
    - The public questioned why Portland Foreside was not replacing these powerlines and why they were not shown on any renderings.
- Discussion about timing and length of construction
    - Concern raised about noise and impact on neighbors and parking during construction
    - Asked for notice about timing and types of construction activities
    - Planning for neighborhood engagement
    - Anticipating a start in 2023 with completion in 2026
- Discuss plans for renewable energy, sustainability, and resiliency
    - A summary of these aspects of the project was communicated
- Discussion about Inclusionary Zoning and residential unit types
    - Planning for Market Rate Apartments on Block 4
    - Block 4 units will provide for 10% units to meet inclusionary zoning
    - Block 6 will pay in lieu fee to meet inclusionary zoning
- Questions about geotechnical design & site soils
    - Is any pile driving planned?
        - Anticipating some will be necessary
    - Will the existing soil pile remain?
        - Large soil pile on site now will be removed as part of upcoming work.
- Questions about permitting
    - Is any Federal permitting required?
        - None specifically anticipated for these Blocks
- Discussions on site operations
    - Site darkness and security
        - Photometrics is being evaluated
        - Site security will be addressed
    - Who will be in charge of clearing sidewalks?
        - A plan will be developed for the long term maintenance of the site.
    - Will there be amenities on site for children?
        - The intent is for varied facilities, but final plan for all amenities not yet determined.

List of Plans, Documents or Drawings Shared

The following information was shared via the PowerPoint presentation given at the meeting:

- Permitting timeline
- Master Development Plan & Rendering
- Work completed to date including Fore Points Marina
- Phase 1 work completed to date (Sun Life, Building 12, Infrastructure, Public Stair Access)
- Phase 2 (Block 4 & 6)
    - Details of each phase including SF, number of units, vehicle parking and bike parking
    - Block 4 & Block 6 master development plan rendering
    - Block 4 & Block 6 current design model/renderings
- Summary of Foreside Development Public Tours

Meeting Close

- The meeting closed at 7:45 and the project team thanked attendees.

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Neighborhood Meeting Sign-In Sheet

Woodard & Curran

DATE: January 11, 2023

RE: Portland Foreside Phase 2 Neighborhood Meeting Sign-In Sheet

Dear Neighbors,

Thank you for attending tonight's public Neighborhood Meeting at the East End School for the proposed development of Phase 2 of the Portland Foreside project to be located at 58 Fore Street in Portland, Maine. Please sign in below.

Thank you,

Portland Foreside Project Team

Name	Email
Roger Trottel	rogertrottel@gmail.com
Terry & Susan Ingalls	singalls@maine.rr.com ingalls3@maine.rr.com
Pam + Pete Macomber	pam@macomber.com
Elena Schmidt	eschmidtme@outlook.com

Woodard & Curran

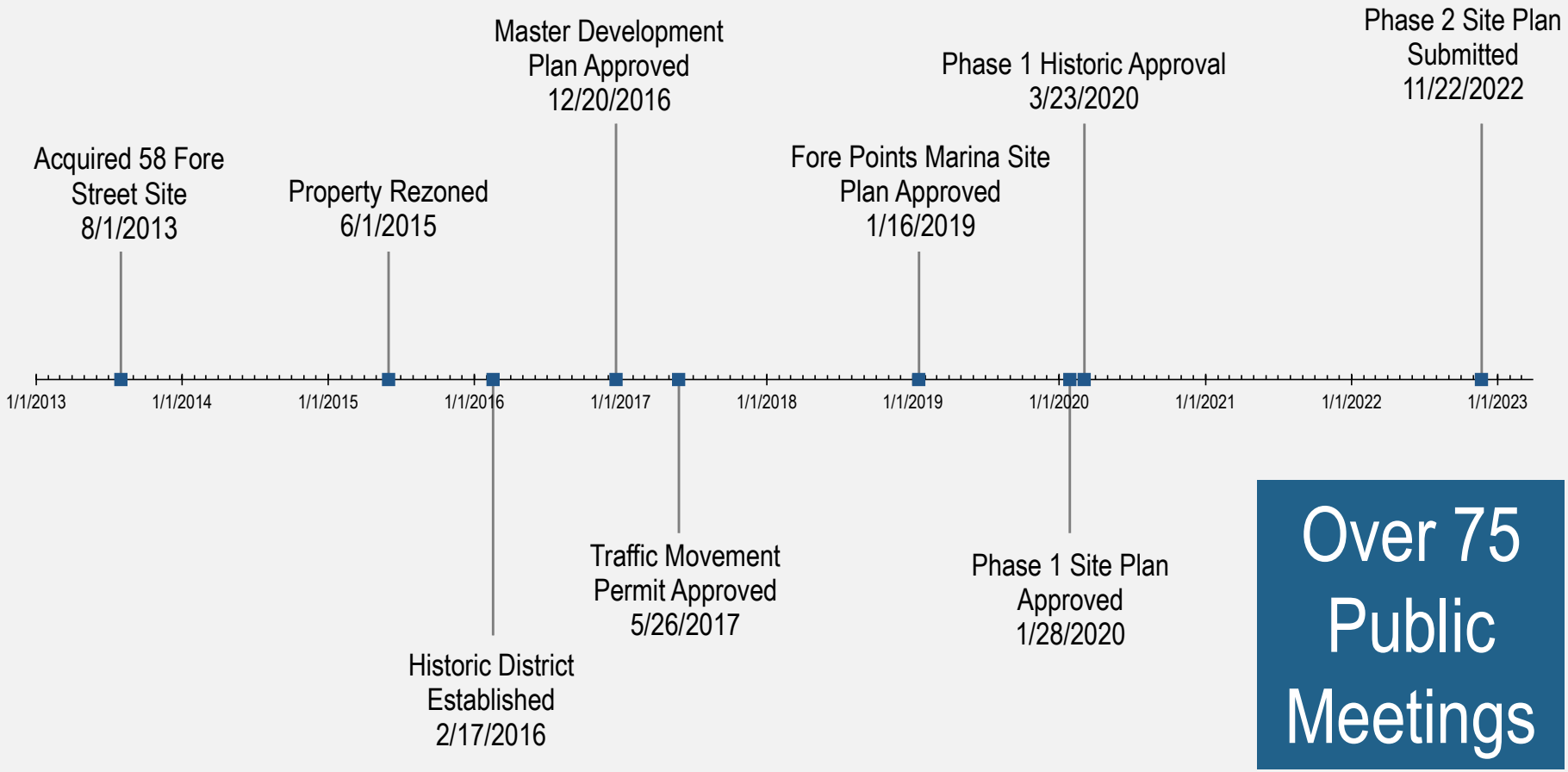
Name	Email
Barry Manter	
Carol McCracken	carlockencaol.com
Mark Macleod + Roberta DeMonte	mark_k_macleod@yahoo.com
Kelly Walker	kellytwalker47@gmail.ca
Heather Abt	Eclipsesglimpsed@gmail.com
Alex Kappelman	alex@shorelineagents.com
Joe Lewis	joe@portcitylegal.ca

Portland Foreside Development Company

Phase 2 – Blocks 4 & 6 – Neighborhood Meeting – December 20, 2022 & January 11, 2023



PORTLAND FORESIDE PERMITTING TIMELINE



Over 75 Public Meetings

MASTER DEVELOPMENT PLAN



MASTER DEVELOPMENT PLAN



COMPLETED TO DATE



FORE POINTS MARINA



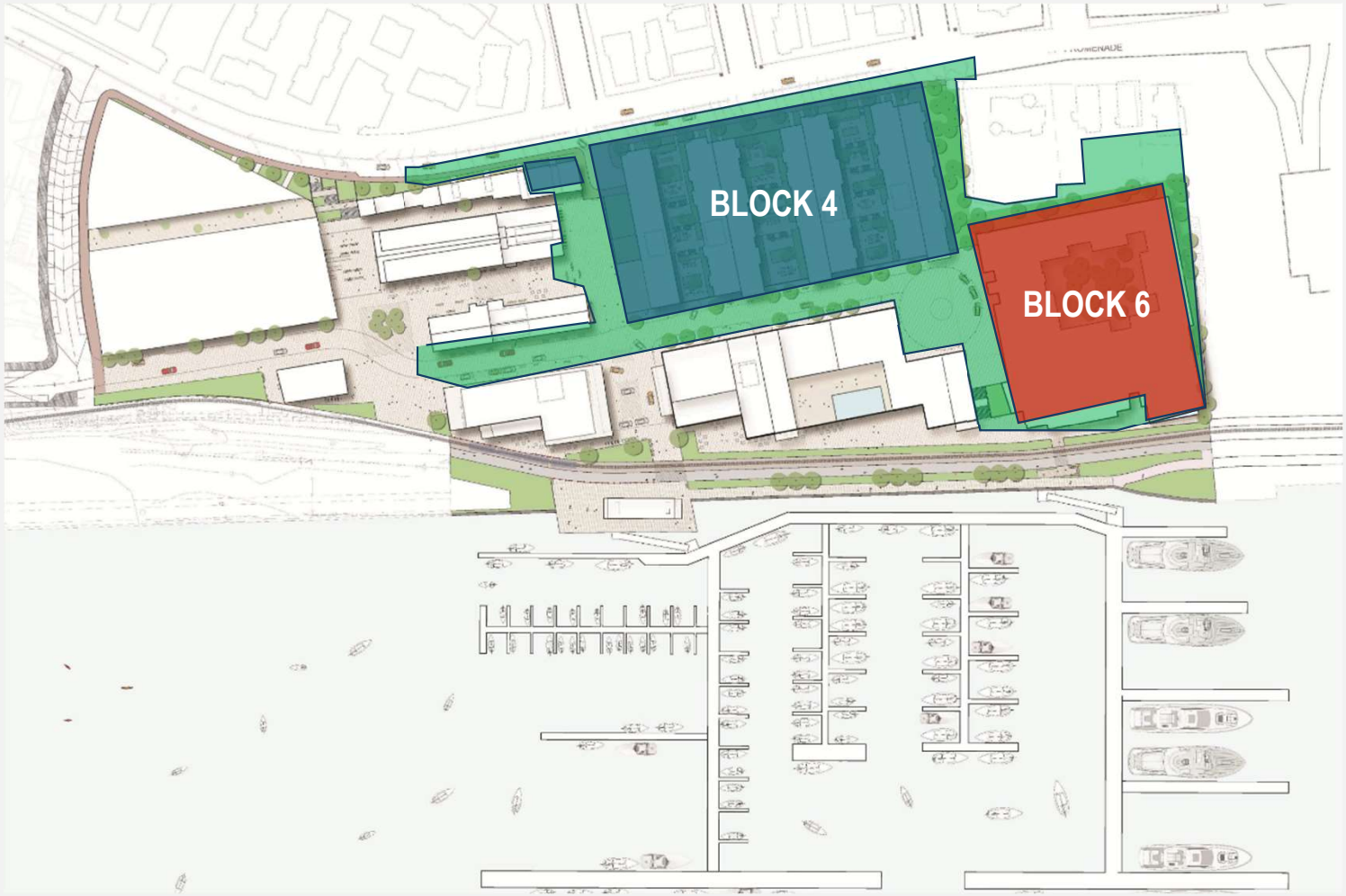
PHASE 1 – SUN LIFE BUILDING AND BUILDING 12



PHASE 1 – FORE STREET STAIR PUBLIC ACCESS



PHASE 2 – BLOCKS 4 AND 6



PHASE 2

Use	Proposed Block 4	Proposed Block 6
Residential	211,180 SF 225 Apartments 22 Townhomes	196,660 SF 154 Condos
Retail, Service, Restaurant	11,950 SF	9,108 SF
Vehicle Parking	202,670 SF 454 spaces	86,068 SF 242 spaces
Bicycle Parking	100 Internal 20 External	70 Internal 12 External

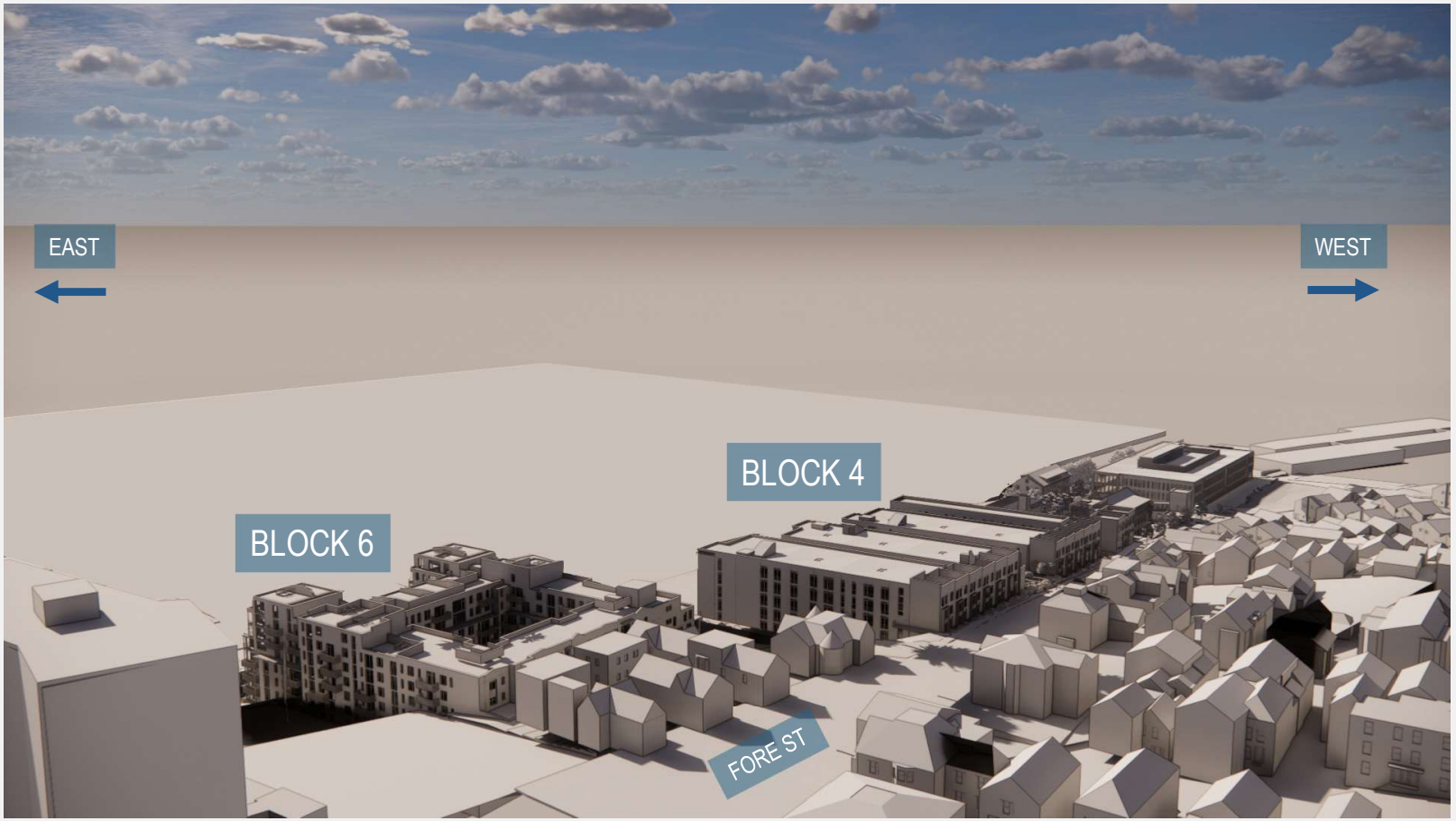
PHASE 2 - MASTER DEVELOPMENT PLAN



PHASE 2 – CURRENT DESIGN



PHASE 2 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – MASTER DEVELOPMENT PLAN



BLOCK 4 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – CURRENT DESIGN



BLOCK 4



BLOCK 4 – CURRENT DESIGN



BLOCK 6



BLOCK 6 – MASTER DEVELOPMENT PLAN



BLOCK 6 – CURRENT DESIGN



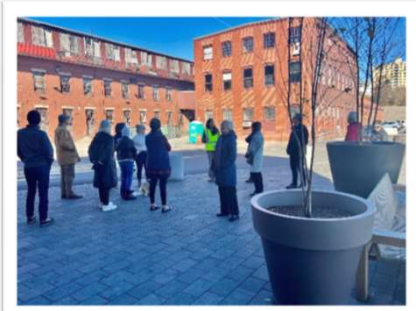
BLOCK 6



BLOCK 6 – CURRENT DESIGN



PORTLAND FORESIDE PUBLIC TOURS



- Informative Public Walking Tours Available
  - Started in September 2022
  - Continuing Wednesdays 11:30am to 12:30pm
- Please contact Sarah Hach to register/attend a tour in the New Year | Sarah.Hach@prenticeorg.com










58
FORE
ST.
THE
PORTLAND
COMPANY
MARINE COMPLEX
THANK YOU!
FORESIDE
DEVELOPMENT
Woodard & Curran

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 24

NEIGHBORHOOD MEETING MINUTES

Portland Foreside Development Company – Neighborhood Meeting #3

PROJECT: Portland Foreside Development Company – Block, 5
MEETING DATE: 5/2/2023

LOCATION: East End School, Portland
ISSUED DATE: 5/26/2023

ATTENDEES:

Presenters/Representatives
David Senus – PFDC
Mary McCrann – PFDC
Darrin Stairs – Woodard & Curran (W&C)
Lauren Swett – Woodard & Curran (W&C)

Public
Michael Cantara
Teresa Cantara
Tica Douglas
Maggy Wolf
Ron Welton
Roberta DeDonato
Mark MacLeod
Paul Allen
Kelly Walker
Sandi Knakal
Charles Grimes
Paul & Jen Flaxman
Karen Snyder
Ted Kurtz
Barbara Vestal
Nathan Szanton
Roger Trettel
Talce McNally
Pamela Day
Michael Petit

In person meeting began at 6:00 p.m.

Project Presentation

- Welcome and Introductions provided by Darrin Stairs, W&C
- Project Background presentation provided by David Senus, PFDC
  - Prior permitting timeline
  - Master Development Plan
  - Work Completed to Date - Marina, Phase 1
- Proposed Phase 2 presentation provided by Darrin Stairs, W&C
  - Overview of Blocks 4, 5 and 6 Scope
  - Review of proposed architecture for Block 5 highlighting what has changed since the Master Development Plan

- Information provided on available public tours on the site, presented by Mary McCrann, PFDC

Record of Feedback

Following the project presentation, there was a question-and-answer period with attendees. The following topics were discussed:

- Will Blocks 4, 5, and 6 be constructed in parallel?
  - The building will be built as one structure with an anticipated start in fall 2023, continuing through 2026.
  - Block 4 garage is likely to come online one year before completion of remainder of work.
- Questions about access through site to the waterfront, and if the hotel will block access.
  - Access routes will be available through the site.
- What construction materials will be used?
  - Garage is precast concrete with other parts of construction in steel, composite, concrete, wood, and varied architectural façade materials.
- When does the Phase 1 Sun Life Building come online?
  - The exterior construction is complete, a portion of the interior is complete, and Portland Foreside is operating in the office, and the remaining Sun Life portion of the building is expected to be online later in May.
- How will traffic enter the site and how will traffic be mitigated through the neighborhood? There is concern that the project doesn't consider new developments since the prior approvals.
  - Evaluated at Master Plan through the Traffic Movement Permit, and traffic studies are completed with each Block to show how the proposed work falls within the original planned traffic study.
  - The design included traffic modeling throughout the neighborhood from Franklin Arterial.
- Who is the Planner?
  - Charles Tetelman
- How will Sun Life parking be managed?
  - Some parking was constructed in the Block 1 building and there will also be temporary surface parking to support Sun Life until the Block 4 garage is open.
- Throughout the meeting a handful of common questions were asked about building heights
  - Concerns raised on impact to neighborhood, looking for more details on height and renderings with neighborhood views.
  - What is the height of Block 6 relative to the Eastern Promenade?
  - What is the height and how is it justified in this zone? Why isn't height calculated from the foundation?
    - The height is calculated based on average grade calculations per zoning requirements.
  - Concern about boats blocking view corridors
    - Neighbors requested renderings of view corridors from multiple viewpoints including what will be seen from Munjoy Hill.
  - Is the grade in the view corridors at Fore Street or lower?

        - In view corridors, building height is held at or below the Fore Street grade.
        - Neighbors want an interpretation about what can/can't be in a view corridor.
    - Will mechanical systems and landscape elements intrude in the view corridors?
        - Not planning for mechanical systems in view corridors and will check on the landscaping.
- How does electrical service enter the site? Are there any transformers being added to the poles on Fore Street?
    - There is a drop pole on Fore Street that was installed during Phase 1. Electrical service enters the site underground from that location.
    - No new transformers are to be added on Fore Street. There will only be some pole/line upgrades.
- Will there be light/noise impact to the Portland House?
    - Not anticipating significant impact. Much of the site is lower than Portland House, and the area closest to Portland House is residential and will not result in much noise or light impact.
- Are there pre-sales, and what are the prices? Who is the agent?
    - The PFDC representative is Lauren Salzer.
- An easement is requested from Portland House for the soil nail wall construction method. If not received, what is the alternative?
    - If a soil nail wall cannot be constructed, the building's wall design will be used to support the adjacent grade.
- Where is access to parking?
    - Access from Thames Street in the site and from Fore Street entrances to Block 4 garage.
- What is the parking plinth, and where is it relative to Thames Street?
    - The parking plinth is a single level of parking across Blocks 4, 5, and 6, and is located with access from Thames Street.
- Is there a Phase 3 planned?
    - The next phase will be Block 3 or Block 1B, but there is not a specific timeframe.
- When will renovation of the historic buildings be completed.
    - Working on the Public Market for Block 2 and are planning for a Building Permit application in fall of 2023 with construction happening in the winter.
- There was a request for a 3D model and/or a fly through movie of the site.

List of Plans & Drawings Shared

The following information was shared via the PowerPoint presentation given at the meeting:

- Permitting timeline
- Master Development Plan & Rendering
- Work completed to date including Fore Points Marina
- Phase 1 work completed to date (Sun Life, Building 12, Infrastructure, Public Stair Access)
- Phase 2 (Block 4, 5 & 6)

- Details of each phase including SF, number of units, vehicle parking and bike parking
- Block 5 master development plan rendering
- Block 5 current design model/renderings

Meeting Close

- The meeting closed at 7:30 and the project team thanked attendees.

jt2 portland me <joantwin2jean@gmail.com> Dec 8, 2022, 6:22:04 PM (16 hours ago)

to planningboard@portlandmaine.gov

Oh my fing god! Not more people on the prom! 700 parking spaces and fing expensive 401 condos. We have had enough! Stop it! It's bad enough you ruined 218 Washington ave with an ugly condo box. I am a senior citizen who lived at eastern prom for 30 years. You have ruined it with developers! Greedy fing bastards.

Denise Preisser <depreisser@hotmail.com> Dec 10, 2022, 9:36:22 AM (yesterday)

to planningboard@portlandmaine.gov

Greetings,
I received a card in the mail in regards to site plan submission. I am very concerned about a wall of buildings between Waterville and St. Lawrence and St. Lawrence and Atlantic.

The original design had 5 view corridors for walkers to enjoy up and down Fore Street. The new design on the white model has built a wall of dwellings with only 3 openings at the street intersections. I do think the design would be more neighborhood walking friendly for Munjoy Hill residents and visitors of the original plan of 5 openings was used, in addition to, create some mini park outcrops with benches tucked in on the Fore Street hill for pedestrians to have a relaxing view spot.

I am also concerned with that wall of dwellings causing a lack of sunlight hours on Fore Street in winter. Very steep hill and sunlight does wonders melting snow. The street with those dwellings would lose 2 hours of morning sunlight in winter.
I hope you continue to work on creating a nice Munjoy Hill neighborhood vibe, rather than a wall between the neighborhood and water. The original design, created space rather than Building the Wall.
Best Regards,
Denise Preisser

FORESIDE/





Susan Green' via Planning Board
to planningboard, Susan

Hello:

I am a resident of The Portland House at 45 Eastern Promenade in Portland and am very interested in the proposed development of the parcel immediately adjacent to our property on the Old Port side.

I tried to find more information using the plan number referenced above, however, was unable to locate any summary or drawings of the proposal on the Citizen's Self Service Portal.

We are particularly interested in seeing elevations of the the new proposed condominium development adjacent to The Portland House. What would be helpful is an elevation showing how tall the new condominium will be in relation to the Portland House, including any structures to be located on the roof, such as antennas, HVAC structures, elevator vestibules, etc. We are very concerned about the views from our building, which has been there since about 1969, being blocked by the new condominium. That would destroy the property values of the units that lose their views.

Hoping someone in your department can help by forwarding the requested elevations and also floor plans. If the developer has not provided such elevations, they must be required to do so.

Thank you very much for any help you can provide.

Best regards,

Susan Green

45 Eastern Promenade
Apt. 6FG
Portland, ME 04101

Sandra L. Guay
Partner
sguay@archipelagolaw.com

1 Dana Street
Portland, Maine 04101
(207) 558-0102

December 28, 2022

Via Email:
Portland Planning Board
Maggie Stanley, Chair
C/O Kevin Kraft, Deputy Director
City of Portland Planning & Urban Development
389 Congress Street
Portland, ME 04101
kkraft@portlandmaine.gov

Re: Portland Foreside Development Company
58 Fore Street/Mixed Use of Blocks 4 and 6
Major Site Plan Review Application

Dear Madam Chair and Board Members:

This firm represents John Roger Trettel, the owner of property located at 5 Eastern Promenade, and a direct abutter to the 58 Fore Street Master Development Plan project. Mr. Trettel objects to the recent Portland Foreside Development Company application ("Application") for the mixed use of Blocks 4 and 6 for multiple inconsistencies with the City of Portland code. While we represent Mr. Trettel only in this matter, be advised that the undersigned has heard from others in the community who express similar concerns. In the interest of brevity, this letter focuses on several of the more egregious inconsistencies, each of which are grounds for termination of Planning review, as presented below.

I. The Master Development Plan Approval Has Expired.

First and foremost, there is at present no valid Master Development Plan ("MDP") approval for 58 Fore Street and any current applications must therefore be reviewed as non-MDP related Major Site Plan developments pursuant to the 2022 Land Use Ordinance.

On December 20, 2016, the Portland Planning Board granted approval of a Master Development Plan for a mixed-use development on approximately 10 acres of land at 58 Fore Street. As an integral part of that approval, Standard Conditions of Approval & Requirements, Section 3, "Master Development Plan Expiration" states that:

> An approved master development plan shall expire six (6) years from the date of approval unless, prior to the expiration of the master development plan, a written

> request for an extension is submitted to the Planning Authority. Only two (2) such extensions may be granted by the Planning Authority, and each such extension shall be limited to two (2) years from the date of expiration of the master development plan. The Planning Authority may grant an extension provided there have not been substantial changes to the underlying zoning or site plan standards since the date of the master plan development plan approval that would have a substantial impact on approval. The Planning Authority may condition the extension on an amendment of the master development plan to comply with such applicable ordinance or site plan standard changes per section *14-532(d)* of the city's land use ordinance. Approved major or minor amendments to a master development plan do not alter the expiration date for the master development plan.

The Section 3 MDP Condition language is also found in Section 14-532(d) of the Portland Land Use Ordinance, Expiration of Master Development Plan, effective on the date of the 2016 MDP approval.

There is no evidence that the applicant has ever submitted a written request for any extension to the 2016 MDP, and furthermore no evidence that the Planning Authority has ever made a determination in response to such a request that there have been no substantial changes to the underlying zoning or site plan standards (which would include, at a minimum the City's recent Inclusionary Zoning requirements). As such, that approval has now expired and there can be no further reviews undertaken or permits issued under the terms or conditions of that 2016 MDP approval. Any further site plan approvals must be subject to the Major Site Plan standards and requirements as found in the 2022 Land Use Ordinance.

II. The Proposed Development is Outside of the Master Development Plan Boundary.

The proposed site plan for Block 6 includes portions of three parcels of land, identified as 13-23 Eastern Promenade, which were purchased by the developer on December 28, 2021, a full 5 years after the MDP was approved and potentially adding up to 33,323 square feet to the project. Furthermore, these appended properties are not located in the B-6 zone, but rather in the R-6 zone and in the Munjoy Hill Neighborhood Conservation Overlay District and therefore subject to different and enhanced ordinance standards and regulations.

The 2016 Land Use Ordinance only provides a methodology for the Planning Authority to permit *minor* amendments to still effective Master Development Plans, and then only upon written application and explanation of the changes by the applicant. (14-532(b)(1)(a)). A minor amendment is defined as one that is generally consistent with the approved MDP layout of buildings, circulation infrastructure, and open spaces and: (i) does not propose a new general type of use: (ii) does not increase building ground coverage, floor area ratio or residential density; (iii) does not decrease any specified area regulations or enumerated parking rations; and (iv) does not

substantially change access, circulation, or infrastructure adjacent to the site. The application does not describe a minor amendment.

Neither the 2016 Land Use Ordinance, nor the 2016 MDP, provide *any* avenue for a major, substantive amendment to an MDP (such as expansion of the boundaries of the original MDP by the addition of new land located in a different zone); if permitted, presumably it would require a complete application, public hearings and Planning Board approval. Furthermore, any such consideration of a major amendment to expand the previously approved land area of a MDP must be in compliance with current zoning standards and requirements.

III. The Proposed Development Exceeds Height Restrictions on Numerous Grounds

The proposed site plan does not comply with height restrictions on numerous, interrelated and various grounds. The Code defines "height" as the "vertical measurement from grade" to the highest point of the roof or structure.[1] "Grade" is not defined, although throughout the Code, there are multiple indications that creative design and use of topography is not a permissible end run around height regulations.[2] There is nothing in the Code that codifies "average development grade" as the lawful beginning point for measuring height.[3]

No final building plans were submitted or approved as part of the MDP in 2016, and the Planning Board's review and approvals were clear that compliance with applicable height standards for the B-6 Overlay would be undertaken on an individual, envelope-by-envelope basis at the time of the final site plan application.

The B-6 Building Height Overlay imposes height restrictions of 45 feet, with extensions up to 55 or 65 feet (as in another 10 or 20 feet) across the distinct building envelope areas. The B-6 Height Overlay prohibits buildings that exceed 65 feet in height. As depicted in the Master Plan renderings, "grade" of the site (in particular development Blocks 4, 5, and 6) show the existing grade as at or around approximately 12' above sea level, with sharp increases in topography closer and up to Fore Street. The Portland Company property has long existed as a developed site and there is a defined existing, developed grade.[4] At a minimum, it is from the existing site grade that

[1] This definition is more or less consistent in the 2014 City Land Use Code (as amended 2016) and the current 2022 Code.

[2] For example, the definition of "story" states in relevant part, "A basement shall be counted as a story for the purpose of height measurement where more than one-half of its height is above the average level of the adjoining ground." Portland, Me. Code, Sec. 14-47 (2016).

[3] Assuming that the Code effective in 2016 applies, there are only a handful of references therein to "average grade," none of which apply to the B-6 Height Overlay. This strongly suggests that the drafters of the Code did not intend for "average grade" to control in analyzing the B-6 Height Overlay.

[4] The unique topography of the Eastern Prom in this area, with 88' of topography change from the shore up to Fore Street, has long been a known consideration of City planning and policy. *See, e.g.*, Design

the B-6 Overlay for height must be calculated. These are the existing conditions; the applicant (as explained further below) cannot manipulate the earth or the numbers in a manner that would render height restrictions meaningless. The proposed plans submitted depicted buildings that stand up to 115 feet, more than double the 45' height restriction (and well beyond the contemplated extensions), well beyond and clearly contrary to the height restrictions for the B-6 Overlay.

Ordinances must be interpreted with common sense to avoid absurd or inconsistent results. *See Fryeburg Tr. v. Town of Fryeburg*, 2016 ME 174, ¶ 9, 151 A.3d 933 ("[W]e may reject any construction [of an ordinance] that . . . creates absurd, illogical, unreasonable, inconsistent, or anomalous results if an alternative interpretation avoids such results." (citation and quotation marks omitted)). A Planning Board interpretation of the height restrictions and calculations that would permit buildings standing 110' in a zone where buildings over 65' are prohibited is an absurd and unreasonable result.

The City cannot allow a methodology for defining "grade" and measuring heights that renders height restrictions meaningless. Moreover, the Planning Board has no authority to amend the height restrictions through manipulation of the grade calculation in an adjudicatory role; the substantive determination for height standards and restrictions has been made by the legislative authority and can only be changed by the legislative arm of City government, the City Council.

A. The use of the "pedestal" or "podium" parking garage to elevate the development is a creative, but unlawful, end run around the clear intent of the B-6 Overlay to restrict heights and contain each building/structure within defined envelopes.

To maximize purported "average grade" of the site, the developer proposes a massive parking structure that straddles a significant footprint of the site. The parking structure is presented as a "pedestal" or "podium" parking garage that spans across multiple building envelopes as depicted on the B-6 Overlay map. This is contrary to the B-6 Overlay, which requires that each proposed building stay within each of the contemplated building envelopes. This makes sense because the height restrictions are keyed to the building envelopes, which vary across portions of the site. The proposal then assumes that the constructed garage structure will constitute one structure that already has a height of 50.1', which is then proposed as the starting point for calculating building height. This method uses purported "grade" (which is really the height of the garage structure) as a springboard to launch the heights of the buildings over 100 feet where the height restrictions would call for buildings half as tall. This is clearly contrary to the letter and intent of the Code and the B-6 Overlay.

Guidelines, Master Plan for Redevelopment of the Eastern Waterfront. The site's topography has never been considered a means to artificially remold the promenade and peninsula to suit developer ambitions contrary to height restrictions.

B. The assumed average grade of the site of ~50 feet is wrong.

The City and applicant has calculated average grade for Blocks 4, 5, and 6 at 50.1 feet. "Average finished grade" is not a lawful land use standard and is contrary to industry standards for professionals. This assumption is using a simplistic, misleading, and flawed methodology that would not be used by a licensed professional engineer or land surveyor for determining cut and fill calculations and ultimate finished grade of a building site. Even taking the unlawful "average finished grade" as an appropriate legal or professional standard for purposes of argument, the calculation of 50.1 is wrong. In fact, average elevation across the area calculates to around 36 feet, even if consolidating the grade outside the defined building envelopes rather than analyzing each building/structure as required by the Code and B-6 Overlay.

C. The Master Development Plan is inconsistent with the City's Comprehensive Plan and Other Binding Regulatory Documents

Even if the Master Development Plan approval had not expired, and the methodology for calculating grade and height is somehow lawful and preserved by the 2016 approvals, those approvals are void and invalid for inconsistency with the City's Comprehensive Plan, in particular the Eastern Waterfront Master Plan, the Eastern Waterfront Building Height Study, which called for height calculations to be measured from 2' above floodplain, not developed grade, and specifically limited the number of stories and elevations of structure to not exceed the grade of Fore Street.[5] The proposal is also not consistent with the Portland Company Historic District, for among other reasons, the proposed buildings and structures would obscure views various perspectives, including from the water, looking back towards the peninsula. The massive heights of the buildings would also obscure views to and from the Munjoy Hill Historic District. On the face of the application and plans, the proposed structures are inconsistent with the letter and intent of the Master Plan, Ordinance, and Comprehensive Plan.

IV. The Application is Not Complete.

Despite the Workflow notation on the CSS online portal showing that the Major Site Development Plan Application is complete in fact it is not and consequently, there should be no further review of the application. As just one example of incompleteness, the application notes that various easements are required for the project. At the December 20, 2022 Neighborhood Meeting, it was identified that an additional easement would be required from an abutter, the Portland House Condominium Association.

[5] The Eastern Waterfront Building Height Study (September 2004) ("Study"), adopted into the E. Waterfront Master Plan and the City's Comprehensive Plan as it existed in 2015, formed the foundation and basis for the B-6 Height Overlay. In the area of the proposed new development, any building over four stories (one story is defined as 11 feet) has "has a maximum 70' width parallel with the shore and a maximum 140' length perpendicular to the shore." Per the Study, the maximum total number of stories permitted in this area of the B-6 Overlay is 5 to 6 floors.

The 2016 MDP *requires* that "[a]ll documentation of Right, Title and Interest on property pending acquisition [including easements] *shall* be included with application materials prior to any review of Level III Site Plan and/or Subdivision plan application." Sufficient evidence of an applicant's right, title, and interest is a threshold requirement for an applicant seeking land use development approval in order to establish the legal authority to utilize the permits in the manner proposed. Clearly, the project cannot be constructed as proposed without these easements first being obtained. The easement documents are therefore critical evidence of right, title and interest as required in the MDP, in Sections 14-527(c)(4) and (d)(9) in the 2016 Ordinance and in the current Major Site Plan General Document and Drawings Checklist, and the application cannot be deemed complete without them.

Yet another example of how the application is incomplete is that the plan provides only a vague idea for a critical retaining wall along Fore Street bordering Lot 4 and on the westerly and northerly side of Block 6 of the project, while noting that "[p]roject construction may require installation of tiebacks into property on adjacent land, including City land."[6] The Applicant has submitted no easements from private property owners or the City to allow for these tiebacks and no discernable design or engineering plan for the retaining wall. There is no indication of any alternate means of anchoring, or how the retaining wall will effectively retain the steep slope behind it. There is also no discussion about how this structure, which appears to be located directly abutting the Trettel property, meets setback requirements. Again, this is critical information that could alter the Board's review and that was not provided in the Application.

Beyond the issue of an incomplete application, the Applicant is utilizing valuable Planning Board time and resources to review a project that may need to be amended or ultimately be unbuildable because agreements for these easements cannot be reached.

We appreciate the Planning Board's evaluation of these points and look forward to a robust discussion at any scheduled meeting where the Portland Foreside Development Company, 58 Fore Street/Mixed Use of Blocks 4 and 6 Major Site Plan Review Application will be discussed and we ask to be added to the list of interested parties who will receive notice of any such meetings.

Very Truly Yours,

SANDRA L. GUAY

SLG/lb
Copy to:

Roger Trettel

[6] There is also no information on how this project may impact the historic Fore Street seawall.



JEREMY WINTERSTEEN <jrwintersteen22@aol.com> 4:28 PM (1 hour ago)
to planningboard@portlandmaine.gov, Charles Tetelman

1/9/23

Dear Planning Board,

Please accept these comments in regards to the 58 Fore Street project.

I objected earlier to the size and height of some of the project. In particular, I believe the City of Portland and the previous owner made a commitment to not have new buildings go higher than the plane of Fore Street. This building height restriction obviously did not carry the day as some of the new building heights are significantly higher than Fore Street.

My concern earlier, which others in the neighborhood also expressed, was the feeling of being walled off from the water. The developer said there would be view corridors but I view this term as an oxymoron.

I have heard that there will now be fewer “view corridors” and water access points than what was originally planned. Is this true?

The 58 Fore Street development is too big, is out of character for Portland and Maine, and mimics many other large scale urban developments that wall off water views and access.

I ask that you please don’t wall off Munjoy Hill from the water and that you do all you can to maintain some of the beautiful views and access points that Portland residents, Munjoy Hill homeowners, and visitors treasure so much.

Thank you for your consideration.

Sincerely,

Jeremy Wintersteen
9 Waterville Street

portlandbikeped

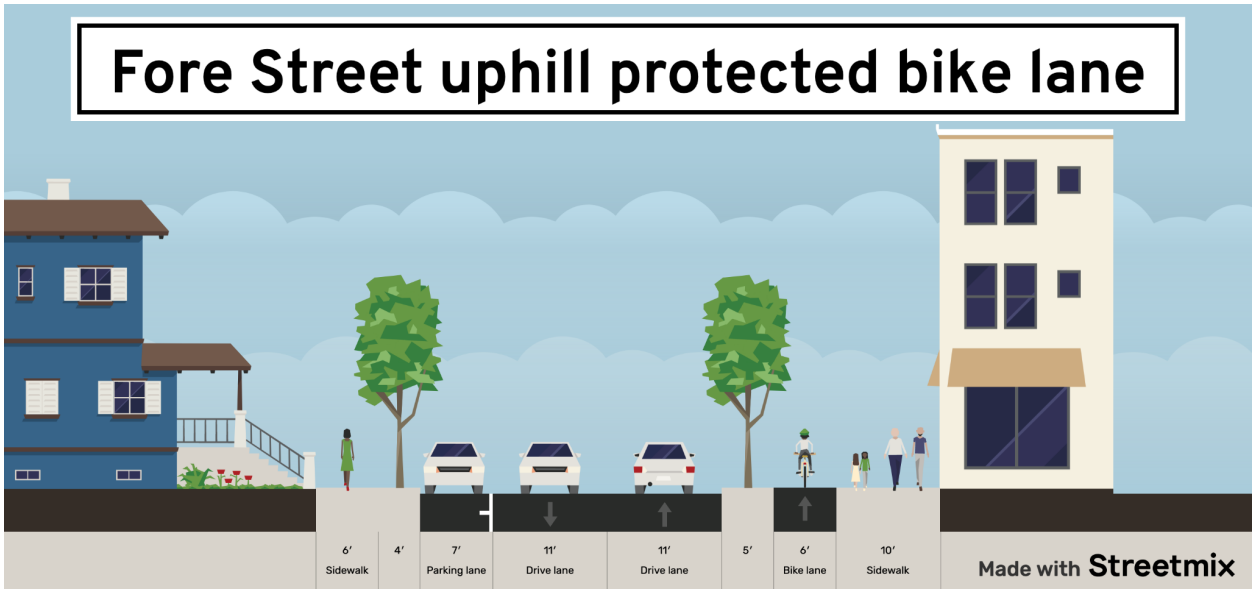
PORTLAND BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE

January 9th, 2023

Dear Chair Stanley, Members of the Portland City Planning Board,

The Portland Bicycle & Pedestrian Advisory Committee requests that the Portland Company developers take the opportunity to install an uphill protected bike lane along the southern curb of Fore Street as part of their site plan approval for 58 Fore Street.

Because this project is proposing a large off-street parking garage and there's been no on-street parking on the south side of Fore Street for the past 2-3 years because of sewer construction, this would be a great opportunity to create a safer bike route – plus additional street trees with wider sidewalks – by replacing one lane of on-street parking along the southern curb of Fore Street with an uphill, protected, sidewalk-level bike lane between Munjoy South and Atlantic Street, as shown in this conceptual cross-section:



Note that placing any street trees on the outside of the bike lane would allow a small plow truck to plow the bike lane and sidewalk at once, not requiring any special snow clearing equipment.

Example from Western Ave in Cambridge MA:



Future city-led projects could potentially expand this facility all the way to and around the Eastern Prom, which has a very wide right-of-way.

Thank you for your consideration.

Sincerely,
The Portland Bicycle & Pedestrian Advisory Committee.
https://www.portlandbikeped.org

Winston Lumpkins, *Chair*
winston.lumpkins@gmail.com, 207-408-1508

Emma Scudder, *Vice Chair*
scudder.emma@gmail.com, 603-219-5190

The Portland Bicycle and Pedestrian Advisory Committee (PBPAC) is an ad-hoc group of Portland area residents who work to make the city a better place to walk, bicycle, and wheelchair. We advocate and educate on bicycle, transit, and pedestrian issues, including handicap accessibility, in collaboration with city offices and outside organizations.

Kellie Whiteston <kelliewhiteston@gmail.com> 8:31 AM (2 minutes ago)
to planningboard@portlandmaine.gov, planning@portlandmaine.gov

Dear Chair Stanley and Members of the Planning Board,

Please support the proposal that the Portland Company developers take the opportunity to install an uphill protected bike lane along the southern curb of Fore Street as part of their site plan approval for 58 Fore Street.

This would be a progressive and beneficial addition to the city we could all be proud of. It will create a safer and easier biking route connecting Eastern Prom to the Commercial Street and Old Port area as well as create a more attractive and functional space for all. There already hasn't been any parking available on that side of the street for a couple years. With the developer also proposing a large parking garage, there is potentially no conflict there. Additionally, the proposed side-walk level lane would also be easier to maintain with regards to snow removal.

Thank you for your consideration,
Kellie

Paul Fuller <pfuller91@gmail.com>
to planningboard, planning

Dear Portland Planning Board Members,

I'm writing to ask you to encourage the developers of the Portland Company project along Free Street to add a separated, protected bike lane as part of their project. Fore Street is potentially a much better access point to Munjoy Hill for cyclists, and a protected bike lane will be an extent stel towards improving the bicycle infrastructure in the city.

Thanks for your consideration.

Cheers,

Paul Fuller
6 Hemlock St
Portland, ME

Zack Barowitz

to Planning, Planning, Portland

Chair Stanley and members of the Planning Board;

Please support the proposed bike lane for Fore Street as it would be a great asset for the City of Portland to have a separated bike lane in this location. As we all know, the Eastern Prom is a spectacular amenity for our city and Fore Street presents and excellent connection to it from the Old Port. However that hill is steep so anything that can be done to make cycling up it a little less arduous would be most welcome.

Thank you,

Zack

John Clark <jmclark995@gmail.com> 8:45 AM (1 hour ago)

to planning@portlandmaine.gov, planningboard@portlandmaine.gov

Members of the Planning Board,

When reviewing the site plan this evening, please consider requiring a protected climbing bicycle lane be constructed as part of the new development at 58 Fore Street. The current lack of bicycle infrastructure at this section of Munjoy Hill creates an unsafe situation for bicyclists and motorists as it causes slow-moving bicycle traffic to compete with car traffic on the steepest part of the climb up the hill via Fore Street. The addition of a bicycle lane when the developer rebuilds the curbing would be an effective way for the city to gain vital bicycle infrastructure at little additional cost to the developer. This area is also a great fit for a climbing bike lane as there has been no parking along this corridor for the past few years due to construction. The already lack of parking combined with the developer's intentions of creating an off-street parking garage mean there is likely little-to-need for parking here, and would be better served by a bike lane.

I support the requirement of the addition of a climbing bike lane, and support the letter submitted to the Board by the Portland Bicycle and Pedestrian Advisory Committee regarding this matter. Thank you for your consideration.

Thanks,
--
John Clark (he | him | his)
225 Valley St, Portland, ME 04102
Past Chair, Portland Bicycle & Pedestrian Advisory Committee
(207) 712-0480

Winston Lumpkins <winston.lumpkins@gmail.com> 9:09 AM (24 minutes ago)

to planningboard@portlandmaine.gov, planning@portlandmaine.gov

Dear Chair Stanley, Members of the Portland Planning Board,

Last night the Portland Bicycle & Pedestrian Advisory Committee held our monthly meeting & voted to send a letter, which you've received, asking that a climbing bike lane along the Hill right before Fore Street becomes the Eastern Promenade be added to the Portland Company Site plan under review in the meeting to be held tonight. We had a large meeting last night, and there was no dissent.

Speaking as myself & not the Chair of PBPAC, just a resident of Munjoy hill who frequently cycles Fore Street on my way home from my job downtown, I'm very concerned about a potential parking garage with hundreds of parking spaces with the entrance part of the way up, if the status quo, narrow sidewalk, street parking & no bicycle facilities at all, is maintained.

It's important when considering plans for new development to ensure that, **at the very least, they don't put anyone's life in danger.** Increasing the amount of traffic on Fore street, while maintaining the current design without any bicycle facilities at all and with a very narrow sidewalk, **would be irresponsible.**

Furthermore, I'd like to request that the sidewalk remain concrete along the slope of the hill. When on foot I frequently take that side of the street in the winter because concrete is so much less slippery- turning it into bricks would be a step backwards.

I'd also like to request that in any approved plans the Portland Company is required to maintain a safe, passible, clear, not dangerous, paved connection to the eastern prom trail through its development. It's a key connection for a vast number of people who live off of Baxter Boulevard & outer Portland & cycle into work downtown- it's **not just a recreational path, and must remain intact & accessible at all times. If both Fore Street & the Eastern Prom trail are inaccessible & dangerous, downtown will essentially be blocked off for cyclists who live off the Peninsula.**

Thank you for reading my comments,

Sincerely,

~Winston

Winston Lumpkins IV (he/him/his)

Nat Jordan <natj@umich.edu> 10:47 AM (3 minutes ago)

to planningboard@portlandmaine.gov, planning@portlandmaine.gov

Dear Planning Board Members,

I'm a frequent bicyclist in and around Portland. Istrongly encourage you to work with the developers of the Portland Co. property to include a separated bike lane up Fore St. to the Eastern Prom. This would be an important step in working towards a safer bike network, would encourage car-free travel to and from the new development, and could connect to future separated bike lanes along the Prom.

Thank you for your work,

Nat Jordan

Karen Snyder <karsny@yahoo.com> 11:46 AM (1 minute ago)

to Planning Board, Christine Grimando

Dear Planning Board members,

There are many issues with this proposal submitted by the 58 Fore St developer for Phase 2. However, the primary fundamental issue with this proposal is:

- The Master Development Plan only has a 6-year shelf life which means it has expired since it was approved in 2016 and now it is 2023. So technically, this entire proposal that was submitted by the 58 Fore St developer is invalid.

With this said, there are additional issues and concerns regarding the content of the posted 58 Fore St Phase 2 proposal agenda documents. They are the following:

1. The 58 Fore St. agenda documents were only posted yesterday, Monday 1/9/2023 when they were required to post all documents this past Friday, 1/6/2023.
2. The primary parking garage entrance to the parking garage containing over 700 parking spots is at the bottom of Waterville St. The parking garage entrance at the bottom of Waterville St. is unacceptable and must be moved to either Thames St or use "Freedom Way" street that the City sold to the developer of the parking garage west of 58 Fore st.
3. The # of affordable units are using the old inclusionary 2016 guidelines of 10% which is only 29 units of the apartments. However, the developer said they will buy out the condos affordable unit. Since the master plan has expired, they should be using the new inclusionary guidelines of adding 20% of affordable housing and not do buyouts if they are so concerned about the neighborhood.
4. The developer said the heights of the buildings are 35ft above Fore St but that is only 100 feet FROM Fore St. It is unsure how much higher the developer will use the average grade trick loophole for the buildings that are farther than 100 feet from Fore St.
5. The light pollution of the multiple windows in the buildings. Just look at the shining light pollution beacon of the Covetrus building at night.
6. Implications of the damaged sea wall from the last big storm.
7. The View corridors width are not sufficiently wide enough.

   Ultimately, the City of Portland Planning Board is allowing one proposal at a time to destroy what made Portland once special which was the views of Casco Bay was for ALL residents from Fore St and not just for the wealthy.

Regards,
Karen Snyder
Waterville St.

Nat Jordan <natj@umich.edu> 10:47 AM (1 hour ago)

to planningboard@portlandmaine.gov, planning@portlandmaine.gov

Dear Planning Board Members,

I'm a frequent bicyclist in and around Portland. Istrongly encourage you to work with the developers of the Portland Co. property to include a separated bike lane up Fore St. to the Eastern Prom. This would be an important step in working towards a safer bike network, would encourage car-free travel to and from the new development, and could connect to future separated bike lanes along the Prom.

Thank you for your work,

Nat Jordan

John Russell <jtrussell13@gmail.com> 12:47 PM (2 hours ago)

to planning@portlandmaine.gov

Chair Stanley and members of the Planning Board;
Please support the proposed bike lane for Fore Street uphill protected bike lane. It would be a great asset for the City of Portland to have a separated bike lane in this location. Fore Street presents an excellent connection to the Eastern Prom from the Old Port. The proposal would make it safer for cyclists as well as pedestrians and disabled people. It would also help with maintenance.
Thank you,
J. T. Russell

Sandra L. Guay
Partner
sguay@archipelagolaw.com

1 Dana Street
Portland, Maine 04101
(207) 558-0102

March 17, 2023

Via Email:

Portland Planning Board
Maggie Stanley, Chair
City of Portland Planning & Urban Development
389 Congress Street
Portland, ME 04101
planningboard@portlandmaine.gov

Re: Portland Foreside Development Company
58 Fore Street/Mixed Use of Blocks 4 and 6
Major Site Plan Review Application

Dear Madam Chair and Board Members:

As noted in my December 28, 2022 letter, this firm represents John Roger Trettel, an abutter to 58 Fore Street and the mixed-use development project that is the subject of the Portland Foreside Development Company ("Applicant") site plan application currently pending before the Board ("Application"). As also noted in that letter, Mr. Trettel generally supports the mixed-use development project and the benefits that it will bring to the City's Munjoy Hill and waterfront area.

As an abutter to the project however, Mr. Trettel has followed the development of this site closely and is aware of its long and complex history. Although he did not own the 5 Eastern Promenade property at the time, Mr. Trettel is aware of the community conversations that took place back in 2015 when the property was rezoned to accommodate this project, and in 2016 when the Master Development Plan and Phase I site plan were reviewed and approved. Like many of his neighbors and others in the City, he is aware of the controversy that has surrounded the development since 2016 – including the after-the-fact requests for approval by the Applicant and the enforcement action taken by the City in 2021 and 2022 after repeated violations.

Given the history and context of the development of 58 Fore Street, it is critically important that the Applicant's proposal is compliant with all applicable standards and codes, and with the Planning Board and City Council's vision for the growth and development of the City of Portland. Along these lines, Mr. Trettel has significant concerns about the Application and the next phases of development and trusts that a meaningful resolution of these concerns might serve to avoid still more controversy and conflict for the City and the Munjoy Hill Neighborhood.

Attorney Keith Richard and I recently met with Kevin Kraft to discuss some of these concerns. We appreciate Kevin taking the time to meet with us and understand that the Application will be undergoing a more rigorous review process over the coming weeks and months. It is in this light that we offer the following comments and would ask that the issues raised in this letter are carefully considered and addressed by the reviewers and by the Planning Board.

I. The 2016 Master Development Plan (MDP) Approval has Expired and is Therefore Void.

On December 20, 2016, the Planning Board approved a Master Development Plan ("MDP") for the 58 Fore Street property (the "Property"). Both the City and the Applicant have since argued that the standards found in the Land Use Code in effect on December 20, 2016, apply to the current Mixed Use of Blocks 4 and 6 Major Site Plan Review Application and future development of the Property.

The 2016 MDP has only three "Standard Conditions of Approval & Requirements". The third condition, located directly above the signature of then-Planning Board Chair, Elizabeth Boepple, is captioned "Master Development Plan Expiration", and reads:

> An approved master development plan shall expire six (6) years from the date of approval unless, prior to the expiration of the master development plan, a written request for an extension is submitted to the Planning Authority. Only two (2) such extensions may be granted by the Planning Authority, and each such extension shall be limited to two (2) years from the date of expiration of the master development plan. The Planning Authority may grant an extension provided there have not been substantial changes to the underlying zoning or site plan standards since the date of the master plan development plan approval that would have a substantial impact on approval. The Planning Authority may condition the extension on an amendment of the master development plan to comply with such applicable ordinance or site plan standard changes per section *14-532(d)* of the city's land use ordinance. Approved major or minor amendments to a master development plan do not alter the expiration date for the master development plan.

This very same Section 3 MDP Condition language is also found in Section 14-532(d) of the Portland Land Use Ordinance, Expiration of Master Development Plan, effective on the date of the 2016 MDP approval.

It is without question that Section 14-532(d) is the controlling language for the 2016 MDP approval, yet at the January 10, 2023 Planning Board Workshop, this Board was informed by Planning staff that the criteria for expiration of the MDP was:

> Master development plans approved under this article shall expire six years from the date of approval if no site work or building construction has commenced.

This provision however is not from the MDP or even from the Land Use Code in effect in 2016, when the MDP was approved. Rather, this language is from Article 14.12.2 of the March 7, 2022 Land Use Code. It is therefore inapplicable to the 2016 MDP approval, and in fact in violation of the terms and conditions of that approval. It was additionally stated at the January 10 Workshop that only the standards of the 2016 Land Use Code apply to the Application, and that it is not subject to the new standards and requirements found in the 2022 Land Use Code; but, this then leads to an absurd result - the Applicant cannot reasonably argue on the one hand that the 2016 Code applies for *all* applicable regulations and standards, but that Article 14.12.2 from the 2022 Code applies with respect to expiration of the MDP. There is nothing in either the 2016 or the 2022 Code that would allow this, nothing in the 2016 MDP that allows

it, and there is no argument in law that would support this. The plain language of Section 14-532(d) in the 2016 Code, copied verbatim into the MDP approval, has no ambiguity as to its intent or meaning and it was the only mechanism available to the Applicant for obtaining a possible extension to the 2016 MDP.

The Maine Law Court has considered the finality of expiration language in land use approvals and ordinances, finding that "an Applicant must be diligent and request an extension within the [time] period for which the approval remains viable. Otherwise, the Ordinance would allow the Board to extend an approval that had become void." *George D. Ballard, Builder, Inc. v. Westbrook*, 502 A.2d 476, 480 (Me. 1985). "Moreover, to construe the extension provision otherwise would allow a developer to be protected from zoning changes for an indefinite period greater than the [time period] provided in the Ordinance." *Id.*

We have been provided with emails between Mary Costigan, Esq. on behalf of the Applicant, and Cristine Grimando, dated September 2022. On behalf of the City, Ms. Grimando opined that the MDP would not expire on December 22, 2022 because construction had commenced on the site. Ms. Grimando's interpretation was based on the inapplicable Article 14.12.2 of the March 7, 2022 Land Use Code; the legislatively adopted Section 14-532(d) in the 2016 Code is, however, non-discretionary and the Planner had no authority under the Code to ignore, waive or otherwise provide a variance from that extension requirement. Furthermore, the email exchange between Attorney Costigan and Ms. Grimando had no impact upon the expiration of the MDP pursuant to the express terms of the MDP itself and the applicable Section 14-532(d) effective in 2016. First, Attorney Costigan's email did not request an extension—it merely sought an opinion that the MDP would not expire. Second, there was no assessment by the City, as required by the Code, of whether there had "been substantial changes to the underlying zoning or site plan standards since the date of the master plan development plan approval that would have a substantial impact on approval…." Because there was no written request for an extension from the Applicant, nor the required process to determine whether to grant that extension by the City, the MDP expired.

Simply put - the Applicant failed to properly request an extension within requisite six years of the date of approval as clearly and unambiguously required by the 2016 MDP and in Section 14-532(d) of the 2016 Code. As a result, the 2016 MDP approval is void; there is no longer an approved or controlling MDP in place, and with all due respect to the Planning Board, it therefore lacks jurisdiction to continue to review the Application as though it were validly submitted.

II. Given the magnitude of this proposed project and its lasting impact on both the neighborhood and the character of Portland as viewed both to and from the water and Munjoy Hill, it is critical that the Planning Board understand the issue of grade and its relationship to building height.

A. The Project Violates Height Restrictions on Numerous Grounds.

"Average developed grade," which is being applied by the City and Applicant, is not in the height definition or in any provisions addressing vertical dimensional standards. In fact, "finished grade" or

"developed grade" as the starting measuring point for structures has no express support anywhere in the Code, past or present.[1]

Where a term, like "grade," is undefined, Maine courts construe the term "reasonably with regard to both the objects sought to be obtained and to the general structure of the ordinance as a whole.'" *Friends of Cong. Square Park v. City of Portland*, 2014 ME 63, ¶ 9, 91 A.3d 601 (citation omitted). Courts "give such terms their 'common and generally accepted meaning" and dictionaries are an established authority to identify definitions. *Id.*

Merriam-Webster Dictionary defines "grade" as "a datum or reference level . . . especially: GROUND LEVEL." Merriam-Webster Dictionary Online, "grade" https://www.merriam-webster.com/dictionary/grade. Oxford Languages defines "datum" as "a fixed starting point of a scale or operation." Dictionary definitions establish that "grade" has an objective, uniform starting point that bears a rational relationship to the conditions of the earth. The same conclusion follows applying the general rules of ordinance interpretation. *See Banks v. RSA #1*, 1998 ME 272, ¶ 4, 721 A.2d 655 ("A court's interpretation of an ordinance must not create 'absurd, inconsistent, unreasonable or illogical results.'")

The City's interpretation of "grade" will produce inconsistent, illogical, and absurd results. As a function of uniform height regulations, grade must consider the objective conditions of the site tethered to factual reality. Interpretation of "grade" as "post development grade" would mean height restrictions vary depending upon whatever a developer artificially creates or manipulates for conditions, divorced from what exists at the time of an application. For developers with the gumption, financial capacity, and engineering capability to reshape the earth, introduce creative structures, and pile fill, the sky is the limit. A developer can achieve whatever height they desire by creating a "developed grade" that games the height standard by anticipating when the City will begin measuring and adjusting their "developed grade" and proposed structures accordingly.

That is precisely the scenario here. The Applicant has artificially elevated their proposed buildings on a "pedestal" with the absurd and illogical result that buildings can exceed 110' in a zone that restricts buildings to half as tall. For those without the same resources (everyone else), the regular height standards of 45' up to 65' apply. That is the type of inconsistent result produced by a "grade" interpretation and height standard that does not have any objective regulatory limit. Measuring height from the perimeter of

[1] A review of the Code as a whole reveals that such an interpretation is foreclosed by express provisions. *See, e.g.*, Portland, Me., Code § 14-755 (amended 2016) (defining height of wind energy system as "vertical distance *as measured from the average elevation of the finished grade*" (emphasis added)); § 14-369(d) (establishing height computations for signs as "normal grade" defined as "the lower of either existing grade prior to construction or the newly established grade after construction excluding any filling, berming, mounding or excavating accomplished solely for the purpose of locating the sign"). Thus, in creating height and grade standards for wind energy systems and signs, the drafters of Portland's Code knew and understood how to clearly delineate between "existing" or "predevelopment grade" and "newly established" or "post development grade." If "grade" for purposes of structure height was intended to be broadly interpreted to mean "post development grade," this would have been stated explicitly. It was not, we must presume with intent. *See, e.g.*, *Fuhrmann v. Staples the Office Superstore E., Inc.*, 2012 ME 135, ¶ 34, 58 A.3d 1083 ("If the Legislature had intended to create individual supervisor liability it would have done so explicitly in much clearer terms.").

buildings, artificially elevated by new structures and fill, is a textbook example of stretching a definition to a logical extreme that violates core tenets of ordinance interpretation. *See, e.g.*, *Banks*, 1998 ME 272, ¶ 4, 721 A.2d 655 (rejecting illogical interpretation of ordinance to construe tower as exempt from height restrictions as rendering height restriction meaningless).

The fact that the Code distinguishes "pre-development grade" on the islands does not mean that "grade" on mainland Portland has no objective definition. It is a logical fallacy to infer that because "pre-development grade" applies on the Islands, that "grade" for purposes of Mainland Portland therefore means "*post*-development grade," with no objective definition of grade tied to a specific moment in time prior to development. Rather, "grade" must mean conditions of a site which logically, like any land use standard, would be determined *at the time of an application*. This is *not* an argument for applying the Islands standard to the Mainland because "pre-development grade" already has a specific meaning that is fixed in time: "'Pre-development grade' is defined as average grade, existing on October 1, 2000, at the corners of the foundation of the proposed structure."

What about grade on October 2, 2000; on October 2, 2022; the date an application is filed; or the present date? None of the foregoing points in time constitute "predevelopment grade" because they all post-date October 1, 2000. Not only is the City implying "post development grade" without support in the Code—but the City is also failing to consistently interpret "predevelopment grade." On the Mainland, the City appears to consider "predevelopment grade" to mean conditions of the site from the beginning of time until the moment before the developer has moved earth, built up, and filled the site. The Code definition of "predevelopment grade," fixed in time as of 2000, contradicts that interpretation.

Moreover, the City's interpretation is arbitrary. Starting tomorrow, the City could interpret "grade" on the Mainland to be the conditions at the time of an application, which would be consistent with the Code. If the City wants to adopt a standard with material regulatory consequence, that policy must be enacted by legislation, not unwritten longstanding internal deference to "the way we have always done it." Unlike state agencies, municipalities do not receive deference in their interpretations of law, including ordinances. *Compare Rudolph v. Golick*, 2010 ME 106, ¶ 8, 8 A.3d 684 ("The interpretation of a local ordinance is a question of law, and we review that determination de novo."), *with Guilford Transp. Indus. v. PUC*, 2000 ME 31, ¶ 11, 746 A.2d 910 (court defers to agency interpretations of ambiguous statute the agency administers). Regardless of whether this is a longstanding interpretation of the Code is immaterial to whether it is correct as a matter of law.[2]

[2] At the January workshop it was stated that the Maine courts have upheld the City's interpretation. This is technically true but requires some important qualification. A single Superior Court case has affirmed the City's height interpretation and site plan approval for an apartment building development in East Bayside, but that decision is currently on appeal at the Maine Supreme Court. *See Murray v. City of Portland*, AP-22-03 (Me. Sup. Ct. Aug. 5., 2022). The City's height and grade interpretation is directly at issue in the appeal as a matter of first impression. Because trial court decisions are not binding on other courts (only Supreme Court decisions are), another Superior Court justice in a subsequent appeal could lawfully reach the opposite conclusion and we believe likely would on the facts presented by this application. Until that appeal is decided, there are no *binding* Maine court decisions.

Even applying post-development grade to this application, the Portland Co. site *is* developed and has an existing post-development grade. If a site can be "developed" over and over again without limit, the standard truly has no objective meaning.

Finally, with respect to the portions of the proposed site that are within the Shoreland Overlay Zone, the City's grade interpretation and height calculation is inconsistent with and therefore preempted by the Mandatory Shoreland Zoning Act, 38 M.R.S. §§ 435-448.[3] *See Sawyer Envtl. Recovery Facilities, Inc. v. Town of Hampden*, 2000 ME 179, ¶ 27, 760 A.2d 257. For new structures in the shoreland, "height" is defined as "the vertical distance between the mean original grade at the downhill side of the structure, prior to construction, and the highest point of the structure . . . ." 38 M.R.S. § 436-A(7-A). This definition preempts the City's interpretation of "grade" on two grounds: first, the height calculation standards apply to "average grade" *before* construction, rather than post development; and second, the property owner must calculate from the downhill side of the structure. The statutory standard preempts the City's inconsistent unwritten interpretation for portions of the site subject to shoreland zoning.

B. Even if the Lawfulness Were Assumed, the City's Traditional Methodology for Determining Grade is Simplistic, Flawed, and Results in Errors and is being Improperly Employed by the Applicant here.

The City's 2015 and 2022 code utilizes a simplistic methodology for determining the average grade of a site that is easily manipulated and can generate dramatically inconsistent results. The methodology involves calculating a simple average of the grade elevation at the primary corners of the building foundation. This methodology is most applicable if the site is small and generally uniform; it is not appropriate for a large, irregularly shaped and undulating site as that proposed for the 58 Fore St. project. This methodology was utilized during the original Master Development Plan review phase when it was applied to a large parking podium that would be constructed across Blocks 4, 5, and 6. By heavily weighing the high sides of the site, the Applicant (and apparently the City) erroneously determined that the average grade of the site was 50.1 feet.

Engineering consultant, Tetra Tech, performed a more accurate assessment of the site utilizing more applicable industry standard methods (see Attachment A). This easily reproduceable analysis determines that the average grade of the Block 4, 5, and 6 area is in reality approximately 29 feet—*a difference of over 20 feet*. Given the importance of the site in terms of its impact on the overall character of Portland and surrounding Munjoy Hill historic community, it is extremely important for the City to get the issue of grade and subsequent building height correct. It is not acceptable to use and manipulate a simplistic and flawed methodology to establish an incorrect starting grade that enables buildings that far exceed the maximum heights (45 to 65 feet) and number of floors (max 4-6) envisioned in the adopted height study plans[4] and in the Code.

---

[3] "In accordance with a schedule adopted by the board and acting in accordance with a local comprehensive plan, municipalities shall prepare and submit to the commissioner zoning and land use ordinances that are *consistent with or are no less stringent than the minimum guidelines adopted by the board* and, for coastal communities, that address the coastal management policies cited in section 1801." 38 M.R.S.A. § 438-A.2 (emphasis added).

[4] As noted, the Eastern Waterfront Building Height Study (September 2004) ("Study"), adopted into the E. Waterfront Master Plan and the City's Comprehensive Plan as it existed in 2015, formed foundation and basis for the B-6 Height Overlay. In the area of the proposed new development, any building over four stories (one story is defined

In the application for the individual buildings proposed on Block 4 and Block 6, this methodology has been improperly used to establish base grades far beyond the factual conditions of the site. Using the methodology as intended, the average grades for the Block 4 and Block 6 buildings are approximately 39 feet and 36 feet, respectively (see expert statement Attachment B). While not presented in the current filing as it will be a separate building, the average grade for Block 5 is approximately 14 feet.

Reviewing the numbers presented in the filing, it is easy to see how the Applicant has weighted the high side of the site by utilizing approximately three times the data points, thereby dramatically skewing the purported "average." This blatantly and inaccurately skews the average starting grade 30-40% higher than it actually is, with dramatic consequences for how height restrictions will be applied. More importantly, it flies in the face of the intent of the code and various height studies and overlays, to promote responsible development consistent with the character and scale of Portland's eastern waterfront and the Munjoy Hill neighborhood.

III. The Applicant Cannot Unilaterally Include New Lots in an Entirely Different Zone Within the Boundary of the 2016 MDP.

As discussed in the December 28, 2022 letter and as further discussed by Board members at the January 10, 2023 Planning Board Workshop, the proposed site plan for Block 6 includes portions of three parcels of land, identified as 13-23 Eastern Promenade, which were never a part of the now void 2016 MDP, but rather separately purchased by the developer in 2021. The Applicant has now included portions of these parcels in the Application as though they were within and a part of the 2016 MDP project. Significantly, these appended properties are not located in the B-6 zone, but rather in the R-6 zone and in the Munjoy Hill Historic District and in addition to being inappropriately included in the present Application, are therefore subject to different and enhanced ordinance standards and regulations.

At the November 23, 2021 workshop for an amendment to the 2016 MDP[5] the Planning Board opined as whether the Board had any control over the design of the project if the Level II site plan application pending at that time was subject only to staff review. The Board was informed that the MDP section of the 2016 Code had a provision for a major MDP amendment determination. In fact however, as noted in our December 28, 2022 letter, the 2016 Land Use Ordinance only provides a methodology for the Planning Authority to permit *minor* amendments to still effective Master Development Plans. Neither the 2016 Land Use Ordinance, nor the 2016 MDP, provide *any* avenue for a major, substantive amendment to an MDP (such as expansion of the boundaries of the original MDP by the addition of new land located in a different zone).

The inclusion of additional land, especially land that is in a different zone, is not a decision that can be made by staff. The addition of land in a residential zone has far reaching impacts upon those already residing in that zone, on the Comprehensive Plan and on the City's and neighborhood's vision for that residential neighborhood. It must be subject to the same rigorous review process that the initial MDP went

as 11 feet) has "has a maximum 70' width parallel with the shore and a maximum 140' length perpendicular to the shore." Per the Study, the maximum total number of stories permitted in this area of the B-6 Overlay is 5 to 6 floors.

[5] The purpose of the November 23, 2021 Planning Board Workshop was to amend the MDP in such a way non-permitted structures and uses at the 58 Fore Street project, then subject to Notices of Violation and a Consent Agreement with the City, would become compliant.

through – and in this case, as the MDP is void, there needs to be a substantial review as an entirely new project under the Site Plan Review section of the Code.

IV. The Applicant Has Failed to Establish Sufficient Right, Title, and Interest to Warrant Review by the Board.

As this Board well knows, to have sufficient standing to pursue an application for land use development, an Applicant must demonstrate that they have a reasonable expectation that they will be able to develop the property as they have proposed. In the absence of that interest, Maine courts have explained that an Applicant lacks sufficient right, title, and interest (RTI) to pursue an application before a municipal board. Ultimately, the standing/RTI requirement is aimed at ensuring that the Planning Board's (and Planning staff's) time is not wasted reviewing applications for projects that may never get built. Therefore, under state law as well as the express language of the City's Code, all applications for permission to develop land must include evidence of sufficient RTI to develop the property *before* review of the proposal is undertaken. As noted in my December 28, 2022 letter, the 2016 Master Development Plan for the 58 Fore Street property is also express on this point.

The now void MDP and the proposed Site Plan clearly contemplate improvements to the site that are located on property outside the Applicant's ownership and control, including City and private property. Easements allowing those improvements are therefore needed and required. The Applicant however has failed to provide copies of executed easements – likely because they have not yet been obtained. Nevertheless, the Applicant is treating the application as if it is complete and entitled to review by staff and this Board. It is not. Given the history of development of this property and before any further staff or board time is taken up reviewing this development, the Applicant should be required to go to the effort of securing the easements and any other permissions needed to build out the project *before* the Board reviews it. Otherwise, it is entirely possible that necessary easements will not be given causing the plans to later be amended with additional rounds of review and Board meetings required.

Rather than invite multiple hearings and amended approvals, the Applicant can and should be made to wait to present its proposals until such time as it actually has the permissions needed to build it. Without those permissions, review of this application is a waste of staff and board time. More fundamentally, the Applicant lacks standing to seek site plan approval at all.

Very Truly Yours,

SANDRA L. GUAY

KEITH P. RICHARD

Copy to:
John Roger Trettel
Portland Historic Preservation Board
c/o Evan R. Schueckler, Program Manager

ATTACHMENT A

Grade Elevation Study

Project: 58 Fore St. Project Area Elevation Review

Tetra Tech, Inc. is a global engineering, design, and consulting firm with over 50 years of experience performing complex engineering, design and construction services on 1000's of projects worldwide.

Tetra Tech performed a desktop investigation of the 58 Fore St. Project development area in the City of Portland, Maine to establish the estimated average grade across the site above mean sea level. The study area is located in the eastern waterfront area of Portland and consists of approximately 5 acres of commercial, past industrial, and vacant land uses. Approximately two-thirds of the study site is marked by a large low-lying level area slightly above sea level supporting parking areas, a commercial building slab, and a rail yard; while about one third of the site consists of undeveloped, fragmented scrub forest on steeply sloping to almost vertical terrain along its northern and eastern boundaries. The vertical portion of the site is a narrow strip along the north boundary where a stone retaining wall supports Fore Street.

The industry standard method for calculating average elevation of an irregularly shaped and undulating parcel of land involves the use on-site topographic land surveying or contouring. If time, budget, or access prohibit collecting of field data, a site can be studied remotely using Digital Elevation Models (DEMs) and Geographical Information Systems (GIS). The DEMs provide a three-dimensional representation of the topography of the parcel, while the GIS is used to process and analyze the DEM data. The first step in this process is to obtain the DEM data, either by using aerial LiDAR (Light Detection and Ranging) technology or by interpolating spot elevation data using techniques such as kriging (ESRI, 2018). Once the DEM data are obtained, it is processed to create a raster layer, which is a grid of cells with equal dimensions that represent the elevation of the parcel at each cell location. The average elevation of the parcel is then calculated by summing the elevation values of all the cells in the raster layer and dividing by the total number of cells (Lidén et al., 2003). This process is often performed using GIS software, such as ArcGIS or QGIS.

Such data were not readily available for this study, and as such, Tetra Tech utilized Google Earth's elevation profile functionality as the DEM to find the elevation across the site using a 10-foot by 10-foot raster grid. Elevation profiles were obtained by casting the raster grid across the irregular site polygon using the southern corner as an anchor point (see attached figure). Elevation profiles along grid lines were examined at 10 foot intervals and the elevation at each point was recorded and rounded to nearest whole number (data attached).

A total of 2406 data points were recorded across the polygon, totaling to 69,647 feet of total elevation. The average elevation across the site was determined to be 29 feet (total elevation / total number of data points), which is approximately 15 feet above the existing level grade elevation.

While Google Earth data are generally regarded as quite accurate and reliable in urban areas, the best measurement of average elevation/grade of an irregularly shaped and uneven site would be determined by an on-site topographic land survey using total station or global positioning system (GPS) equipment. Upon completion of a land survey, there are numerous industry standard DEM engineering models available that would use these data to quickly and precisely measure the average elevation/grade across the site.

In performing this desktop analysis, Tetra Tech performed a QA/QC check of the Google Earth data by doing a representative spot check of points across the site and comparing them to the topographic survey map provided in the 58 Fore Street project's original 2016 application. This review determined the Google Earth data to be close to the applicant's field surveyed measurements with only minor deviations observed. As such, the average calculated elevation across the site of 29 feet is expected to be accurate within a small margin of error.

Discussion on Perimeter Measure Methodology

The average grade of the site was previously determined by others using a perimeter elevation measure methodology. Using elevation measurements taken around the perimeter of an undulating site to determine the average elevation is not appropriate, as it does not accurately reflect the complex topography of the interior of the site. This method provides only a rough estimate of the average elevation and is likely to be significantly different from an average elevation calculated from more comprehensive elevation data. Using only perimeter measurements is likely to give a biased estimate of the average elevation and may result in errors, especially if the site has steep or complex topography (Lidén et al., 2003). In this case, a difference of 21 feet (50.1ft vs. 29 ft) between the perimeter measure approach and the grid overlay/topographic approach is a dramatic deviation and indicates that the perimeter measure approach is not providing an accurate assessment of the average grade of the site.

The level of measurement error that is acceptable for a project site is dependent upon the ultimate use of the site. However, in general, such a large deviation between two methods of measurement is not considered to be an acceptable level of error to enable accurate and responsible decision making and design. Tetra Tech recommends a more comprehensive method, such as a topographic land survey or a DEM analysis, to obtain a more accurate average elevation of an undulating site with extreme topography changes such as the 58 Fore St. project area.

References:

ESRI (2018). Understanding Raster Elevation Data. Environmental Systems Research Institute, Redlands, CA, USA.

American Society of Civil Engineers. (2017). Surveying Fundamentals. https://asce.org/continuing-education/courses/surveying-fundamentals/

Lidén, K., Jonsson, P., and Löfgren, S. (2003). Average elevation and other terrain attributes from digital elevation models: a comparison of methods. Geomorphology, 55(1-2), 89-104.


58 Fore Block 4, 5 & 6 Area
58 Fore Project Area
10'x10' Grade Grid
Legend
58 fore area
Feature 1
St Lawrence St
Fore St
Eastern Promenade Trail
Eastern Promenade Trail
Google Earth
N
200 ft

	58 Fore Street Site Elevation Study - 10x10 Foot Grid Data																					
GE Paths	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**
Path1	12	12	12	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11	11
Path2	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11
Path3	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11
Path4	12	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11
Path5	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	11
Path6	12	13	13	13	13	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Path7	13	13	13	13	13	13	13	13	13	13	13	13	13	12	12	12	12	12	12	12	12	12
Path8	13	13	14	14	14	14	14	13	13	13	13	13	13	13	13	13	13	12	12	12	12	12
Path9	13	14	14	15	14	15	15	15	15	14	14	14	14	13	13	13	13	13	13	13	13	13
Path10	13	14	14	15	15	15	15	15	15	15	15	15	14	14	13	14	14	13	13	13	13	13
Path11	13	14	14	15	15	15	15	15	15	15	15	15	14	14	13	13	14	14	14	14	13	13
Path12	14	14	14	15	15	15	15	15	15	15	15	15	15	14	14	13	13	14	14	14	14	14
Path13	14	14	15	15	15	15	15	15	15	15	15	15	15	14	14	14	13	14	14	14	14	14
Path14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14	14	14	14	14
Path15	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14	14	14	14
Path16	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14	14	14	14
Path17	15	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14	14	14
Path18	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14	14
Path19	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	14	14
Path20	15	15	15	15	15	15	15	15	15	15	15	15	16	16	15	15	15	15	15	15	15	15
Path21	15	15	15	15	15	15	15	15	15	15	15	16	16	16	16	15	15	15	15	15	15	15
Path22	15	15	15	15	15	15	15	15	15	15	15	16	16	16	16	15	15	15	15	15	15	15
Path23	15	15	16	16	16	16	15	15	15	15	16	16	16	16	16	16	15	15	15	15	15	15
Path24	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15	15	15	15
Path25	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15	15
Path26	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Path27	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Path28	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17
Path29	17	17	18	17	17	17	17	17	17	17	16	17	17	17	17	17	17	17	17	17	17	18
Path30	23	23	22	23	22	22	21	20	20	19	19	18	19	19	19	20	20	21	19	19	19	19
Path31	33	31	32	30	29	28	27	27	26	25	25	23	24	24	24	26	26	26	26	25	24	23
Path32	42	40	39	40	38	36	35	33	33	32	31	31	30	30	31	31	32	31	31	31	30	29
Path33	50	50	49	48	49	47	45	45	43	41	42	41	40	41	49	38	39	37	37	38	37	36
Path34	50	51	52	50	51	49	48	48	47	46	48	46	45	47	47	46	48	47	47	49	50	51
Path35	57	56	58	57	56	57	56	59	60	61	64	66	69	71	71	73	71	72	72	71	72	72
Path36	75	76	76	75	76	76	76	76	77	78	78	78	78	78	78	80	80	80	80	79	79	81
Path37	81	83	83	83	83	84	83	84	82	83	83	84	87	88								
Path38	87	88	88																			
Path39	71	69	66	64	61	60	58	57														
Path40	72	71	69	67	65	62	61	60														
Path41	73	72	70	69	67	65	63															
Path42	73	72	71	70	69	67	65															
Path43	74	72	72	71	70	69	67															
Path44	74	73	72	71	71	70	68															
Path45	74	74	72	72	71	71	70															
Path46	75	74	73	72	72	72	72															
	Total Count	2406																				
	Total Elevation	69647	feet																			
	Average Elevation	28.95																				

220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450
12	12	11	11	12	12	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13
11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13
11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13
11	11	11	11	11	12	12	12	12	12	12	12	13	12	12	12	12	12	12	12	12	12	12	13
12	12	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	13	13	13
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	13	13	13	13
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	13	14	14	14	14
13	13	13	12	12	12	12	12	13	13	12	13	13	13	13	13	13	13	13	14	14	14	14	14
13	13	13	12	12	12	12	13	13	13	13	13	13	13	13	13	13	13	14	14	14	14	14	15
14	14	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	14	14	14	15	15	15	15
14	14	14	13	13	13	13	13	13	13	13	13	13	14	14	14	14	14	14	14	15	16	17	17
15	14	14	14	13	13	13	13	13	13	13	13	13	13	13	14	14	14	14	15	15	15	16	18
14	15	15	14	14	13	13	13	13	13	13	13	13	13	13	14	14	14	14	14	15	15	16	18
14	14	14	14	14	14	14	13	13	13	13	13	14	14	14	14	14	14	15	15	15	16	17	19
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	16	17	18	20
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	15	18	21	21	24
14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	15	16	17	20	22	23	25	28
14	14	14	15	15	14	14	14	14	14	14	14	14	14	15	16	17	20	22	25	25	27	29	31
15	15	15	15	15	15	15	14	14	14	14	15	15	15	15	16	19	23	25	26	28	31	33	34
15	15	15	15	15	15	15	15	14	15	15	15	15	15	16	19	23	24	27	29	32	33	36	40
15	15	15	15	15	15	15	15	14	15	15	15	15	15	18	20	24	28	30	31	35	38	40	44
15	15	15	15	15	15	15	15	15	15	15	15	16	18	19	24	29	30	33	36	40	42	46	49
15	16	16	16	15	14	14	14	15	15	15	15	17	21	22	27	31	33	36	40	41	45	50	54
16	16	17	17	15	15	15	14	15	16	16	17	20	22	26	31	32	35	39	44	45	49	53	55
17	17	18	18	18	17	16	18	19	19	22	21	23	25	27	32	35	36	38	40	44	49	50	54
18	18	19	19	20	20	20	22	22	26	26	27	30	30	32	33	38	40	41	44	48	50	54	55
19	20	20	22	22	23	23	25	27	29	32	31	34	34	37	36	39	43	44	47	49	53	56	57
19	20	22	22	24	24	26	27	29	30	31	35	36	38	38	38	40	41	43	44	48	49	50	55
24	23	24	26	26	28	29	30	33	34	38	39	40	43	43	46	46	46	48	49	49	53	53	57
30	30	29	31	32	34	34	35	38	39	40	44	45	49	50	50	53	53	53	55	55	58	59	60
37	36	36	38	38	38	40	41	41	45	46	46	51	53	56	57	58	60	60	60	62	62	63	63
55	56	57	61	63	64	66	66	66	68	68	68	69	69	69	71	71	71	72	72	73	74	74	75
72	73	73	74	74	74	75	76	77	77	77	77	77	78	78	78	81	83	85	86				
82	86	87	88																				

460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650	660	670	680	690
13	13	14	14	14	14	14	14	14	14	14	14	14	14	15	15	16	17	19	19	20	21		
14	14	14	14	14	14	14	14	14	14	14	14	14	15	15	16	17	19	20	22	24	26	26	
13	14	14	14	14	14	14	14	14	14	14	15	15	15	16	17	18	20	23	24	26	29	32	32
13	14	14	14	14	14	15	15	15	15	15	15	16	16	17	18	20	23	25	29	31	34	36	36
13	14	14	15	15	15	15	15	16	17	17	16	17	18	19	21	23	25	29	32	35	36	37	37
14	14	15	15	15	15	15	16	17	19	21	21	21	20	21	23	25	27	31	34	35	36	37	38
13	14	14	15	15	15	15	16	18	19	22	25	27	27	25	26	27	29	32	34	36	36	36	37
13	14	14	15	15	15	16	16	18	20	23	27	32	37	32	32	33	34	35	36	37	37	37	36
14	14	15	15	16	16	17	19	21	24	27	32	36	38	38	38	38	39	39	38	38	38	37	37
14	14	15	16	17	17	18	20	23	27	32	37	39	39	40	41	41	41	39	39	38	38	37	37
15	15	17	17	18	18	19	22	23	28	33	37	41	41	41	42	42	42	41	40	39	39	38	37
16	17	18	19	20	20	21	22	26	30	33	37	40	42	42	42	43	43	43	43	41	40	39	38
18	19	20	21	21	22	23	24	25	29	33	37	40	43	43	44	45	45	45	45	44	42	41	40
20	21	22	22	23	24	25	24	25	28	31	35	38	42	45	47	48	50	49	49	49	48	46	44
20	21	23	24	24	24	26	27	27	27	30	30	35	39	43	45	49	53	56	56	55	54	52	51
21	23	23	25	27	26	28	29	30	31	32	32	35	38	41	45	50	52	57	61	64	63	63	60
22	23	25	25	28	30	30	32	34	35	35	37	39	40	42	43	48	52	54	60	65	67	69	70
26	27	29	32	33	36	38	38	40	42	41	43	45	45	46	50	53	57	62	65	69	71	72	72
31	32	36	39	41	43	46	46	47	49	49	49	51	52	53	57								
35	39	41	45	49	50	50	52	53	54	54	54	55	56	59									
39	44	46	50	53	54	54	56	57	57	57	57	58	62										
42	47	52	55	55	57	57	58	59	60	60	60	60	63										
48	53	55	57	59	59	59	60	61	62	62	62	63	64										
52	56	59	60	61	61	62	62	62	63	63	63	64	66										
55	58	61	61	62	63	63																	
58	60	61	63	63	63	64	64																
57	59	61	62	63	64	64	64	64	64														
59	62	63	64	64	66	67	66	66	65	66													
61	62	64	65	66	66	69	69	70	69	69													
56	60	61	63	64	66	67	67	68	68	69	69	71	73	73	74	73							
58	62	53	65	67	67	68	69	69	69	69	70	70	71	73	75	76	77	77					
61	64	65	68	68	69	70	70	71	71	71	71	71	71	73	74	77	78	79	81				
65	66	68	69	69	71	71	71	72	73	73	73	73	73	74	74	75	77	79	80	82	83		
75	75	75	76	76	76	77	79	80	83	84													

700	**710**	**720**	**730**	**740**	**750**	**760**	**770**	**780**	**790**
38									
37	38								
37									
37									
37									
37	37								
39	38								
43	41	40	39						
49	47	45	43	41	41				
57	55	53	49	47	44	44	43		
69	68	64	62	58	55	51	50	49	47
72	70	69	66	62	58	56	54	54	

ATTACHMENT B

Expert Opinion

TETRA TECH

February 24, 2023

City of Portland
Planning Division
389 Congress Street, 4th Floor
Portland, ME 04101

Attn: Planning Board

Re: Miscalculation of Average Grade
Level III Site Plan and Subdivision – 58 Fore Street
Portland Foreside Development Company

Dear Planning Board Members:

Based on our review of the above-referenced submission, it appears the Applicant has either miscalculated or misrepresented average grade for proposed structures on Parcel 4 ("Harbor Hill") and Parcel 6 ("The Channel Mark"). The proposed building elevations note average grade *singularly* as **elevation 50.1** despite there effectively being two buildings on separate parcels of land with substantially different surrounding grades. The average grade noted has no discernible relevance to the buildings proposed and no reasonably justifiable supporting calculations were found for the value. Furthermore, the calculations provided are clearly and unjustifiably skewed to result in a higher elevation than would otherwise reasonably be determined. This is particularly egregious as it pertains to the Harbor Hill structure.

The City of Portland Land Use Code (March 2022) clearly and logically specifies average grade as being calculated at the corners of the foundation of the proposed structure. Common practice for determining average grade requires weighting selected foundation corners relative to the length of building foundation. The attached figures show how applying common practice and using existing elevations at the principal foundation corners results in the substantially different average grade calculation of **elevation 39.5** for the Harbor Hill structure and **elevation 36.3** for The Channel Mark structure. A substantially different average grade calculation would be the result whether calculated using the four principal foundation corners or equidistant points along the foundation.

Any building height measured from the average grade of elevation 50.1 is simply unsupportable and inconsistent with the relatively clear intent expressed in the City of Portland Land Use Code (March 2022).

Very truly yours,

Sean P. Reardon, PE
Vice President

Matthew W. Moyen, PE
Senior Project Manager

Attachments: Figure 1 – Civil Building Height Calculation Figure Markup

Cc: Roger Trettel

Tetra Tech
Marlborough Technology Park, 100 Nickerson Road, Marlborough, MA 01752
Tel 508.786.2200 Fax 508.786.2201 tetratech.com



Figure 1
02-16-23

Source: Civil Building Height Calculation Figure prepared by Woodard & Curran dated November 2022

TETRA TECH, INC.

Tetra Tech has been a world class provider of consulting and engineering services for over 50 years. We support global commercial and governmental clients focused on sustainable infrastructure, water, environment, energy, and international development. With over 27,000 associates worldwide, Tetra Tech provides clear solutions to complex problems.

In a complex world with competing demands for limited resources, Tetra Tech offers clear solutions made possible with sound science, understanding, innovation, and industry-leading approaches.

PERSONNEL EXPERIENCE SUMMARY

Sean P. Reardon, PE

Mr. Reardon is a Vice President at Tetra Tech who specializes in guiding site/civil engineering and land development programs to successful completion. He has 30 years of experience in the planning, permitting, design and construction of a wide range of facilities and infrastructure. His broad background encompasses all service sectors: municipal, institutional, private land developers and public/private partnerships. He is particularly skilled in managing multidisciplinary services under aggressive timeframes, as well as design/build and on-call engineering contracts. Mr. Reardon prides himself on building long-term, collaborative client relationships and overcoming technical and regulatory challenges with creative solutions that optimize project objectives. In addition to his leadership on residential, institutional, commercial and mixed-use development programs, Mr. Reardon is regularly called upon to provide expert witness testimony and litigation support. Mr. Reardon is a licensed Professional Engineer in Maine, Massachusetts, Rhode Island, New Hampshire, Connecticut, and Vermont.

Matthew W. Moyen, PE

Mr. Moyen is a Senior Project Manager at Tetra Tech with 16 years of experience in planning, civil engineering design, permitting, and construction as part of multidiscipline and multi-firm project teams. He leverages his diverse skill set and technical background to lead a range of commercial, industrial and residential land development projects, renewable energy projects, and stormwater programs to successful completion for public agencies and private clients. Mr. Moyen also provides peer review services of complex projects for municipal boards and state agencies. Mr. Moyen is a licensed Professional Engineer in New Hampshire, with reciprocity underway in several states including Maine.

Kelly Walker 11:13 AM
to planningboard

I believe this is the correct way to make a comment on the 58 Fore St project. When looking at the zoning ordinance it appears to me as though the proposed buildings do not follow the ordinance as pertains to height and potentially other zoning restrictions as well. As such I am reaching out with my concerns.

If this is not the correct format to make a comment please let me know.

All the best,
Kelly Walker

58 Fore St/ Portland Foreside Co

0 views

Subscribe

martica douglas <tica1529@gmail.com> 7:25 AM (4 hours ago)
to Planning and Urban Development, Planning Board, atrevorrow@portlandmaine.gov, council@portlandmaine.gov

Dear City Planners and Planning Board:

I write to let you know that Tuesday night's neighborhood meeting hosted by the Portland Foreside Development Company was so woefully lacking in information relevant to the neighborhood as to call into question the competency and/or good faith of the Company. Residents tried without success to get clear information about the height of the proposed barrier between land and water and the Company's interpretation of the "view corridor" requirement. The presenters' vague answers suggested that the Company believes that it's acceptable to obstruct the Harbor from street view even in the mandated view corridors, and that thanks to some kind of cobbled together grade calculation which common sense recognizes as a “cheat,” 10-story buildings are acceptable along the City's eastern waterfront. They were also unable or unwilling to address residents' concerns about the huge increase in vehicular traffic we can expect on already max'd out Fore St.

This behemoth development will profoundly and heart-breakingly destroy the iconic landscape that is the Hill overlooking the Harbor. The Hill itself will be permanently and irrevocably walled off from the view of persons on the water and the water walled off from the view of persons on the Hill. Future generations are robbed of this priceless legacy. The City has a lot to answer for for tossing Munjoy Hill under the bus here. The very least you folks can do is to make sure the developer exercises good faith in calculating allowable heights and abides by the requirements of the master plan.

Tica Douglas
District 1

Sandra L. Guay
Principal
sguay@archipelagona.com

Keith P. Richard
Principal
krichard@archipelagona.com

1 Dana Street
Portland, Maine 04101
(207) 558-0102

June 16, 2023

Via Email:
Portland Planning Board
Maggie Stanley, Chair
City of Portland Planning & Urban Development
389 Congress Street
Portland, ME 04101
planningboard@portlandmaine.gov

Re: Portland Foreside Development Company
58 Fore Street/Mixed Use of Blocks 4. 5 and 6
Major Site Plan Review Application

Dear Madam Chair and Board Members:

As previously noted, this firm represents John Roger Trettel. As the owner of property located at 5 Eastern Promenade, Mr. Trettel is a direct abutter to 58 Fore Street and the mixed-use development project that is the subject of the Portland Foreside Development Company ("Applicant") site plan Application currently pending before the Board ("Application"). While supportive of the general concept of the development, Mr. Trettel remains concerned about the serious and repeated deficiencies put forward by the Applicant in the Application.

As also put forth in Mr. Trettel's prior submissions, the Master Development Plan ("MDP") under which the Application has been submitted, has expired. There was only one way for an extension to have been granted under the express terms of the MDP and the 2016 Ordinance which governed that approval, and that was a written request by the applicant prior to December 22, 2022, followed by a determination by the Planning Authority that there had not been any changes to the underlying zoning or site plan standards that could substantially impact the project since the date of the MDP approval. At the very least, the critical amendment to the Inclusionary Zoning requirements should have been reviewed at that time. There is no evidence in the record that either a written request was made or that zoning amendments were ever considered.

While maintaining that the review of the Application should not proceed under the 2016 MDP, and without waiving that argument, Mr. Trettel provides the following comments to the Applicant's Block 5 submission.

I. The Applicant has not provided information or a narrative sufficient for the Board to make the required findings on applicable Code standards.

The latest amended Application submission purports to set forth consistency with various site design standards (the Applicant cites 2022 Code site design standards). Describing the content of the narrative on those standards as "sparse" would be generous. For example, regarding massing, ventilation, and wind impact, as well as shadows, the narrative contends compliance is met:

> **7.1 Massing, ventilation, and wind impact**
> Buildings have been designed within a context of similarly scaled new and existing buildings. All primary mechanical equipment is housed either within buildings, or within a fully screened extent of roof located to minimize disruption to abutting properties. HVAC venting is directed away from adjacent public areas.
>
> **7.2 Shadows**
> Buildings have been designed to minimize impacts of shadows on open space and public areas that would affect the viability of the public use and existing vegetation. Over the course of the day, direct sunlight will be provided to adjacent areas to promote the use and growth of vegetation.

Major Site Plan submission at 7-1 (Nov. 2022). It is not clear what "similarly scaled new and existing buildings" are being referenced, but the only comparable high-rise building in the area is the Portland House, which few would cite as a model of massing or indicative of any other buildings in the entire Munjoy Hill area. There is no detail or narrative that connects the various architectural components of the proposed development to the longstanding or new development in the area. The proximity to the waterfront means that there will be high wind conditions on the site, enhanced by the high-rise buildings and narrow corridors that break up the buildings, yet there are no wind studies illustrating the scope of that impact. As to shadows, anyone familiar with the progression of the sun as it passes over the Portland peninsula to the west, knows that the promenade experiences premature shadow caused by the hill in mid- to late afternoon. One can anticipate that buildings of this scale and mass will create an even more substantial and earlier shadow over one of most utilized public trails used by walkers, joggers, bikers, and others year-round. A shadow study should be commissioned to analyze these impacts.

It is unclear how, without significant additional information, the Board can find these standards have been met.

II. There are multiple flaws in how "grade" is being calculated, primarily related to the parking pedestal "structure" that purportedly straddles Blocks 4, 5, and 6.

We have previously addressed the miscalculation of grade and the misinterpretation of the height standard in prior letters and incorporate those comments by reference. Now that Blocks 4, 5, and

6 are fully before the Planning Board, the entirety of the so-called "parking pedestal" structure is under review for the first time.[1] Because "grade" and "height" are keyed to a structure, and the Applicant needs to leverage the extreme elevation gain up to Fore Street to elevate building heights across the site, the Applicant must convince this Board of the fiction that the parking pedestal is one single structure. The proposed parking pedestal[2] is, as a matter of fact, more than one structure and the 2016 "Overall Site Master Plan" requires that they be kept as separate structures with individualized height calculations.[3]

III. Height restrictions vary across the combined development site and thus grade must be evaluated segment-by-segment.

Block 4 ("Harbor Hill") and Block 6 ("The Channel Mark") are separate buildings on separate parcels that must be evaluated for height compliance as such. The Applicant, in its March 2, 2023 letter to Planning calls out Block 5 as proposed was, in the Applicant's own words in the original submissions, a separate building.[4] (Woodard & Curran Letter Mar. 2, 2023.) Although stating Blocks 4+6 and Block 5 will be *separate* construction, the Applicant characterizes Block 5 as a "phased addition" to the "single building structure." As Maine courts have stated dryly, "Painting a pumpkin green and calling it a watermelon will not render its contents sweet and juicy." *Sacred Feather v. Merrill*, No. 07-18-B, 2008 U.S. Dist. LEXIS 47543, at *9 (D. Me. June 19, 2008).

Furthermore, the plans submitted clearly depict separate buildings and any reasonable observer of the site will see a group of free-standing separate buildings, despite whatever integrated infrastructure may link them. An example illustrates the absurdity of the argument: As applied to the new Townhouse buildings that are proposed to line Fore Street, this would be equivalent to considering the buildings across the street as one structure if there was a subterranean parking

[1] As was noted in the Planning Board's December 2016 decision on the Master Development Plan, "if the parking base is built in phases, the average grade for each phase will need to be evaluated for consistency with the B-6 Height Overlay. There are no final building designs in a MDP plan Application, so this review addresses the feasibility of the site design concept as proposed." (PB 12/20/16 decision at 12.)

[2] With only approximately 30 parking spaces within Block 5, it is unclear how much, if any significant actual parking connected with Block 5 is located there.

[3] The Applicant includes the Development Block Layout Plan from the 2016 MDP, but conspicuously omits the Overall Site Master Plan – the plan that shows the approved layout of structures within those Blocks.

[4] The Applicant states "Block 4 and Block 6 are considered one building. The building has pedestal parking at the base, with connected and architecturally varied residential uses above. This approach was presented and agreed to in the MDP approval and was documented in the Staff memos to the Planning Board as part of that process. Block 5 will be a phased addition to this single building structure. We will address Block 5 as part of the site plan application to be submitted separately." (Woodard & Curran Letter Mar. 2, 2023.)

garage under Fore Street that linked them. No rational interpretation of code standards or development norms would support such an assertion.

For the height standards to have any rational relationship to the structures that are being regulated (which is required by how grade and height is defined in the Code), the height standard cannot be applied as proposed but rather must be applied in segments, either by (1) each building; or (2) each parcel of the 10-parcel subdivision that comprises the site; or (3) each Block. Any of those three methodologies follow from the Code, the B-6 Height overlay, and the objective factual circumstances presented by the site.

The "parking pedestal" as a "single" massive structure is a tool of manipulation that is more fiction than fact. The manipulation is particularly obvious and consequential when one considers the average grade of Block 5, which is approximately 14' above MS. Even using the 2016 MDP version of the B-6 Height Overlay, the building envelopes that Block 5 straddles restrict heights to 45' and 45' with extensions to 55', meaning that no structure within the Block 5 building envelope should exceed 69 feet in total height. Block 5 proposes an eight-story building "comprised of a hotel, residential condominiums ground-level retail and restaurant, and below-grade parking." The structure(s) will clearly exceed 69 feet.

IV. Even assessing the site as a whole, the "average" as calculated is not an accurate average.

Even if the site is evaluated as a whole in calculating grade, the "average" is not a true average. A middle schooler with a rudimentary grasp of calculating averages could tell you that concentrating 75% of your data points in one limited area, rather than evenly distributing the points and collecting data at consistent intervals, will skew your results and will not produce an average of the whole. Polling a political issue by querying 75 Portland peninsula residents and 25 residents from the farthest rural corners of the State will not produce survey results that could be fairly presented as the opinion of "the average Mainer."

In our March 17 submission, we described two methods of determining average grade of the site using the City's grade and height methodology.[5] The first involved applying the industry standard topographic method across the entire Block 4, 5, and 6 "superblock" as was shown by the Applicant in 2016 that they improperly utilized to establish an estimated average grade of 50.1 feet. The true average grade is approximately 29 feet when calculated accurately, scientifically, and objectively without skewing the data points to the highest elevation corners of the site to "gain" more height. (Trettel Letter, March 17, 2023, Attach. A.)

[5] For the reasons stated herein and in prior submissions to this Board, we maintain that the City's interpretation of "grade" is arbitrary, unlawful, preempted, unconstitutional, and void.

The second method utilized the City's method of measuring grade from the primary foundation corners of each building (generally assumed to be four corners). Using this methodology, we demonstrated the average grade of the buildings on Block 4 and Block 6 is approximately 39 feet and 36 feet, respectively. Using this methodology, the average grade of the site of the Block 5 building would be approximately 14 feet. (Trettel Letter, March 17, 2023, Attach. B.)

If we apply the above "superblock" methodology to the new Block 5 building, the average starting grade would be 29 feet, thus resulting in a maximum allowable building height of 29+55 = 84 feet. Applying the City's "corners" methodology, the maximum allowable building height would be 14+55 = 69 feet. In either case, the 125 feet proposed by the Applicant far exceeds the maximum heights permitted in the B6 overlay zone. If the "corners" methodology is used on the superblock area, given the numerous "corners" (of what are really at least three separate buildings), the Board should be drawing an average from more than the six selective and highly subjective points that the Applicant has presented in its most recent average grade drawing. Of the six points the Applicant strategically placed on the drawing to achieve its target 50-foot average grade, four of them are concentrated on the highest edge of the site along Fore Street, with only two elevation points representing the low side of the parcel which comprises roughly 75% of the land area.

No advanced degree in engineering or mathematics is required to recognize that the grade calculations are not lawful or rationally supported by or connected to the available evidence and data.

V. The water views that the view corridors were intended to protect appear to have been eliminated.

The current proposed plans appear to eliminate a view of the water down the designated view corridors from Munjoy Hill. Notwithstanding the dimensional requirements stated in the B-6 Height Overlay notes, the clear intent of the view corridors and the spacing, massing, and building break around them was to preserve a view of Casco Bay from Kellogg, Waterville, St. Lawrence and Atlantic Streets. This intent was confirmed by renderings submitted in 2016 that show clear unobstructed sight lines down the view corridor to the water from the perspectives depicted. Those prior renderings with ocean blue are conspicuously absent from the present filings by the Applicant, which suggests that those views will be eliminated. It is not entirely clear what purpose the view corridors will now serve other than to present a horizontal view of new building rooftops.

The water views were not merely in the 2016 renderings; the approved MDP Application in numerous places spoke of the water views in connection with the view corridors, so it appears the Applicant is departing from a fundamental premise of their original proposals and prior MDP approval. *See, e.g.*, MDP Application (Sept. 2016) at 3-7 ("On the hill side, housing and planted courtyards step down the hill providing residents active and passive landscaped courts and mews to soften and enliven the architecture and to provide a lush ground plane which serves to maximize the view corridors"); 4-2 (celebrating the "preservation of significant view corridors to the water

and along the waterfront"); 4-3 ("View Corridors - Street corridor placement and design should provide for views to and from the water . . . .")).

If the City Council and Planning Board thought that the corridors would protect the water views, there has been a bait and switch.

VI. The submission does not even meet the layout that had been approved in the 2016 MDP.

The Applicant claims that the 2016 MDP approval is still valid and applicable when it works to its favor, for instance when relying on the 2016 Inclusionary Zoning requirement, but ignores the MDP when its provisions do not work in the Applicant's favor. In addition to the several ways this is illustrated in the discussion above, in its Permitting and Zoning Section. 2.3.4., the Applicant states that the "*the proposed development of Blocks 4, 5 and 6 is consistent with the general layout of the site on the Master Development Plan."* In fact, however, the proposed development of Blocks 4, 5 and 6 is not consistent with the general layout of the site on the Master Development Plan (MDP). For one thing, the design, separation and layout of structures are not as depicted in the 2016 MDP Overall Site Master Plan that, as noted above, has been excluded from the recent Application. Furthermore, the Applicant appears to simply take for granted that the newly acquired R-6 Zone property has been subsumed into the 2016 MDP approval. The R-6 Zone land that has been added to the new Application is not a part of the "second phase of development" of the 2016 MDP, as stated by the Applicant. Block 6 cannot be arbitrarily expanded beyond the MDP district in whatever way the Applicant schemes or desires, or what then is the purpose of defining the MDP district in the first place.

The dimensional requirements for the development were all based on the B-6 standards, there was never any consideration given to the separate R-6 requirements and any impact on the R-6 neighborhood, which would then have been factors in the original MDP review. Inclusion of this newly acquired property into the development plan is not "*consistent with the general layout of the site on the Master Development Plan."*

VII. The project is not in compliance with the character and form of the historic district.

For the reasons set forth in a March 31, 2023 letter to the Historic Preservation Board, attached to this letter for brevity and the Planning Board's information, the project as proposed does not meet the Munjoy Hill Historic District preservation standards.

VIII. Portland's lack of objective "grade" standards is an impermissible delegation of legislative authority to the Planning Board, would allow the Board to unlawfully grant variances, and violates constitutional due process and equal protection protections.

A decision left in the hands of the unfettered discretion of an adjudicator lacking objective standards is arbitrary and violates constitutional protections of due process and equal protection. These principles are well established in Maine law. *See, e.g.*, *Stucki v. Plavin*, 291 A.2d 508, 510 (Me. 1972) ("The governing rule, constitutionally mandated, may be simply stated as that in delegating power to an administrative agency, the legislative body must spell out its policies in sufficient detail to furnish a guide which will enable those to whom the law is to be applied to reasonably determine their rights thereunder, and so that the determination of those rights will not be left to the purely arbitrary discretion of the administrator."); *Wakelin v. Yarmouth*, 523 A.2d 575, 577 (Me. 1987) ("the absence of specific standards in zoning ordinances results in a denial of equal protection of the laws . . . The ordinance opens the door wide to favoritism and discrimination by permitting the Board to grant or deny special exceptions for reasons that are unconnected to the ordinance but that masquerade as quasi-judicial findings of fact."); *Perkins v. Town of Ogunquit*, 1998 ME 42, ¶ 9, 709 A.2d 106 ("Such a scheme would permit a town to circumvent the Legislature's express and implicitly exclusive grant of variance-granting authority to boards of appeals. . . . The statutory language is clear that allowing planning boards variance-granting powers would frustrate the purpose of the statute."); *Kosalka v. Town of Georgetown*, 2000 ME 106, ¶ 17, 752 A.2d 183 ("Because the condition that all proposed developments 'conserve natural beauty' is an unmeasurable quality, totally lacking in cognizable, quantitative standards, this condition is an unconstitutional delegation of legislative authority and violative of the due process clause.").

The City's proposed interpretation of "grade" as "average developed grade" would allow heights that are limited only by whatever the Applicant introduces for fill or creative parking pedestals or retaining walls—a regulatory gap, that on its face and as applied to the present Application, renders height restrictions objectively meaningless. Leaving the Planning Board discretion to determine "grade" as "average developed grade" results in a Code height standard that violates at least three core tenets of constitutional and administrative law: (1) the standard is an impermissible delegation of legislative authority to an adjudicatory decision maker, the Planning Board, which is a function that is expressly and solely the power of the legislative arm of government, the City Council; (2) the standard, which can essentially be relaxed, amended, or suspended to suit the application, would allow ad hoc variances from height restrictions, a function that is similarly outside the Planning Board's powers, but rather committed to the Zoning Board of Appeals; and (3) the height standard, as interpreted, is unconstitutional and void because the public and property owners to whom the standards apply cannot discern a consistent, objective standard that they or their neighbor may be held to. The lack of definition of "grade" and thereby an objective measure of how height restrictions are calculated is unlawful and unconstitutional.

In summary, the Application fails in the most significant ways to meet the standards and requirements of the City Code, or even of the now expired 2016 MDP. Mr. Trettel appreciates the Planning Board's continued examination of the Application.

Very Truly Yours,

SANDRA L. GUAY

KEITH P. RICHARD

Copy to:
John Roger Trettel

Sandra L. Guay
Partner
sguay@archipelagolaw.com

1 Dana Street
Portland, Maine 04101
(207) 558-0102

March 31, 2023

Via Email:

Portland Historic Preservation Board
Robert O'Brien, Chair
c/o Evan Schuekler, Program Manager
City of Portland
389 Congress Street
Portland, ME 04101
evans@portlandmaine.gov

Re: Portland Foreside Development Company
58 Fore Street/Mixed Use of Blocks 4 and 6
Historic Preservation Board Review Workshop
HPBR-002380-2023

Dear Chair O'Brien and Board Members:

This firm represents John Roger Trettel, the owner of property located at 5 Eastern Promenade, and a direct abutter to the proposed new construction and development at 58 Fore Street as presented in the Historic Preservation Board ("HPB") Review application ("Application") submitted by Portland Foreside Development Company ("Applicant"). This letter is submitted to voice Mr. Trettel's concerns about the proposed development's impact on his property and on the Munjoy Hill Historic District. Mr. Trettle makes these informed observations as the recent recipient of the 2023 Preservation Buffalo award for his work in the renovation of historic structures in Buffalo, New York.

The HPB is also in receipt of Mr. Trettel's March 17, 2023 letter to the Planning Board, which is incorporated into this letter and included in the record to this Board. The March 17 letter lays out in detail: (a) that the 2016 Master Development Plan ("MDP") for this project expired in December of 2022 and was never extended as required by both the City Code in effect in 2016 and as explicitly conditioned in the MDP itself, and is therefore void; (b) that the proposed new development violates the City's height restrictions on numerous grounds; (c) that even if it didn't violate the City Code on height restrictions, the methodology used by the Applicant to calculate height for the new structures in flawed, leading to significant errors in the height calculation (by more than 20 feet); (d) that the Applicant is including land that is not included in the 2016 MDP and is in fact located in an entirely different zone (the R-6 zone, which is in the Munjoy Hill

Historic District); and, (d) that that Applicant has failed to submit sufficient right, title or interest for areas of the proposed new construction that are outside of the Applicant's control, including both private and City property.

While each of these issues, well supported in the March 17 letter, are important to this Board in its review of the Application, the purpose of this letter is to focus on the additional review criteria subject to HPB review. In addition, this letter suggests that in light of the void MDP, the incomplete Application and the unresolved height calculation issues, the HPB should table the review of this Application until such time as a new and complete non-MDP application is submitted, and the height questions resolved.

I. The Application is Not Complete

The purpose of having a complete application prior to acceptance and initial review by any administrative board is to avoid waste of the board's time in the event that an applicant is either unable to provide what is needed in the application, and/or the applicant needs to significantly alter the application after review has already commenced, public comment has been received, and time has been expended. In this case, the City Code *requires* that an application submitted for review to the HPB must be deemed complete *before* that application is placed on a HPB meeting agenda. (Sec. 17.7.4.A). In addition to insufficient evidence of right, title or interest and insufficient evidence of adequate financial security, as noted in the March 15, 2023 Staff Memorandum to the HPB from Evan R. Schuekler, there is "significant amounts" of information that is lacking from the Application. The Application, as submitted, therefore lacks sufficient and required substantive information for the Applicant to have standing for even a workshop review by this Board, and review of the Application should therefore be tabled.

II. The Project is Not in Compliance with the Character and Form of the Historic District

In part, the stated purpose of the City's Historic Preservation Code is to "prevent the unnecessary loss of the community's historical features and to ensure compatible new construction." (Sect. 17.1.C). By manipulating the otherwise allowed height for structures in the B-6 zone, the massing of the proposed townhouses is significantly out of scale with the existing historic structures, leaving these historic structures shaded and dwarfed in comparison. This oversized scaling fails to meet the stated purpose of the Code, and additionally fails to protect and enhance neighborhood character (Sect. 17.1.E), fails to stabilize and improve the value of the designated properties and area (Sect. 17.1.F), fails to protect and enhance the attractiveness of the City (Sect. 17.1.G), and fails to foster and encourage preservation, restoration, and rehabilitation that respects the historic, cultural, architectural and archeological significance of the distinctive Munjoy Hill historic area and the historic structures (see discussion about the historic seawall in an email addressed to this Board from Barbara Vestal, dated March 29, 2023).

The original seawall structure is a significant archeological resource in the City of Portland. (Sec. 14.6.4.3.i). As such, it is subject to the requirements of that Section of the Code, including "leaving archeological resources untouched beneath a new development through adaptation of foundation design or architectural layout". (Sec. 14.6.4.3.a). The Applicant is required to provide evidence if complete protection is not feasible. (Sec. 14.6.4.3.b). Further, the need to impact the City's historic seawall in any way does not appear to be supported by evidence right, title or interest to do so. In addition, old maps of the area encompassing Block 4/Block 6, indicate that a fort was at one time located in that area. An archeological study should be required to identify whether the fort is located within the proposed development area, and if so, to make certain that any further development at the very least documents and where feasible, preserves, that important piece of Portland history.

The Munjoy Hill Architectural Development & Context Statement (April 2019) also illustrates how the proposed new structures fail to comply with the standards for the Munjoy Hill Historic District. For example, in the 'Visual Character of the Hill' section of the Context Statement, the scale of the existing houses is described as "generally modest" with most buildings ranging from 1½ to 3 stories in height. The Statement points out that this is the reason why some of the later developments "do not feel sufficiently integrated with the neighborhood." This statement easily applies to the tall, narrow structures proposed in the Application.

In addition, the review standards provided in Section 17.8.3.A of the City Code require that new construction in a Historic District must be visually compatible with surrounding structures "when viewed from any street or open space" with respect to height, width, proportion and scale. Section 17.8.3.B requires that the composition of the principal facades be visually compatible with structures, public ways and places to which the building is visually related. Section 17.8.3.C requires such compatibility with relation to the street. Section 17.8.3.D. requires that "the distinguishing original qualities or character of a structure, object, *or site and its environment,* not be destroyed" (emphasis added). There is no amount of wordsmithing by the Applicant that can make the proposed new structures meet these mandatory standards.

Furthermore, one critical "open space" from which these structures can be viewed is the water. For centuries, boaters have enjoyed the view of Fore Street and Munjoy Hill as seen over the top of the Portland Company buildings. The proposed structures will block and destroy this historic view forever. Likewise, because the proposed structures do not "step down" toward the water, they will forever block the view to the water from Fore Street and other locations on Munjoy Hill.

III. The Height Issue Must be Resolved Prior to Review by this Board

As fully illustrated in the March 17, 2023 letter to the Planning Board, on which this Board was copied, there are numerous issues with the way height has been calculated for the proposed new structures. In part, the Applicant (and previously, the City) has been applying an "average

developed grade" from which to begin to calculate height. Not only is this term not defined in the Code, it makes no logical sense. As used, it would mean that a developer can bring as much fill onto a property as it wants to raise the pre-measurement height to any level it desires (in this case even using another structure, the parking structure to establish "average developed grade"). In effect, this means that the City has *no enforceable maximum height restrictions*, as the starting point from which to start calculating height can be artificially manipulated to whatever the developer desires and can afford. Here the existing Portland Company site has a historically established grade – the parking lot – and it is from here that the height of the structures should be measured.

In the MDP, despite the radically elevated rear portion of the property along Fore Street, the City's Planning Office permitted the Applicant to use a method of calculating the "average developed grade" by allowing the developer to calculate an average at the corners of the building foundation. In the application to the Planning Board, it was however readily apparent that rather than use the industry standard for determining an average grade, the Applicant had taken numerous measurements from the highest side of the property, and very few measurements from the lower elevation of the property. In doing so, the supposed "average grade" was manipulated to look significantly greater than it actually is; a difference of *over 20 feet*.

Until the issue of height calculation is resolved, it is a waste of this Board's valuable time reviewing an application for structures that have been designed around these miscalculations.

IV. Summary

The Historic Preservation Board has always played a critical role in the review of applications before it and, in keeping with the legislative wishes of the City and of the surrounding community, works diligently to ensure that new development in Portland's historic districts meet the letter of the Code. The Board often gets only one shot to reshape a proposed development – or to disapprove of a proposed design in its entirety when, as proposed, the project fails to comply with the Code.

There is of course great significance to all applications that come before the HPB, from the perspective of the Board, the applicant, and the community. The size and scope of the 58 Fore Street project is however unique in many respects. The all-encompassing, view blocking scale of the proposed structures now before this Board would forever alter and destroy the historic nature of Munjoy Hill, as viewed both from the streets of the City and from the water.

The 2016 Master Development Plan has expired and is now void. The Application as submitted is woefully incomplete, in part lacking necessary evidence of right, title or interest. The height calculations proposed by the Applicant are artificially manipulated and otherwise fail to comply with the Code. The project area includes land in the R-6 zone and outside of the scope of

even the now void 2016 MDP. Lastly, the Application fails to meet even the most basic requirements of the Historic Preservation portion of the Code.

On behalf of abutter John Roger Trettel, we ask that the Historic Preservation Board find the application to be incomplete and/or otherwise not in compliance with the required review standards of the City Code.

Very Truly Yours,

SANDRA L. GUAY

KEITH P. RICHARD

Copy to:

John Roger Trettel

Dear Mr. Tetelman,

I am an owner of an apartment at 45 Eastern Promenade, and have a few questions for the upcoming meeting regarding Phase 2 of the Portland Foreside Master Development Plan.

1. There is growing traffic generated since Wex and recently Sun Life have become a part of the Fore Street/Eastern Prom/Franklin Street/295 traffic pattern. This of course will increase once the proposed 1,000 parking spots will become part of the Portland Foreside Master Development Plan. I've read the reports from various experts who have analyzed the proposed situation based on percentages, volume, etc.

(a) My concern is that currently there is parking on both sides of the street almost all the way between India Street to Fort Allen Park. Is a bicycle lane really going to be included in the new plans on such a narrow two-lane street in its current configuration, (with 2 hotels at the base)? Block 5/6 is going to be another hotel generating its own traffic.

(b) Between September and June, this street is a school bus route. In the mornings, children cross the street over to just past the Kate Moss Gallery going up the hill to catch their bus. Sometimes, and let's not forget these are children, they run out. If this becomes a higher traffic area, consideration of this will need to be made.

(c) I may have missed this in looking at what plans have been offered, but I do not see sufficient entries/exits for emergency use vehicles, i.e., MEDCU, fire trucks, police cars and vans. What are this company's evacuation plans in case of an emergency? Have they offered a plan? How are all those people going to get out in case of a fire? Have they created a fire drill plan? Think of all those people out on the street while fire trucks are trying to get in. I never see a building plan with a fire hydrant in it. I used to live in Manhattan; this is where this question stems.

Thank you for reading this.

Lisa Martorella

45 Eastern Promenade, Apt. 7J

Portland, Maine 04101

207-775-0472

58 Fore Street 0 views

Subscribe

Barbara Vestal <vestal@chesterandvestal.com> 2:08 PM (2 hours ago)
to Planning and Urban Development, planningboard@portlandmaine.gov, Charles Tetelman

Chair Stanley and Planning Board Members:

Numerous questions remain about the proposed development at 58 Fore Street. This last 1700-page packet contains more questions than answers. I hope the Planning Board will take its time to work through all of the issues. Each aspect of the project should receive your full scrutiny, without cutting any corners due to the massive size of the project.

In my mind, the outstanding issues include:

1. **Whether the Master Development Plan expired by its own terms** on December 20, 2022, without a requested extension. I do not find Ms. Grimando's memo to be convincing. Perhaps only a court will be able to resolve that issue. Obviously, it makes a big difference in terms of the required affordable housing percentage, as well as whether the applicant will be required to comply with other changes to the regulatory framework since 2016.

2. **Whether the heights of various buildings meet the zoning requirements**. Staff has determined that block 4 does not meet the building extension width, depth or spacing requirements and will need to be revised. While that is true, it also appears that the proposed development as a whole does not employ proper average grade calculations for the individual blocks. The structures on Blocks 4, 5 and 6 are **three separate buildings**, not "towers" on a single functionally-required, integrated "parking plinth". It should not be enough to qualify as a single building that they might be designed to touch each other. Furthermore, the B-6 Building Height Overlay & Building Envelopes map identifies by different colors specific Building Envelopes. Block 4, Block 5 and Block 6 are different Building Envelopes. They are separate buildings, so Blocks 5 and 6 cannot "borrow" the height immediately along Fore Street (in a separate building envelope) to boost the height otherwise allowed in Block 5 and Block 6. **Each Building Envelope requires its own average grade calculation**. Furthermore, the applicant should not be allowed to use a system of calculation that gives undue weight to the uphill portion of the site. While these tricks and slights of hand may benefit the applicant, they impose a great burden on the public as a whole by allowing the creation of a massively out of scale development which will have an impact which is way beyond that which was anticipated in the original rezoning.

3. **Whether the City should grant an "encroachment license" to place footings within the Fore Street right of way above the retaining wall.** While the memo says this is being reviewed by Corporation Counsel, Planning Authority and Dept of Public Works, many questions remain. **Wouldn't this need approval by the City Council**? Don't they need additional approval to cross over the retaining wall with the entrance to the parking garage? Who is responsible for damage to the retaining wall during construction? Have adequate technical assessments of the wall been done? Does the proposed document adequately address the allocation of the maintenance responsibility for the existing 150-year old retaining wall along Fore Street.

4. **Whether the applicant proposes proper treatment to the required "view corridors."** While the required "view corridors" are inadequate to preserve public visual access from Fore Street to the harbor, they are all the City required at the time of the rezoning. They should be enforced to the maximum extent possible. The Planning Board should be protective of their treatment to preserve what little access they do provide. It should ensure that both building and non-building

elements do not obscure them. Close attention needs to be paid to landscaping plans which are in conflict, to signage for the parking garage entrance, to railings, roof-top appurtenances, temporary structures such as canvas shade structures, and other elements that have the potential to obscure the protected views.

5. Whether a new Traffic Movement Permit should be required. The traffic for the proposed development has always been burdensome for the Munjoy Hill neighborhood. Originally the developer said that only the residential owners would be allowed to access the parking garage from Fore Street. Over time that evolved so that the applicant is proposing that Fore Street will become the primary access for the entire development. The current traffic movement permit expires in May 2024, which according to the staff memo, means that all construction associated with that traffic movement permit needs to be completed by May, 2024, or the permit will automatically expire and the applicant will need to reapply for and receive approval of a traffic movement permit before continuing construction or opening the facility. It seems highly unlikely that construction will be completed by May, 2024. This seems like the appropriate opportunity to revisit the allocation of traffic between Fore Street and Thames Street as part of a required new traffic movement permit.

6. Whether the proposed development adequately fits in with the adjacent neighborhood. Once the overall height and massing, encroachment and impact on the Fore Street retaining wall, view corridor, and traffic impact issues are addressed, there are many remaining details to be addressed that will help determine whether the proposed development adequately respects its context. For example, the applicant is requesting a waiver for driveway apron grading affecting the pedestrian ramps in the vicinity of the parking garage driveway. It is important for pedestrians, including all who are mobility impaired, to have adequate, unobstructed access along the sidewalk on the waterside of Fore Street, from the “grand staircase” at the bottom of the hill all the way up to the Eastern Promenade. Any pedestrian solution needs to be self-contained and not be dependent upon the applicant or successor to engage in ongoing maintenance to clear leaves, trash and other obstructions from ramps. The applicant has not shown itself to be attentive to removing snow and ice along Fore Street over the past several years. It is not unreasonable to expect a similar lack of attentiveness to other forms of pedestrian obstruction.

Thank you for your attention to these thoughts. I look forward to your continued discussion of these fundamental issues.

Regards,

Barbara Vestal

58 Fore Street 0 views

Subscribe

Barbara Vestal <vestal@chesterandvestal.com> 2:08 PM (2 hours ago)
to Planning and Urban Development, planningboard@portlandmaine.gov, Charles Tetelman

Chair Stanley and Planning Board Members:

Numerous questions remain about the proposed development at 58 Fore Street. This last 1700-page packet contains more questions than answers. I hope the Planning Board will take its time to work through all of the issues. Each aspect of the project should receive your full scrutiny, without cutting any corners due to the massive size of the project.

In my mind, the outstanding issues include:

1. **Whether the Master Development Plan expired by its own terms** on December 20, 2022, without a requested extension. I do not find Ms. Grimando's memo to be convincing. Perhaps only a court will be able to resolve that issue. Obviously, it makes a big difference in terms of the required affordable housing percentage, as well as whether the applicant will be required to comply with other changes to the regulatory framework since 2016.

2. **Whether the heights of various buildings meet the zoning requirements**. Staff has determined that block 4 does not meet the building extension width, depth or spacing requirements and will need to be revised. While that is true, it also appears that the proposed development as a whole does not employ proper average grade calculations for the individual blocks. The structures on Blocks 4, 5 and 6 are **three separate buildings**, not "towers" on a single functionally-required, integrated "parking plinth". It should not be enough to qualify as a single building that they might be designed to touch each other. Furthermore, the B-6 Building Height Overlay & Building Envelopes map identifies by different colors specific Building Envelopes. Block 4, Block 5 and Block 6 are different Building Envelopes. They are separate buildings, so Blocks 5 and 6 cannot "borrow" the height immediately along Fore Street (in a separate building envelope) to boost the height otherwise allowed in Block 5 and Block 6. **Each Building Envelope requires its own average grade calculation**. Furthermore, the applicant should not be allowed to use a system of calculation that gives undue weight to the uphill portion of the site. While these tricks and slights of hand may benefit the applicant, they impose a great burden on the public as a whole by allowing the creation of a massively out of scale development which will have an impact which is way beyond that which was anticipated in the original rezoning.

3. **Whether the City should grant an "encroachment license" to place footings within the Fore Street right of way above the retaining wall.** While the memo says this is being reviewed by Corporation Counsel, Planning Authority and Dept of Public Works, many questions remain. **Wouldn't this need approval by the City Council**? Don't they need additional approval to cross over the retaining wall with the entrance to the parking garage? Who is responsible for damage to the retaining wall during construction? Have adequate technical assessments of the wall been done? Does the proposed document adequately address the allocation of the maintenance responsibility for the existing 150-year old retaining wall along Fore Street.

4. **Whether the applicant proposes proper treatment to the required "view corridors."** While the required "view corridors" are inadequate to preserve public visual access from Fore Street to the harbor, they are all the City required at the time of the rezoning. They should be enforced to the maximum extent possible. The Planning Board should be protective of their treatment to preserve what little access they do provide. It should ensure that both building and non-building

elements do not obscure them. Close attention needs to be paid to landscaping plans which are in conflict, to signage for the parking garage entrance, to railings, roof-top appurtenances, temporary structures such as canvas shade structures, and other elements that have the potential to obscure the protected views.

5. Whether a new Traffic Movement Permit should be required. The traffic for the proposed development has always been burdensome for the Munjoy Hill neighborhood. Originally the developer said that only the residential owners would be allowed to access the parking garage from Fore Street. Over time that evolved so that the applicant is proposing that Fore Street will become the primary access for the entire development. The current traffic movement permit expires in May 2024, which according to the staff memo, means that all construction associated with that traffic movement permit needs to be completed by May, 2024, or the permit will automatically expire and the applicant will need to reapply for and receive approval of a traffic movement permit before continuing construction or opening the facility. It seems highly unlikely that construction will be completed by May, 2024. This seems like the appropriate opportunity to revisit the allocation of traffic between Fore Street and Thames Street as part of a required new traffic movement permit.

6. Whether the proposed development adequately fits in with the adjacent neighborhood. Once the overall height and massing, encroachment and impact on the Fore Street retaining wall, view corridor, and traffic impact issues are addressed, there are many remaining details to be addressed that will help determine whether the proposed development adequately respects its context. For example, the applicant is requesting a waiver for driveway apron grading affecting the pedestrian ramps in the vicinity of the parking garage driveway. It is important for pedestrians, including all who are mobility impaired, to have adequate, unobstructed access along the sidewalk on the waterside of Fore Street, from the “grand staircase” at the bottom of the hill all the way up to the Eastern Promenade. Any pedestrian solution needs to be self-contained and not be dependent upon the applicant or successor to engage in ongoing maintenance to clear leaves, trash and other obstructions from ramps. The applicant has not shown itself to be attentive to removing snow and ice along Fore Street over the past several years. It is not unreasonable to expect a similar lack of attentiveness to other forms of pedestrian obstruction.

Thank you for your attention to these thoughts. I look forward to your continued discussion of these fundamental issues.

Regards,

Barbara Vestal



Charles Tetelman <ctetelman@portlandmaine.gov> Jul 12, 2023, 11:36:56 AM (22 hours ago)

to Planning Board

---------- Forwarded message ---------
From: **Roger Trettel** <rogertrettel@gmail.com>
Date: Wed, Jul 12, 2023 at 11:01 AM
Subject: Planning Board Workshop 7-11-23 Comments
To: Charles Tetelman <ctetelman@portlandmaine.gov>
Cc: Kevin Kraft <kkraft@portlandmaine.gov>, Sandra Guay <sguay@archipelagona.com>

Dear Charles -

Thank you for providing the opportunity to speak at yesterday's Planning workshop pertaining to the 58 Fore St. project. I had prepared comments that I was going to send, but because I was able to attend the meeting, I read them in. I am attaching the written version of them here for the paper record.

I must say I was surprised to hear that Planning is beginning to buy into the notion that the 3-building project consists of a single building and that the obviously manipulated grade elevations are correct. I may suggest that asking the applicant to calculate the average grade by taking measurements at even intervals (say every 50-100 feet) around the perimeter of the site would be a good cross check of the 6-point figure they have most recently produced. As this is an approved alternative method of calculating grade in the code, it would be an easy check to help put this issue to rest. If the applicant is unwilling to do this, perhaps the staff could do it as a quick check.

Thank you for the opportunity to comment.

Sincerely,

Roger Trettel
5 Eastern Promenade, Portland

--
Charles Tetelman (he/him)
Planner
ctetelman@portlandmaine.gov || 207-874-8724
Planning & Urban Development Department
City Hall - 4th Floor, 389 Congress Street
Portland, Maine 04101

- My name is Roger Trettel and I am the owner of 5 Eastern Promenade, a direct abutter to the project on two sides of my property. I agree with comments made on my behalf and the written comments we have submitted. As I have stated before, I don't object to the project; I only object to aspects of it that don't comply with the code. I am an experienced developer of a variety of projects for over 30 years and understand the importance of full code compliance and the legal responsibility of the regulator. If a project cannot be built in compliance with the law/code, it is fundamentally flawed.

- Our comments to date are not the arm-waving rantings of uninformed obstructionists who just don't want change. These are thoughtful, informed, and objective comments, put together by experienced and highly trained professionals who understand the law and engineering and development principles.

- Regarding the fundamental issue of building height (which effects essentially every aspect of the project in a cascading manner) we have engaged a world class engineering firm with professional engineering experts who have objectively concluded there is no rational way to arrive at the average grade of 50.0 feet the whole project is based on. It is simply wrong – it was wrong in 2016 and it is wrong today. The obviously blatantly skewed grade calculations and renderings prepared by the applicant and its engineer/architect frankly should insult the intelligence of the Planning staff, the Board, and the public.

- I commend the Planning staff for asking questions about this critical issue and encourage them to ensure that the applicant produces a realistic response that properly weights the existing grade conditions at the site and does not continue to manipulate the numbers to achieve the desired goal of obtaining more height not in compliance with code.

- The applicant maintains that the three buildings are in fact one building and bases their entire grade analysis based on a total of only 6 elevation data points, with four of them strategically selected on the high side of the site. However, much of the applicant's drawings and renderings reflect three separate buildings. This is most clearly shown by the applicant's construction process renderings on pages 479-491 of its most recent filing. Three building envelopes will generate different grade elevations and height limits for the project. But whether it is treated as a single building or three separate buildings, the average grade calculated by the applicant is too high, not rationally supportable and cannot withstand objective professional scrutiny in court.

Thank you for the opportunity to comment and I strongly encourage the Planning Staff and Board to be objective, thoughtful and analytical in your review of every aspect of this project. I believe this can be a really nice project simply by building a project that is in compliance with the code and with the intentions of many years of eastern waterfront zone planning. In doing so, this project can be a win-win for the Applicant, the City, the neighbors on Munjoy Hill, and overall for the people of Portland.

From: **Roger Trettel** <rogertrettel@gmail.com>
Date: Wed, Jul 26, 2023 at 11:25 AM
Subject: 58 Fore St. Public Comment - Historic and Planning - "One Block" Perimeter Grade Measurement
To: Charles Tetelman <ctetelman@portlandmaine.gov>, Evan Schueckler <evans@portlandmaine.gov>
Cc: Kevin Kraft <kkraft@portlandmaine.gov>, Sandra Guay <sguay@archipelagona.com>

Dear Mr. Tetelman and Mr. Schueckler,

I submit this comment and attachment as an abutter to the 58 Fore St. project at 5 Eastern Promenade. The issue of average grade and resultant height of the project is critical to the overall Planning analysis and thoughtful Historic analysis of impacts to the surrounding Munjoy Hill and Portland Company historic districts. The applicant has prepared an existing site grade map that depicts the 3-building complex as a single building and calculates the average grade of the dramatically sloping site with 5 strategically-placed points and comes up with an average grade of 50.0 feet.

Because the majority (approx 70%) of the site is at a lower grade (approx 13-14 ft) and it exhibits extreme grade changes only at the northern and eastern portions of the site, it is much more appropriate to calculate the average grade using the unbiased method of measuring elevation at a set standard interval around the perimeter of the site (in this case every 100 feet). Attached is the applicant's site map with grade elevations measured at 100-foot intervals. When employing this simple and unbiased perimeter method, a total of 22 points are measured, resulting in an average grade of the site comprising the "one block" concept of 38.5 feet. The applicant has based its entire project on a number that is at least 11.5 feet and 23% higher than is the reality of the site. The resultant taller buildings are not in compliance with the B6 height overlay and thus have an undue effect on the properties of the Historic Districts and the eastern waterfront at large.

Thank you for the opportunity to comment.

Sincerely,

Roger Trettel
5 Eastern Promenade

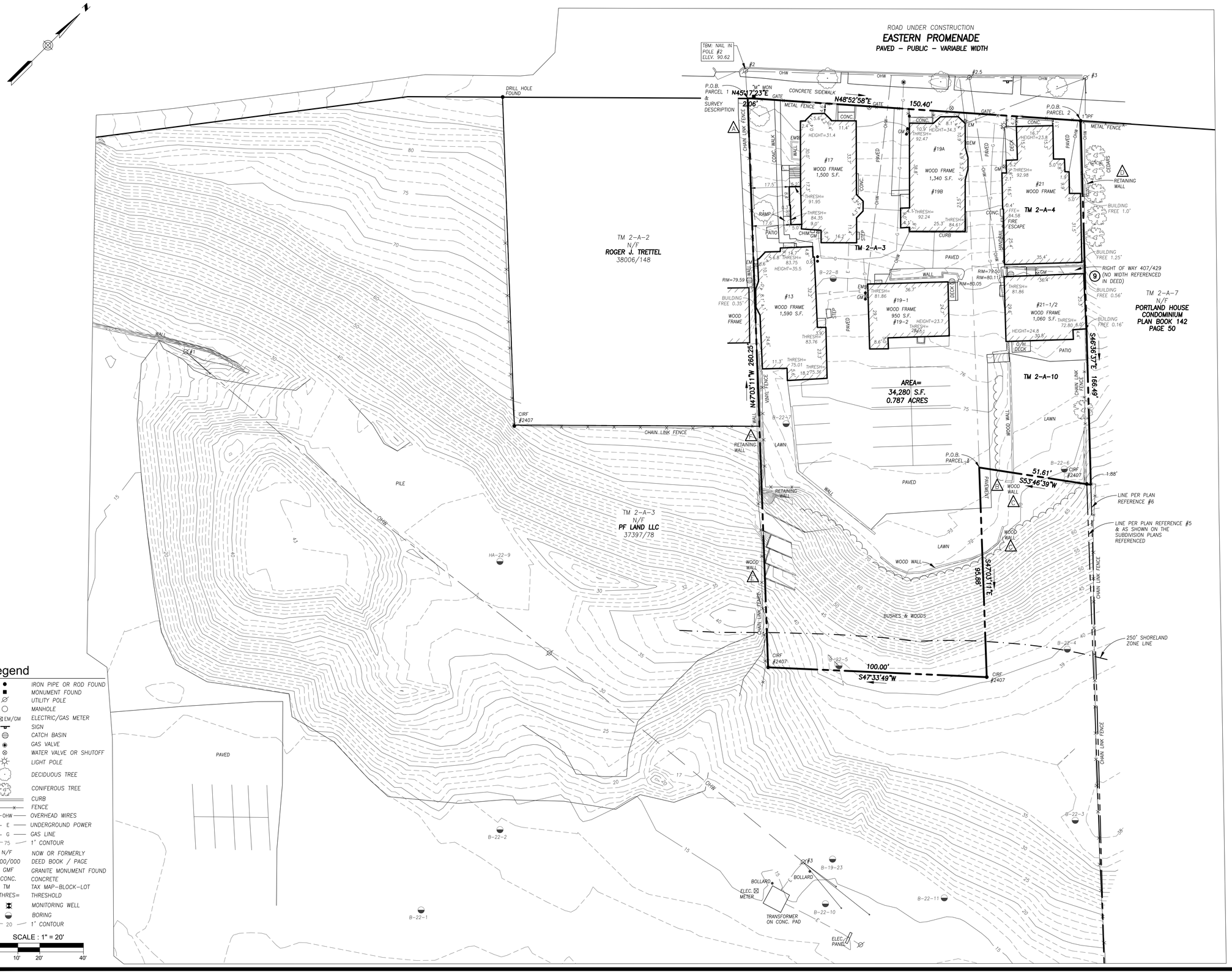
Kelly Walker <kellytwalker47@gmail.com> Jul 15, 2023, 4:04:02 PM (yesterday)

to planningboard@portlandmaine.gov

Hello - I wanted to make a comment about the most recent workshop for 58 Fore Street. It included vast amounts of information about the project including a massive retaining wall. This retaining wall obviously has to go in first before anything else. Will it be put in as separate parts as the 3 different buildings are put in? I know the applicant maintains that it is 1 building but the documents (and the fact that they are using different architectural firms) show otherwise. If it is put in in its entirety and then no further parts of the project go forward can we be sure the retaining wall will hold and that the buildings on the E prom and Fore St won't slide down the hill? The renderings show easements to hold the retaining wall in place. Are the easements already granted? After each meeting I find myself more and more concerned about the scope of the project and whether or not the applicant has all the ducks in a row.

Thank you for considering my comments.

Kelly Walker
REALTOR® | eXp Realty, LLC
207-699-8340
kellytwalker47@gmail.com
Visit my website
Office | 533 Congress Street | Portland, ME 04101 | (888) 439 - 8743



Location Map N.T.S.

Legend

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- ☒ EM/GM ELECTRIC/GAS METER
- SIGN
- CATCH BASIN
- GAS VALVE
- WATER VALVE OR SHUTOFF
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- CURB
- FENCE
- OHW OVERHEAD WIRES
- E UNDERGROUND POWER
- G GAS LINE
- 75 1' CONTOUR
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- GMF GRANITE MONUMENT FOUND
- CONC. CONCRETE
- TM TAX MAP–BLOCK–LOT
- THRES= THRESHOLD
- MONITORING WELL
- BORING
- 20 1' CONTOUR

SCALE : 1" = 20'

0' 10' 20' 40'

Plan References

1. "BOUNDARY & TOPOGRAPHY SURVEY AT 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN" AUGUST 29, 2016, REVISED OCT. 3, 2016 BY OWEN HASKELL, INC.

2. "ALTA/ACSM LAND TITLE SURVEY, 58 FORE STREET, PORTLAND, MAINE MADE FOR CPB2 LLC" BY OWEN HASKELL, INC. DATED MAY 22, 2013.

3. "ALTA/ACSM LAND TITLE SURVEY, 58 FORE STREET, PORTLAND, MAINE MADE FOR PF MARINA LLC" BY OWEN HASKELL, INC. DATED MAY 22, 2018 AND PLAN OF PF MARINA LEASE AREA AT 58 FORE STREET, PORTLAND, MAINE MADE FOR PF MARINA LLC BY OWEN HASKELL, INC. DATED MAY 17, 2018 AS REVISED ON JANUARY 22, 2019.

4. "ALTA/ACSM LAND TITLE SURVEY, 58 FORE STREET, PORTLAND, MAINE MADE FOR PF ONE DEVCO LLC AND PF LAND LLC" BY OWEN HASKELL, INC. DATED MARCH 4, 2020 LAST REVISED NOVEMBER 5, 2020.

5. "SUBDIVISION PLAT, PORTLAND FORESIDE, THAMES STREET & FORE STREET, PORTLAND, MAINE MADE FOR OWNER OF RECORD, CPB2 I LLC," BY OWEN HASKELL INC. DATED FEBRUARY 13, 2020 AND RECORDED AT CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 220, PAGE 65.

6. "AMENDED SUBDIVISION PLAT, PORTLAND FORESIDE, THAMES STREET AND FORE STREET, PORTLAND MAINE, MADE FOR OWNER OF RECORD, PF ONE DEVCO LLC AND PF LAND LLC" BY OWEN HASKELL, INC. DATED NOVEMBER 20, 2020 AND RECORDED AT CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 220, PAGE 446.

7. "ALTA/NSPS LAND TITLE SURVEY, 1 MARINA WAY, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR PF MARINA, LLC" JANUARY 26, 2021 REVISED MARCH 18, 2021 BY OWEN HASKELL, INC.

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.

General Notes

1. OWNER OF RECORD: 21 EASTERN PROM LLC
   254 COMMERCIAL STREET, PORTLAND, MAINE
   CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 39047 PAGE 291

2. LOCUS IS SHOWN AS LOTS 3, 4 & 10 BLOCK A ON CITY OF PORTLAND'S ASSESSORS MAP 2.

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83.
   CITY POINTS: T–113–80–206 N:302687.77 E:2932345.31
   T–113–12–111 N:302722.13 E:2933029.45

4. THERE ARE 20 REGULAR PARKING SPACES ON SITE.

5. UTILITIES SHOWN ARE OBSERVED EVIDENCE ONLY.

6. ELEVATIONS ARE BASED ON CITY DATUM. BENCHMARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) – TIDAL BENCHMARK. BENCH MARK STAMPING: NO. 3 1971 ELEVATION 11.02. ALSO TBM 11, BOLT ON U.S.S. PORTLAND MEMORIAL – FORT ALLEN PARK TOPOGRAPHIC SURVEY BY CITY OF PORTLAND, ELEVATION 73.22. PER THE CITY OF PORTLAND THE CITY DATUM IS EQUAL TO +0.02 FEET ABOVE NGVD 29.

Topographic Survey

At

13-23 Eastern Promenade, Portland, Maine

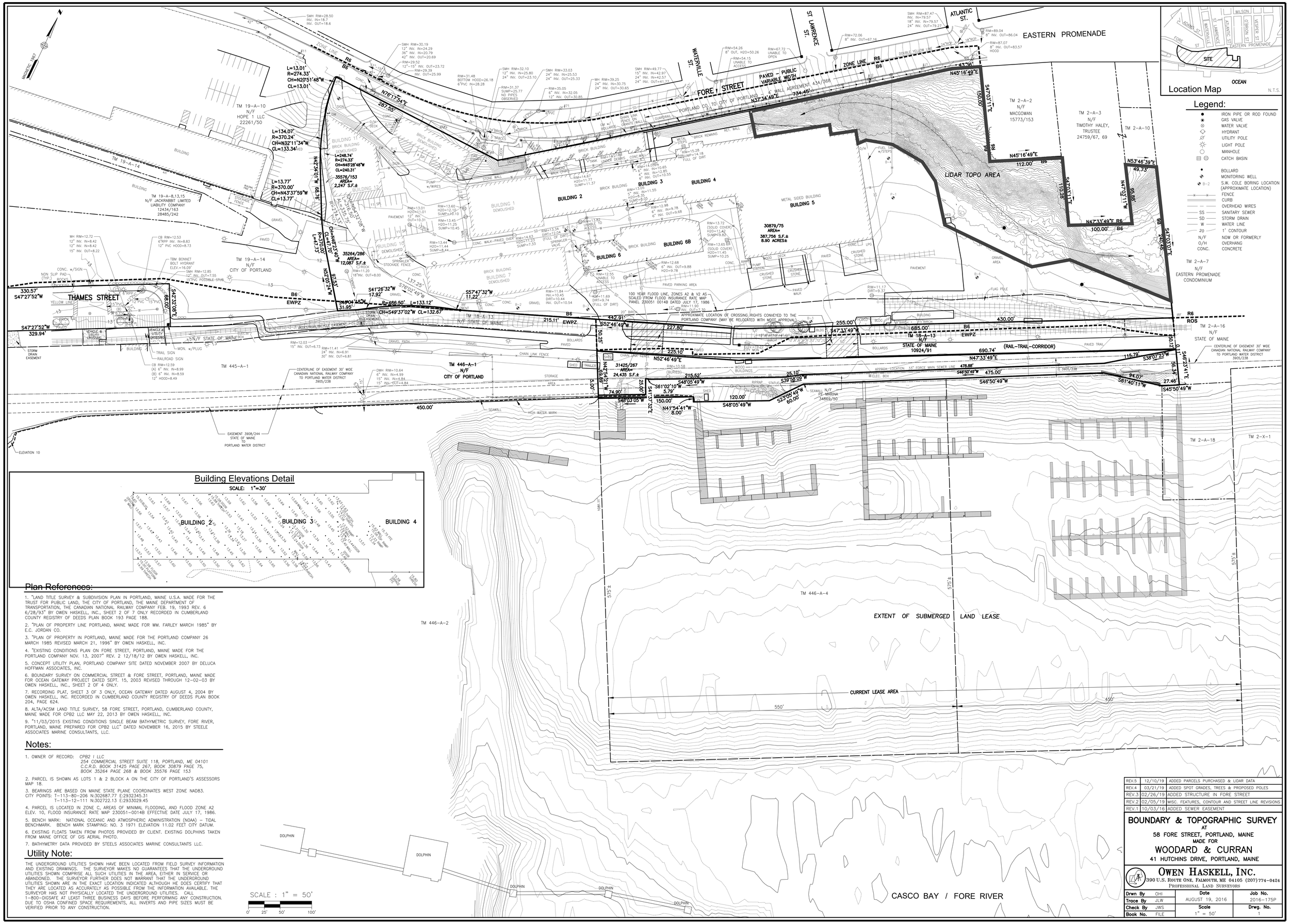
Made for

PF Six Devco LLC

254 Commercial Street, Suite 18, Portland, Maine

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: RS / JLW	DATE: JUNE 27, 2022	JOB NO. 2022-042 P	
CHECKED BY: RRL	SCALE: 1" = 20'	DRWG. NO. 1-T	



Building Elevations Detail

SCALE: 1"=30'

Plan References:

1. "LAND TITLE SURVEY & SUBDIVISION PLAN IN PORTLAND, MAINE U.S.A. MADE FOR THE TRUST FOR PUBLIC LAND, THE CITY OF PORTLAND, THE MAINE DEPARTMENT OF TRANSPORTATION, THE CANADIAN NATIONAL RAILWAY COMPANY FEB. 19, 1993 REV. 6 6/28/93" BY OWEN HASKELL, INC., SHEET 2 OF 7 ONLY RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 193 PAGE 188.
2. "PLAN OF PROPERTY LINE PORTLAND, MAINE MADE FOR WM. FARLEY MARCH 1985" BY E.C. JORDAN CO.
3. "PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR THE PORTLAND COMPANY 26 MARCH 1985 REVISED MARCH 21, 1996" BY OWEN HASKELL, INC.
4. "EXISTING CONDITIONS PLAN ON FORE STREET, PORTLAND, MAINE MADE FOR THE PORTLAND COMPANY NOV. 13, 2007" REV. 2 12/18/12 BY OWEN HASKELL, INC.
5. CONCEPT UTILITY PLAN, PORTLAND COMPANY SITE DATED NOVEMBER 2007 BY DELUCA HOFFMAN ASSOCIATES, INC.
6. BOUNDARY SURVEY ON COMMERCIAL STREET & FORE STREET, PORTLAND, MAINE MADE FOR OCEAN GATEWAY PROJECT DATED SEPT. 15, 2003 REVISED THROUGH 12-02-03 BY OWEN HASKELL, INC., SHEET 2 OF 4 ONLY.
7. RECORDING PLAT, SHEET 3 OF 3 ONLY, OCEAN GATEWAY DATED AUGUST 4, 2004 BY OWEN HASKELL, INC. RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 204, PAGE 624.
8. ALTA/ACSM LAND TITLE SURVEY, 58 FORE STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR CPB2 LLC MAY 22, 2013 BY OWEN HASKELL, INC.
9. "11/03/2015 EXISTING CONDITIONS SINGLE BEAM BATHYMETRIC SURVEY, FORE RIVER, PORTLAND, MAINE PREPARED FOR CPB2 LLC" DATED NOVEMBER 16, 2015 BY STEELE ASSOCIATES MARINE CONSULTANTS, LLC.

Notes:

1. OWNER OF RECORD: *CPB2 I LLC*
   254 COMMERCIAL STREET SUITE 118, PORTLAND, ME 04101
   C.C.R.D. BOOK 31425 PAGE 267, BOOK 30879 PAGE 75,
   BOOK 35264 PAGE 268 & BOOK 35576 PAGE 153
2. PARCEL IS SHOWN AS LOTS 1 & 2 BLOCK A ON THE CITY OF PORTLAND'S ASSESSORS MAP 18.
3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83. CITY POINTS: T-113-80-206 N:302687.77 E:2932345.31
   T-113-12-111 N:302722.13 E:2933029.45
4. PARCEL IS LOCATED IN ZONE C, AREAS OF MINIMAL FLOODING, AND FLOOD ZONE A2 ELEV. 10, FLOOD INSURANCE RATE MAP 230051-0014B EFFECTIVE DATE JULY 17, 1986.
5. BENCH MARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) – TIDAL BENCHMARK. BENCH MARK STAMPING: NO. 3 1971 ELEVATION 11.02 FEET CITY DATUM.
6. EXISTING FLOATS TAKEN FROM PHOTOS PROVIDED BY CLIENT. EXISTING DOLPHINS TAKEN FROM MAINE OFFICE OF GIS AERIAL PHOTO.
7. BATHYMETRY DATA PROVIDED BY STEELS ASSOCIATES MARINE CONSULTANTS LLC.

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 THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-800-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.

REV.5	12/10/19	ADDED PARCELS PURCHASED & LIDAR DATA
REV.4	03/21/19	ADDED SPOT GRADES, TREES & PROPOSED POLES
REV.3	02/26/19	ADDED STRUCTURE IN FORE STREET
REV.2	02/05/19	MISC. FEATURES, CONTOUR AND STREET LINE REVISIONS
REV.1	10/03/16	ADDED SEWER EASEMENT

BOUNDARY & TOPOGRAPHIC SURVEY

AT

58 FORE STREET, PORTLAND, MAINE

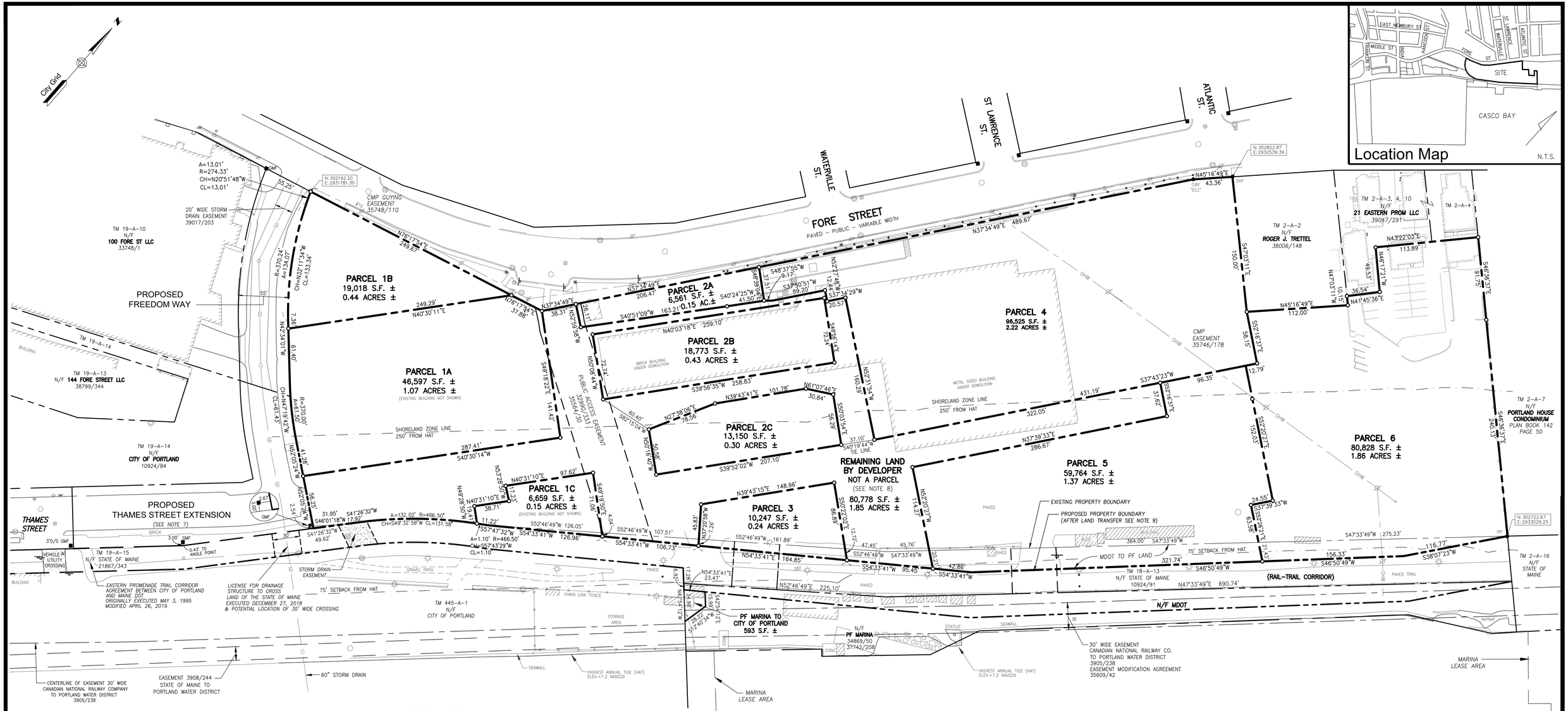
MADE FOR

WOODARD & CURRAN

41 HUTCHINS DRIVE, PORTLAND, MAINE

OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424
PROFESSIONAL LAND SURVEYORS

Drwn By	OHI	Date	Job No.
Trace By	JLW	AUGUST 19, 2016	2016-175P
Check By	JWS	Scale	Drwg. No.
Book No.	FILE	1" = 50'	1



GENERAL NOTES:

1. OWNER OF RECORD: PF LAND LLC
254 COMMERCIAL STREET SUITE 118, PORTLAND, ME 04101
C.C.R.D. BOOK 37397 PAGE 78
PF ONE DEVCO LLC
254 COMMERCIAL STREET SUITE 118, PORTLAND, ME 04101
C.C.R.D. BOOK 37397 PAGE 73

NOTE: SINCE THE DATE OF THE ORIGINAL SUBDIVISION PLAN THE LAND HAS BEEN CONVEYED TO THE ABOVE REFERENCED OWNERS OF RECORD.

2. PARCEL IS SHOWN AS 18-A001, 19-A003 & P/O 19-A010 ON THE CITY OF PORTLAND'S TAX ASSESSORS MAPS.

3. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES WEST ZONE NAD83. CITY POINTS: T-113-80-206 N:302687.77 E:2932345.31
T-113-12-111 N:302722.13 E:2933029.45

4. PARCEL IS LOCATED IN ZONE C, AREAS OF MINIMAL FLOODING, AND FLOOD ZONE A2 ELEV. 10, FLOOD INSURANCE RATE MAP 230051-0014B EFFECTIVE DATE JULY 17, 1986.

5. BENCH MARK: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) - TIDAL BENCHMARK. BENCH MARK STAMPING NO. 3 1971 ELEVATION 11.02 FEET CITY DATUM.

6. PARCEL IS LOCATED IN THE B6 URBAN COMMERCIAL BUSINESS ZONE AND PARTIALLY IN THE EWPZ WATERFRONT ZONE AS SHOWN ON THE CITY OF PORTLAND ZONING MAP.

7. THAMES STREET IS NOT PART OF THIS SUBDIVISION. THAMES STREET EXTENSION IS NOT AN ACCEPTED CITY STREET AS OF THE DATE OF THIS PLAN. REFERENCE IS MADE TO AN ACCESS LICENSE FROM THE CITY OF PORTLAND TO PF ONE DEVCO LLC, PF LAND LLC & PF MARINA LLC RECORDED IN DEED BOOK 37398, PAGE 112.

8. THE "REMAINING LAND BY DEVELOPER" SHALL REMAIN PRIVATE PROPERTY AND SHALL BE UTILIZED TO PROVIDE ACCESS AND UTILITIES TO THE PARCELS SHOWN.

9. THE PROPOSED PROPERTY BOUNDARY IS THE SUBJECT OF THE EXCHANGE AGREEMENT DATED AS OF JUNE 21, 2017 BETWEEN THE CITY OF PORTLAND, PF LAND LLC, PF DEVCO LLC, PF MARINA AND THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION, A COPY OF WHICH IS ON RECORD WITH THE CITY OF PORTLAND. UNTIL THE EXCHANGE IS COMPLETED, THE SOUTHERN BOUNDARY OF PARCELS 1C, 3 AND 5 AND THE SOUTHERN BOUNDARY OF THE AREA "REMAINING LAND BY DEVELOPER" IS THE EXISTING PROPERTY BOUNDARY. AFTER THE EXCHANGE IS COMPLETED, THE SOUTHERN BOUNDARY OF PARCELS 1C, 3 AND 5 AND THE SOUTHERN BOUNDARY OF THE AREA "REMAINING LAND BY DEVELOPER" WILL BE THE PROPOSED PROPERTY BOUNDARY.

LEGEND:

- CAPPED IRON ROD OR NAIL TO BE SET
- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- ELECTRIC/GAS METER
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- GAS VALVE
- LIGHT POLE
- FENCE
- CURB
- GUARDRAIL
- IPF/IRF IRON PIPE OR ROD FOUND
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE

SCALE : 1" = 50'
0' 25' 50' 100'

APPROVED BY THE
CITY OF PORTLAND PLANNING BOARD

DATE

PLAN REFERENCES:

1. LAND TITLE SURVEY & SUBDIVISION PLAN IN PORTLAND, MAINE U.S.A. MADE FOR THE TRUST FOR PUBLIC LAND, THE CITY OF PORTLAND, THE MAINE DEPARTMENT OF TRANSPORTATION, THE CANADIAN NATIONAL RAILWAY COMPANY DATED FEB. 19, 1993, REV. 9 11/04/96 BY OWEN HASKELL, INC. AND RECORDED IN PLAN BOOK 193, PAGE 187.

2. RECORDING PLAT OCEAN GATEWAY MADE FOR THE CITY OF PORTLAND AND STATE OF MAINE, BY OWEN HASKELL, INC, DATED AUGUST 4, 2004, RECORDED IN PLAN BOOK 204, PAGE 622-624

3. BOUNDARY & TOPOGRAPHY SURVEY AT 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN BY OWEN HASKELL, INC. AUGUST 29, 2016, REVISED THROUGH FEB. 2019.

4. EXHIBIT PLAN PARCELS TO BE CONVEYED 58 FORE STREET, PORTLAND, MAINE MADE FOR WOODARD & CURRAN BY OWEN HASKELL, INC. DATED MARCH 21, 2018.

5. TOPOGRAPHIC SURVEY 100 FORE STREET MADE FOR JONATHAN COHEN BY OWEN HASKELL, INC DATED DECEMBER 4, 2017 REVISED THROUGH 12/17/18.

6. ALTA/NSPS LAND TITLE SURVEY, 13-23 EASTERN PROMENADE, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR PF SIX DEVCO LLC DATED MAY 19, 2022 REVISED JUNE 27, 2022 BY OWEN HASKELL, INC.

DRAFT

CERTIFICATE:

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

4/14/2023
DATE

RANDY R. LOUBIER, PLS #2407

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

THIS PLAN AMENDS THE
"SUBDIVISION PLAT"
RECORDED IN
C.C.R.D. PLAN BOOK 220, PAGE 446

REVISED LOCATION OF THE PROPOSED PROPERTY BOUNDARY AFTER LAND TRANSFER; ADDED PF MARINA PARCEL TO CITY OF PORTLAND OF 593 S.F.; REVISED LOTS 4 & 5; ADDED LOT 6.

Second Amended Subdivision Plat
Portland Foreside
Thames Street & Fore Street
Portland, Maine
Made for Owner of Record
PF One Devco LLC & PF Land LLC
254 Commercial St. Suite 118, Portland, ME 04101

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105 207.774.0424

DRAWN BY: RRL / JLW	DATE: APRIL 11, 2023	JOB NO. 2019-013 P
CHECKED BY: RRL	SCALE: 1" = 50'	DRWG. NO. SP-B

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

JUNE 2023

NOT FOR CONSTRUCTION



PROJECT LOCATION MAP

DRAWING INDEX

SHEET NO.	SHEET TITLE	SHEET NAME
-	G-000	COVER
1	G-001	GENERAL NOTES, LEGEND & ABBREVIATIONS
2	C-001	EXISTING CONDITIONS
3	C-002	DEMOLITION PLAN
4	C-100	SITE PLAN - 1
5	C-101	SITE PLAN - 2
6	C-102	GRADING & DRAINAGE PLAN - 1
7	C-103	GRADING & DRAINAGE PLAN - 2
8	C-104	UTILITY PLAN - 1
9	C-105	UTILITY PLAN - 2
10	C-106	ROAD PROFILE
11	C-107	PIPE & STRUCTURE TABLES
12	C-200	CIVIL DETAILS - 1
13	C-201	CIVIL DETAILS - 2
14	C-202	CIVIL DETAILS - 3
15	C-203	CIVIL DETAILS - 4
16	C-204	CIVIL DETAILS - 5
17	C-205	CIVIL DETAILS - 6
18	C-206	CIVIL DETAILS - 7
19	C-207	FORE STREET DETAILS



SITE LOCATION MAP

SOURCE: USGS TOPO QUADRANGLE

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

Lauren J. Swett

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 COVER.dwg

DRAWING TITLE:

CIVIL COVER

DRAWING NO:

G-000

SHEET: ---- OF 19

C:\Users\lswett\OneDrive - Woodard & Curran_PC\Desktop\PFDC\Phase 2 - 30\Phase 2 Cover.dwg, Aug 07, 2023 - 3:39pm BMCDEVITT

30x42
PLOT SCALE: 100 = 1'-0"

CIVIL GENERAL NOTES

1. SITE AND TOPOGRAPHIC DATA COMPILED FROM MULTIPLE PLANS PREPARED BY OWEN HASKELL, INC. DATED 6/27/2022. SITE DATA SUPPLEMENTED BY PHASE 1 DESIGN PLANS AND RECORD DRAWINGS.
2. VERTICAL DATUM IS REFERENCED TO CITY DATUM WITH ONE FOOT CONTOUR INTERVALS. CITY DATUM IS +0.02 FT NGVD 1929. HORIZONTAL DATUM IS REFERENCED TO STATE PLANE NAD 1983 (FEET), MAINE WEST ZONE.
3. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATION TO OR DEVIATION FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION: TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF WOODED OR LAWN AREAS, ACCESS, SIZE, LOCATION, AND SURFACING OF PARKING AREAS, AND LOCATION AND SIZE OF BUILDINGS.
4. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO EXCAVATION IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL SAFETY CODES.
5. PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY A LICENSED LAND SURVEYOR ACCEPTABLE TO THE CITY. PROPERTY MONUMENTS SHALL BE RESET IN ACCORDANCE WITH CITY OF PORTLAND STANDARDS.
6. DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT CITY OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN ADVANCE IN WRITING BY CITY AND/OR LAND OWNER.
7. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT SITE WITH THE CONTRACTOR, ENGINEER, CITY OF PORTLAND DEVELOPMENT REVIEW COORDINATOR, CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS REPRESENTATIVE, AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. AT THAT TIME, THE SITE/BUILDING CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A DETAILED CONSTRUCTION SCHEDULE TO THE ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE SITE DRAWINGS, INCLUDING BUT NOT LIMITED TO ALL UTILITIES, STORM INFRASTRUCTURE, SIGNS, UTILITY POLES, FENCES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITY'S SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COSTS SHALL BE INCURRED BY THE CONTRACTOR.
9. LAND OUTSIDE THE PROPOSED LIMIT OF WORK SHALL NOT BE DISTURBED BY THE CONTRACTOR. ANY LAND OUTSIDE LIMIT OF WORK DISTURBED BY CONTRACTOR SHALL BE RESTORED BY CONTRACTOR AT NO EXPENSE TO OWNER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY FOR THE WORK.
11. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL SAFETY CODES, REGULATIONS, LEGAL REQUIREMENTS, PERMIT CONDITIONS, ETC.
12. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKWAYS, STREETS, PAVEMENTS, CURBING, TREES, PLANTINGS, LAWN, FENCING TO REMAIN ON OR OFF THE PREMISES, AND SHALL REPAIR AND REPLACE AT HIS/HER OWN EXPENSE, AS DIRECTED BY THE ENGINEER, ANY ITEMS DAMAGED AS A RESULT OF THE CONTRACTOR'S WORK.
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF ALL EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.
14. SAWCUTS IN EXISTING PAVEMENT SHALL BE SMOOTH AND STRAIGHT. EXISTING PAVEMENT SHALL BE SAWCUT AND BUTTED TO THE NEW PAVEMENT. NO FEATHERING OF PAVEMENT WILL BE PERMITTED.
15. WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH APPLICABLE CITY OF PORTLAND AND STATE REQUIREMENTS.
16. ALL CURB DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND AND SHALL CONFORM TO CITY OF PORTLAND SPECIFICATIONS. COST IS INCIDENTAL TO CONTRACT.
17. ALL FULL DEPTH PAVEMENT REPLACEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL STANDARDS.
18. ALL WORK WITHIN THE RIGHT OF WAY OF CITY STREETS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY TRAFFIC ENGINEER. THE CONTRACTOR SHALL SUBMIT A PROPOSED TRAFFIC CONTROL PLAN TO THE TRAFFIC ENGINEER AT LEAST 7 DAYS BEFORE BEGINNING CONSTRUCTION IN ANY STREET. THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE SUBJECT TO APPROVAL BY THE TRAFFIC ENGINEER, WHO MAY ATTACH SPECIAL CONDITIONS TO, OR REQUIRE MODIFICATIONS OF, THE TRAFFIC CONTROL PLAN. WORK SHALL NOT BEGIN UNTIL THE PLAN IS APPROVED BY THE TRAFFIC ENGINEER.
19. THE CONTRACTOR SHALL OBTAIN A CITY STREET OPENING PERMIT BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR WILL ALSO BE REQUIRED TO HAVE A CURRENT EXCAVATOR'S LICENSE IN THE CITY.
20. ALL WORK IN THE PUBLIC R.O.W. SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY'S TECHNICAL MANUAL ARTICLES VI, VII, AND IX OF CHAPTER 25-STREETS, SIDEWALKS, AND OTHER PUBLIC PLACES OF THE CITY OF PORTLAND CODE OF ORDINANCES.
21. ALL SEWER CONSTRUCTION IN THE PUBLIC WAY SHALL BE COMPLETED IN ACCORDANCE WITH ARTICLE II OF CHAPTER 24-SEWERS OF THE CITY OF PORTLAND CODE OF ORDINANCES.
22. CONTACT CITY OF PORTLAND ARBORIST AND ENGINEER PRIOR TO CUTTING ROOTS, TRIMMING BRANCHES, OR DISTURBING TREES WITHIN THE R.O.W. THAT NOT HAVE BEEN NOTED FOR REMOVAL ON THE PLANS.
23. IF IMPORTED FILL MATERIAL IS REQUIRED, IT SHALL BE CERTIFIED IN WRITING BY CONTRACTOR AS NON-CONTAMINATED, CLEAN FILL SUITABLE FOR THE INTENDED USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING OF ENVIRONMENTAL PARAMETERS AS OUTLINED IN THE PROJECT SPECIFICATIONS.
24. RESTORE ALL AREAS DISTURBED BY CONTRACTOR'S OPERATIONS TO ORIGINAL FINISH (GRAVEL, PAVEMENT, RIPRAP, GRASS, ETC.) UNLESS OTHERWISE NOTED ON PLANS. RESTORATION OF ALL AREAS DAMAGED BY CONTRACTOR SHALL BE INCIDENTAL TO THE PROJECT.
25. ALL MATERIAL SHALL BE FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.
26. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS PRIOR TO START OF CONSTRUCTION.
27. RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
28. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
29. 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.
30. CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN ACCORDANCE WITH REQUIREMENTS OUTLINED WITHIN THE MAINE CONSTRUCTION GENERAL PERMIT. CONTRACTOR SHALL FILE A NOTICE OF TERMINATION WITH PHOTOGRAPHS AND REQUIRED ATTACHMENTS TO THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION UPON COMPLETION OF THE PROJECT. A DRAFT OF THE NOTICE WILL BE PROVIDED TO THE OWNER AND THE OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO SUBMISSION. A COPY OF THE NOTICE CAN BE OBTAINED AT WWW.MAINE.GOV/DEP/LAND/STORMWATER/CONSTRUCTION.HTML.
31. CONTRACTOR SHALL MAINTAIN EROSION CONTROL AND STORMWATER POLLUTION PREVENTION SYSTEMS IN COMPLIANCE WITH THE REQUIREMENTS OF THE MAINE CONSTRUCTION GENERAL PERMIT (MCGP). CONTRACTOR SHALL CONDUCT AND MAINTAIN RECORDS OF EROSION CONTROL INSPECTIONS PER THE NOTICE OF INTENT TO COMPLY WITH THE MAINE CONSTRUCTION GENERAL PERMIT. CONTRACTOR SHALL PREPARE AND SUBMIT A NOTICE OF TERMINATION TO THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, UPON COMPLETION OF THE CONSTRUCTION PROJECT. SUBMIT A COPY OF THE INSPECTION RECORDS AND THE NOTICE OF TERMINATION TO THE OWNER AND ARCHITECT.
32. THE UTILITY LOCATIONS SHOWN IN PLAN AND PROFILE ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR. CONTACT THE ENGINEER AND OWNER IMMEDIATELY UPON DISCOVERING ANY CONFLICTS WITH EXISTING AND PROPOSED UTILITY LOCATIONS. NOT ALL EXISTING UTILITIES ARE SHOWN ON PLANS.
33. CONTRACTOR SHALL CLEAN AND/OR FLUSH ALL MANHOLES, CATCH BASINS, AND ASSOCIATED PIPING AFTER THE WORK HAS BEEN COMPLETED.
34. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITY WITH UTILITY COMPANIES. EMERGENCY SERVICES AND CITY. NOTIFY UTILITY COMPANIES WITHIN 48 HOURS OF WORK ACTIVITY ADJACENT TO THOSE UTILITIES.
35. CONTRACTOR SHALL SEQUENCE THE WORK SO AS TO MAINTAIN UTILITY SERVICES FOR EXISTING OPERATIONS ON AND ADJACENT TO THE SITE. CONTRACTOR SHALL PROVIDE A PLAN FOR TEMPORARY UTILITY SERVICES OR AS REQUIRED. THE PLAN SHALL BE STAMPED BY A PROFESSIONAL ENGINEER AND SUBMITTED TO OWNER. ENGINEER AND UTILITY FOR ACCEPTANCE A MINIMUM OF 14 DAYS PRIOR TO START OF UTILITY WORK.
36. EXISTING FACILITIES (I.E. SIGNS, POLES, LIGHT POSTS, ETC.) SHALL BE REMOVED AND PROTECTED DURING CONSTRUCTION. OWNER RETAINS RIGHT TO KEEP ANY AND ALL REMOVED FACILITIES. CONTRACTOR SHALL DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF CITY AT CONTRACTOR'S EXPENSE.
37. ALL TREES NOT NOTED TO BE REMOVED OR RELOCATED SHALL BE PROTECTED BY CONTRACTOR DURING CONSTRUCTION.
38. A COMPLETE SET OF "RECORD" DRAWINGS THAT REFLECT ANY AND ALL MODIFICATIONS TO THE SANITARY SEWER SYSTEM, STORM SEWER SYSTEM AND ANY OTHER UTILITY INSTALLATIONS OR ALTERATIONS WITHIN THE PROJECT LIMITS SHALL BE SUBMITTED TO THE CITY OF PORTLAND. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL (ACAD) AND HARD COPY FORMAT AS DEFINED IN THE SPECIFICATIONS PRIOR TO PAYMENT OF FINAL RETAINAGE.
39. ALL UTILITY SERVICES AND MAINS ARE APPROXIMATE AS SHOWN. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING SERVICES AND MAINS AND RELOCATE AS REQUIRED TO COMPLETE WORK. CONTRACTOR SHALL COORDINATE WORK WITH THE CITY OF PORTLAND, PORTLAND WATER DISTRICT, UNITIL, CMP, AND ANY OTHER UTILITY OWNERS AND PROPERTY OWNERS.
40. WORK IS PROPOSED IN CLOSE PROXIMITY TO EXISTING UTILITIES. CONTRACTOR SHALL PROTECT EXISTING UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT PROTECTION PLAN FOR CROSSING 33" SANITARY SEWER FORCE MAIN, STAMPED BY PROFESSIONAL ENGINEER PRIOR TO START OF WORK.
41. CAPPED PIPE STUB LOCATIONS SHALL BE MARKED WITH EMBEDDED STAKE AND A MINIMUM OF THREE TIES SHALL BE RECORDED. EMBEDDED STAKE SHALL BE 2X4 WITH PK NAIL DRIVEN IN TOP. LENGTH AS REQUIRED TO SPAN FROM TOP OF PIPE TO 6" BELOW GRADE. LOCATION AND ELEVATION OF PIPE STUB SHALL BE PROVIDED. WARNING TAPE AND WIRE SHALL BE INSTALLED OVER PIPE STUBS IN ACCORDANCE WITH SPECIFICATIONS.
42. ALL SIGNAGE SHALL CONFORM WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
43. ACTIVITIES THAT HAVE THE POTENTIAL TO DISTURB SOIL SUCH AS UTILITY AND SUBSURFACE STRUCTURE INSTALLATION/RELOCATION WORK, FOUNDATION INSTALLATION, GRADING, PAVING, AND LANDSCAPING SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROJECT SOIL MANAGEMENT PLAN. APPLICABLE SOIL MANAGEMENT PROCEDURES INCLUDE SITE CONTROLS AND CONSTRUCTION MEASURES TO REDUCE EXPOSURE TO SOIL DURING CONSTRUCTION, AS WELL AS TO FACILITATE THE PROPER HANDLING, STORAGE, CHARACTERIZATION, TRANSPORT, ONSITE REUSE, AND/OR OFFSITE REUSE, OR DISPOSAL, OF EXCESS SOIL THAT MAY BE GENERATED DURING CONSTRUCTION.
44. SOIL SAMPLING AND ANALYSIS FOR THE PROPOSED LIMIT OF WORK WAS COMPLETED IN JULY 2022. THESE PLANS SHOW LOCATIONS OF SOIL SAMPLING WITHIN THE PROJECT AREA. SOIL DATA AND THE ASSOCIATED SOIL MANAGEMENT PLAN WILL BE PROVIDED WHEN THE ANALYSIS IS COMPLETED.

CIVIL LEGEND

EXISTING		PROPOSED
	CONTOUR (1' INTERVAL)	
	CONTOUR (INDEX)	
S	SANITARY SEWER	S
FM	FORCEMAIN	FM
SD	STORM DRAIN	SD
UD	UNDERDRAIN	UD
W	WATER LINE	W
E	UNDERGROUND ELECTRIC	E
COMM	UNDERGROUND TELECOMMUNICATIONS	COMM
G	GAS LINE	G
OE	OVERHEAD ELECTRIC	
AS	ABANDONED SEWER	
AW	ABANDONED WATER LINE	
	PROPERTY LINE	
	RIGHT OF WAY	
	EASEMENT	
	EDGE OF VEGETATION	
X X	FENCE	
	CENTERLINE	
	RETAINING WALL	
	STONEWALL	
	CURB	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL	
	GUARDRAIL	
	RAILROAD TRACKS	
	DRAINAGE DITCH / SWALE	
	SEDIMENT BARRIER	
LW	LIMIT OF WORK	LW
	PAVER AREA	
	BRICK SIDEWALK	
	BITUMINOUS PAVEMENT	

CIVIL LEGEND

EXISTING		PROPOSED
S	SANITARY SEWER MANHOLE	
CO	CLEAN OUT	CO
D	DRAINAGE MANHOLE	
	FIELD INLET CATCH BASIN	
E	ELECTRICAL MANHOLE	EMH
T	TELECOMMUNICATIONS MANHOLE	CMH
TELE BOX	TELEPHONE STAND BOX	
G	GAS METER BOX	G
	GAS VENT	
	GAS GATE	
	TRANSFORMER	TRANS.
	UTILITY POLE	
	UTILITY POLE WITH GUY	
	LIGHTPOST	
	WATER GATE	
	CURB STOP	
	REDUCER	
	COUPLING	
	WATER SHUT OFF VALVE	
	HYDRANT	
W	WATER METER BOX	W
	THRUST BLOCK	
	PROPERTY MONUMENT	
MB	MAIL BOX	
	STREET AND MISCELLANEOUS SIGNS	
FP	FLAGPOLE	
XXX.XX	SPOT ELEVATION	XXX.XX
	TREE/SHRUB	
TP-#	TEST PIT	
WC-XX	SOIL SAMPLE LOCATION	

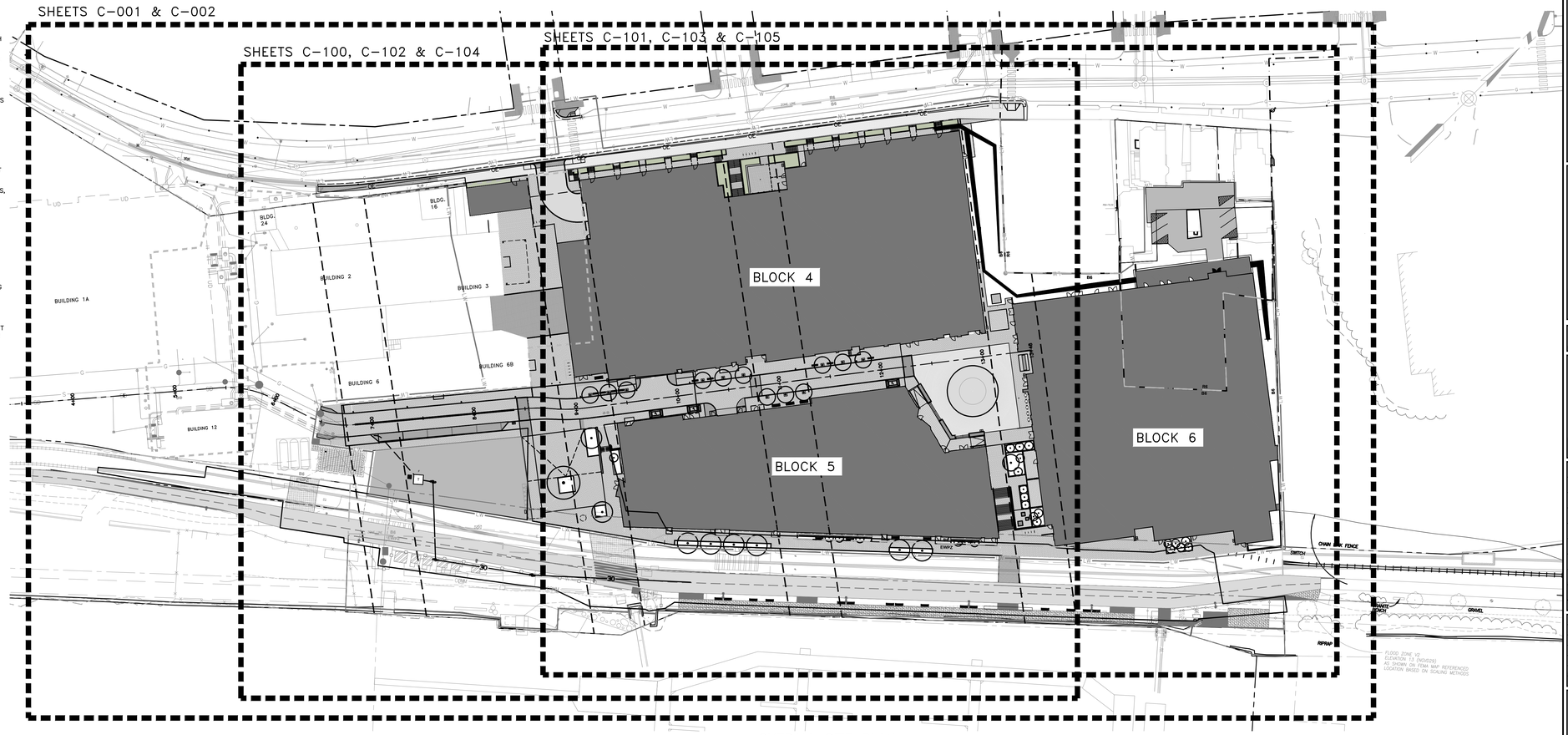
CIVIL ABBREVIATIONS

&	AND	N.I.C.	NOT IN CONTRACT
A.G.	ABOVE GROUND	NO.	NUMBER
		NR	NO REFUSAL
BC	BOTTOM OF CURB	N.T.S.	NOT TO SCALE
BIT	BITUMINOUS		
BW	BOTTOM OF WALL	OE	OVERHEAD ELECTRIC
B/W	BETWEEN	OH	OVERHEAD
CB	CATCH BASIN	±	PLUS OR MINUS
CI	CAST IRON	LLS	LICENSED LAND SURVEYOR
CMP	CENTRAL MAINE POWER	PROP.	PROPOSED
CMP	CORRUGATED METAL PIPE	PT.	POINT
CONC	CONCRETE	PVC	POLYVINYL CHLORIDE
DI	DUCTILE IRON	R.O.W.	RIGHT-OF-WAY
DIA.	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DMH	DRAIN MANHOLE	REINF.	REINFORCED
DTL.	DETAIL	REQ'D	REQUIRED
E	UNDERGROUND ELECTRICAL	S	SLOPE (FT./FT.)
EL.	ELEVATION	S	SEWER
E.O.P.	EDGE OF PAVEMENT	SD	STORM DRAIN
EXIST.	EXISTING	SMH	SEWER MANHOLE
		SCH	SCHEDULE
FF	FINISH FLOOR	STA.	STATION
FM	FORCEMAIN		
FT	FOOT/FEET	TS	TOP OF STAIRS
		TW	TOP OF WALL
G	GAS MAIN	TYP.	TYPICAL
GS	GAS SERVICE		
GALV.	GALVANIZED	UP	UTILITY POLE
GRAN.	GRANITE		
HDPE	HIGH DENSITY POLYETHYLENE	VC	VITRIFIED CLAY
HYD	HYDRANT	VIT.	VITRIFIED CLAY
INV.	INVERT	W	WEST
		W	WATER
LF	LINEAR FEET	W/	WITH
		W	WATERMAIN
MAX.	MAXIMUM	WS	WATER SERVICE
MDOT	MAINE DEPARTMENT OF TRANSPORTATION	WV	WATER VALVE
MIN.	MINIMUM		
MON	MONUMENT		

SHEETS C-001 & C-002

SHEETS C-100, C-102 & C-104

SHEETS C-101, C-103 & C-105



OVERALL SITE PLAN
SCALE: 1"=50'

50' 0 50' 100'
BAR SCALE
1" = 50'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

Lauren J. Swett

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

#	#	#

REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:

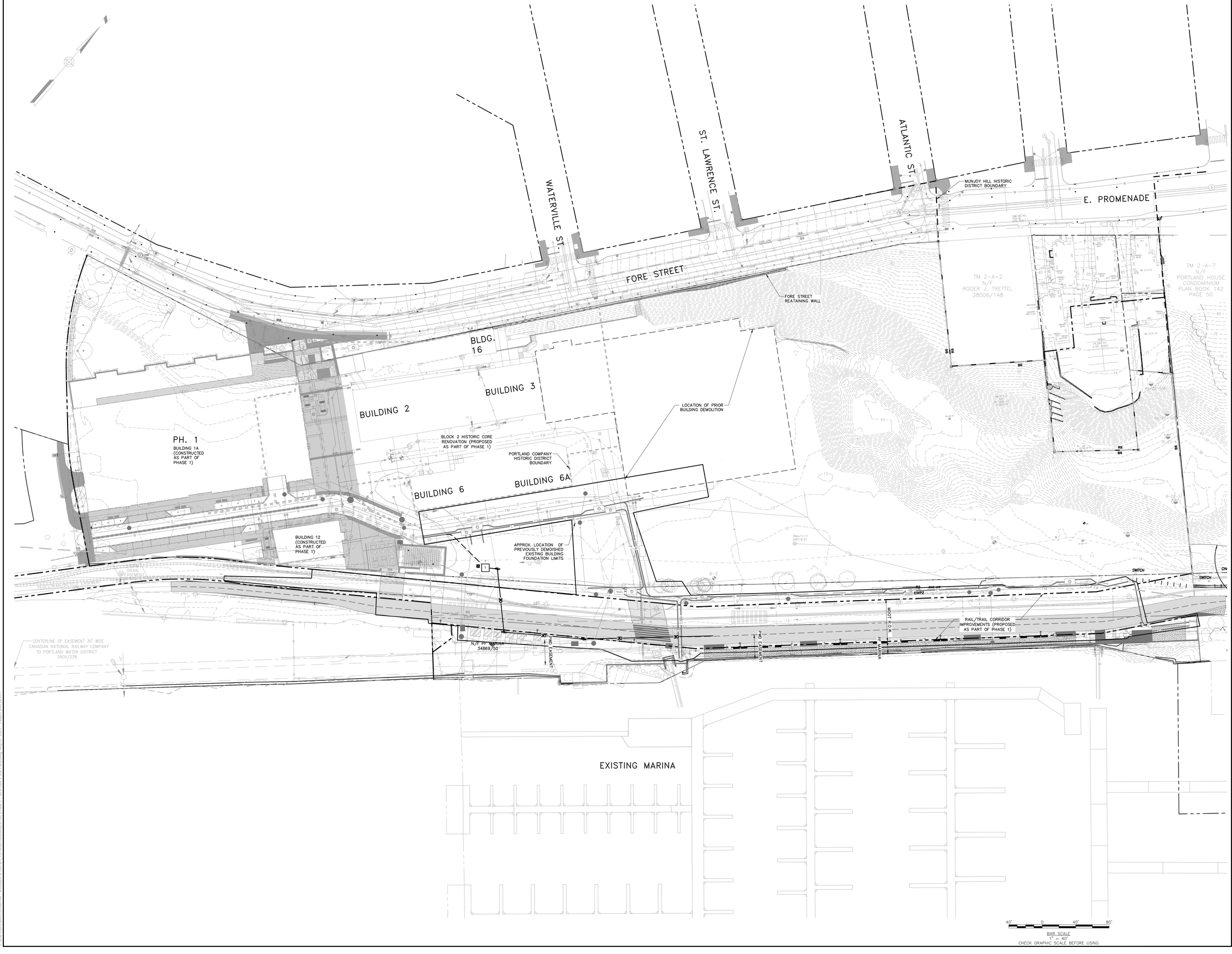
CIVIL
GENERAL NOTES, LEGEND & ABBREVIATIONS

DRAWING NO:

G-001

SHEET: 1 OF 19

30x42
PLOT SCALE: 100 = 1'-0"



Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:

CIVIL
EXISTING CONDITIONS

DRAWING NO:

C-001

SHEET: 2 OF 19

C:\Users\bmcmahon\Woodard & Curran\PCW Users\Documents\PCW Drives\2 - 227xxx\227007\Phase 2 - 227007\Civil\Plan Sheets\Phase 2 SITE PLANS.dwg Aug 07, 2023 - 9:45am BMCMAHON

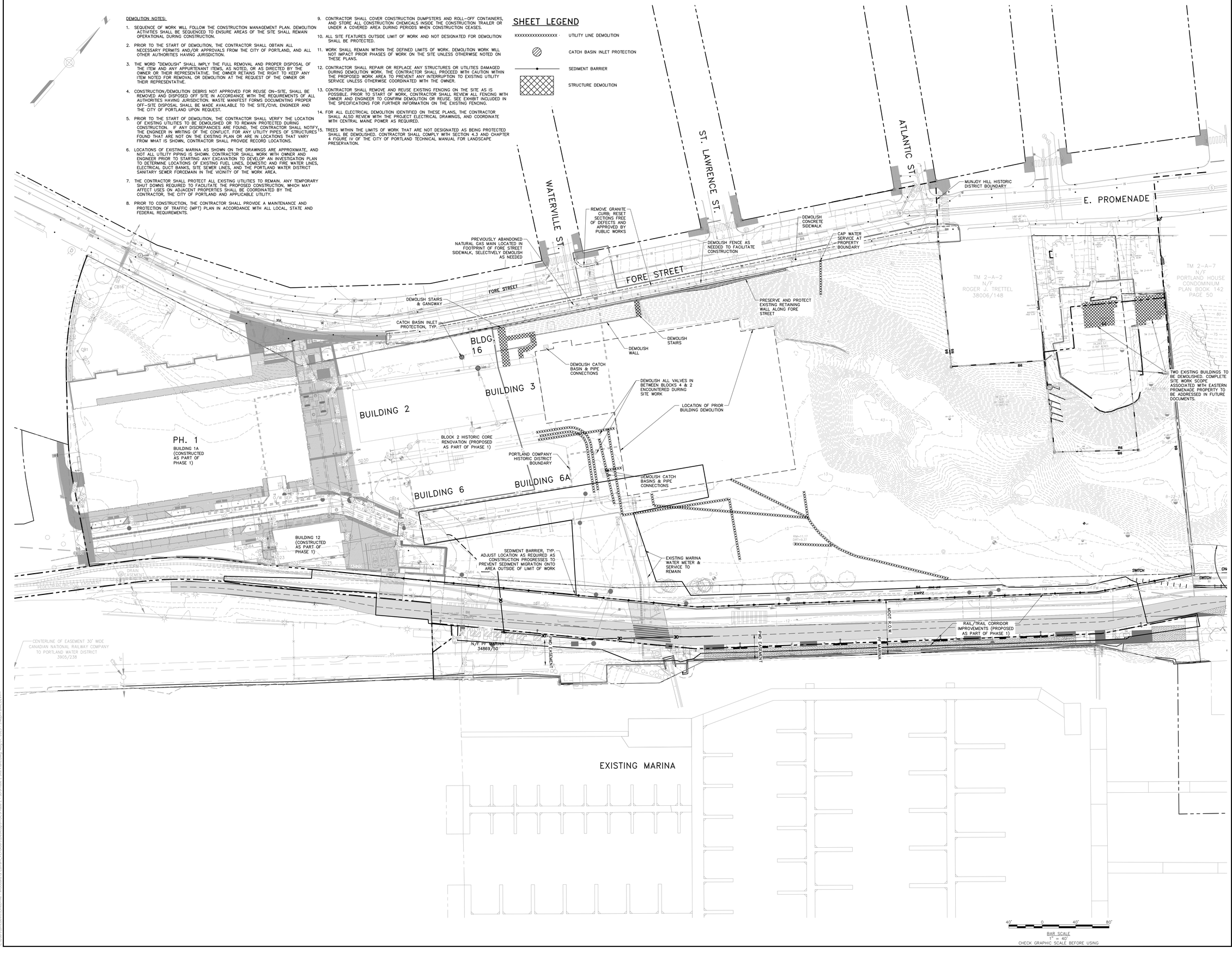
30x42
PLOT SCALE: 100 = 1'-0"

DEMOLITION NOTES:

1. SEQUENCE OF WORK WILL FOLLOW THE CONSTRUCTION MANAGEMENT PLAN. DEMOLITION ACTIVITIES SHALL BE SEQUENCED TO ENSURE AREAS OF THE SITE SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.
2. PRIOR TO THE START OF DEMOLITION, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND/OR APPROVALS FROM THE CITY OF PORTLAND, AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
3. THE WORD "DEMOLISH" SHALL IMPLY THE FULL REMOVAL AND PROPER DISPOSAL OF THE ITEM AND ANY APPURTENANT ITEMS, AS NOTED, OR AS DIRECTED BY THE OWNER OR THEIR REPRESENTATIVE. THE OWNER RETAINS THE RIGHT TO KEEP ANY ITEM NOTED FOR REMOVAL OR DEMOLITION AT THE REQUEST OF THE OWNER OR THEIR REPRESENTATIVE.
4. CONSTRUCTION/DEMOLITION DEBRIS NOT APPROVED FOR REUSE ON-SITE, SHALL BE REMOVED AND DISPOSED OFF SITE IN ACCORDANCE WITH THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION. WASTE MANIFEST FORMS DOCUMENTING PROPER OFF-SITE DISPOSAL SHALL BE MADE AVAILABLE TO THE SITE/CIVIL ENGINEER AND THE CITY OF PORTLAND UPON REQUEST.
5. PRIOR TO THE START OF DEMOLITION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES TO BE DEMOLISHED OR TO REMAIN PROTECTED DURING CONSTRUCTION. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY, THE ENGINEER IN WRITING OF THE CONFLICT. FOR ANY UTILITY PIPES OF STRUCTURES FOUND THAT ARE NOT ON THE EXISTING PLAN OR ARE IN LOCATIONS THAT VARY FROM WHAT IS SHOWN, CONTRACTOR SHALL PROVIDE RECORD LOCATIONS.
6. LOCATIONS OF EXISTING MARINA AS SHOWN ON THE DRAWINGS ARE APPROXIMATE, AND NOT ALL UTILITY PIPING IS SHOWN. CONTRACTOR SHALL WORK WITH OWNER AND ENGINEER PRIOR TO STARTING ANY EXCAVATION TO DEVELOP AN INVESTIGATION PLAN TO DETERMINE LOCATIONS OF EXISTING FUEL LINES, DOMESTIC AND FIRE WATER LINES, ELECTRICAL DUCT BANKS, SITE SEWER LINES, AND THE PORTLAND WATER DISTRICT SANITARY SEWER FORCEMAIN IN THE VICINITY OF THE WORK AREA.
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN. ANY TEMPORARY SHUT DOWNS REQUIRED TO FACILITATE THE PROPOSED CONSTRUCTION, WHICH MAY AFFECT USES ON ADJACENT PROPERTIES SHALL BE COORDINATED BY THE CONTRACTOR, THE CITY OF PORTLAND AND APPLICABLE UTILITY.
8. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) PLAN IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
9. CONTRACTOR SHALL COVER CONSTRUCTION DUMPSTERS AND ROLL-OFF CONTAINERS, AND STORE ALL CONSTRUCTION CHEMICALS INSIDE THE CONSTRUCTION TRAILER OR UNDER A COVERED AREA DURING PERIODS WHEN CONSTRUCTION CEASES.
10. ALL SITE FEATURES OUTSIDE LIMIT OF WORK AND NOT DESIGNATED FOR DEMOLITION SHALL BE PROTECTED.
11. WORK SHALL REMAIN WITHIN THE DEFINED LIMITS OF WORK. DEMOLITION WORK WILL NOT IMPACT PRIOR PHASES OF WORK ON THE SITE UNLESS OTHERWISE NOTED ON THESE PLANS.
12. CONTRACTOR SHALL REPAIR OR REPLACE ANY STRUCTURES OR UTILITIES DAMAGED DURING DEMOLITION WORK. THE CONTRACTOR SHALL PROCEED WITH CAUTION WITHIN THE PROPOSED WORK AREA TO PREVENT ANY INTERRUPTION TO EXISTING UTILITY SERVICE UNLESS OTHERWISE COORDINATED WITH THE OWNER.
13. CONTRACTOR SHALL REMOVE AND REUSE EXISTING FENCING ON THE SITE AS IS POSSIBLE. PRIOR TO START OF WORK, CONTRACTOR SHALL REVIEW ALL FENCING WITH OWNER AND ENGINEER TO CONFIRM DEMOLITION OR REUSE. SEE EXHIBIT INCLUDED IN THE SPECIFICATIONS FOR FURTHER INFORMATION ON THE EXISTING FENCING.
14. FOR ALL ELECTRICAL DEMOLITION IDENTIFIED ON THESE PLANS, THE CONTRACTOR SHALL ALSO REVIEW WITH THE PROJECT ELECTRICAL DRAWINGS, AND COORDINATE WITH CENTRAL MAINE POWER AS REQUIRED.
15. TREES WITHIN THE LIMITS OF WORK THAT ARE NOT DESIGNATED AS BEING PROTECTED SHALL BE DEMOLISHED. CONTRACTOR SHALL COMPLY WITH SECTION 4.3 AND CHAPTER 4 FIGURE IV OF THE CITY OF PORTLAND TECHNICAL MANUAL FOR LANDSCAPE PRESERVATION.

SHEET LEGEND

- XXXXXXXXXXXXXXXXX · UTILITY LINE DEMOLITION
- CATCH BASIN INLET PROTECTION
- SEDIMENT BARRIER
- STRUCTURE DEMOLITION



Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:

CIVIL
DEMOLITION PLAN

DRAWING NO:

C-002

SHEET: 3 OF 19

C:\Users\bcmartin\OneDrive - Woodard & Curran\PCWorkers\Documents\PDCDrives\2 - 227007\Civil\Phase 2\Site Plans\Phase 2 SITE PLANS.dwg, Aug 07, 2023 - 8:45am, BMARTIN

30x42
PLOT SCALE: 100 = 1'-0"

NOTES:
1. SEE LANDSCAPE PLANS FOR SITE SURFACE MATERIAL ASSOCIATED WITH LANDSCAPED AREAS, PATIOS, AND NON-BITUMINOUS WALKWAYS & ROADWAYS, PLANTING PLANS AND SITE FURNISHINGS.

2. UTILITY & DRAINAGE STRUCTURES NOT SHOWN FOR CLARITY, SEE GRADING & DRAINAGE & UTILITY PLAN FOR MORE INFORMATION.

3. RESET GRANITE CURB SECTIONS ON FORE STREET THAT ARE FREE OF DEFECTS, INCLUDING BUT NOT LIMITED TO CHIPPING AND CRACKING. ANY CURBING TO BE RESET SHALL BE INSPECTED AND APPROVED BY CITY OF PORTLAND PUBLIC WORKS PRIOR TO INSTALLATION.

WATERVILLE ST
ST. LAWRENCE ST.
FORE STREET
ZONE LINE
R6
B6
REMOVE EXISTING CURB, PROVIDE FLUSH GRANITE CURB
DETECTABLE WARNING TABLE, TYP.
PROVIDE 4' LONG TIPDOWN CURB
PROVIDE 7' LONG TIPDOWN CURB
SAWCUT & PROVIDE BITUMINOUS PAVEMENT, TYP
PROVIDE ADA CURB RAMP WITH DETECTABLE WARNING TABLE, TYP.
PROVIDE GRANITE RADIUS CORNER "BUG", TYP.
MATCH EXISTING CONCRETE DRIVEWAY
TM 2-A-2
N/F
ROGER J. TRETTEL
38006/148
RETAINING WALL, SEE GEOTECHNICAL PLANS
SAFETY RAILING, SEE LANDSCAPING PLANS
REFER TO SHEET C-101
VERTICAL GRANITE CURB, TYP.
EXISTING BELOW GRADE BUILDING 15 LIMIT
BRICK SIDEWALK, TYP.
MATCH EXISTING BRICK SIDEWALK
TOWNHOUSES
BLDG. 16
DRIVEWAY APRON AT FORE STREET, TYP. SEE DETAILS ON SHEET C-207
ENTRANCE STAIR, SEE STRUCTURAL AND LANDSCAPE PLANS
RAMPED PARKING GARAGE ENTRANCE TO LEVEL 4
50' WIDE VIEW CORRIDOR
BLOCK 4
PAVER PLAZA AREA
PORTLAND COMPANY HISTORIC DISTRICT BOUNDARY
BUILDING 2
BUILDING 3
BUILDING 6B
BUILDING 6
BLOCK 6
BIKE RACK, SEE LANDSCAPE PLANS
SITE LANDSCAPING, SEE LANDSCAPE PLANS
BENCH, SEE LANDSCAPE PLANS
ENTRANCE STAIR, SEE STRUCTURAL AND LANDSCAPE PLANS
PODIUM
LIGHT POLE, TYP. SEE LANDSCAPE PLANS
SHARED STREET, SEE NOTE 1
PARKING - 5 SPACES
24' TYP.
BLOCK 5
TEMPORARY CONSTRUCTION FENCING, TO BE RELOCATED AS NECESSARY TO MAINTAIN SITE SECURITY
FUTURE BLOCK 3 INTERIM BITUMINOUS PAVEMENT (TEMPORARY CONDITION)
PAVER PLAZA AREA
PLAZA AREA
VERTICAL GRANITE CURB, TYP.
TEMPORARY CONSTRUCTION FENCE
MDOT PROPERTY
PIF MARINA PROPERTY
PHD EASEMENT
EXISTING MARINA
PH. 1
EWPZ
REFER TO SHEET C-101
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:
STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:
PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE
PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
SITE PLAN - 1

DRAWING NO:
C-100
SHEET: 4 OF 19

30x42
PLOT SCALE: 100 = 1'-0"

NOTES:
1. SEE LANDSCAPE PLANS FOR SITE SURFACE MATERIAL ASSOCIATED WITH LANDSCAPED AREAS, PATIOS, AND NON-BITUMINOUS WALKWAYS & ROADWAYS, PLANTING PLANS AND SITE FURNISHINGS.
2. UTILITY & DRAINAGE STRUCTURES NOT SHOWN FOR CLARITY, SEE GRADING & DRAINAGE & UTILITY PLAN FOR MORE INFORMATION.
3. RESET GRANITE CURB SECTIONS ON FORE STREET THAT ARE FREE OF DEFECTS, INCLUDING BUT NOT LIMITED TO CHIPPING AND CRACKING. ANY CURBING TO BE RESET SHALL BE INSPECTED AND APPROVED BY CITY OF PORTLAND PUBLIC WORKS PRIOR TO INSTALLATION.

REFER TO SHEET C-100

ATLANTIC ST.

FORE STREET

E. PROMENADE

ZONE LINE

R6 B6

VERTICAL GRANITE CURB, TYP.

UTILITY POLE, TYP.

BRICK SIDEWALK, TYP.

SAWCUT & PROVIDE BITUMINOUS PAVEMENT, TYP.

SITE LANDSCAPING, SEE LANDSCAPE PLANS

ADA CURB RAMP, TYP.

MATCH EXISTING BRICK SIDEWALK

ENTRANCE STAIR, SEE STRUCTURAL & LANDSCAPE PLANS

50' WIDE VIEW CORRIDOR

BLOCK 4

BLOCK 5

BLOCK 6

TM 2-A-2
N/F
ROGER J. TRETTEL
38006/148

TM 2-A-4

TM 2-A-7
N/F
PORTLAND HOUSE
CONDOMINIUM
PLAN BOOK 142
PAGE 50

TM 2-A-10

RETAINING WALL, SEE GEOTECHNICAL PLANS

BITUMINOUS PAVEMENT

LOAM & SEED

BENCH, TYP. SEE LANDSCAPE PLANS

LIGHT POLE, TYP. SEE LANDSCAPE PLANS

PODIUM STRUCTURE CONNECTING BLOCK 4 AND BLOCK 6 SEE STRUCTURES SEE STRUCTURAL PLANS

SHARED STREET

PAVER PLAZA AREA

SITE LANDSCAPING, SEE LANDSCAPE PLANS

ENTRANCE STAIR, SEE STRUCTURAL AND LANDSCAPE PLANS

BIKE RACK, TYP. SEE LANDSCAPE PLANS

WASTE RECEPTACLE, TYP. SEE LANDSCAPE PLANS

B6 ZONE LINE EWPZ

TEMPORARY CONSTRUCTION FENCING, TO BE RELOCATED AS NECESSARY TO MAINTAIN SITE SECURITY

CHAIN L

SWITCH

ELEC.BOX

RIPRA

MOOT PROPERTY LINE

EXISTING MARINA

REFER TO SHEET C-100

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:
STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:
PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE
PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
SITE PLAN - 2

DRAWING NO:
C-101
SHEET: 5 OF 19

30x42
PLOT SCALE: 100 = 1'-0"

FORE STREET
WATERVILLE ST.
ST. LAWRENCE ST.
RESET CATCH BASIN RIM AS NECESSARY
PROVIDE GRANITE CATCH BASIN INLET HEADSTONE, TYP. SEE DETAILS ON SHEET C-207
TOWNHOUSES
BLDG. 16
BLOCK 4
FF ELEV. 17.75
BLOCK 5
BLOCK 6
BUILDING 2
BUILDING 3
BUILDING 6B
BUILDING 6
PH. 1
TM 2-A-2
N/F
ROGER J. TRETTEL
38006/148
TW=85
BW=64
TW=80
BW=64
TW=51
BW=25.00
LP=51
R6
B6
ZONE LINE
PODIUM
+24.53
EARTHEN RAMP
APPROXIMATE EXTENT OF BELOW GRADE PODIUM
TRENCH DRAIN, SEE DETAILS
PIPE SD67 BELOW TRENCH DRAIN
SUBSURFACE R-TANK, SEE DETAIL
EWPZ
B6
ZONE
MDOT PROPERTY
MARINA PROPERTY
PIP EASEMENT
EXISTING MARINA
CONNECT DMH14 TO PREVIOUSLY INSTALLED 24" OUTFALL
REFER TO SHEET C-103
REFER TO SHEET C-107 FOR PIPE & STRUCTURE SCHEDULES

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER
Lauren J. Swett

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
GRADING & DRAINAGE PLAN - 1

DRAWING NO:
C-102
SHEET: 6 OF 19

30x42
PLOT SCALE: 100 = 1'-0"

REFER TO SHEET C-102

REFER TO SHEET C-102

FORE STREET

ATLANTIC ST.

E. PROMENADE

BLOCK 4
FF ELEV. 17.75

BLOCK 5

BLOCK 6

TM 2-A-2
N/F
ROGER J. TRETTEL
38006/148

TM 2-A-7
N/F
PORTLAND HOUSE
CONDOMINIUM
PLAN BOOK 142
PAGE 50

TM 2-A-4

TM 2-A-1

R6
B6

B6

R6

EWPZ

PODIUM STRUCTURE CONNECTING BLOCK 6 AND BLOCK 4; SEE STRUCTURAL PLANS

APPROXIMATE EXTENT OF BELOW GRADE PODIUM

SHARED STREET, NOT IN CONTRACT

CONNECT CAPPED 24" STORM DRAIN PIPE TO NEW DMH

TWO (2) 6'x8' FILTERRA UNITS

CONNECT ROOF DRAINS TO FILTERRA UNITS

FILTERRA 1

FILTERRA 2

MDOT PROPERTY

PF MARINA PROPERTY

EASEMENT

EXISTING MARINA

REFER TO SHEET C-107 FOR PIPE & STRUCTURE SCHEDULES

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

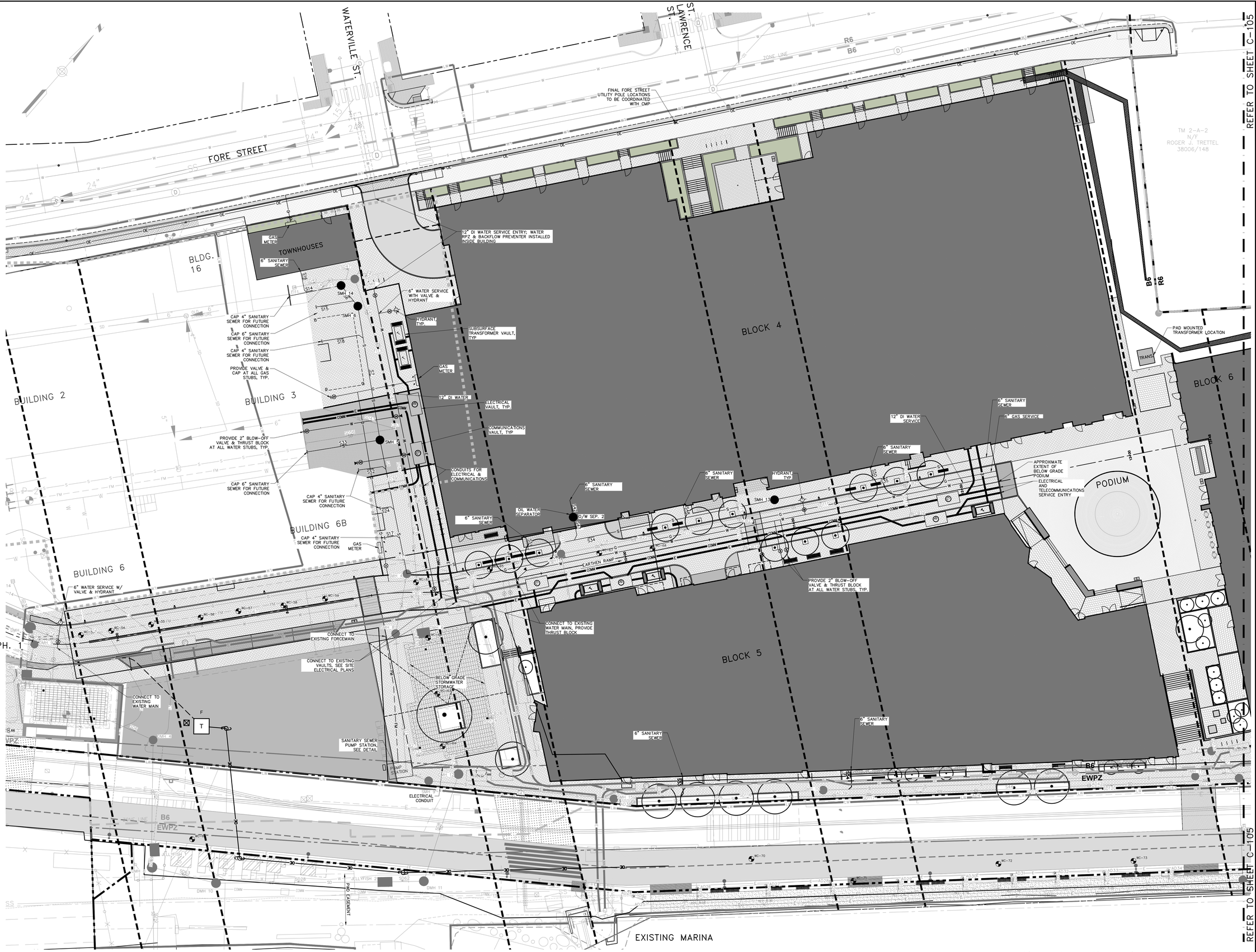
JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
GRADING & DRAINAGE PLAN - 2

DRAWING NO:
C-103
SHEET: 7 OF 19

COPYRIGHT © 2023 WOODARD & CURRAN INC. ALL RIGHTS RESERVED. THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF WOODARD & CURRAN INC. AND ARE NOT TO BE USED OR REPRODUCED WITHOUT PERMISSION.

30x42
PLOT SCALE: 100 = 1'-0"



Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER
Lauren J. Swett

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
UTILITY PLAN - 1

DRAWING NO:
C-104
SHEET: 8 OF 19

C:\Users\bcmcgrath\Woodard & Curran\Documents\227007 Portland Foreside - 2023\Phase 2 Site Plans.dwg, 6/6/2023 10:03:01 AM, bcmcgrath

30x42
PLOT SCALE: 100 = 1'-0"

REFER TO SHEET C-104

FORE STREET

ZONE LINE

R6
B6

E. PROMENADE

TM 2-A-2
N/F
ROGER J. TRETTEL
38006/148

TM 2-A-7
N/F
PORTLAND HOUSE
CONDOMINIUM
PLAN BOOK 142
PAGE 50

TM 2-A-4

TM 2-A-10

BLOCK 4

BLOCK 5

BLOCK 6

PAD MOUNTED
TRANSFORMER LOCATION

TRANS

12" DI WATER
SERVICE

6" SANITARY
SEWER

8" GAS
SERVICE

6" SANITARY
SEWER

6" SANITARY
SEWER

HYDRANT
TYP.

APPROXIMATE
EXTENT OF
BELOW GRADE
PODIUM

ELECTRICAL
AND
TELECOMMUNICATIONS
SERVICE ENTRY

PODIUM

O/W SEP. 2

PROVIDE 2" BLOW-OFF
VALVE & THRUST BLOCK
AT ALL WATER STUBS, TYP.

6" SANITARY
SEWER

6" SANITARY
SEWER

SUBSURFACE
TRANSFORMER
VAULT, TYP.

ELECTRICAL
VAULT, TYP.

COMMUNICATIONS
VAULT, TYP.

8" PVC SEWER

CONNECT TO
PREVIOUSLY
INSTALLED SMH11

EWPZ

SWITCH

CHAIN L

EXEC. BOX

RIPRA

PUE
EASEMENT

EXISTING MARINA

REFER TO SHEET C-104

REFER TO SHEET C-107 FOR PIPE & STRUCTURE SCHEDULES

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE
DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

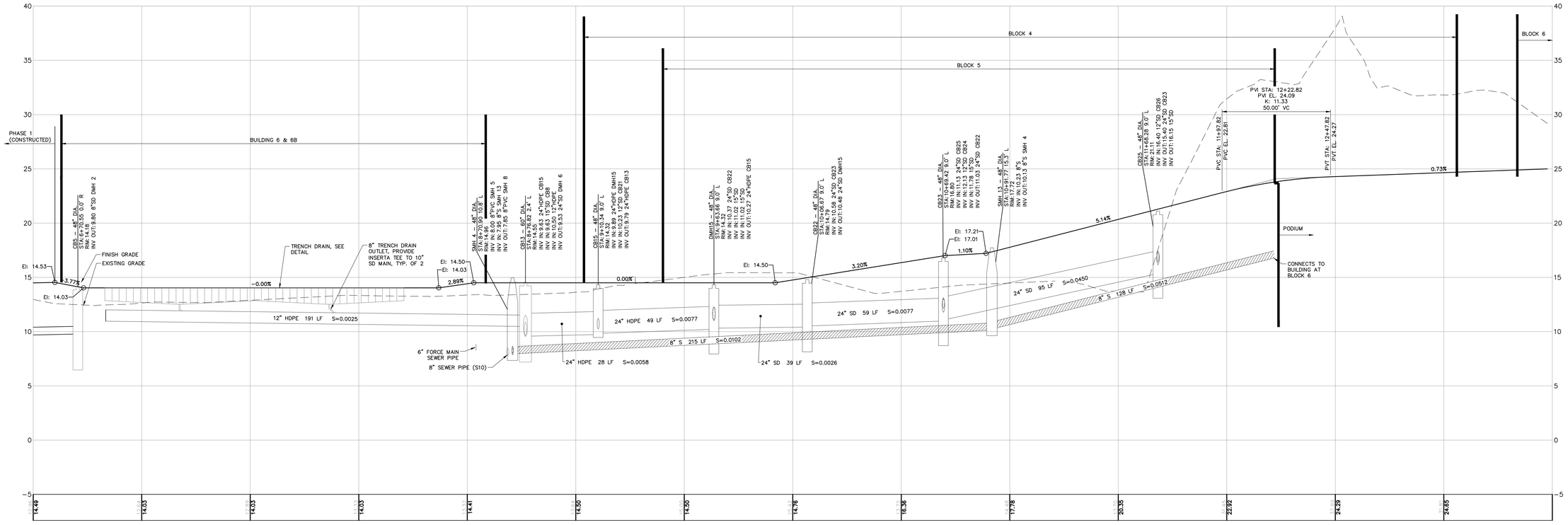
JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
UTILITY PLAN - 2

DRAWING NO:
C-105
SHEET: 9 OF 19

COPYRIGHT © 2023 WOODARD & CURRAN INC. ALL RIGHTS RESERVED. THIS DOCUMENT IS PROTECTED BY COPYRIGHT LAWS AND TREATIES. UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THIS DOCUMENT MAY RESULT IN SEVERE CIVIL AND CRIMINAL PENALTIES, AND WILL BE PROSECUTED TO THE MAXIMUM EXTENT POSSIBLE UNDER THE LAW.

30x42
PLOT SCALE: 100 = 1'-0"



THAMES STREET PROFILE STA. 6+50 TO STA. 13+50

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

20' 0 20' 40'
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
ROAD PROFILE

DRAWING NO:
C-106
SHEET: 10 OF 19

C:\Users\bmorin\Desktop\Woodard & Curran (PC)\Desktop\Desktop\227007\Phase 2 - 60%\Phase 2 Site Plan.dwg, Aug 07, 2023 - 3:49pm, BMORIN

30x42
PLOT SCALE: 100 = 1'-0"

STORMWATER STRUCTURES

STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STRUCTURE LOCATION
AD38	15"	12.30		9.73/10"SD /AD39	N: 302304.36 E: 2932605.30
AD39	15"	12.10	9.14/10"SD /AD38	9.04/10"SD /AD40	N: 302384.13 E: 2932691.33
AD40	15"	11.90	8.84/10"SD /AD39	8.74/10"SD /AD41	N: 302411.36 E: 2932720.73
AD41	15"	11.76	7.85/10"SD /AD40	7.75/10"SD /AD42	N: 302440.54 E: 2932751.76
AD42	15"	11.94	7.42/10"SD /AD41	7.32/10"SD /AD43	N: 302485.98 E: 2932799.59
AD43	15"	12.30	7.08/10"SD /AD42	6.98/10"SD /DMH14	N: 302518.62 E: 2932834.47
AD45	15"	12.70	7.02/12"SD /AD46	6.92/12"SD /DMH14	N: 302558.60 E: 2932877.07
AD46	15"	12.55	7.52/12"SD /AD47	7.42/12"SD /AD45	N: 302594.26 E: 2932915.52
AD47	15"	12.60	8.03/12"SD /AD48	7.93/12"SD /AD46	N: 302631.96 E: 2932955.80
AD48	15"	12.89	8.50/12"SD /AD51	8.40/12"SD /AD47	N: 302671.11 E: 2932985.90
AD49	15"	18.80	14.28/12"SD /AD50	14.00/12"SD /AD51	N: 302722.71 E: 2933025.00
AD50	15"	18.75	14.48/12"SD /FILTERRA 1	14.38/12"SD /AD49	N: 302736.43 E: 2933010.70
AD51	15"	15.75	8.80/12"SD /AD49	8.60/12"SD /AD48	N: 302700.37 E: 2933008.07
CB7	4'	14.58	9.92/12"SD/FI13 9.92/10"SD/ 9.92/6"SD/	9.82/15"SD/CB8	N: 302377.61 E: 2932357.66
CB8	4'	14.51	9.75/15"SD/CB7	9.64/15"SD/CB13	N: 302349.86 E: 2932393.71
CB13*	5'	14.55	9.63/24"HDPE/CB15 9.63/15"SD/CB8 10.50/12"HDPE/	9.53/24"SD/DMH 6	N: 302315.95 E: 2932428.67
CB15*	4'	14.32	9.89/24"HDPE/DMH15 10.23/12"SD/CB21	9.79/24"HDPE/CB13	N: 302343.90 E: 2932446.12
CB21	4'	14.32		10.32/12"SD/CB15	N: 302332.91 E: 2932460.35
CB22	4'	14.79	10.58/24"SD/CB23	10.48/24"SD/DMH15	N: 302420.17 E: 2932504.97
CB23	4'	16.80	11.13/24"SD/CB25 12.13/12"SD/CB24 11.78/15"SD/	11.03/24"SD/CB22	N: 302469.85 E: 2932543.29
CB24	4'	16.80		12.22/12"SD/CB23	N: 302458.85 E: 2932557.55
CB25	4'	21.11	16.40/12"SD/CB26	15.40/24"SD/CB23 16.15/15"SD/	N: 302548.12 E: 2932603.69
CB26	4'	21.11		16.49/12"SD/CB25	N: 302537.12 E: 2932617.94
CB27	4'	14.25		9.43/12"SD/RTANK INLET7	N: 302242.76 E: 2932487.52
CB28	4'	14.25		9.41/12"SD/RTANK INLET8	N: 302288.33 E: 2932511.58
DMH 6	8'x6'	13.23	9.39/24"SD/CB13	9.39/15"SD/RTANK INLET6 9.39/15"SD/RTANK INLET4 9.39/15"SD/RTANK INLET5	N: 302298.68 E: 2932448.43
DMH 7	4'	14.88	10.28/10"SD/FI12 10.28/4"SD/	10.18/10"SD/FI13	N: 302428.10 E: 2932282.83
DMH 11*	5'	19.58	7.82/24"HDPE/DMH 12	7.82/24"HDPE/JELLYFISH 2	N: 302159.52 E: 2932543.53
DMH 12*	5'	12.98	7.82/24"SD/RTANK OUTLET2	7.82/24"HDPE/DMH 11	N: 302249.93 E: 2932517.81
DMH14*	4'	12.50	6.78/10"SD /AD43 6.78/12"SD /AD45 6.78/12"SD /DMH16	6.68/24"HDPE/DMH13	N: 302546.58 E: 2932862.68
DMH15	4'	14.32	10.37/24"SD/CB22 11.02/15"SD/ 11.02/15"SD/	10.27/24"HDPE/CB15	N: 302386.12 E: 2932478.69
DMH16	4'	12.80	7.00/10"SD / 7.00/10"SD /	6.90/12"SD /DMH14	N: 302548.04 E: 2932840.22
FI11	2'	14.77		10.44/10"SD/FI12	N: 302401.24 E: 2932259.44
FI12	2'	14.77	10.38/10"SD/FI11 10.38/4"SD/	10.33/10"SD/DMH 7	N: 302418.33 E: 2932272.62
FI13	2'	14.58	10.08/10"SD/DMH 7	10.03/12"SD/CB7	N: 302407.81 E: 2932318.40
FILTERRA 1	6'x4'	18.60	14.50/12"SD /RD1	14.50/12"SD /AD50	N: 302734.55 E: 2933007.09
FILTERRA 2	6'x4'	18.60	14.50/12"SD /RD2	14.50/12"SD /	N: 302729.46 E: 2933013.68
JELLYFISH 2*	8'x6'	11.43	7.71/24"HDPE/DMH 11	7.71/24"HDPE/DMH 10	N: 302174.36 E: 2932526.71

*STRUCTURES INSTALLED AS PART OF WATERFRONT AND UTILITIES ENABLEMENT PHASE

STORMWATER PIPES

PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
SD13	24" SD	10'	0.0000
SD37	4" SD	17'	0.1534
SD38	15" SD	44'	0.0002
SD39	4" SD	18'	0.1017
SD40	15" SD	41'	0.0016
SD43	6" SD	41'	0.0619
SD44	12" SD	47'	0.0025
SD45	10" SD	38'	0.0027
SD46	4" SD	4'	0.0131
SD47	10" SD	11'	0.0045
SD48	4" SD	17'	0.1219
SD49	10" SD	20'	0.0031
SD56	10" SD	51'	0.0504
SD57	12" SD	14'	0.0064
SD58	24" SD	39'	0.0026
SD59	24" SD	24'	0.0057
SD60	15" SD	7'	0.0000
SD61	15" SD	7'	0.0000
SD65	15" SD	7'	0.0000
SD77	24" HDPE	49'	0.0077
SD109	24" SD	59'	0.0077
SD110	12" SD	14'	0.0064
SD111	24" SD	95'	0.0450
SD112	12" SD	14'	0.0064
SD113	15" SD	11'	0.0119
SD114	15" SD	12'	0.0108
SD115	15" SD	11'	0.0390
SD116	10" SD	116'	0.0051
SD117	10" SD	39'	0.0052
SD118	10" SD	41'	0.0215
SD119	10" SD	65'	0.0051
SD120	10" SD	47'	0.0051
SD122	10" SD	37'	0.0054
SD123	12" SD	3'	0.0116
SD124	12" SD	2'	0.0133
SD125	12" SD	16'	0.0087
SD126	12" SD	51'	0.0077
SD127	12" SD	54'	0.0077
SD128	12" SD	48'	0.0077
SD129	12" SD	35'	0.0028
SD133	12" SD	19'	0.0061
SD134	10" SD	17'	0.0056
SD135	10" SD	5'	0.0072

SEWER STRUCTURES

STRUCTURE TABLE					
NAME	DIA.	RIM	INV IN/SIZE/FROM	INV OUT/SIZE/TO	STRUCTURE LOCATION
O/W SEP. 2	4'	16.21			N: 302406.84 E: 2932470.01
PS	4'	12.67	7.15/8"S /SMH 8 5.95/8"S /SMH 9	7.52/6"FM/SMH 1	N: 302230.60 E: 2932494.34
SMH 5	4'	14.73	8.42/6"S/SMH 6 8.42/6"S/	8.03/8"S /SMH 4	N: 302366.88 E: 2932355.51
SMH 6	4'	14.80	9.00/4"S/SMH 14	8.80/6"S/SMH 5	N: 302417.32 E: 2932294.57
SMH 9	4'	11.06	6.15/8"S /SMH 15	6.05/8"S /PS	N: 302235.54 E: 2932507.25
SMH 10	4'	12.45	8.03/8"S /SMH 11	7.93/8"PVC/SMH 15	N: 302382.29 E: 2932684.33
SMH 11	4'	11.42	9.76/8"PVC/SMH 16	9.66/8"S /SMH 10	N: 302530.61 E: 2932842.74
SMH 13	4'	17.72	10.23/8"S/	10.13/8"S/SMH 4	N: 302491.43 E: 2932551.91
SMH 14	4'	14.85	9.00/4"S/	12.50/4"S/SMH 6	N: 302419.99 E: 2932279.32
SMH 15	4'	11.81	7.02/8"PVC/SMH 10	6.96/8"S/SMH 9	N: 302298.43 E: 2932595.62
SMH 16	4'	12.02	10.50/8"S/ 10.50/6"FM/	10.02/8"PVC/SMH 11	N: 302555.87 E: 2932867.25

SEWER PIPES

PIPE TABLE			
PIPE NAME	SIZE	LENGTH	SLOPE
S6	4" S	12'	0.3028
S7	6" S	75'	0.0050
S8	8" S	76'	0.0003
S9	8" S	10'	0.0105
S11	8" S	77'	0.0007
S14	4" S	29'	0.1223
S15	6" S	22'	0.0055
S16	4" S	11'	0.5052
S17	4" S	7'	0.0087
S18	4" S	22'	0.0031
S24	4" S	6'	0.0094
S33	6" S	41'	0.0092
S34	8" S	215'	0.0102
S35	8" S	128'	0.0512
S42	6" S	10'	0.0134
S43	8" S	104'	0.0078
S44	8" S	213'	0.0076
S47	6" S	11'	0.0050
S48	6" S	8'	0.0081
S50	6" S	8'	0.0081
S51	6" S	8'	0.0081
S52	4" S	14'	0.0094
S53	6" S	10'	0.0793
S54	6" S	10'	0.0116
S55	8" PVC	118'	0.0078
S56	8" S	23'	0.0054
S57	8" PVC	31'	0.0085

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED
PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

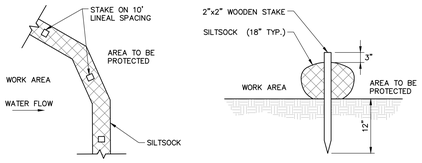
REV	MM/DD/YY	DESCRIPTION
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#
#	#	#

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 SITE PLANS.dwg

DRAWING TITLE:
CIVIL
PIPE & STRUCTURE TABLE

DRAWING NO:
C-107
SHEET: 11 OF 19

C:\Users\bmcclintock\Documents - Woodard & Curran\LVF\Active\Desktop\PDC\Phase 2 - SD\Phase 2 Site Plans.dwg Aug 07, 2023 - 1:40pm BMCCLINTOCK

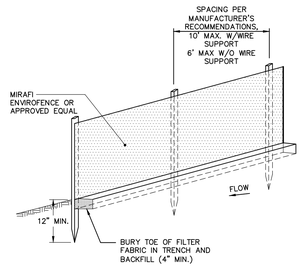


PLAN VIEW SECTION

NOTE:

1. WHEN STAKING IS NOT POSSIBLE, HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SEDIMENT BARRIER TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.

SILT SOCK
N.T.S.



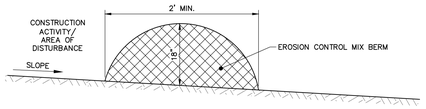
NOTES:

- 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.

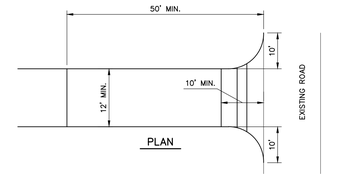
SEDIMENT BARRIER – SILTATION FENCE DETAIL
N.T.S.



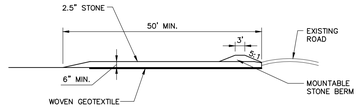
NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
2. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   - THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100%, DRY WEIGHT BASIS.
   - PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70%, MAXIMUM OF 85%, PASSING A 0.75" SCREEN.
   - THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   - LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   - SOLUBLE SALTS CONTENT SHALL BE < 4.0 MMHOS/CM.
   - THE PH SHOULD FALL BETWEEN 5.0 AND 8.0.

EROSION CONTROL MIX BERM
N.T.S.



PLAN



PROFILE

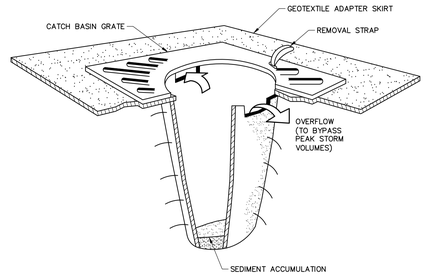
NOTES:

- CONSTRUCTION ENTRANCES MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
- WHEEL WASH PITS MAY ALSO BE USED, IF APPROVED.

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:

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.

Measure	Dates For Use	Timing, Activity, and Location
Sediment 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 daily, and maintain and repair as necessary.

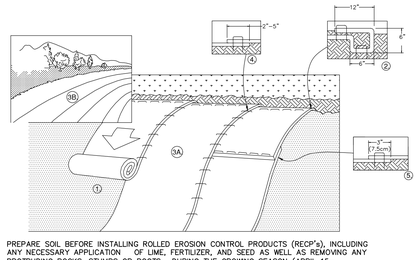
Permanent Erosion Control:

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.



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, MUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15– SEPTEMBER 15) USE RECP'S ON THE BASE OF GRASSED WATERWAYS, SOIL SLOPES HAVING A GRADE GREATER THAN 15%, OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE. FOR OVER WINTER PROTECTION, APPLY RECP'S ON THE BASE AND SIDE SLOPES OF GRASSED WATERWAYS AND ON SLOPES STEEPER THAN AN 8% GRADE.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP's WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.
6. UNTIL GRASS IS ABUNDANT, INSPECT PERIODICALLY AND AFTER EACH RAINSTORM TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED. DO NOT MOW THE FIRST YEAR.

ROLLED EROSION CONTROL MATTING
N.T.S.

EROSION AND SEDIMENT 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, CATCHBASIN SEDIMENT COLLECTION BAGS AND GEOTEXTILE FILTER BAGS. PERMANENT MEASURES INCLUDE PERMANENT VEGETATION OR PAVING.

GENERAL

A. THE PROJECT SHALL CONFORM WITH THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT.
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. HTTP://MAINE.GOV/DEP/BLWQ/DOCSTAND/ESCBMPS/
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 PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE ASPHALT BINDER COURSE.
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 6 INCHES. IN COMPACTED AREAS TILL 2–3" OF COMPOST INTO UPPER 8" OF DISTURBED SOIL AND THEN APPLY 6 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. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1 OR AS OTHERWISE NOTED. 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.
L. 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.

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:



NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

DRAWING TITLE:

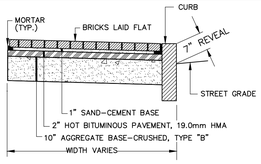
CIVIL
CIVIL DETAILS - 1

DRAWING NO:

C-200

SHEET: 12 OF 19

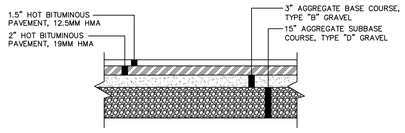
C:\Users\bmcdevitt\OneDrive - Woodard & Curran_PCFolders\Desktop\PTDC\Phase 2 - SD\Phase 2 Details .dwg, Aug 17, 2023 - 3:49pm BMCDEVITT



SECTION

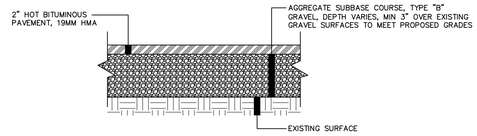
BRICK SIDEWALK DETAIL AT CITY R.O.W.

N.T.S.



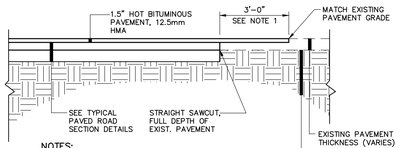
THAMES ST. PAVED ROAD & SITE PAVEMENT SECTION

N.T.S.



TEMPORARY PAVEMENT SECTION

N.T.S.

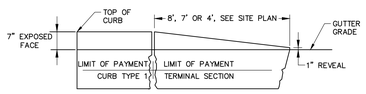


NOTES:

1. GRIND EXISTING PAVEMENT, TO 1.5" 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 PAVED ROAD SECTION DTLS. FOR TRENCH REPAIR REQUIREMENTS.

PAVEMENT BUTT JOINT DETAIL

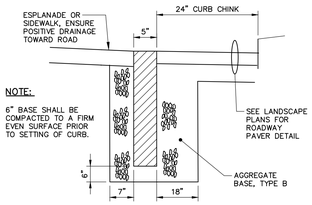
N.T.S.



TERMINAL SECTION TYPE "1"

TERMINAL CURB SECTION

N.T.S.



NOTE:

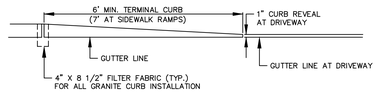
6" BASE SHALL BE COMPACTED TO A FIRM EVEN SURFACE PRIOR TO SETTING OF CURB.

SECTION

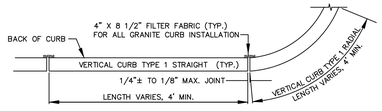
TYPICAL FLUSH CURB INSTALLATION

N.T.S.

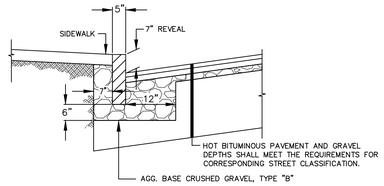
NOTE: AGGREGATE TYPES PER MDOT SECTION 304.02



TERMINAL CURB PROFILE



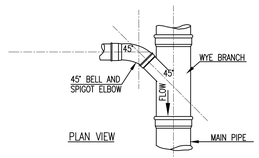
VERTICAL GRANITE CURB PLAN VIEW



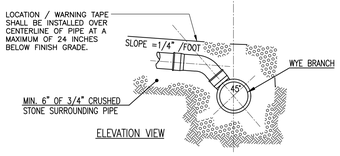
VERTICAL GRANITE CURB CROSS SECTION

VERTICAL GRANITE CURB

N.T.S.



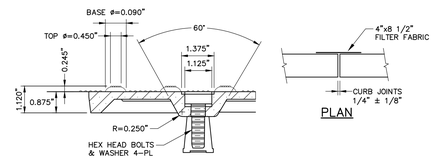
PLAN VIEW



ELEVATION VIEW

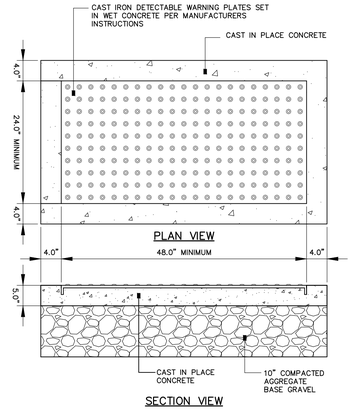
TYPICAL LATERAL WYE CONNECTION DETAILS

N.T.S.



BOLT DETAIL

PLAN



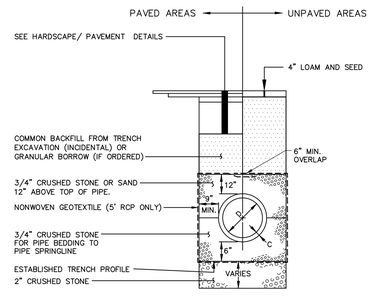
SECTION VIEW

SIDEWALK RAMP DETECTABLE WARNING

N.T.S.

NOTES:

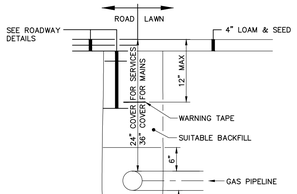
1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MAINE D.O.T. CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A UNIFORM 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 AND CONCRETE SHALL EXTEND THE WIDTH OF THE CURB RAMP, LANDING, OR BLENDING 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.



NOTES:
DEPTH & TYPE OF PAVEMENT & AGGREGATE COURSES SHALL BE PER PLANS.
SEE CIVIL & LANDSCAPING PAVEMENT DETAILS.

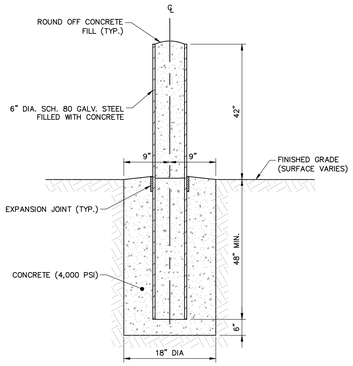
TYPICAL STORMDRAIN/ SEWER PIPE TRENCH INSTALLATION

N.T.S.



NATURAL GAS PIPE

N.T.S.



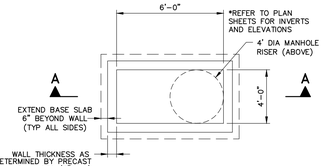
NOTE:

1. ALL BOLLARDS SHALL BE PAINTED. COLOR SELECTED BY OWNER.

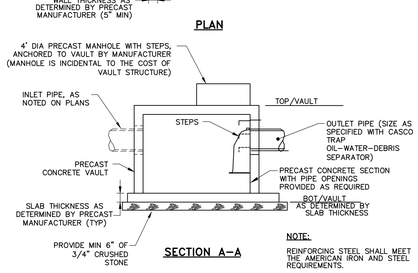
6" DIA. SECURITY BOLLARD

N.T.S.

(GMP RFI 005)



PLAN



SECTION A-A

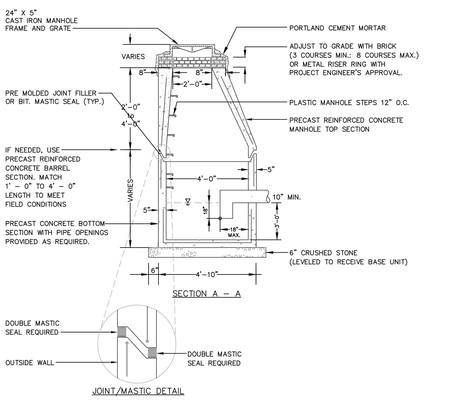
NOTE:
REINFORCING STEEL SHALL MEET THE AMERICAN IRON AND STEEL REQUIREMENTS.

PRECAST 8'X6' CONCRETE VAULT

N.T.S.

NOTES:

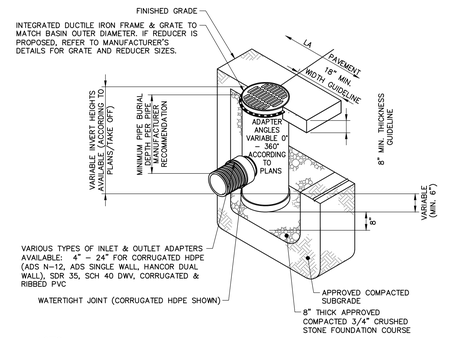
- FOR USE IN PARTIALLY OR TOTALLY ENCLOSED PARKING GARAGES, AUTOMOTIVE REPAIR FACILITIES OR ANY OTHER PROPOSED STRUCTURE WHERE DEEMED APPROPRIATE BY THE CITY ENGINEER.
- DISCHARGE SHALL BE TO SANITARY SEWER.
- A VENT PIPE MAY BE REQUIRED THAT HAS A VERTICAL OUTLET OFF TO THE SIDE OF THE STRUCTURE.
- AN OIL ABSORBENT BOOM IS REQUIRED TO BE PLACED WITHIN THE MANHOLE ON THE WATER SURFACE AND REPLACED AT A MINIMUM ANNUALLY.



JOINT/MASTIC DETAIL

OIL / GRIT SEPARATOR

N.T.S.

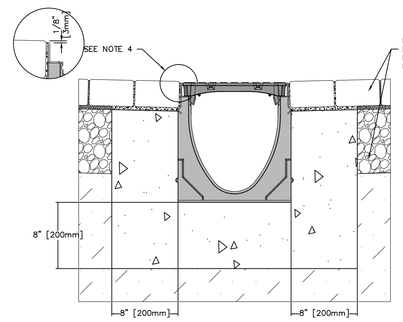


NOTES:

1. INSTALL BASIN IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. PRODUCT SHALL BE NYLOPLAST DRAIN BASIN MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS (ADS) OR APPROVED EQUAL.
3. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
4. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
5. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTORATIONS.
6. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC.
7. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°.

AREA DRAIN

N.T.S.



NOTES:

1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

TRENCH DRAIN DETAIL

N.T.S.

SPECIFICATION CLAUSE

K200 KLASSIKDRAIN 'DRAINLOK' LOAD CLASS C

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K200 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:
COMPRESSIVE STRENGTH: 14,000 PSI
FLEXURAL STRENGTH: 4,000 PSI
TENSILE STRENGTH: 1,500 PSI
WATER ABSORPTION: 0.07%
FROST PROOF YES
DILUTE ACID AND ALKALI RESISTANT YES
B117 SALT SPRAY TEST COMPLIANT YES

THE SYSTEM SHALL BE 8" (200mm) NOMINAL INTERNAL WIDTH WITH A 10.2" (260mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'DRAINLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

Lauren J. Swett

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS.dwg

DRAWING TITLE:

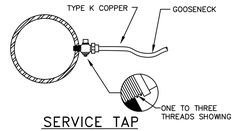
CIVIL
CIVIL DETAILS - 2

DRAWING NO:

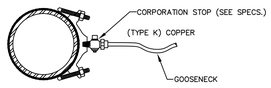
C-201

SHEET: 13 OF 19

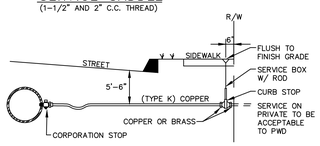
C:\Users\bmcdevitt\OneDrive - Woodard & Curran_NC\Folders\Desktop\PFDC\Phase 2 - SD\Phase 2 Details .dwg, Aug 07, 2023 - 3:45pm BMCDEVITT



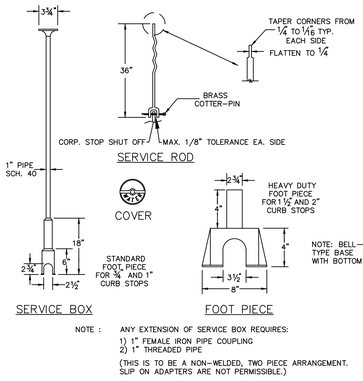
SERVICE TAP
(3/4" AND 1" C.C. THREAD)

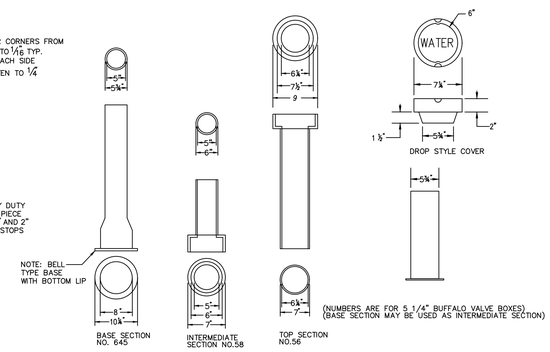


SERVICE SADDLE
(1-1/2" AND 2" C.C. THREAD)



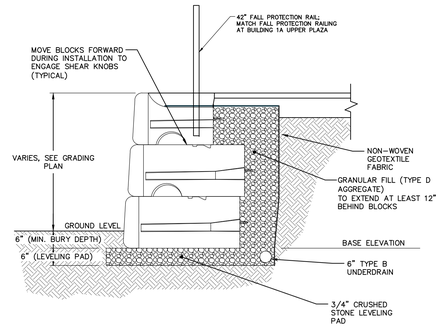
TYPICAL SERVICE CONNECTION
N.T.S.





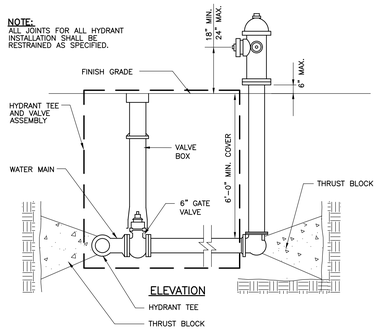
NOTE : ANY EXTENSION OF SERVICE BOX REQUIRES:
1) 1" FEMALE IRON PIPE COUPLING
2) 1" THREADED PIPE
(THIS IS TO BE A NON-WELDED, TWO PIECE ARRANGEMENT. SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)

VALVE BOX & COVER
N.T.S.

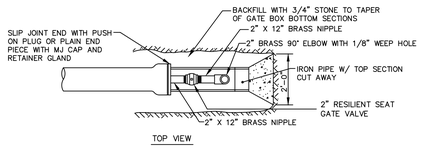


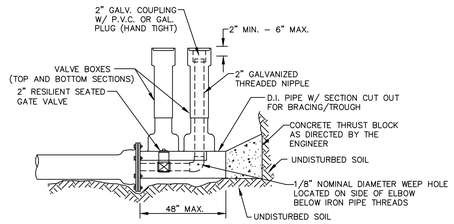
NOTE: PREFAB CONCRETE GRAVITY BLOCK WALL SHALL BE PER SUPPLEMENTAL SPECIFICATION SECTION 32 32 23.13. PREFAB CONCRETE GRAVITY BLOCK WALL DETAIL IS FOR REFERENCE PURPOSES TO AID IN LAYOUT AND DEVELOPMENT OF MANUFACTURER DETAILS. WALL MANUFACTURER SHALL PROVIDE FINAL WALL DESIGN AND CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE. REFER TO SUPPLEMENTAL SPECIFICATION SECTION 32 32 23.13 FOR ADDITIONAL REQUIREMENTS.

SEGMENTED RETAINING WALL DETAIL
N.T.S.

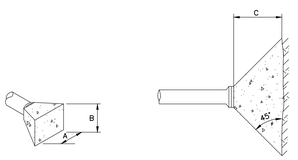


TYPICAL HYDRANT ASSEMBLY DETAIL
N.T.S.





STANDARD 2" BLOW OFF
N.T.S.



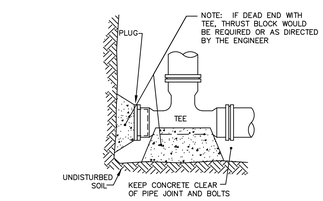
DEAD END ISOMETRIC VIEW

DEAD END PLAN VIEW

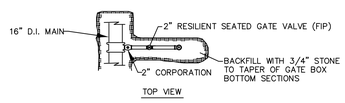
TABLE 1: 12" FITTINGS			
SOIL TYPE	TEES & PLUGS		
	A	B	C
SOFT CLAY	72"	36"	30"
SAND	36"	30"	18"
GRAVEL	30"	24"	12"

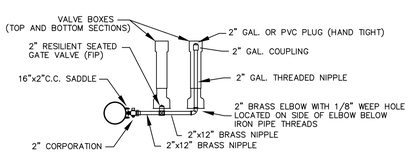
NOTES:
1. CONCRETE FOR ALL THRUST BLOCKS TO BE MINIMUM 3,000 PSI, 28 DAY STRENGTH, TYPE I/II CEMENT, 3/4" STONE.
2. WHERE POSSIBLE, CONSTRUCT THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE NOT POSSIBLE, PLACE FILL BETWEEN THE THRUST BLOCK AND THE UNDISTURBED SOIL COMPACTED TO 90% STANDARD PROCTOR DENSITY.
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 PIPE PRESSURE OF 110 PSI.

TYPICAL THRUST BLOCK DETAIL
N.T.S.

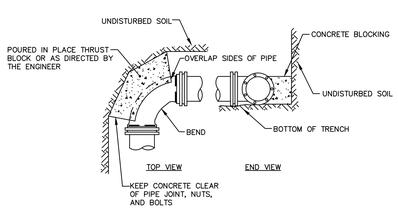


STANDARD TEE BLOCKING
N.T.S.





SIDE-ARM BLOW-OFF
4" & LARGER MAINS
N.T.S.



STANDARD BEND BLOCKING
N.T.S.

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:



NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

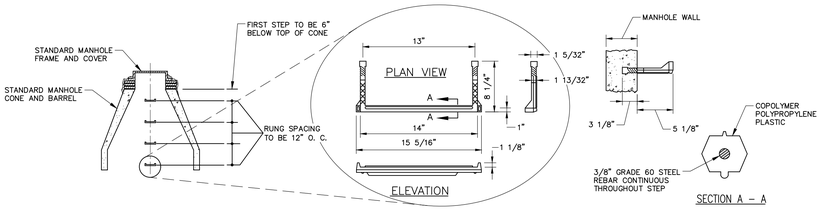
REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

DRAWING TITLE:
CIVIL
CIVIL DETAILS - 3

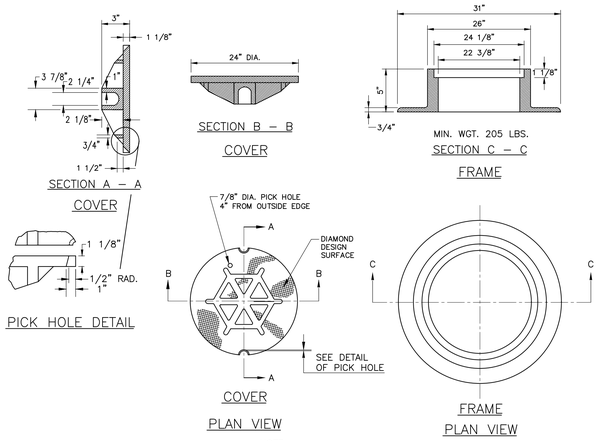
DRAWING NO:
C-202
SHEET: 14 OF 19

C:\Users\bmcdevitt\OneDrive - Woodard & Curran_PC\Users\Desktop\PFDC\Phase 2 - SD\Phase 2 Details .dwg, Aug 07, 2023 - 3:49pm BMCDEVITT



PLASTIC MANHOLE STEPS

N.T.S.



NOTE:

FOR ALL CROSS COUNTRY MANHOLES (LAWN AREAS), USE PAM REXUS MANHOLE COVERS BY CERTAINTEED.

TYPE "A" CAST IRON MANHOLE COVER AND FRAME

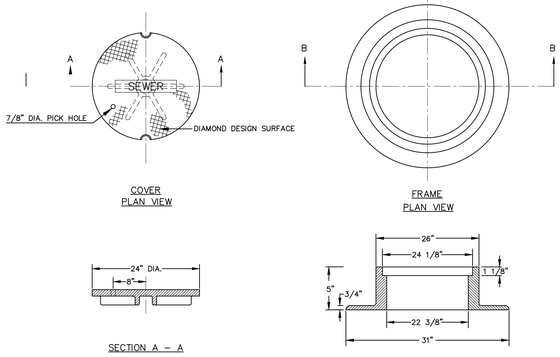
N.T.S.

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.

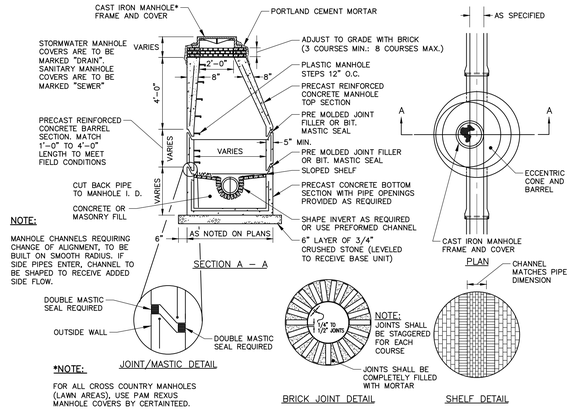
NOTE:
ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER.

ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.



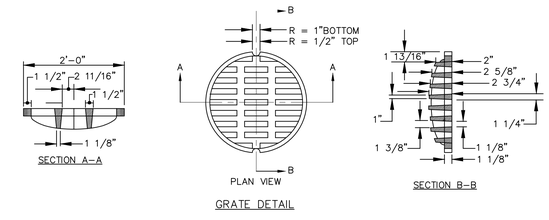
CAST IRON MANHOLE COVER AND FRAME

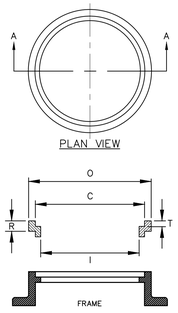
N.T.S.



PRECAST CONCRETE MANHOLE

N.T.S.

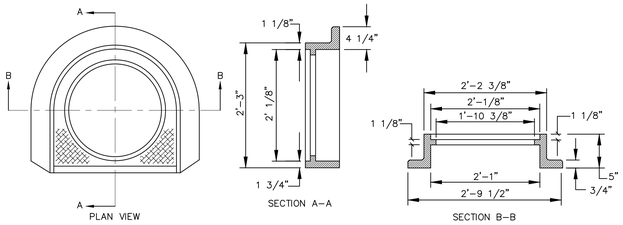




SIZE	C	R	T	O	I	Wt.
R241 1/2	24	1 1/2	1 1/8	26 1/4	22 1/2	60
R242	24	2	1 1/8	26 1/4	22 1/2	80
R242 1/2	24	2 1/2	1 1/8	26 1/4	22	100
R243	24	3	1 1/8	26 1/4	22	120

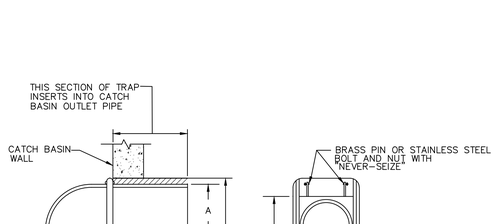
MANHOLE RISER RING

N.T.S.



CATCH BASIN FRAME & GRATE

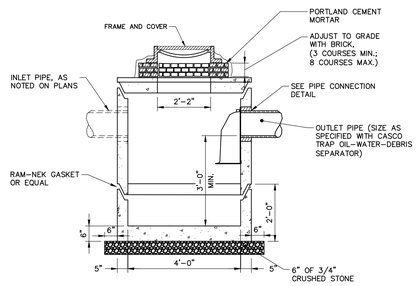
N.T.S.



SIZE	A	B	C	D	E	F	G	H
6 in.	5 1/2"	13 3/8"	13 3/4"	5 3/8"	5 7/8"	11 5/8"	6 1/2"	7 1/4"
8 in.	7 1/2"	15"	15 3/8"	5 1/2"	5 3/8"	13 3/4"	8 3/4"	9 3/8"
10 in.	9 1/2"	16"	16 1/4"	6"	4 1/2"	14 1/8"	11 1/2"	12 3/8"
12 in.	11 1/2"	17"	22"	8"	3 1/2"	17"	12 1/2"	13 3/8"

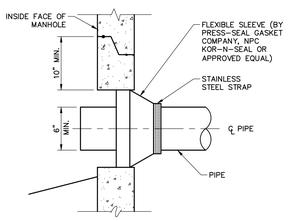
CASCO TRAP

N.T.S.



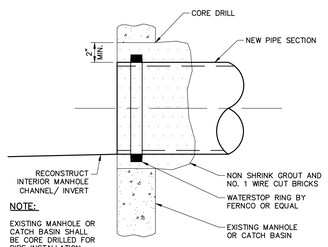
PRECAST CONCRETE CATCH BASIN

N.T.S.



NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL

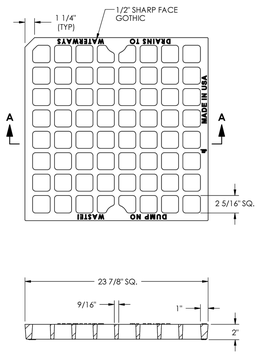
N.T.S.



NOTE:
EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION

NEW PIPE TO EXISTING STRUCTURE

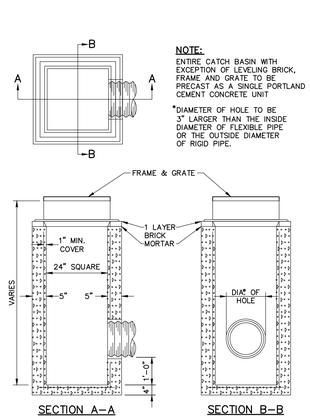
N.T.S.



NOTE: 5520M GRATE BY EJ OR APPROVED EQUAL

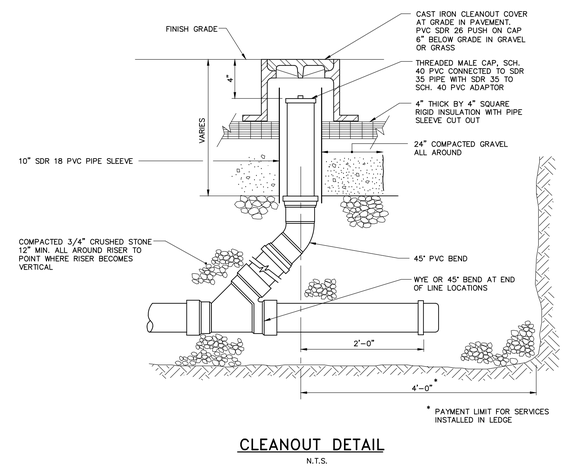
FIELD INLET GRATE

N.T.S.



FIELD INLET

N.T.S.



CLEANOUT DETAIL

N.T.S.

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

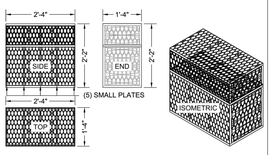
REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

DRAWING TITLE:
CIVIL
CIVIL DETAILS - 4

DRAWING NO:
C-203
SHEET: 15 OF 19

C:\Users\bmcdevitt\OneDrive - Woodard & Curran_PCT\Orders\Desktop\PTDC\Phase 2 - SD\Phase 2 Details .dwg, May 17, 2023 - 3:49pm BMCDEVITT



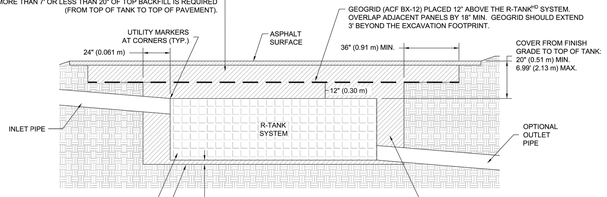
MODULE DATA

GEOMETRY:	**LOAD RATING:**
LENGTH = 28.15 IN. (715 MM)	33.4 PSI, (MODULE ONLY)
WIDTH = 15.75 IN. (400 MM)	HS20/HS25 - SEE SPEC FOR
HEIGHT = 25.98 IN. (660 MM)	COVER REQUIREMENTS
TANK VOLUME = 6.67 CF	**MATERIAL:**
STORAGE VOLUME = 6.33 CF	100% RECYCLED POLYPROPYLENE
VOID INTERNAL VOLUME: 95%	**SMALL PLATES REQUIRED:**
VOID SURFACE AREA: 90%	5/SEGMENT, 10/MODULE

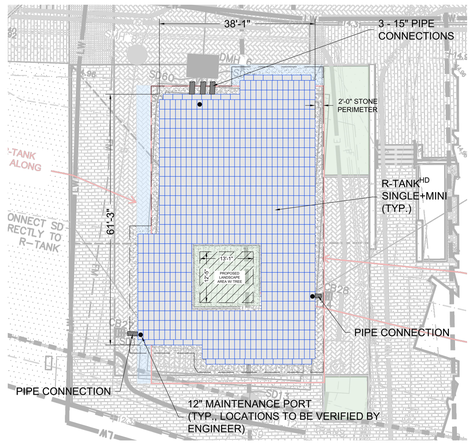
SINGLE + MINI R-TANK^{HD} - MODULE DETAIL

TOTAL COVER: 20" MINIMUM AND 84" MAXIMUM. FIRST 12" MUST BE FREE DRAINING BACKFILL (SPEC SECTION 2.03B): STONE <1.5" OR SOIL (USCS CLASS GW, GP, SW OR SP). ADDITIONAL FILL MAY BE STRUCTURAL FILL (SPEC SECTION 2.03C): STONE OR SOIL (USCS CLASS SM, SP, SW, GM, GP OR GW) WITH MAX CLAY CONTENT<10%, MAX 25% PASSING NO. 200 SIEVE, AND MAX PLASTICITY INDEX OF 4 A MIN. 12" COVER MUST BE MAINTAINED BETWEEN BACKFILL EQUIPMENT AND THE TOP OF THE R-TANK™ SYSTEM AT ALL TIMES. TOTAL HEIGHT OF TOP BACKFILL SHOULD NOT EXCEED 7'. CONTACT FERGUSON WATERWORKS IF MORE THAN 7' OR LESS THAN 20" OF TOP BACKFILL IS REQUIRED (FROM TOP OF TANK TO TOP OF PAVEMENT).

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.



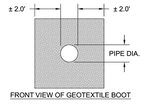
R-TANK^{HD} & HS-20 LOADS - SECTION VIEW



SUBSURFACE R–TANK #2
N.T.S.

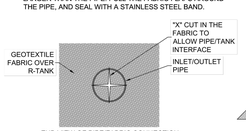
NOTE:
- PIPE BOOTS ARE AVAILABLE IN THE FOLLOWING STANDARD SIZES: 8" | 12" | 15" | 18" | 24".
- LARGER SPECIAL ORDER, CUSTOM SIZES ARE AVAILABLE.

CUT AN "X" IN THE FABRIC ENVELOPE THAT IS SLIGHTLY LARGER THAN THE PIPE. PULL THE FABRIC FLAPS AROUND THE PIPE, AND SEAL WITH A STAINLESS STEEL BAND.

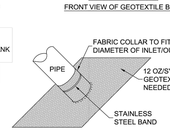


FRONT VIEW OF GEOTEXTILE BOOT

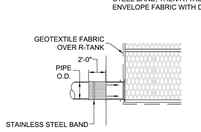
AFTER TANK WRAP IS SECURED TO PIPE, SLIDE BOOT AGAINST R-TANK AND SECURE WITH SECOND STAINLESS STEEL BAND, THEN ATTACH BOOT FLAP TO TANK ENVELOPE FABRIC WITH DUCT TAPE OR OTHER ADHESIVE.



END VIEW OF PIPE/FABRIC CONNECTION



GEOTEXTILE BOOT

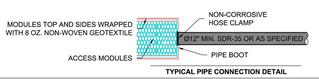


SIDE VIEW OF GEOTEXTILE BOOT



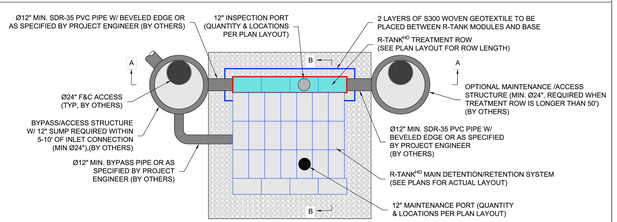
SIDE VIEW OF PIPE/FABRIC CONNECTION

R-TANK TYPICAL TANK INLET/OUTLET W/ GEOTEXTILE PIPE BOOT DETAIL

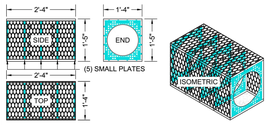


TYPICAL PIPE CONNECTION DETAIL

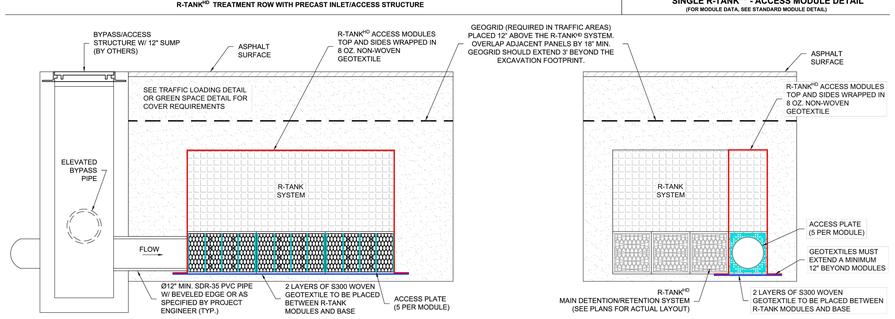
NOTE:
IF PIPE CONNECTING TO TREATMENT ROW IS LARGER THAN Ø12" SDR-35, IT SHALL BE ABUTTED FLUSH TO END PLATE AND SEALED WITH A PIPE BOOT.



R-TANK^{HD} TREATMENT ROW WITH PRECAST INLET/ACCESS STRUCTURE



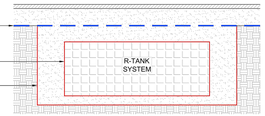
SINGLE R-TANK^{HD} - ACCESS MODULE DETAIL
(FOR MODULE DATA, SEE STANDARD MODULE DETAIL)



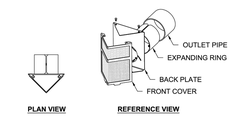
R-TANK^{HD} TREATMENT ROW SECTION A-A

R-TANK^{HD} TREATMENT ROW SECTION B-B

R–TANK GENERAL DETAILS
N.T.S.



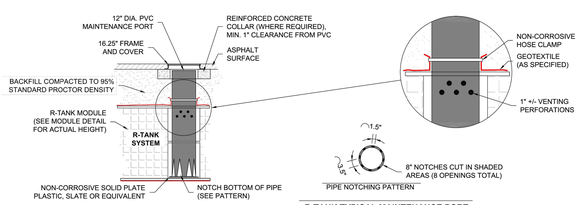
SUBSURFACE R–TANK SECTION
N.T.S.



PIPE DIA. (A)	STUB LENGTH (B)	CPS DEPTH (C)	CPS HEIGHT (D)	CPS WIDTH (E)
6"	4.00"	8.50"	10.00"	10.00"
8"	6.00"	11.00"	12.25"	11.50"
12"	8.00"	16.00"	15.50"	15.50"
15"	8.00"	16.00"	21.50"	18.50"
18"	8.00"	16.00"	28.00"	21.50"

STORMRING CPS 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. R-TANK^{HD}, R-TANK^{HD}, R-TANK^{HD} AND R-TANK^{HD} MAY BE USED IN TRAFFIC APPLICATIONS.
4. SEE TRAFFIC LOADING DETAIL FOR MINIMUM & MAXIMUM COVER REQUIREMENTS.
5. IF MAINTENANCE PORT IS LOCATED IN A NON-TRAFFIC AREA, A PLASTIC CAP CAN BE USED IN LIEU OF A FRAME AND COVER WITH CONCRETE COLLAR.



R-TANK TYPICAL MAINTENANCE PORT

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

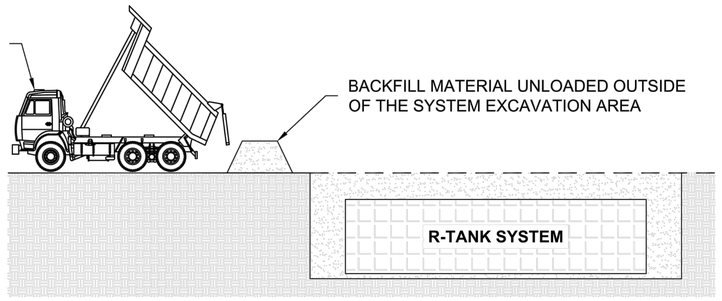
REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

DRAWING TITLE:
CIVIL
CIVIL DETAILS - 5

DRAWING NO:
C-204
SHEET: 16 OF 19

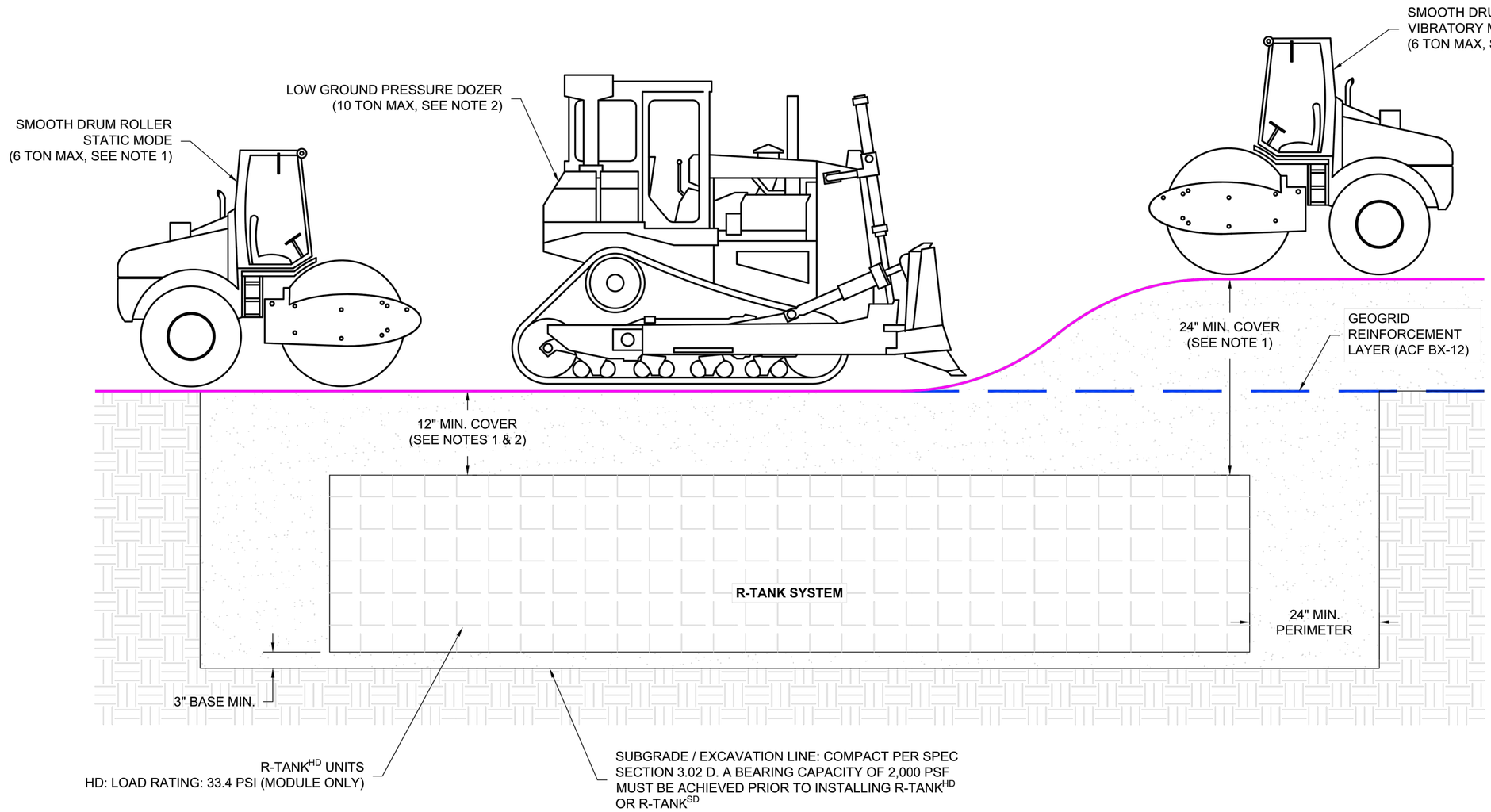
C:\Users\bmcbeth\OneDrive - Woodard & Curran_RCT\Folders\Desktop\PTDC\Phase 2 - SD\Phase 2 Details .dwg, Aug 07, 2023 - 3:49pm, BMCBETH



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 B2) 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 A5**
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 A5**
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 A5**
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 B**
5. SEE R-TANK INSTALLATION GUIDE OR CONTACT YOUR LOCAL FERGUSON REPRESENTATIVE FOR ADDITIONAL INFORMATION.



CONSTRUCTION EQUIPMENT COVER DETAIL - VEHICULAR TRAFFIC

R–TANK SPECIFICATIONS
N.T.S.

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

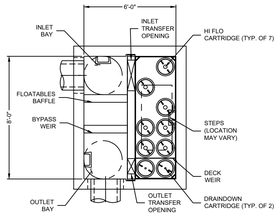
REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

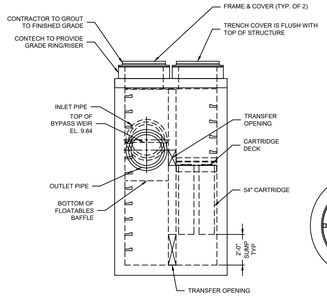
DRAWING TITLE:
CIVIL
CIVIL DETAILS - 6

DRAWING NO:
C-205
SHEET: 17 OF 19

C:\Users\bmcdevitt\OneDrive - Woodard & Curran_PCFolders\Desktop\PFDC\Phase 2 - SD\Phase 2 Details .dwg, Aug 07, 2023 - 3:50pm BMCDEVITT



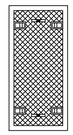
PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

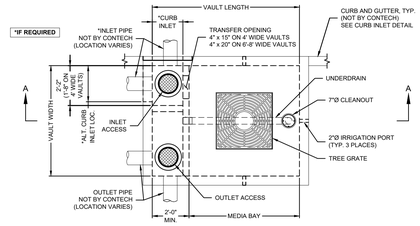


24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

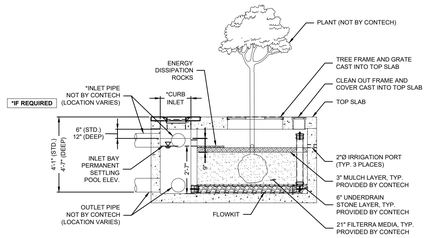
GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CONTRACTOR TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-978, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.

INSTALLATION NOTES
A. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
B. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
C. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

PEAK DIVERSION JELLYFISH FILTER #2
N.T.S.



PLAN VIEW

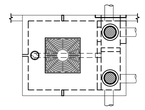


SECTION A-A
(STANDARD DEPTH SHOWN)

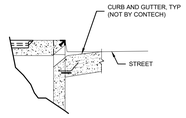
FTPD CONFIGURATION
(OPTIONS: DEEP "-D", THROAT INLET "-T", PIPE INLET "-P", PIPE AND THROAT INLET "-PT")

MODEL NAME	PART NUMBER	AVAILABILITY	MEDIA AREA (SF)	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX. CURB OPENING	*MAX. BYPASS FLOW (CFS) STD / DEEP	INLET/ OUTLET ACCESS DIA.	TREE GRATE QTY. AND SIZE
FTPD 6x8 (6x10 VAULT)	FTPD0608	ALL (EXCEPT CA, TX)	48	6 x 8	6 x 10	1'-8"	1.4 / 4.6	12"/12"	(1) 4' x 4'

*MAX. BYPASS FLOW IS INTERNAL WEIR FLOW. CAPACITIES SHOWN ARE FOR STANDARD DEPTH AND DEEP (-D), RESPECTIVELY. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY.

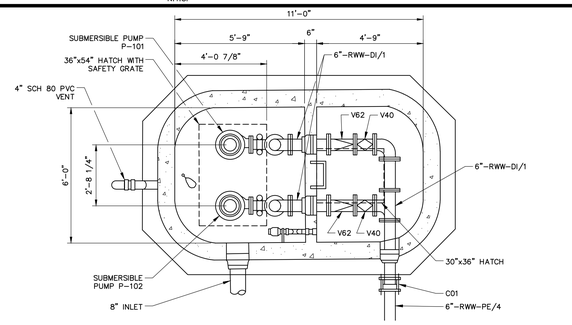


ALTERNATE ORIENTATION

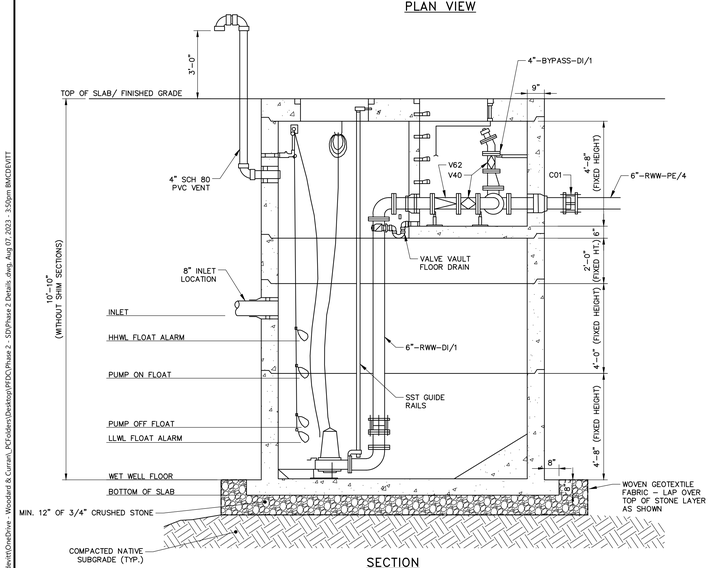


CURB INLET DETAIL

FILTERRA PEAK DIVERSION
N.T.S.



PLAN VIEW



SECTION

PUMPS	
MANUFACTURER	ZOELLER
MODEL	X62 HD
NUMBER OF PUMPS	TWO (2)
PUMP EQUIP TAGS	P–101 & P–102
PUMP TYPE	SUBMERSIBLE SOLIDS HANDLING
MAXIMUM SOLIDS SIZE	3 INCH
FLOW CAPACITY (PER PUMP)	500 GPM
TOTAL DYNAMIC HEAD (PER PUMP)	17.6 FT.
MOTOR HORSEPOWER (MAX.)	5 HP
POWER SUPPLY	208V/3PH/60HZ *NOTE: PROVIDE TRANSFER SWITCH FOR CONNECTION TO EMERGENCY POWER ⚠
PUMP CONFIGURATION	LEAD–STANDBY
DRIVE TYPE	CONSTANT SPEED
ELECTRICAL HAZARD AREA	CLASS 1, DIVISION 1 (XP)
DISCHARGE CONNECTION	6 INCH (FLANGED)
PUMPED FLUID	RAW WASTEWATER (UNSCREENED)
BASE TYPE	BASE/DISCHARGE ELBOW
EFFICIENCY (MIN.)	50%
PUMP VENDOR CONTROL PANEL	YES

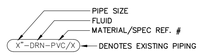
PUMP STATION	
MANUFACTURER	ONELIFT
MODEL	RC611
HEIGHT (TOP TO FLOOR)	12'–10"
DISCHARGE SIZE	6 INCH
BYPASS CONNECTION	4 INCH D.I.
INTERIOR PIPING	D.I.
PIPE SUPPORTS	STAINLESS STEEL
H2S CONCRETE PROTECTION	YES
EXTERIOR DAMPROOFING	YES
HATCH LOAD	H20
ACCESS	ALUMINUM LADDER
VENTING	4 INCH PVC
CONTROL PANEL	PROVIDE LOOSE
JUNCTION BOX LOCATION	INTERIOR FLOAT ONLY

ELEVATIONS	
PUMP STATION PART	ELEVATION
FINISHED GRADE	12.44
TOP OF SLAB	12.44
DISCHARGE PIPE INVERT	7.52
INLET PIPE INVERT	6.80 ⚠
HHWL FLOAT ALARM	5.80
PUMP ON FLOAT	5.47
PUMP OFF FLOAT	3.47
LLWL FLOAT ALARM	2.00
WET WELL FLOOR	–0.04

VALVE & COUPLING SCHEDULE	
ID (V##)	VALVE/ COUPLING TYPE
V40	METALLIC PLUG VALVE (FLANGED)
V62	METALLIC SWNG CHECK VALVE
C01	SLEEVE TYPE COUPLINGS

PIPE MATERIALS

CI/X – CAST IRON PIPE
CU/1 – COPPER PIPE & TUBING
DI/1 – DUCTILE IRON PIPE (FLANGED)
DI/2 – DUCTILE IRON PIPE (MECHANICAL JOINT)
DI/3 – DUCTILE IRON (PUSH–ON JOINT)
DI/4 – DUCTILE IRON (RIGID GROOVED END)
PVC/1 – PVC PIPE (SOCKET WELDED – SCH. 80)
PVC/2 – PVC TUBING
PVC/3 – PVC DOUBLE CONTAINMENT PIPE
PVC/4 – PVC PIPE (CPVC)
PVC/5 – PVC PIPE (BURIED SDR 35)
PVC/6 – PVC PIPE (BURIED SDR 18)
PVC/7 – PVC PIPE (SOCKET WELDED – SCH. 40)
SS/1 – STAINLESS STEEL PIPE (SCH. 10S)
SS/2 – STAINLESS STEEL PIPE (SCH. 40)
SS/3 – STAINLESS STEEL TUBING
SS/4 – STAINLESS STEEL HOSE
CS/1 – CARBON STEEL PIPE
CS/2 – TEFLON LINED STEEL PIPE (FLANGED)
PE/1 – POLYETHYLENE PIPING (SOCKET WELDED)
PE/2 – POLYETHYLENE TUBING (HIGH DENSITY)
PE/3 – POLYETHYLENE TUBING (LOW DENSITY)
PE/4 – POLYETHYLENE PIPING (BURIED) – DR–11
PE/5 – POLYETHYLENE PIPING (BURIED STORM DRAIN)



PIPING NOTES:

1. FLUID DESIGNATION
   A.RWW = RAW WASTE WATER
2. PROVIDE DUCTILE IRON PIPING IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 13 – PROCESS PIPE. PROVIDE HIGH DENSITY POLYETHENE IN ACCORDANCE WITH SPECIFICATION SECTION 33 31 23.02 – SANITARY SEWERAGE FORCE MAINS.
3. AFTER INSTALLATION IS COMPLETE ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED. ALL LEAKS OR OTHER ASSOCIATED DEFECTS SHALL BE CORRECTED AND THE PIPING SHALL BE RETESTED AT NO ADDITIONAL COST TO THE OWNER. REFER TO SPECIFICATION SECTION 40 05 13 "PROCESS PIPE AND FITTINGS" FOR ADDITIONAL INFORMATION AND REQUIREMENTS. PE/5 – POLYETHYLENE PIPING (BURIED STORM DRAIN)

VALVE & COUPLING NOTES:

1. PROVIDE VALVE IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 23 – PROCESS VALVES.
2. PROVIDE PIPE COUPLINGS IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 14 – PROCESS PIPE COUPLINGS AND CONNECTORS.

PUMP STATION NOTES:

1. MECHANICAL GENERAL NOTES:
   a. PIPING, VALVES, AND COUPLINGS WITHIN PUMP STATION STRUCTURE TO BE PROVIDED BY PUMP STATION MANUFACTURER UP TO THE C01 COUPLING OUTSIDE OF PUMP STATION. EXTERIOR PIPING AND C01 COUPLING TO BE PROVIDED BY CONTRACTOR.
   b. PROVIDE A MINIMUM 6" CLEAR BETWEEN PIPE PENETRATIONS AND PRECAST STRUCTURE JOINTS.
   c. FILL ALL BOLT AND LIFTING POCKETS WITH NON–SHRINK GROUT FOR CORROSION PREVENTION.
   d. PROVIDE TWO COATS OF BITUMINOUS DAMP–PROOFING ON ENTIRE EXTERIOR OF STRUCTURES BELOW GRADE.
   e. ALL PRECAST STRUCTURES SHALL BE HYDROSTATICALLY TESTED PER (ACI 350.1–01), CHAPTER 2, HST–VI. HYDROSTATIC TESTING SHALL BE WITNESSED BY ENGINEER. ALL HYDROSTATIC TESTING SHALL BE COMPLETED TO THE SATISFACTION OF ENGINEER PRIOR TO BACKFILL OF STRUCTURES. REFER TO SPECIFICATION 03 41 26 FOR ADDITIONAL DETAILS. PROVIDE ALL LABOR, WATER, PUMPING EQUIPMENT, PIPING AND RELATED APPURTENANCES FOR TESTING. WASTEWATER SHALL NOT BE USED FOR TESTING. PROVIDE DISPOSAL OF TEST WATER.
   f. PROVIDE 304 STAINLESS STEEL PIPE SUPPORTS IN VALVE VAULT. ALL OTHER HARDWARE SHALL BE 316 STAINLESS STEEL.
   g. SOME VALVE HANDWHEEL ACTUATORS HAVE BEEN OMITTED FOR CLARITY.
   h. PROVIDE A TWO PART EPOXY COATING (PRIME & FINISH COAT) FOR ALL DUCTILE IRON PIPING AND FITTINGS INSIDE WET WELL AND VALVE VAULT. PRIME COAT SHALL BE TNEMEC N69F OR EQUAL AND FINISH COAT SHALL BE TNENEC N69 OR EQUAL.
2. PUMP INSTALLATION:
   a. INSTALL THE PUMPS AND MOTORS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND AS DIRECTED ON SITE BY THE MANUFACTURER'S REPRESENTATIVE AND/OR ENGINEER. CORRECT INSTALLATION AND ASSEMBLY OF THE EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY. INSTALL ALL PUMPS AND APPURTENANCES IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND WITH THE MANUFACTURERS' INSTALLATION INSTRUCTION MANUAL.
   b. ALL APPURTENANCES REQUIRED FOR A COMPLETE AND OPERATING PUMPING SYSTEM SHALL BE PROVIDED, INCLUDING BUT NOT LIMITED TO SUCH ITEMS AS PIPING, CONDUIT, VALVES, WALL SLEEVES, WALL PIPES, CONCRETE FOUNDATIONS, ANCHORS, GROUTING, POWER SUPPLY, AND CONTROLS.
3. PUMP FACTORY TESTING:
   a. THE MANUFACTURER'S STANDARD FACTORY HYDROSTATIC AND PERFORMANCE TESTS SHALL BE PERFORMED ON EACH OF THE OTHER PUMPING UNITS INCLUDED IN THIS SECTION IN ACCORDANCE WITH THE LATEST EDITION OF THE HYDRAULIC INSTITUTE STANDARDS. THE TESTING SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:
      i. A FINAL INSPECTION OF THE IMPELLER, MOTOR RATING, AND ELECTRICAL CONNECTIONS FOR COMPLIANCE WITH PURCHASE ORDER.
      ii. A DRY RUN TEST TO VERIFY CORRECT ROTATION AND MECHANICAL INTEGRITY. THE ENTIRE UNIT SHALL BE CHECKED FOR EXCESSIVE VIBRATION. THE UNIT SHALL ALSO BE BALANCED.
      iii. A MOTOR AND CABLE INSULATION TEST OR INSPECTION FOR MOISTURE CONTENT AND INSULATION DEFECTS.
      iv. A TEST OF THE PUMP MOTOR (RUN FOR 5 MINUTES AT FULL LOAD) TO VERIFY ELECTRICAL DATA MEASUREMENTS. ALL ELECTRICAL DATA SHALL BE REGISTERED AS PART OF DOCUMENTATION
   b. A QUALITY CONTROL CHECK FORM SHOWING THE FACTORY TEST RESULTS AND THAT EACH PUMP SUCCESSFULLY PASSED FACTORY TESTS SHALL BE PROVIDED BY THE MANUFACTURER.
4. PUMP FIELD TESTING
   a. PRIOR TO ACCEPTANCE, AN OPERATIONAL TEST OF ALL PUMPS, DRIVERS, AND CONTROL SYSTEMS SHALL BE PERFORMED TO DETERMINE IF THE INSTALLED EQUIPMENT MEETS THE PURPOSE AND INTENT OF THE SPECIFICATIONS. TEST SHALL DEMONSTRATE THAT THE EQUIPMENT IS NOT ELECTRICALLY, MECHANICALLY, STRUCTURALLY, OR OTHERWISE DEFECTIVE; IS IN SAFE AND SATISFACTORY OPERATING CONDITION; AND CONFORMS WITH THE SPECIFIED OPERATING CHARACTERISTICS. PRIOR TO APPLYING ELECTRICAL POWER TO ANY MOTOR DRIVEN EQUIPMENT, THE DRIVE TRAIN SHALL BE ROTATED BY HAND TO DEMONSTRATE FREE OPERATION OF ALL MECHANICAL PARTS. TESTS SHALL INCLUDE CHECKS FOR EXCESSIVE VIBRATION, LEAKS IN ALL PIPING AND SEALS, CORRECT OPERATION OF CONTROL SYSTEMS, PROPER ALIGNMENT, AND POWER CONSUMPTION.
   b. PROVIDE ALL THE REQUIREMENTS TO CONDUCT A PROPER FIELD TEST WHICH INCLUDE BUT ARE NOT LIMITED TO: POWER, WATER, FACILITIES, LABOR, MATERIALS, SUPPLIES AND TEST INSTRUMENTS.
   c. IN THE PRESENCE OF THE MANUFACTURER'S REPRESENTATIVE, THE CONTRACTOR SHALL TEST AND INSPECT "ALL" NECESSARY CONTROLS WHICH INCLUDE BUT ARE NOT LIMITED TO ALL PUMP ON/OFF SET POINTS, ALARM SET POINTS AND INTERLOCKS (HIGH TEMPERATURE AND MOISTURE) REQUIRED FOR THE PUMPING UNITS TO FUNCTION PROPERLY WITHOUT CAUSING DAMAGE TO THE EQUIPMENT. THE MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE THE CONTRACTOR AND ENGINEER WITH THE NECESSARY SET POINTS IN WRITING PRIOR TO THE SITE ACCEPTANCE TEST VISIT AS INDICATED IN THE SUBMITTALS. INITIAL TESTING OF THE PUMPS SHALL BE WITH WATER. WASTEWATER SHALL NOT BE USED FOR INITIAL TESTING.
   d. FIELD TESTING SHALL DEMONSTRATE THAT ALL CONTROLS AND SYSTEMS FUNCTION PROPERLY. A SUCCESSFUL FIELD TEST SHALL INCLUDE "CONTINUOUS" OPERATION OF EACH PUMP FOR A MINIMUM PERIOD OF THREE (3) HOURS WITHOUT ALARMS OR SHUT DOWNS, EXCEPT AS INTENDED FOR TESTING.
   e. IF THE EQUIPMENT DOES NOT SUCCESSFULLY PASS THE TESTS LISTED ABOVE, THE MANUFACTURER SHALL REPAIR THE EQUIPMENT AND PERFORM THE TESTS AGAIN UNTIL PASSING THE TESTS SUCCESSFULLY. IF ANY DEFICIENCIES ARE REVEALED DURING ANY TEST, SUCH DEFICIENCIES SHALL BE CORRECTED, AND THE TESTS SHALL BE RECONDUCTED AT NO ADDITIONAL COST TO THE OWNER.
5. PUMP MANUFACTURER'S SERVICES:
   a. SERVICES OF A MANUFACTURER'S REPRESENTATIVE WHO IS EXPERIENCED IN THE INSTALLATION, ADJUSTMENT, AND OPERATION OF THE EQUIPMENT SPECIFIED SHALL BE PROVIDED. THE ON–SITE MAN DAYS LISTED BELOW ARE EXCLUSIVE OF TRAVEL TIME AND DO NOT RELIEVE THE OBLIGATION TO PROVIDE SUFFICIENT SERVICE TO PLACE THE EQUIPMENT INTO SATISFACTORY OPERATION.
   b. THE MANUFACTURER'S REPRESENTATIVE SHALL SUPERVISE THE INSTALLATION, ADJUSTMENT, AND TESTING OF THE EQUIPMENT. THE MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT FOR A PERIOD OF NOT LESS THAN ONE (1) ON–SITE MAN DAY (TOTAL) TO INSPECT THE INSTALLED EQUIPMENT, SUPERVISE THE INITIAL TEST RUN, AND TO PROVIDE INSTRUCTION TO THE PLANT PERSONNEL.
   c. THE MANUFACTURER'S REPRESENTATIVE SHALL MAKE ALL NECESSARY ADJUSTMENTS AND SETTINGS TO THE CONTROLS. IN PARTICULAR, SERVICE ENGINEER SHALL VERIFY THE CONTROL SET POINTS FOR EACH PUMP AS WELL AS PROPER ROTATIONAL DIRECTION.
   d. A FIELD TRAINING COURSE SHALL BE PROVIDED FOR DESIGNATED OPERATING AND MAINTENANCE STAFF MEMBERS. TRAINING SHALL BE PROVIDED IN CONJUNCTION WITH THE VISIT FROM THE MANUFACTURER'S REPRESENTATIVE. THE TRAINING SHALL START AFTER THE SYSTEM IS FUNCTIONALLY COMPLETE BUT PRIOR TO FINAL ACCEPTANCE TESTS. FIELD TRAINING SHALL COVER ALL OF THE ITEMS CONTAINED IN THE OPERATING AND MAINTENANCE MANUALS, INCLUDING NORMAL OPERATIONS, TROUBLE–SHOOTING, MAINTENANCE, LUBRICATION, AND OTHER RELATED WORK.

PUMP STATION PLAN, SECTION & NOTES
N.T.S.

C:\Users\lancelotm\OneDrive - Woodard & Curran_PC\Videos\Desktop\PTDC\Phase 2 - SD\Phase 2 Details .dwg, Aug 07, 2023 - 3:56pm, BMCENVITT

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:



NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

DRAWING TITLE:
CIVIL
CIVIL DETAILS - 7

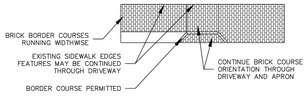
DRAWING NO:
C-206
SHEET: 18 OF 19

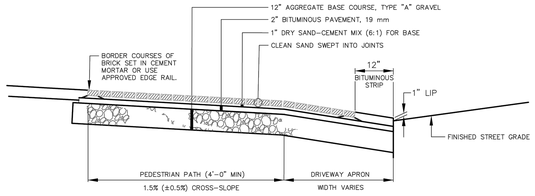
BRICKS TO BE USED:

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.

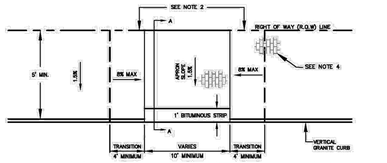
REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS.
SPECIFICATION NUMBER:
"VERMONT BACKER BRICK",
ITEM NUMBER # VBBB

BRICK ORIENTATION DETAIL

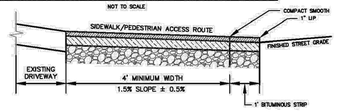




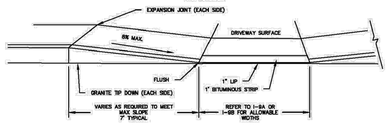
BRICK DRIVEWAY APRON WITH BITUMINOUS BASE
NOT TO SCALE



DRIVEWAY APRON AT CONSTRAINED SIDEWALK LAYOUT
NOT TO SCALE



SECTION A-A
NOT TO SCALE



NOTES:

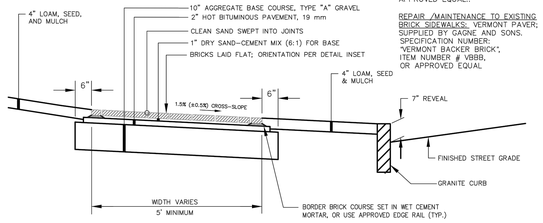
1. MATCH EXISTING GRADE AT R.O.W LINE. WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. SIDEWALK TRANSITION SLOPE SHALL NOT EXCEED 8.33%. RAMP LENGTH SHALL ACCOMMODATE THIS CONSTRAINT UP TO 15 FOOT RAMP LENGTH OR AS OTHERWISE REQUIRED BY ADA STANDARDS.
3. MOUNTABLE CURB (SEE DETAIL I-15) OR INCREASE IF BITUMINOUS LIP IS PREFERRED TO MAINTAIN SIDEWALK GRADE THROUGH APRON.
4. ALL MATERIALS IN ROW TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.

DRIVEWAY APRON AT CONSTRAINED SIDEWALKS
NOT TO SCALE

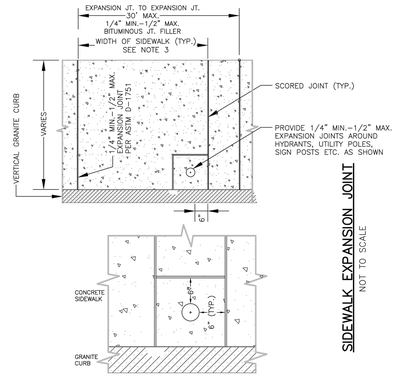
BRICKS TO BE USED:

NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA, OR APPROVED EQUAL.
LACHANCE ITEM # 193623, PINE HALL PATHWAY PAVER BRICK, OR APPROVED EQUAL..

REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS.
SPECIFICATION NUMBER:
"VERMONT BACKER BRICK",
ITEM NUMBER # VBBB,
OR APPROVED EQUAL



BRICK SIDEWALK WITH BITUMINOUS BASE
NOT TO SCALE



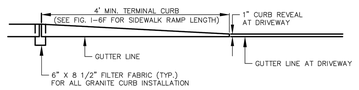
SIDEWALK EXPANSION JOINT
NOT TO SCALE

CONCRETE SIDEWALK JOINT NOTES:

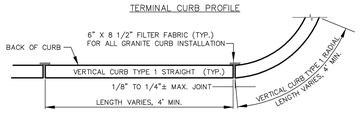
1. EXPANSION JOINTS SHALL BE LOCATED WHERE SIDEWALK ABUTS DRIVEWAYS, CURB OR OTHER ADJACENT STRUCTURES.
2. SLABS SHALL BE PLACED ALTERNATELY IN LENGTHS, NOT TO EXCEED 30 LINEAR FEET OR AS DIRECTED AND SHALL BE SEPARATED BY AN EXPANSION JOINT OF PREFORMED EXPANSION FILLER 1/4" MIN.-1/2" MAX. IN THICKNESS AND SHALL EXTEND THE FULL LENGTH/DEPTH OF THE CONCRETE.
3. THE SIDEWALK SURFACE SHALL BE SCORED INTO BLOCK UNITS. THE DEPTH OF SCORING SHALL BE AT LEAST ONE QUARTER OF THICKNESS OF THE SLABS (1" TYP.). SCORED JOINTS MUST BE COMPLETED AS PART OF THE FINISHING PROCESS. SAW CUTTING OF JOINTS IS NOT ALLOWED. SCORED JOINTS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:
   A. IN LOCATIONS TO ENSURE BLOCK UNITS DO NOT EXCEED 36 SQUARE FEET.
   B. AT THE SPACING THAT MATCHES ADJACENT TIP DOWN CURB
   C. EXTENSION OF EXPANSION JOINTS LOCATED AT HYDRANTS & UTILITY POLES.
4. ALL OUTSIDE EDGES OF THE SLAB AND ALL JOINTS SHALL BE ROUNDED WITH A 1/4" RADIUS EDGING TOOL.
5. CONCRETE SHALL BE FINISHED BY MEANS OF A FLOAT, STEEL TROWELED AND BROOMED WITH A FINE BRUSH IN A TRANSVERSE DIRECTION.

SIDEWALK EXPANSION JOINT
NOT TO SCALE

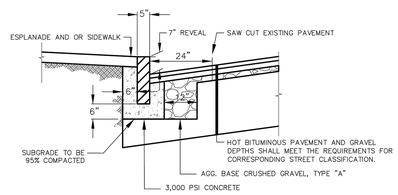
FORE ST. PAVED ROAD SECTION
N.T.S.



TERMINAL CURB PROFILE



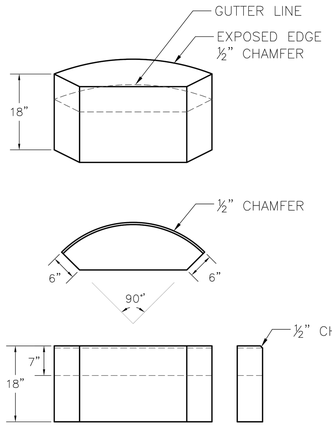
VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

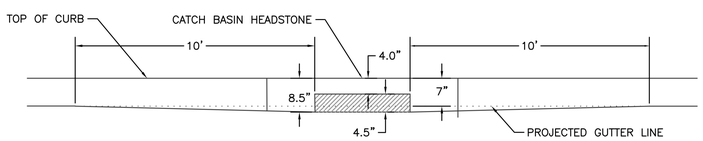
NOTES:
1. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
2. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10-INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
3. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
4. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB
NOT TO SCALE

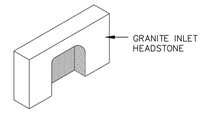


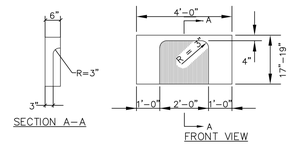
GRANITE RADIUS CORNER "BUG"
NOT TO SCALE

NOTE:
DISH 10' EITHER SIDE OF HEADSTONE FOR CATCH BASIN AT LOW POINT



TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS
NOT TO SCALE





4' GRANITE HEADSTONE FOR CATCH BASIN INLET
NOT TO SCALE

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

PE SEAL:

STATE OF MAINE
LAUREN JANE SWETT
No. 12284
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

PHASE 2

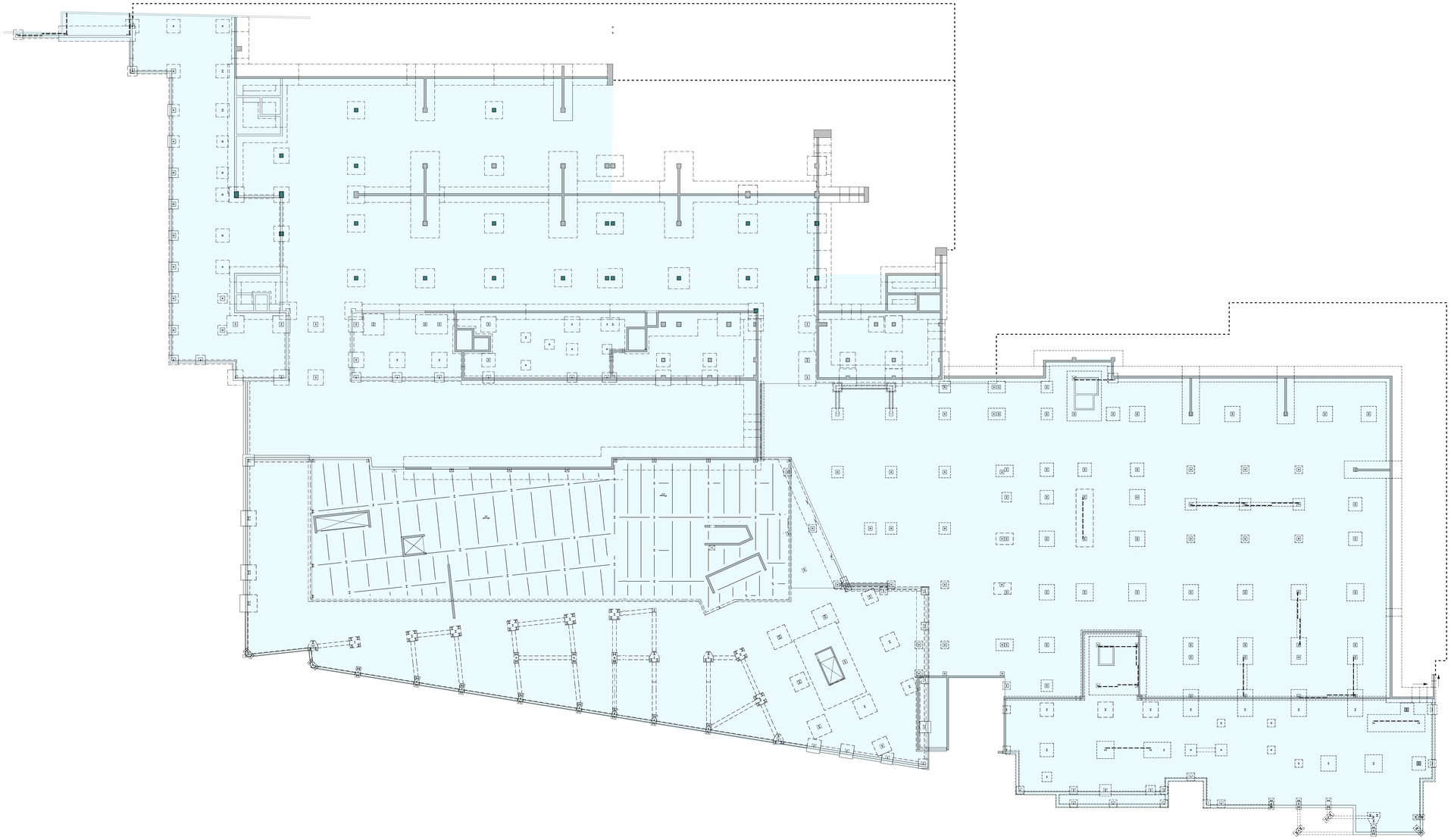
REV	MM/DD/YY	DESCRIPTION

JOB NO:	227007
DATE:	JUNE 2023
SCALE:	AS NOTED
DESIGNED BY:	ANL
DRAWN BY:	BCM
CHECKED BY:	LJS
FILENAME:	PHASE 2 DETAILS .dwg

DRAWING TITLE:
CIVIL
FORE STREET DETAILS

DRAWING NO:
C-207
SHEET: 19 OF 19

C:\Users\bmcdevitt\OneDrive - Woodard & Curran_NT\Folders\Desktop\PTDO\Phase 2 - SD\Phase 2 Details .dwg, Aug 07, 2023 - 3:50pm BMCDEVITT



REFER TO INDIVIDUAL BLOCKS
FOR ADDITIONAL DETAILS

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

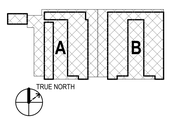
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

Job Number	TTP22728
Drawn	CHF/CGW
Checked	JBB/TMN
Approved	

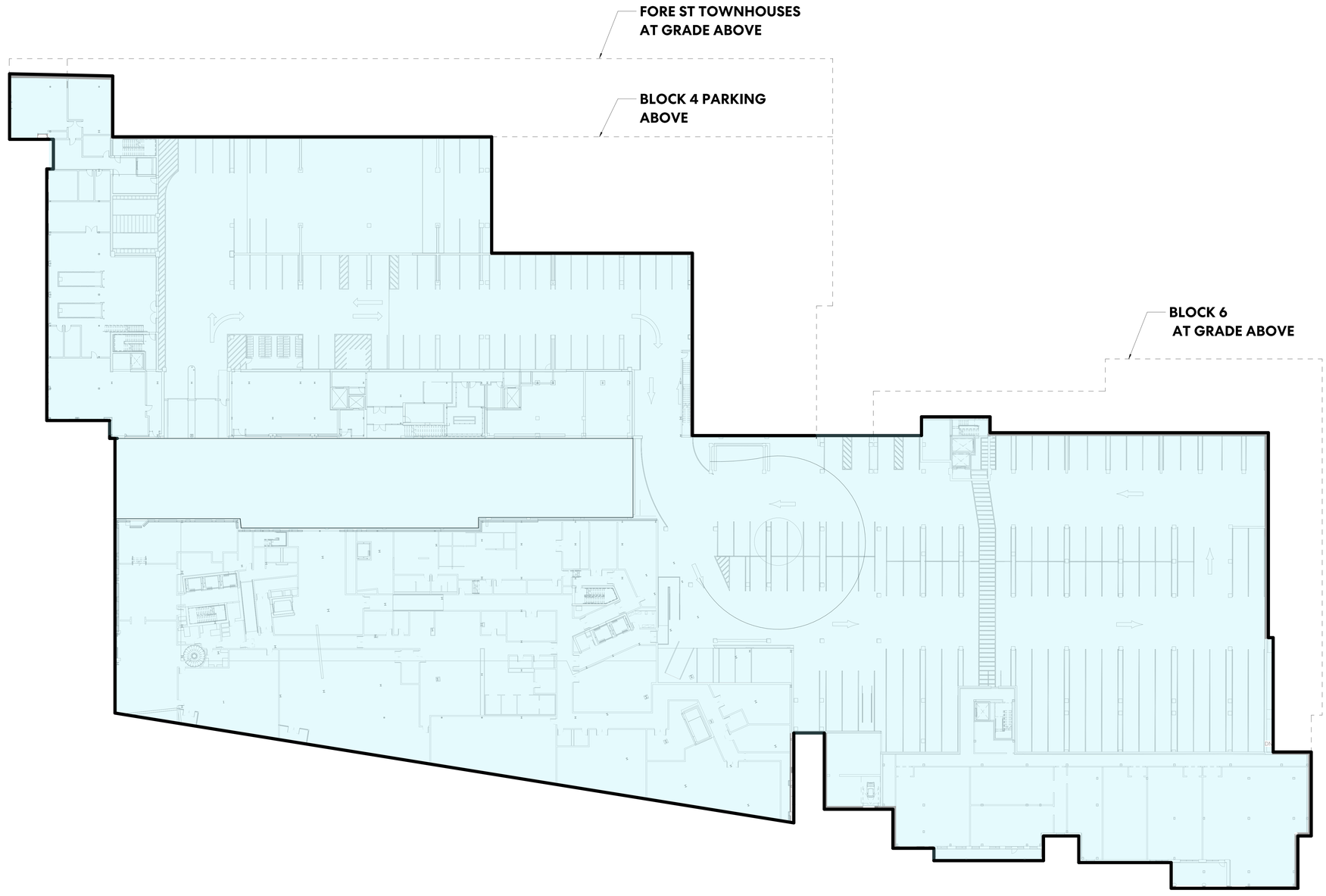
TITLE

LEVEL 1/ FOUNDATION PLAN

SHEET NUMBER

S1.1

6/21/2023 12:51:39 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 BLOCK 4, 5 & 6 FOUNDATION PLAN
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

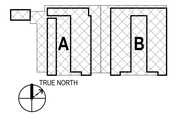
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

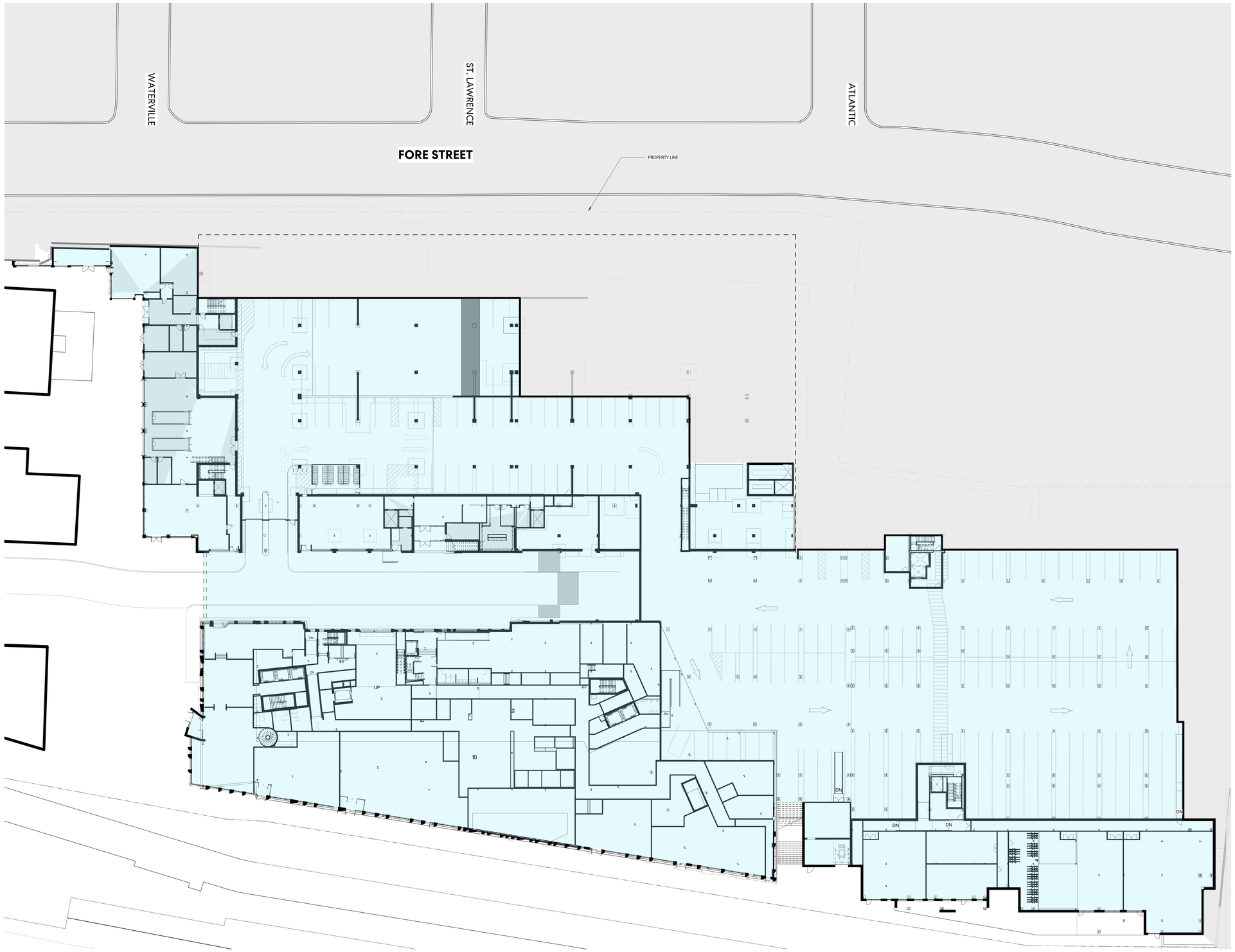
TITLE

BLOCK 4, 5 & 6 FOUNDATION PLAN

SHEET NUMBER

SA-001

8/4/2023 8:03:15 AM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 01
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

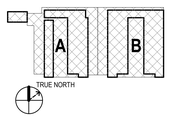
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

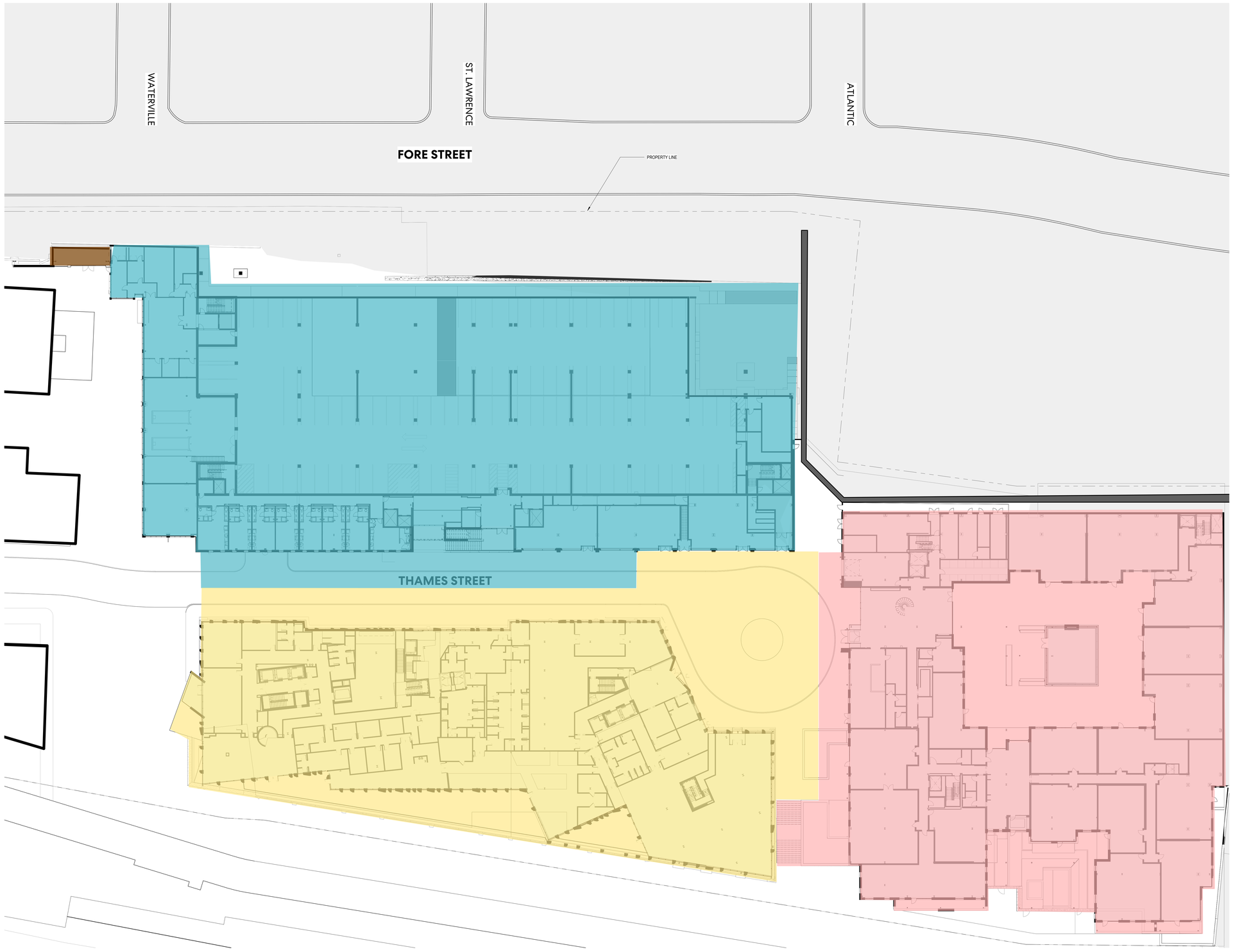
TITLE

PERMIT SITE PLAN - LEVEL 01

SHEET NUMBER

MU-001

8/4/2023 7:55:44 AM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 02
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

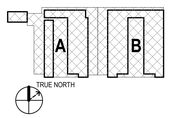
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

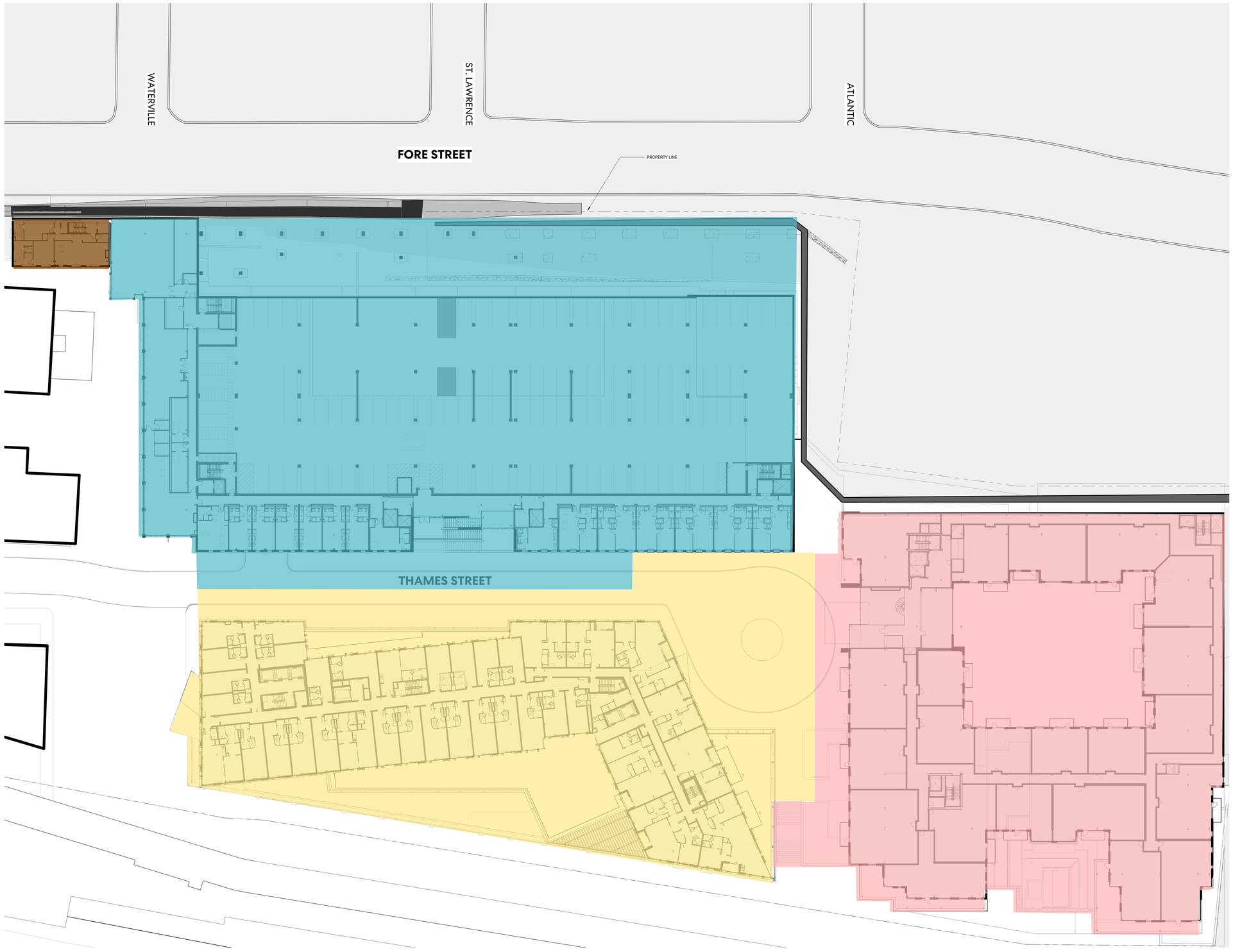
TITLE

PERMIT SITE PLAN - LEVEL 02

SHEET NUMBER

MU-002

7/8/2023 4:28:41 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 03
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

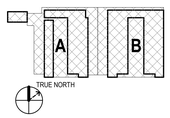
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

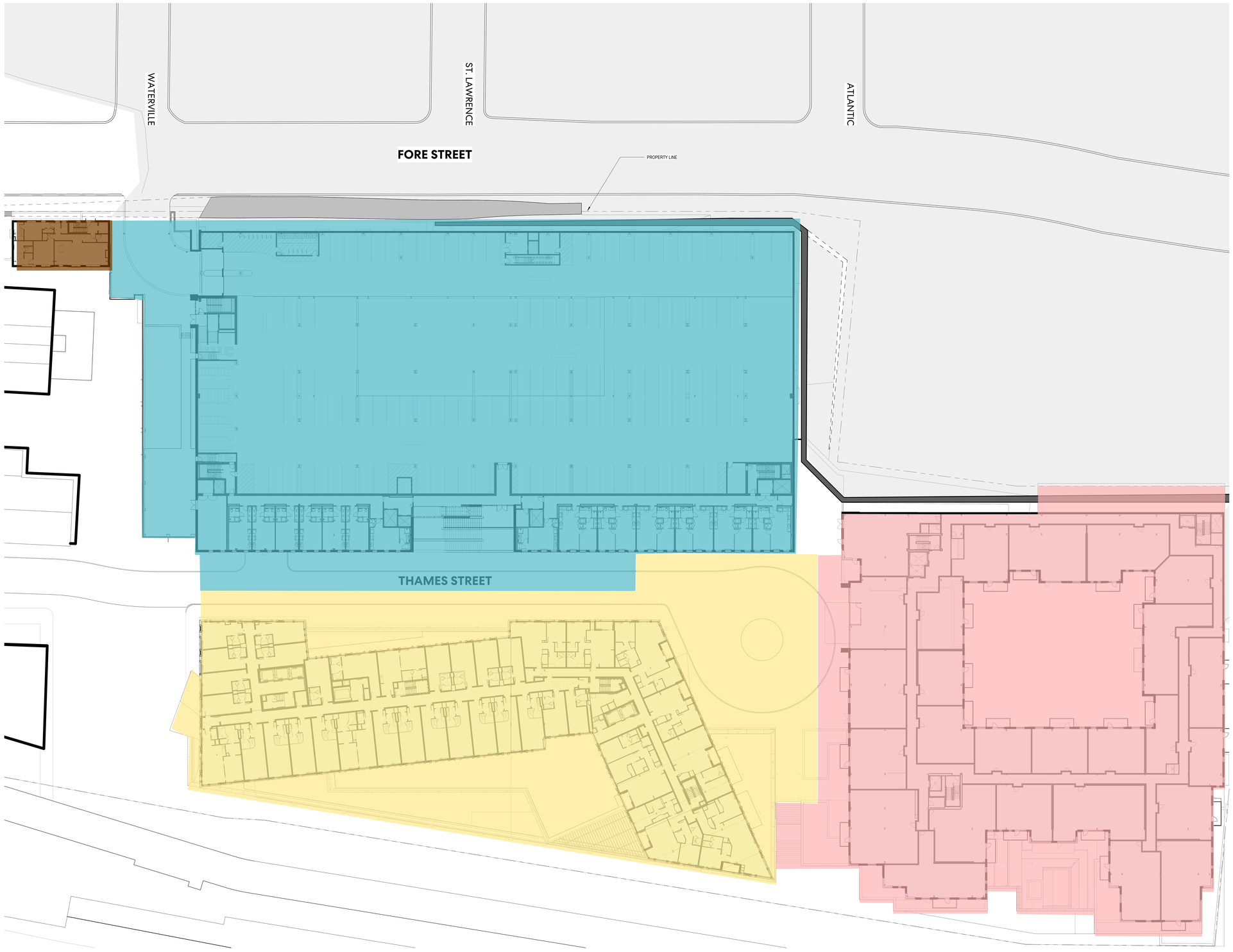
TITLE

PERMIT SITE PLAN - LEVEL 03

SHEET NUMBER

MU-003

7/26/2023 4:26:49 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 04
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

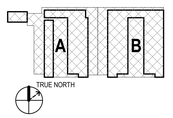
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

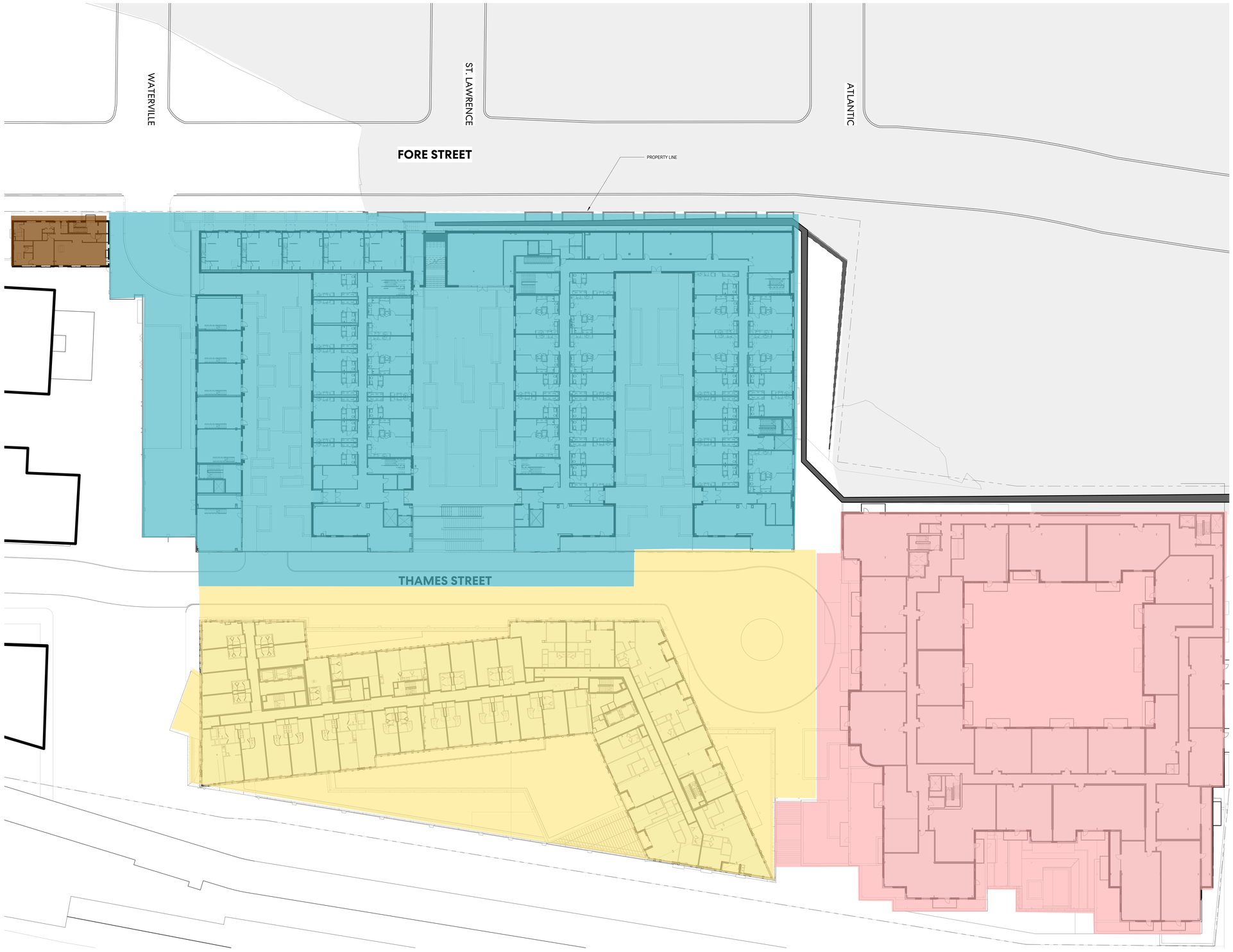
TITLE

PERMIT SITE PLAN - LEVEL 04

SHEET NUMBER

MU-004

7/8/2023 4:26:58 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 05
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

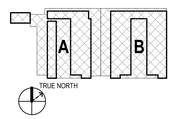
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

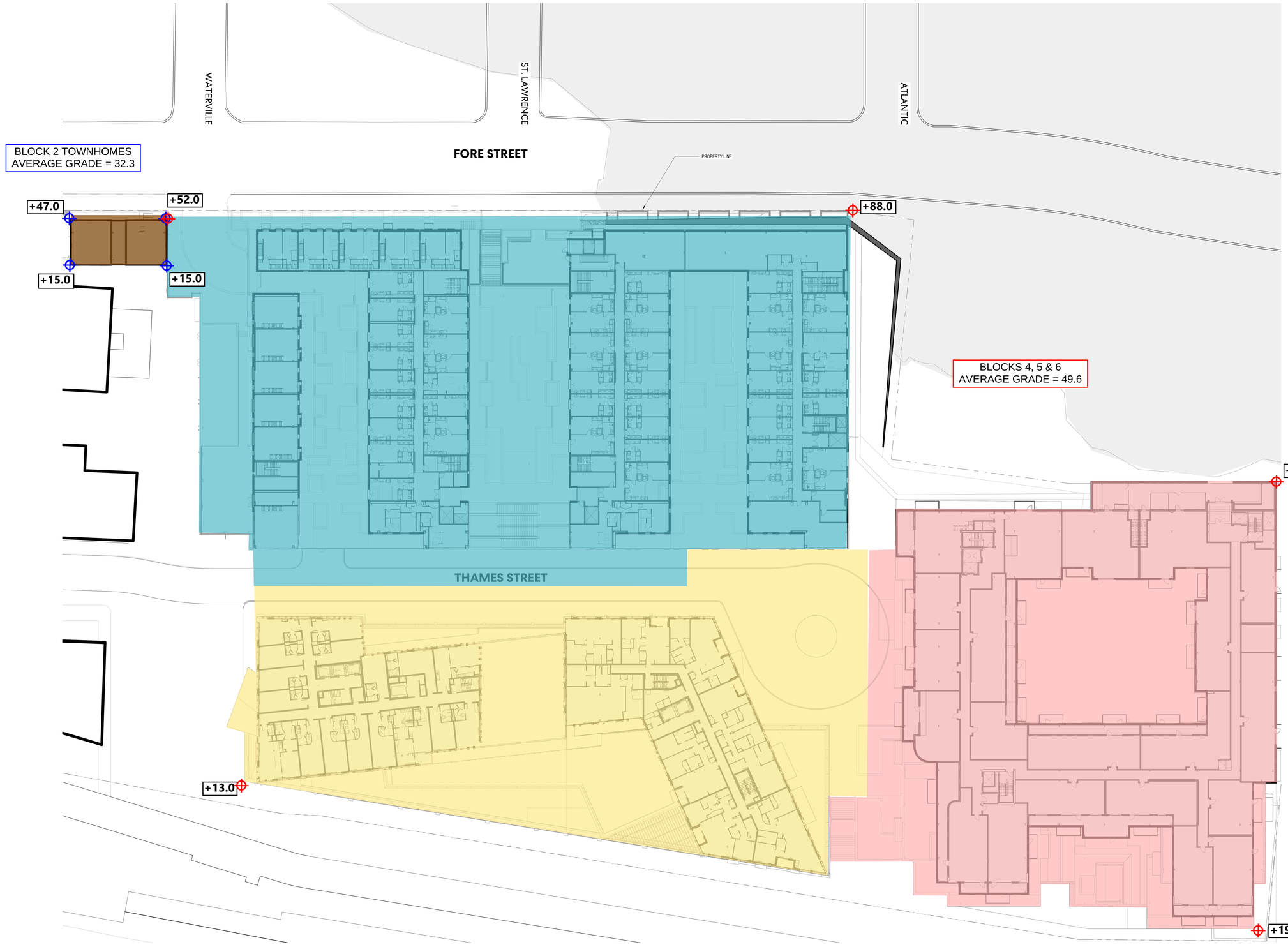
TITLE

PERMIT SITE PLAN - LEVEL 05

SHEET NUMBER

MU-005

7/26/2023 1:27:07 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 06
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

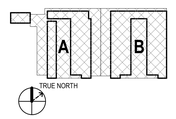
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023
ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

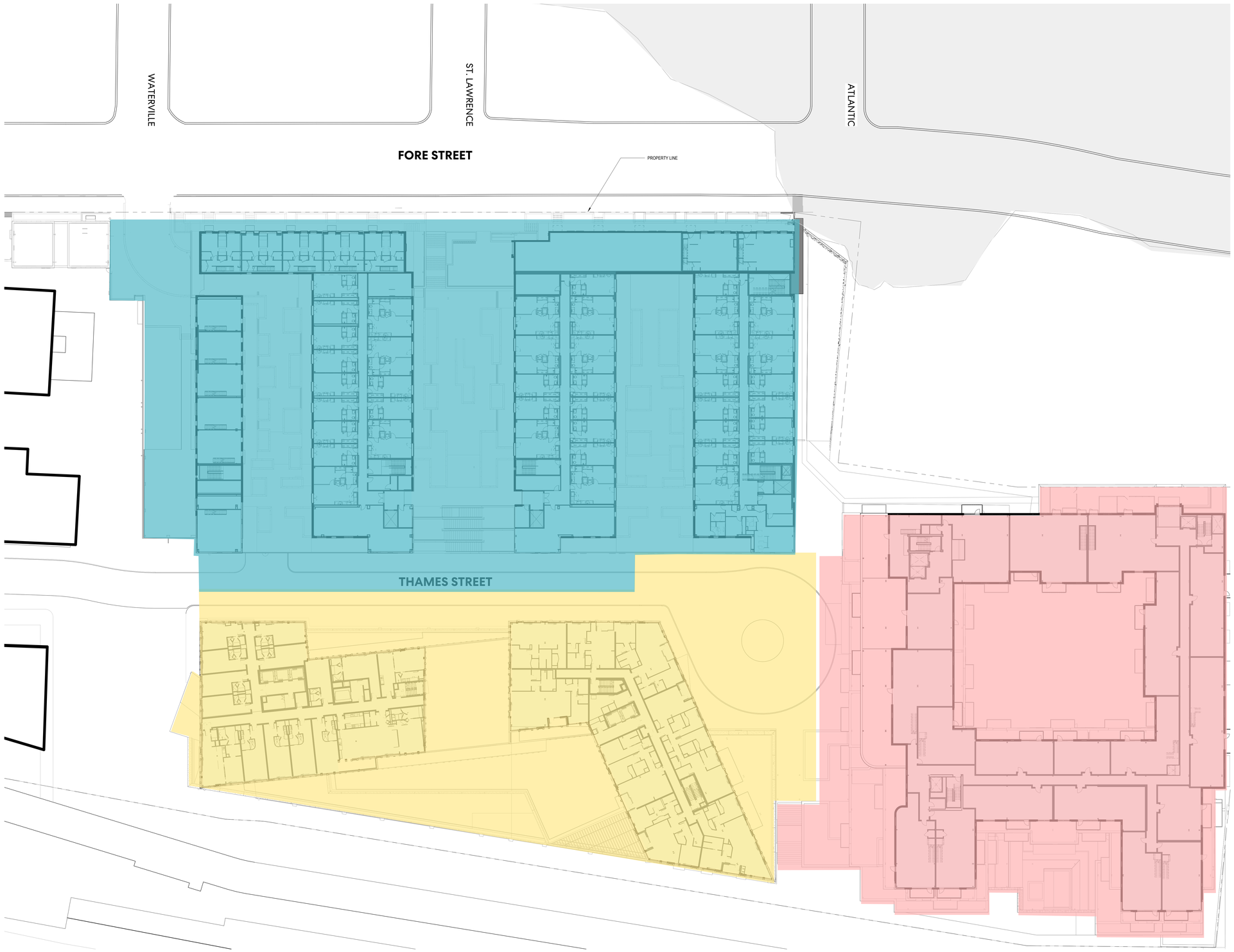
TITLE

PERMIT SITE PLAN - LEVEL 06

SHEET NUMBER

MU-006

7/26/2023 1:27:17 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 07
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

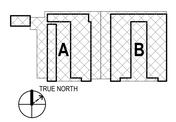
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

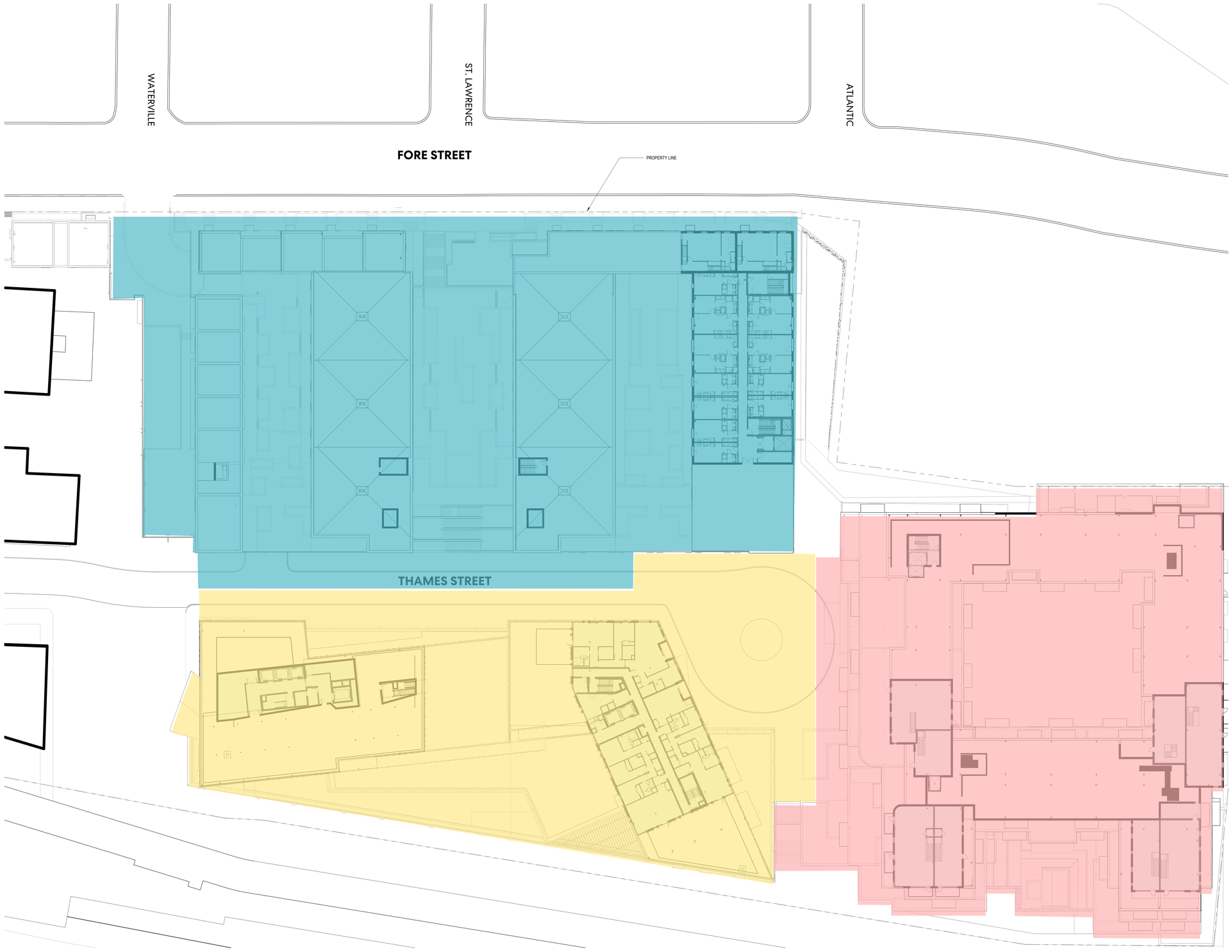
TITLE

PERMIT SITE PLAN - LEVEL 07

SHEET NUMBER

MU-007

7/27/2023 3:47:00 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 08
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

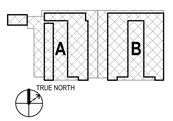
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

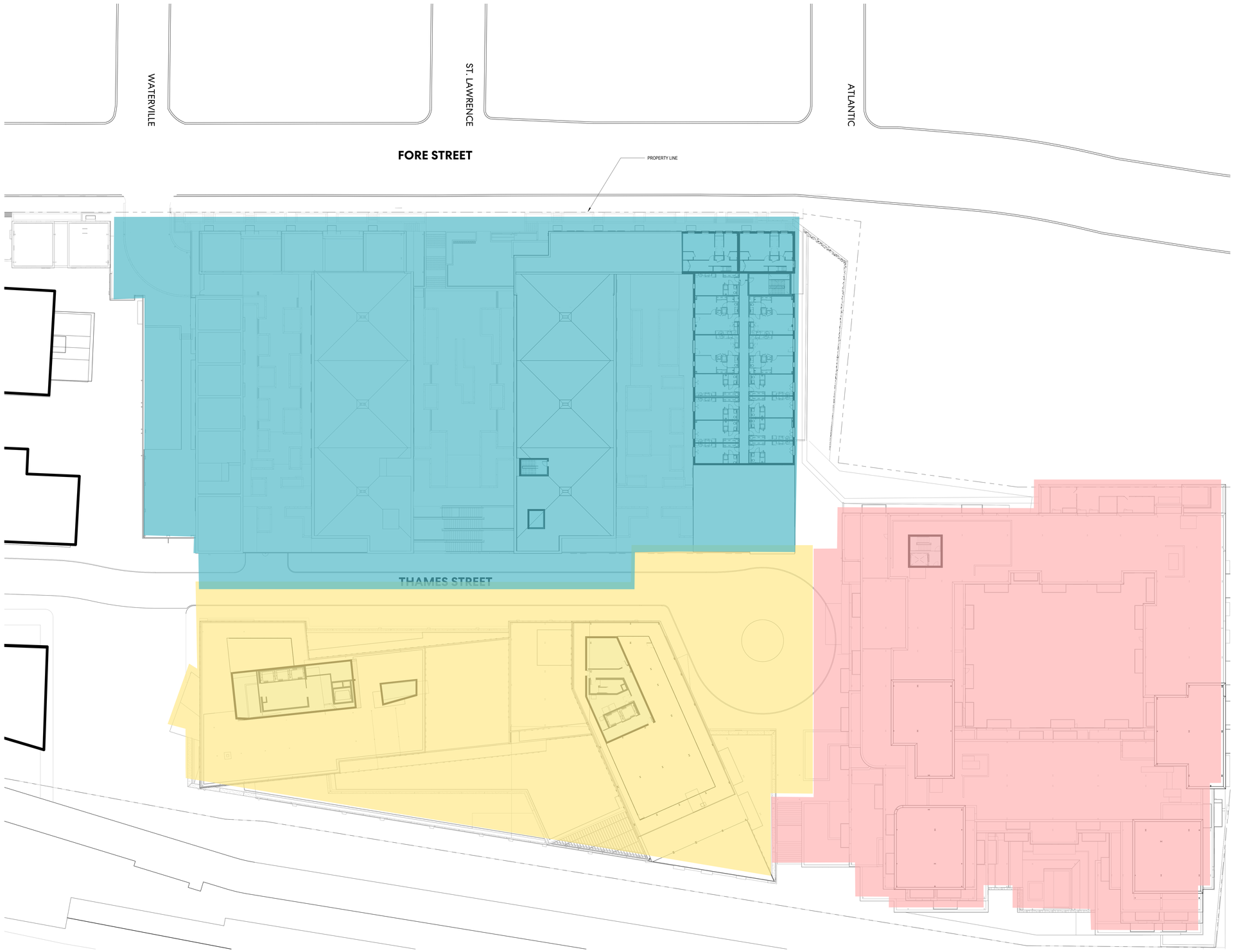
TITLE

PERMIT SITE PLAN - LEVEL 08

SHEET NUMBER

MU-008

7/26/2023 4:27:38 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 PERMIT SITE PLAN - LEVEL 09
3/64" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

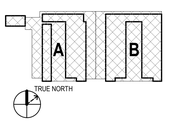
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

TITLE

PERMIT SITE PLAN - LEVEL 09

SHEET NUMBER

MU-009

2" 1" 1/2" 0
7/27/2023 4:30:17 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- SHEET DELINEATION

SCALE: 1"=20'
0 10' 20' 40'
NORTH

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

FORESIDE DEVELOPMENT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

COORDINATION DRAWING

MAY 10, 2023

Job Number	XXXXXXX
Drawn	SMG
Checked	JP
Approved	MB

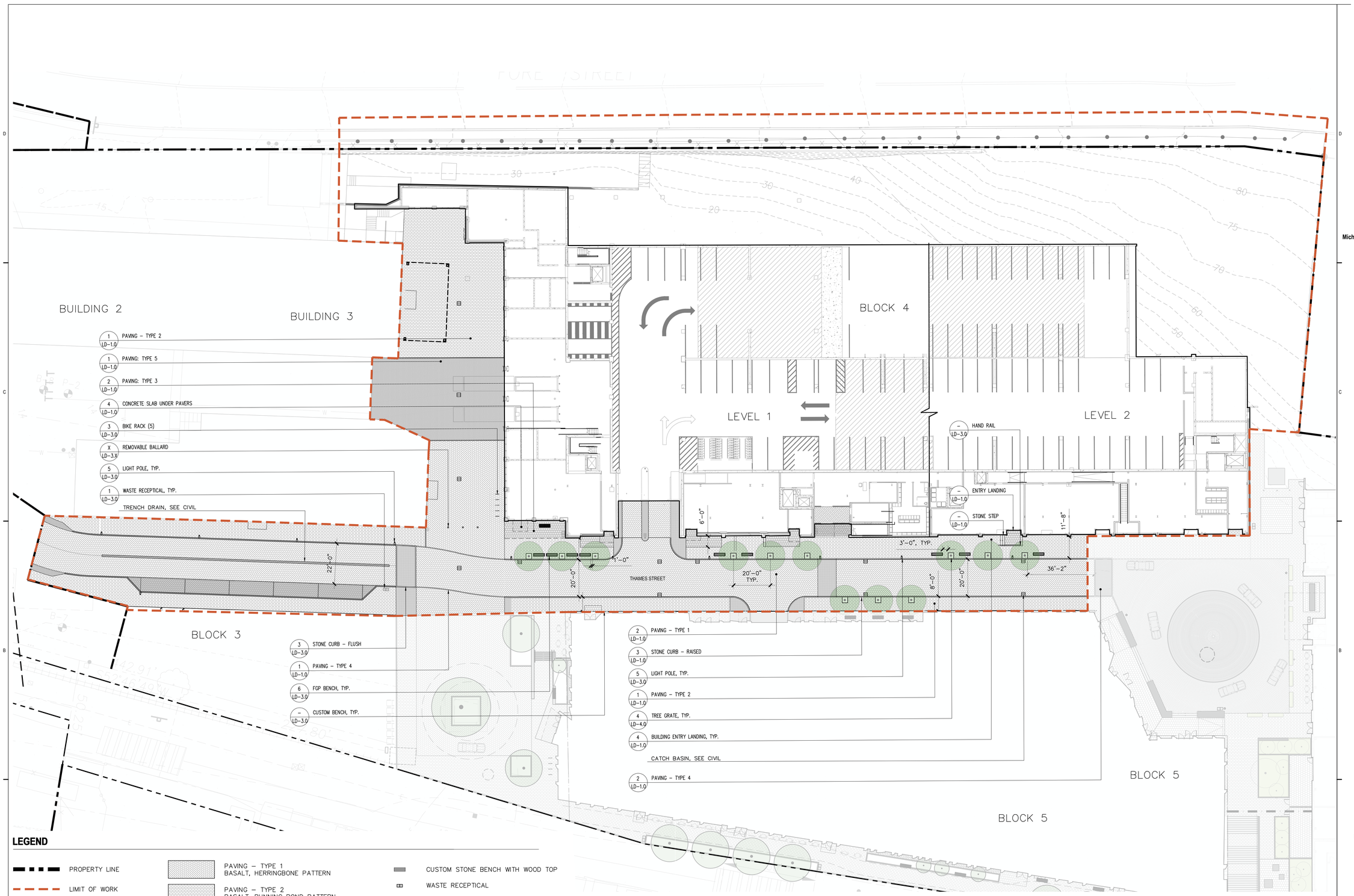
TITLE

BLOCK 4 - LANDSCAPE REFERENCE PLAN

SHEET NUMBER

L-0.0

Copyright © 2018 Perkins+Will



LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- OVERHEAD
- PROPOSED TREE
- PAVING – TYPE 1 BASALT, HERRINGBONE PATTERN
- PAVING – TYPE 2 BASALT, RUNNING BOND PATTERN
- PAVING – TYPE 3 RUNNING BOND PATTERN
- PAVING – TYPE 4 STONE SETTS
- PAVING – TYPE 5 ASPHALT PAVERS, RUNNING BOND PATTERN
- PAVING – TYPE 6 STONE SETTS, SINGLE ROW
- STONE CURB – RAISED
- STONE CURB – FLUSH
- CUSTOM STONE BENCH WITH WOOD TOP
- WASTE RECEPTICAL
- REMOVABLE BOLLARD
- BIKE RACK
- LIGHT POLE
- TREE GRATE
- HAND RAIL
- CONCRETE SLAB BELOW PAVERS

GENERAL NOTES:
1.

SCALE: 1"=20'
0 10' 20' 40'
NORTH

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

COORDINATION DRAWING

MAY 10, 2023

Job Number	XXXXXXX
Drawn	SMG
Checked	JP
Approved	MB

TITLE

Landscape Layout and Materials Plan - Thames Street

SHEET NUMBER

L-1.0

Copyright © 2018 Perkins+Will



LEGEND

- WOODEN ENTRY STOOP
- STONE PAVERS OVER STRUCTURE
- GREEN ROOF SYSTEM
- PLANTING AREA
- CIP CONCRETE PLANTER WALL WITH STONE VENEER
- AMENITY GRILL
- PRIVACY SCREEN
- BIKE RACK
- FGP BENCH
- CIP CONCRETE RETAINING WALL
- GUARD RAIL
- LIMIT OF WORK
- PROPERTY LINE

SCALE: 1"=20'
0 10' 20' 40'
NORTH

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

FORESIDE DEVELOPMENT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

PERMIT SET

JUNE 23, 2023

Job Number	XXXXXXX
Drawn	SMG
Checked	JP
Approved	MB

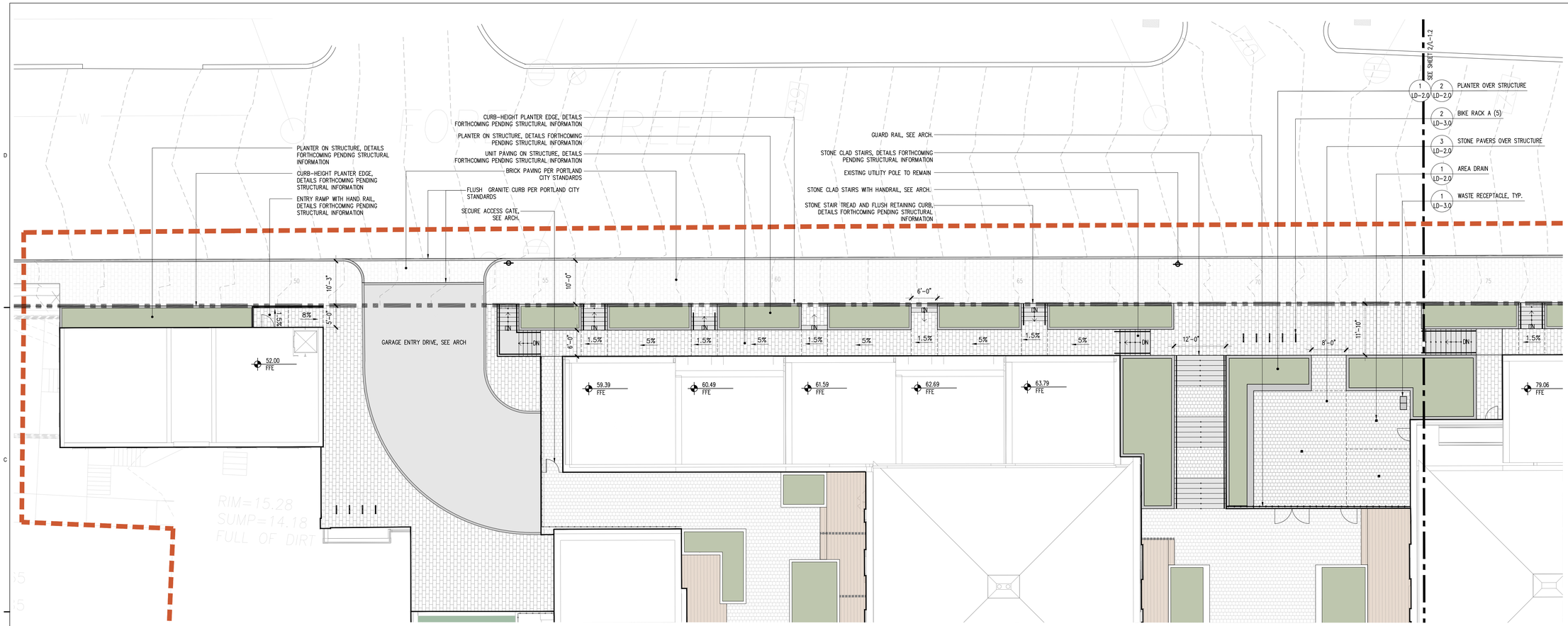
TITLE

Landscape Layout and Materials Plan - Courtyard Level

SHEET NUMBER

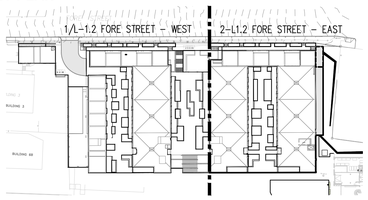
L-1.1

Copyright © 2018 Perkins+Will



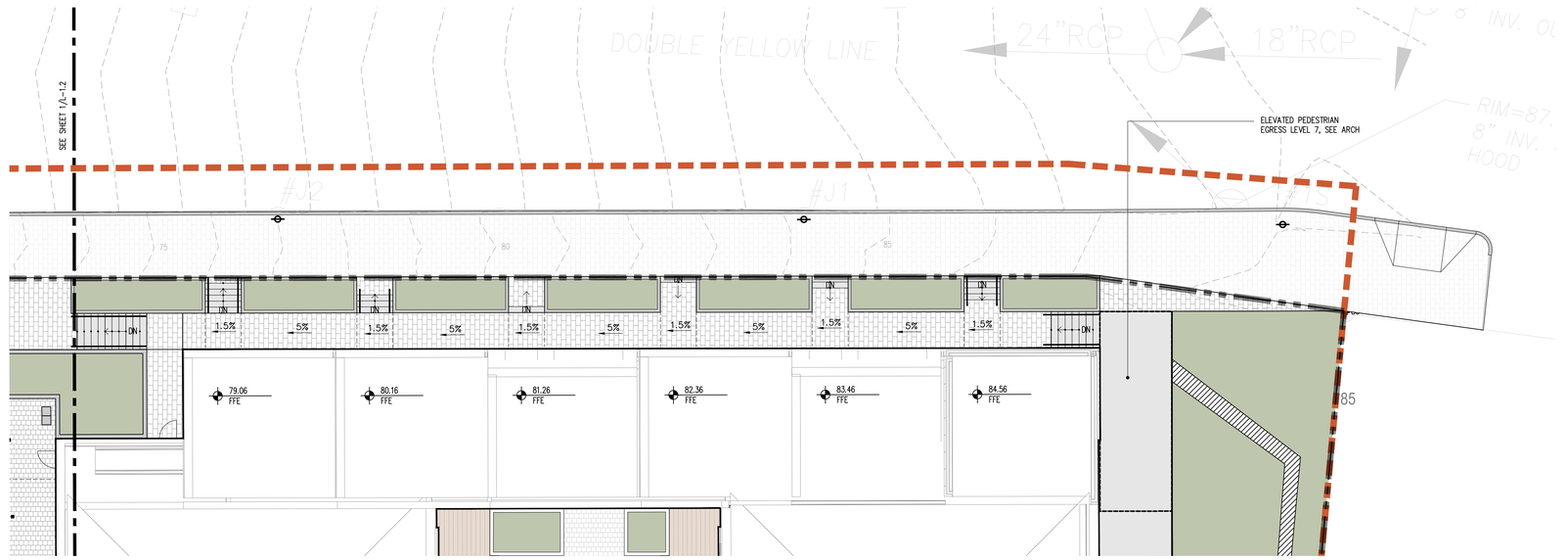
1 FORE STREET - WEST
1"=10'

KEY PLAN



LEGEND

- BRICK PAVERS PER PORTLAND CITY STANDARD
- UNIT PAVERS OVER STRUCTURE
- STONE PAVERS OVER STRUCTURE
- PLANTING AREA
- CIP CONCRETE PLANTER WALL WITH STONE VENEER
- STONE CLAD RETAINING WALL
- BIKE RACK
- FGP BENCH
- WASTE RECEPTACLE
- HAND RAIL AT STAIRS
- GUARD RAIL
- LIMIT OF WORK
- PROPERTY LINE



2 FORE STREET - EAST
1"=10'

SCALE: 1"=10' 0 15' 10' 20' NORTH

Perkins&Will
225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2060

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT
FORESIDE DEVELOPMENT

PFDC - BLOCK 4:
HARBOR HILL

PROJECT ADDRESS

254 Commercial Street,
Suite 118, Portland, ME
04101

KEYPLAN

MARK	ISSUE	DATE

PERMIT SET

JUNE 23, 2023

Job Number	XXXXXXX
Drawn	SMG
Checked	JP
Approved	MB

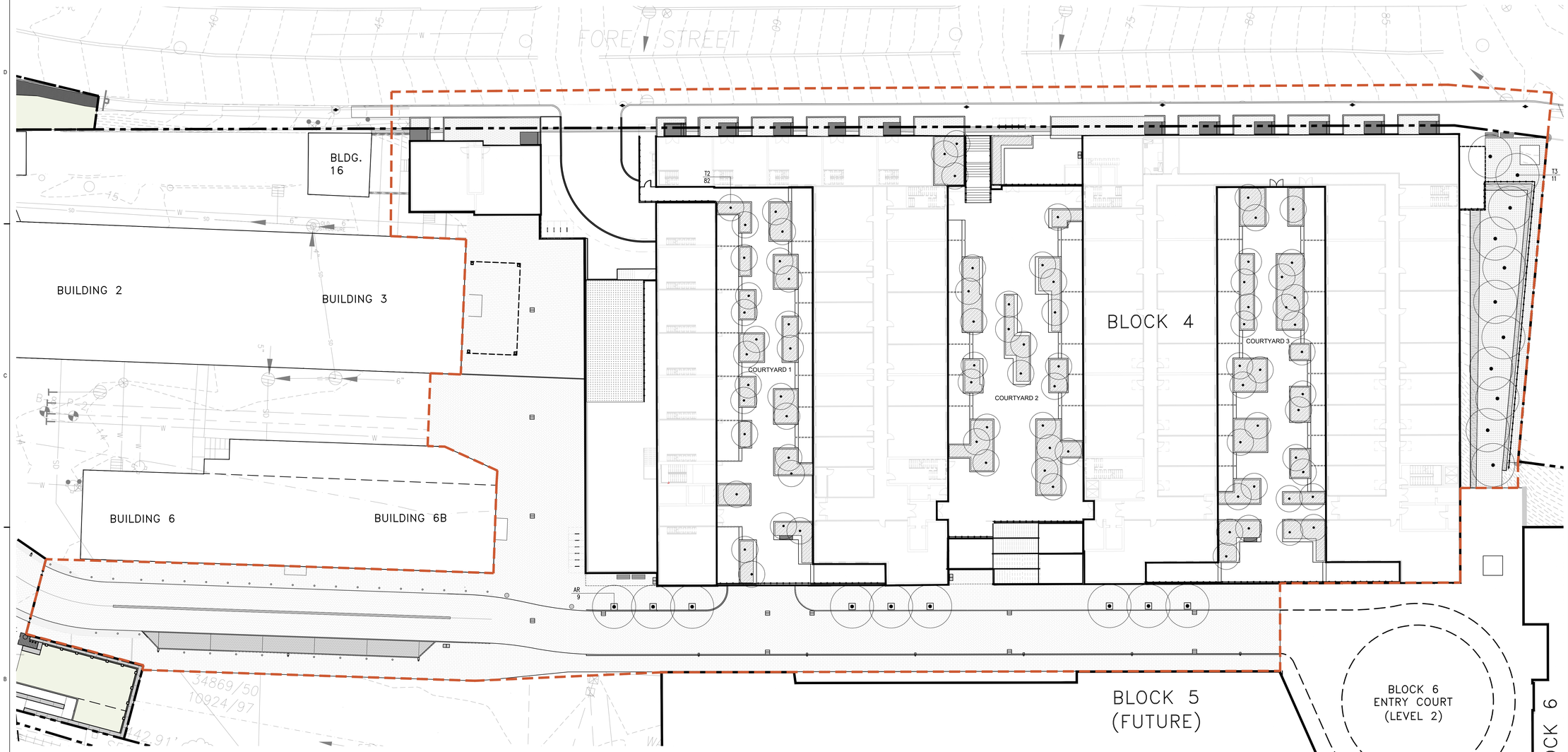
TITLE

Landscape
Layout and Materials
Plan - Fore Street

SHEET NUMBER

L-1.2

Copyright © 2018 Perkins+Will



REPRESENTATIVE PLANT LIST

SYM.	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
TREES								
	STREET PLANTING							
•	AR	9	ACER RUBRUM 'KARPICK'	RED SUNSET RED MAPLE	4–5" CAL.	B+B	PER PLAN	
	TERRACE PLANTERS							
•	T2	82	ACER SPICATUM	MOUNTAIN MAPLE	X	B+B	PER PLAN	
			AMELANCHIER CANADENSIS	SERVICEBERRY				
			CARPINUS CAROLINIANA	AMERICAN HORNBEAM				
	WOODLAND GARDEN							
•	T3	11	BETULA ALLEGHANIENSIS	YELLOW BIRCH	X	B+B	PER PLAN	
			XXX	XXX				
			XXX	XXX				
SHRUBS AND GROUNDCOVERS								
	GREEN ROOF							
	GR	1,458 SF	GREEN ROOF PLANT MIX – TBD		X	X	X	
	STREET PLANTING							
	G1	2,152 SF	RHUS AROMATICA 'GRO–LOW'	GRO–LOW FRAGRANT SUMAC	X	CONT.	X	
			VIBURNUM DENTATUM	ARROWWOOD VIBURNUM				

PLANTS LISTED HERE ARE INTENDED TO CONVEY THE DESIGN CONCEPT ONLY. FINAL PLAN SELECTION WILL BE DETERMINED DURING FUTURE PHASES OF WORK.

SYM.	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
SHRUBS AND GROUNDCOVERS, CONT.								
	TERRACE PLANTERS 6,833 SF TOTAL							
		SHRUBS 20% OF TOTAL AREA						
		1,367 SF	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	X	CONT.	X	
			COMPTONIA PEREGRINA	SWEETFERN				
			VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY				
		GROUNDCOVERS 80% OF TOTAL AREA						
	G2	5,466 SF	ACTAEA RACEMOSA	BLACK COHOSH	X	CONT.	X	
			ANEMONE CANADENSIS	CANADA WINDFLOWER				
			EURYBIA MACROPHYLLA	LARGE–LEAVED ASTER				
			GERANIUM MACULATUM	SPOTTED CRANESBILL				
			OSMUNDA CINNAMOMEA	CINNAMON FERN				
			POLYGONATUM COMMUTATUM	GREAT SOLOMON'S SEAL				
			POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN				
			RHUS AROMATICA 'GRO–LOW'	GRO–LOW FRAGRANT SUMAC				
	WOODLAND GARDEN							
	G3	3,380 SF	DENNSTAEDTIA PUNCTILOBULA	HAYSCENTED FERN	X	CONT.	X	
			EURYBIA MACROPHYLLUS	LARGE–LEAVED ASTER				
			KALMIA LATIFOLIA	MOUNTAIN LAUREL				

SCALE: 1"=20' 0 10' 20' 40' NORTH

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

FORESIDE DEVELOPMENT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

PERMIT SET

SEPTEMBER 30, 2022

Job Number	XXXXXXX
Drawn	SMG
Checked	JP
Approved	MB

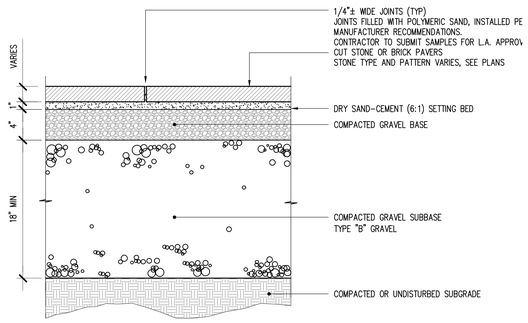
TITLE

Landscape Planting Plan

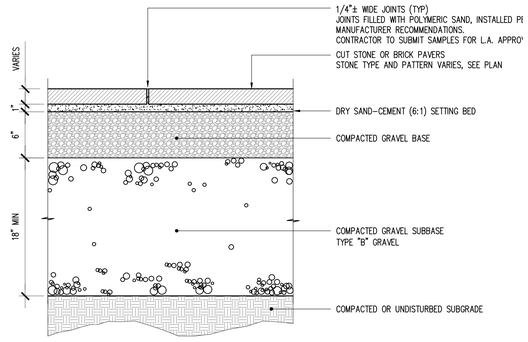
SHEET NUMBER

L-1.2

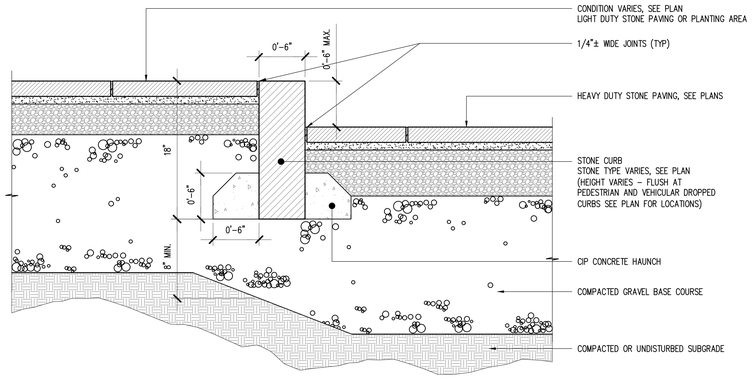
Copyright © 2018 Perkins+Will



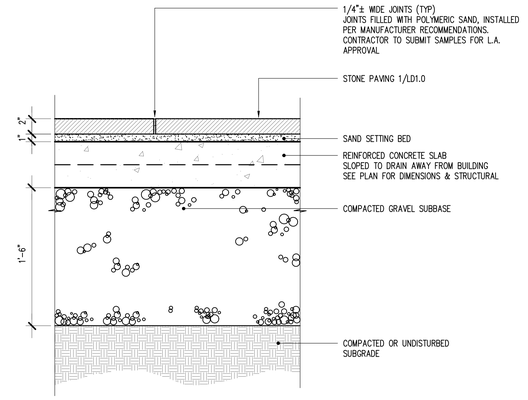
1 LIGHT DUTY STONE PAVING
1 1/2" = 1'-0"



2 HEAVY-DUTY STONE PAVING
1 1/2" = 1'-0"



3 STONE CURB
1 1/2" = 1'-0"



4 BUILDING ENTRY LANDING
1 1/2" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

DESIGN DEVELOPMENT

FEBRUARY 03, 2023

Job Number	157087.000
Drawn	TH
Checked	JP
Approved	XXX

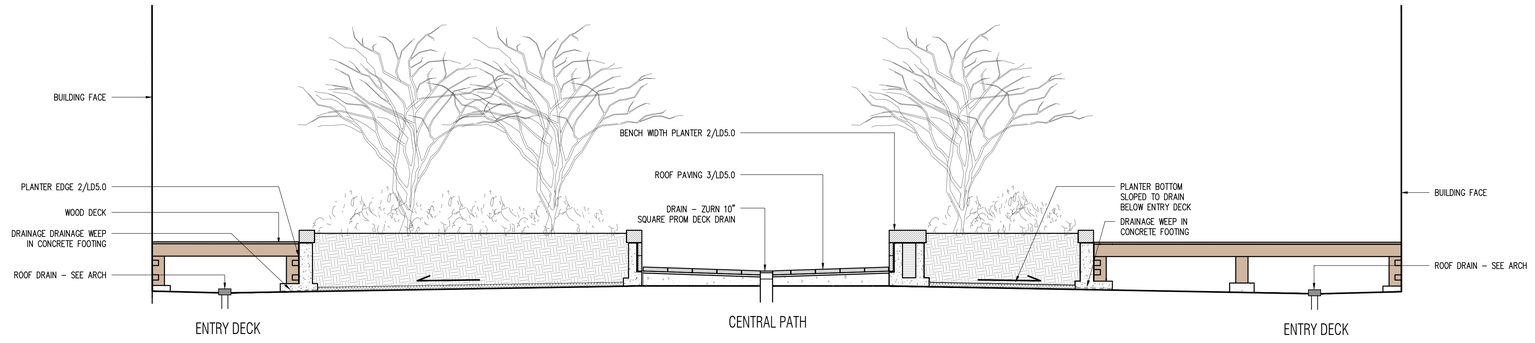
TITLE

SITE DETAILS

SHEET NUMBER

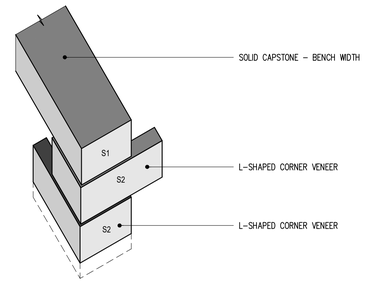
LD-1.0

Copyright © 2018 Perkins+Will

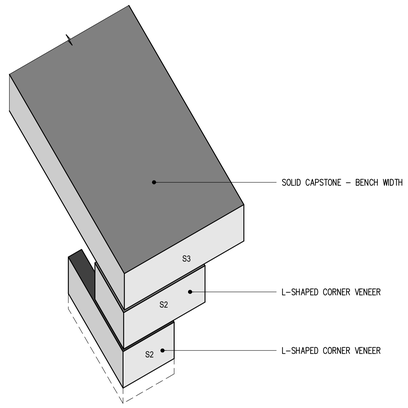


1 COURTYARD SECTION

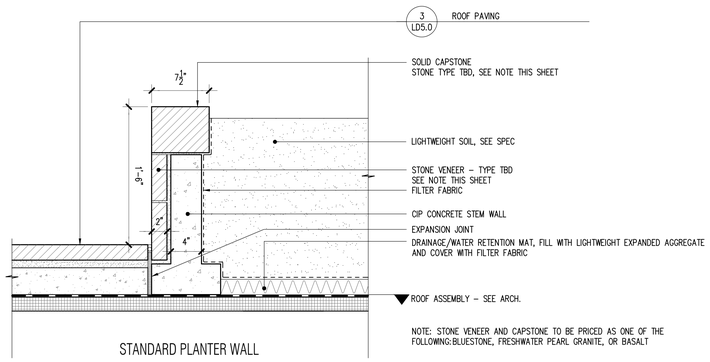
1" = 30'



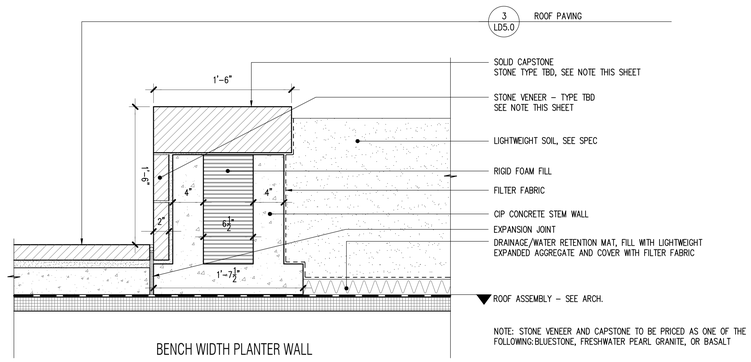
PLANTER CORNER DETAIL



BENCH/PLANTER CORNER DETAIL



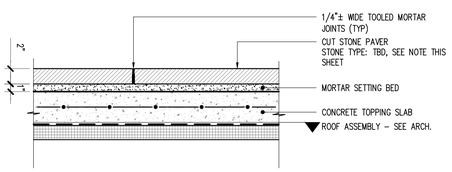
STANDARD PLANTER WALL



BENCH WIDTH PLANTER WALL

2 ROOF TOP PLANTER DETAILS

3/4" = 1'-0"



3 ROOF PAVING DETAIL

1-1/2" = 1'-0"

NOTE:
STONE TYPE FOR COURTYARD PAVING AND PLANTER VENEER OPTIONS FOR PRICING FOR CLIENT REVIEW AND EVALUATION
- BLUESTONE
- FRESHWATER PEARL GRANITE
- BASALT

ALL OPTIONS SAWN AND FLAMED FINISH

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

FORESIDE DEVELOPMENT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

DESIGN DEVELOPMENT

FEBRUARY 03, 2023

Job Number	157087.000
Drawn	TH
Checked	JP
Approved	XXX

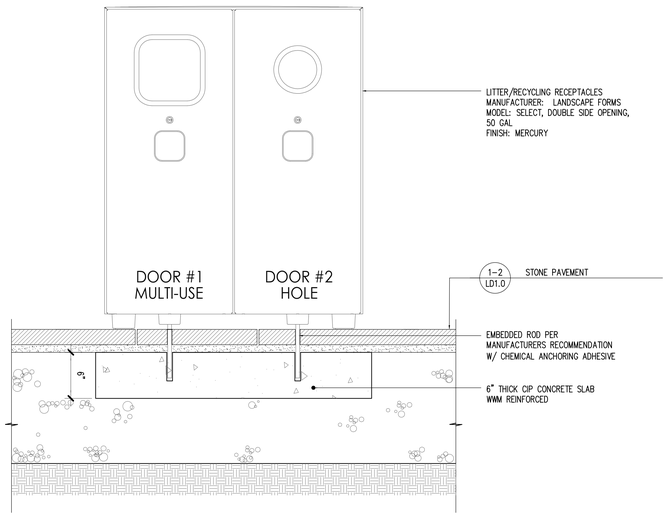
TITLE

COURTYARD DETAILS

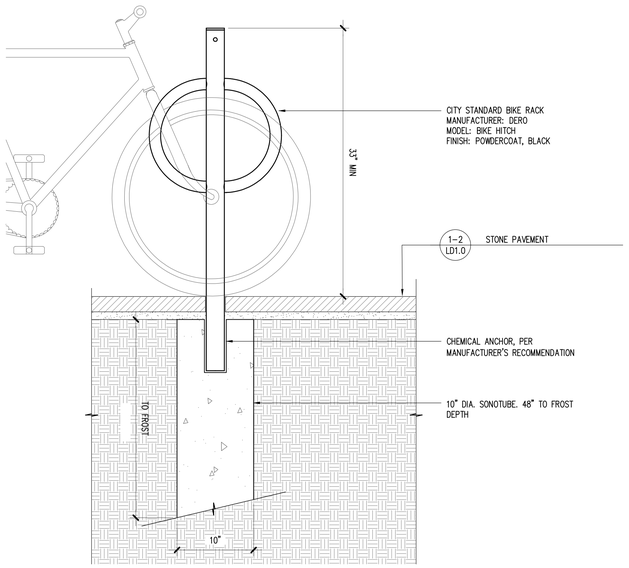
SHEET NUMBER

LD-2.0

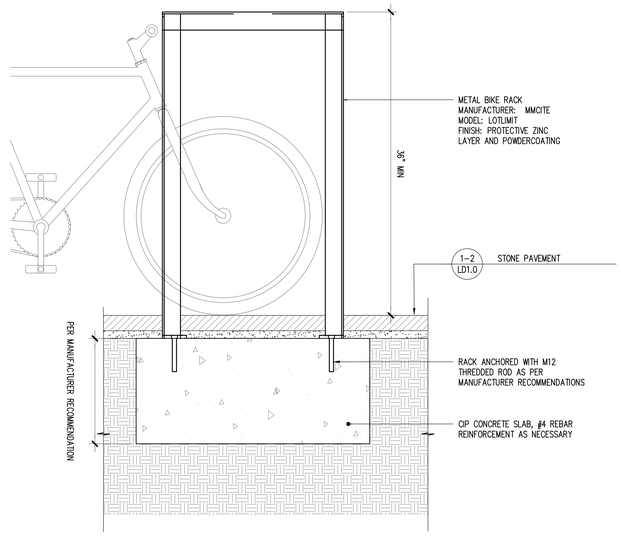
Copyright © 2018 Perkins+Will



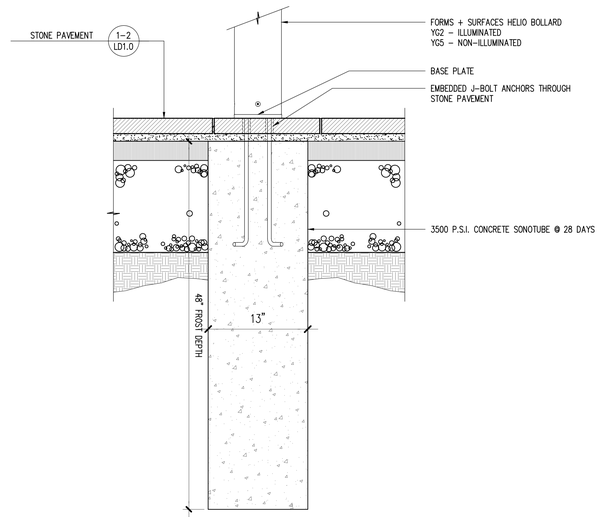
1 LITTER/RECYCLING RECEPTACLE ATTACHMENT
1 1/2" = 1'-0"



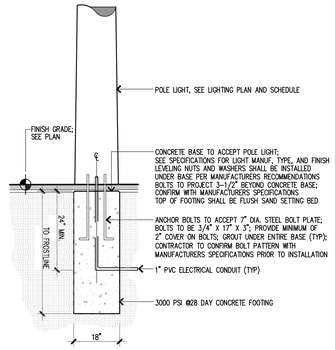
2 BIKE RACK A
1 1/2" = 1'-0"



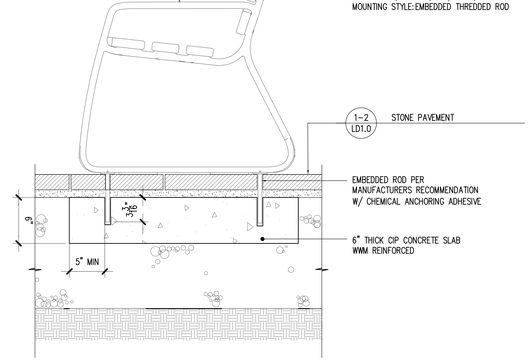
3 BIKE RACK B
1 1/2" = 1'-0"



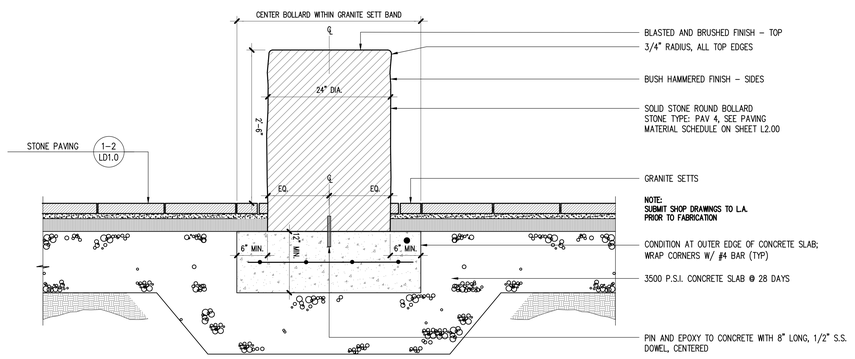
4 STEEL BOLLARD MOUNTING DETAIL (YG2 & YG5)
1-1/2"=1'-0"



5 LIGHT POLE FOUNDATION
1/2"=1'-0"



6 FGP BENCH
1 1/2" = 1'-0"



7 STONE BOLLARD
1"=1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland, ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

FORESIDE DEVELOPMENT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

DESIGN DEVELOPMENT

FEBRUARY 03, 2023

Job Number	157087.000
Drawn	TH
Checked	JP
Approved	XXX

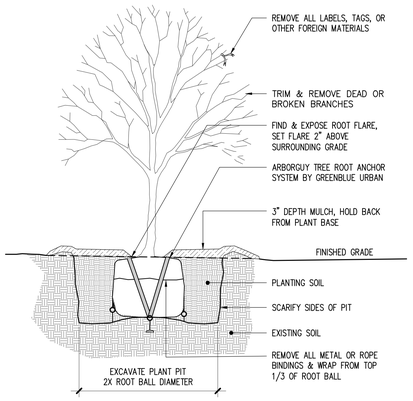
TITLE

SITE FURNISHINGS

SHEET NUMBER

LD-3.0

Copyright © 2018 Perkins+Will

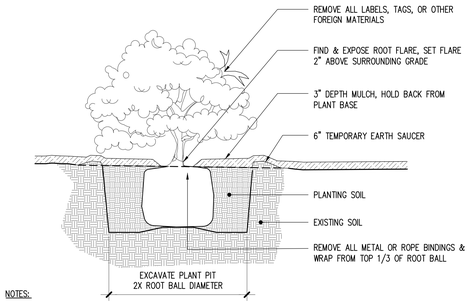


NOTES:

1. SET TREE PLUMB.
2. SECURE TREE AS REQUIRED ACCORDING TO TREE SIZE, LOCATION, & WIND/WEATHER CONDITIONS.
3. IF USING ROOTBALL STABILIZATION, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

1 TREE PLANTING & STAKING DETAIL

1/2" = 1'-0"

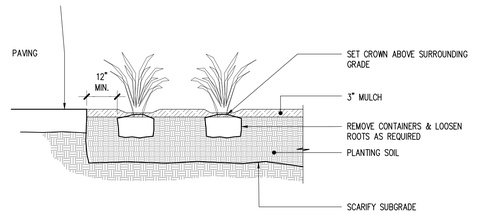


NOTES:

1. SET SHRUB PLUMB.
2. SECURE SHRUB AS MAY BE REQUIRED ACCORDING TO SIZE, LOCATION, & WIND/WEATHER CONDITIONS.
3. IF USING ROOTBALL STABILIZATION, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

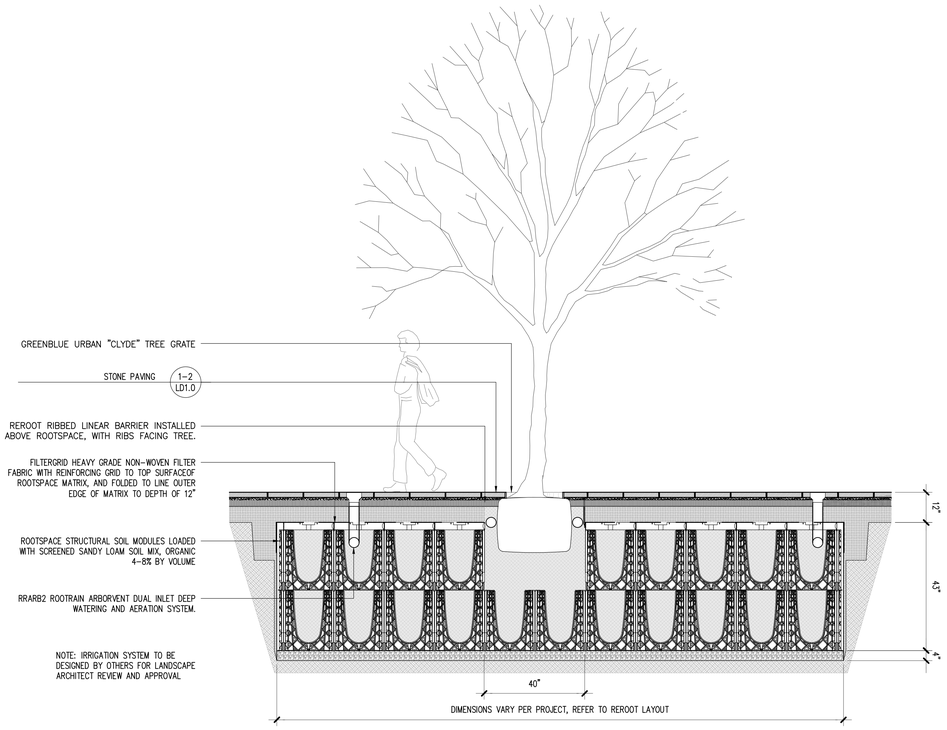
2 SHRUB PLANTING DETAIL

1/2" = 1'-0"



3 GROUNDCOVER PLANTING DETAIL

1/2" = 1'-0"



4 GREEN BLUE URBAN TREE ROOT SYSTEM

1/2" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6062

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

OWNER'S CONSULTANT

LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1080

STAMP

PROJECT

FORESIDE DEVELOPMENT

PFDC - BLOCK 4: HARBOR HILL

PROJECT ADDRESS

254 Commercial Street, Suite 118, Portland, ME 04101

KEYPLAN

MARK	ISSUE	DATE

DESIGN DEVELOPMENT

FEBRUARY 03, 2023

Job Number	157087.000
Drawn	TH
Checked	JP
Approved	XXX

TITLE

PLANTING DETAILS

SHEET NUMBER

LD-4.0

Copyright © 2018 Perkins+Will



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- MATCHLINE
- OVERHEAD
- PROPOSED TREE, SEE PLANTING SCHEDULE

PLANTING NOTES:
1. –

PLANTING SCHEDULE LG-201

SYMBOL	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
TREES								
		1	AMELANCHIER CANADENSIS	SERVICEBERRY	1.5 CAL.	B+B	PER PLAN	
		2	BETULA ALLEGHANIENSIS	YELLOW BIRCH	6" CAL.	B+B	PER PLAN	
		2	CRATAEGUS CRUS–GALLI	COCKSPUR HAWTHORN	1.5 CAL.	B+B	PER PLAN	
		1	QUERCUS ALBA	WHITE OAK	8" CAL.	B+B	PER PLAN	
SHRUB & GROUNDCOVER PALETTE TOTAL AREA– 1,160 SF								
			ARCTOSTAPHYLOS UVA–URSI	COMMON BEARBERRY	#1	CONT.	42" O.C.	
			ARONIA MELANOCARPA	CHOKEBERRY	#10	CONT.	42" O.C.	
			ASTER 'WOODS BLUE'	WOOD'S BLUE ASTER	#1	CONT.	12" O.C.	

SYMBOL	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
SHRUB & GROUNDCOVER PALETTE - CONTINUED								
			ACHILLEA MILLEFOLIUM	YARROW	#1	CONT.	12" O.C.	
			CAREX PENNSYLVANICA	PENNSYLVANIA SEDGE	#1	CONT.	12" O.C.	
			DENNSTAEDTIA PUNCTILOBULA	HAYSCENTED FERN	#1	CONT.	12" O.C.	
			OSMUNDASTRUM CINNAMOMEUM	CINNAMON FERN	#10	CONT.	42" O.C.	
			MYRICA PENNSYLVANICA	SWEETGALE	#10	CONT.	42" O.C.	
			RHUS AROMATICA 'GRO–LOW'	GRO–LOW FRAGRANT SUMAC	#1	CONT.	12" O.C.	

SCALE: 1"=10'
0 5' 10' 20'
NORTH

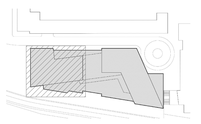


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
1	03.XX.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230
PORTLAND FORESIDE B5
PORTLAND, ME

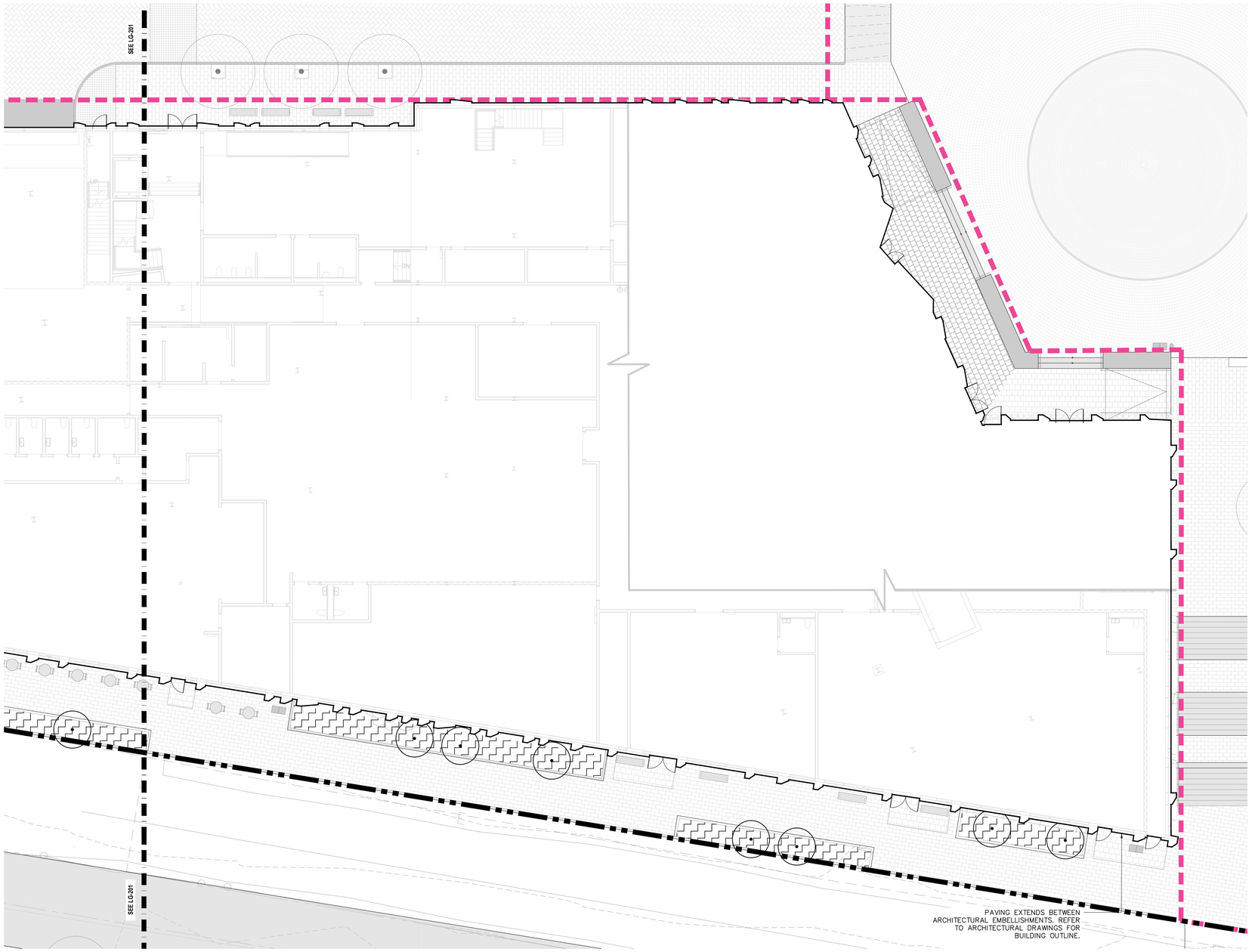
PLANTING PLAN

SCALE: 1" = 10'

DRAWING #:
LG-201

JOB #:

10/11/2022 12:21:41 PM MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- MATCHLINE
- OVERHEAD
- PROPOSED TREE, SEE PLANTING SCHEDULE

PLANTING NOTES:
1. –

PLANTING SCHEDULE LG-202

SYMBOL	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
TREES								
		5	AMELANCHIER CANADENSIS	SERVICEBERRY	1.5 CAL.	B+B	PER PLAN	
		2	CRATAEGUS CRUS–GALLI	COCKSPUR HAWTHORN	1.5 CAL.	B+B	PER PLAN	
SHRUB & GROUNDCOVER PALETTE TOTAL AREA– 643 SF								
			ARCTOSTAPHYLOS UVA–URSI	COMMON BEARBERRY	#1	CONT.	42" O.C.	
			ARONIA MELANOCARPA	CHOKEBERRY	#10	CONT.	42" O.C.	
			ASTER 'WOODS BLUE'	WOOD'S BLUE ASTER	#1	CONT.	12" O.C.	

SYMBOL	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
SHRUB & GROUNDCOVER PALETTE - CONTINUED								
			ACHILLEA MILLEFOLIUM	YARROW	#1	CONT.	12" O.C.	
			CAREX PENNSYLVANICA	PENNSYLVANIA SEDGE	#1	CONT.	12" O.C.	
			DENNSTAEDTIA PUNCTILOBULA	HAYSCENTED FERN	#1	CONT.	12" O.C.	
			OSMUNDASTRUM CINNAMOMEUM	CINNAMON FERN	#10	CONT.	42" O.C.	
			MYRICA PENNSYLVANICA	SWEETGALE	#10	CONT.	42" O.C.	
			RHUS AROMATICA 'GRO–LOW'	GRO–LOW FRAGRANT SUMAC	#1	CONT.	12" O.C.	

SCALE: 1"=10'
0 5' 10' 20'
NORTH

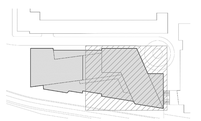


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
1	03.XX.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230
PORTLAND FORESIDE B5
PORTLAND, ME

PLANTING PLAN

SCALE: 1" = 10'

DRAWING #:
LG-202

JOB #:

10/11/2022 12:21:41 PM MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



SCALE: 1"=20'
0 10' 20' 40'
NORTH

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
05/17/23
PERMITTING

LANDSCAPE REFERENCE PLAN

L0.0

LEVEL 1

LEVEL 2

LEVEL 2

LEVEL 1

SEE SHEET L1.2

3 LD3.0 BICYCLE RACKS, TYP.

2 LD3.0 BENCH – TYP.

2 LD2.0 HEAVY DUTY STONE PAVING

3 LD1.0 CONCRETE SLAB UNDER PAVING AT ALL DOORWAYS

1 LD3.0 WASTE RECEPTACLE, TYP.

STONE CURB AT PLANTER

CIP RETAINING WALL WITH STONE VENEER, SEE STRUCTURAL

FILTERRA BIOFILTRATION SYSTEM, SEE CIVIL

RIPRAP AT TOE OF SLOPE, SEE CIVIL

LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- MATCHLINE
- OVERHEAD
- PROPOSED TREE
- HEAVY DUTY STONE PAVING RUNNING BOND PATTERN
- LIGHT–DUTY STONE PAVING RUNNING BOND PATTERN
- CONCRETE SLAB BELOW PAVERS
- PLANTING AREA
- CUSTOM STONE BENCH WITH WOOD TOP
- WASTE RECEPTICAL
- STONE BOLLARD
- SURFACE–MOUNTED BOLLARD
- BIKE RACK
- LIGHT POLE

GENERAL NOTES:
1. –

SCALE: 1"=10'
0 5' 10' 20'
NORTH

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218–0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

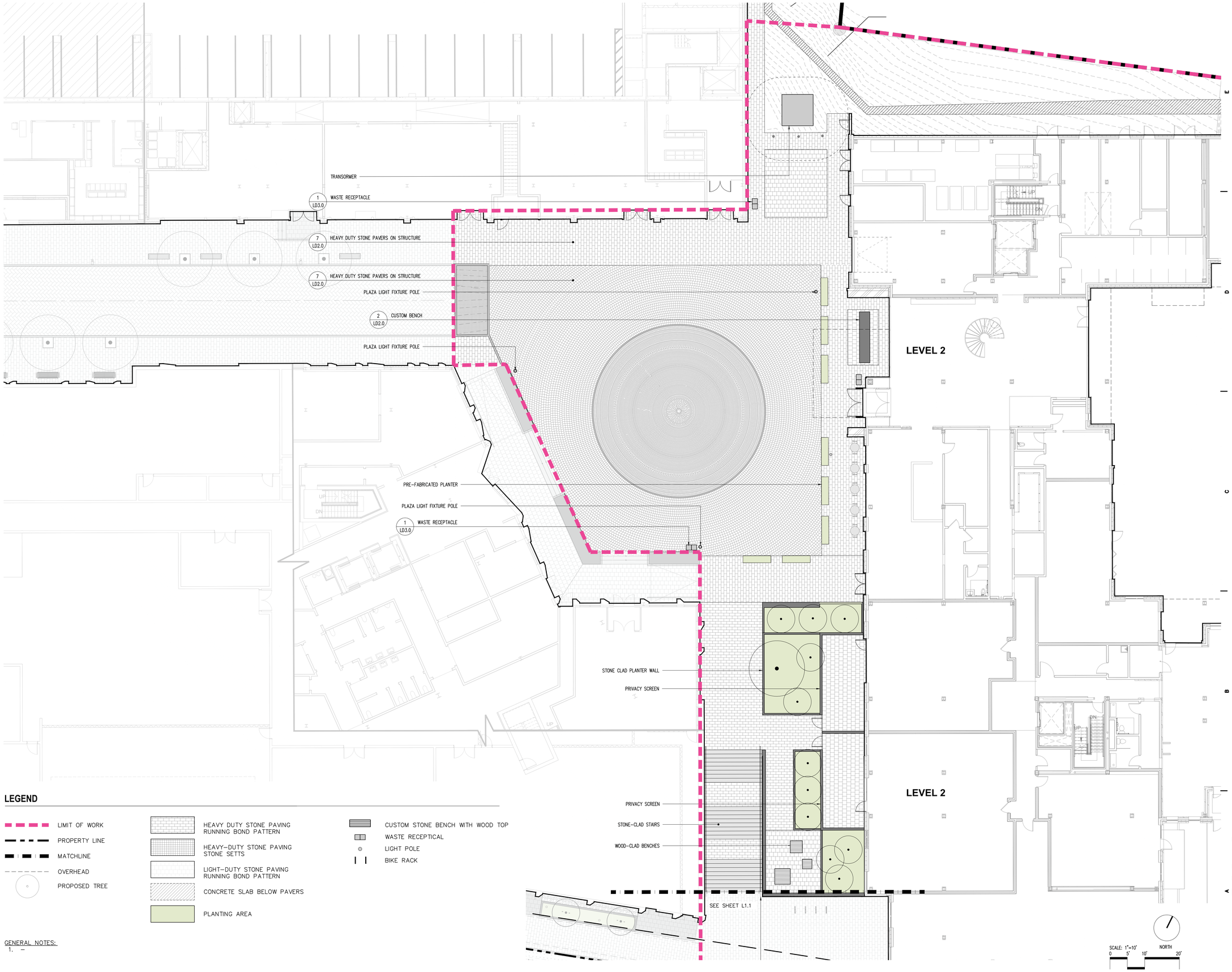
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
05/17/23
PERMITTING

LAYOUT AND MATERIALS PLAN – LEVEL 1

L1.1



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- MATCHLINE
- OVERHEAD
- PROPOSED TREE
- HEAVY DUTY STONE PAVING RUNNING BOND PATTERN
- HEAVY-DUTY STONE PAVING STONE SETTS
- LIGHT-DUTY STONE PAVING RUNNING BOND PATTERN
- CONCRETE SLAB BELOW PAVERS
- PLANTING AREA
- CUSTOM STONE BENCH WITH WOOD TOP
- WASTE RECEPTICAL
- LIGHT POLE
- BIKE RACK

GENERAL NOTES:
1. –

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

REV 1 LIGHTING UPDATE 01/20/23

ISSUE
05/17/23
PERMITTING

LAYOUT AND MATERIALS PLAN – PODIUM

L1.2



LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- OVERHEAD
- PROPOSED TREE
- BOARD–FORMED CONCRETE WALL
- WOOD–SLAT PRIVACY SCREEN
- PLANTING AREA,SEE L2.0, L2.3
- PEDESTAL PAVERS ON STRUCTURE

GENERAL NOTES:

1. ALL PREFABRICATED METAL PLANTER UNITS ARE TO BE TOUNERSOL SITEWORKS WILSHIRE PLANTERS IN POWDER–COATED STEEL, OR APPROVED EQUAL.
2. FOR POOL TERRACE LAYOUT AND HARDSCAPE MATERIALS SELECTIONS, SEE ARCHITECTURAL DRAWINGS. FOR PLANTING AT POOL TERRACE, SEE L2.3.
3. ALL PLANTER WALLS TO BE 4" THICK BOARDFORM CONCRETE. ALL PRIVACY WALLS TO BE 8" THICK BOARDFORM CONCRETE.
4. WATER FEATURES ARE TO BE CIRCULATING SYSTEMS AND INCLUDE CIP CONCRETE BOARDFORM BASES WITH CUSTOM METAL INSERT, A PUMP.AND RESERVOIR.
5. FOR CONSERVATORY LAYOUT AND SELECTION,, SEE ARCHITECTURAL DRAWINGS.

SCALE: 1"=10'
0 5' 10' 20'
NORTH

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218–0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

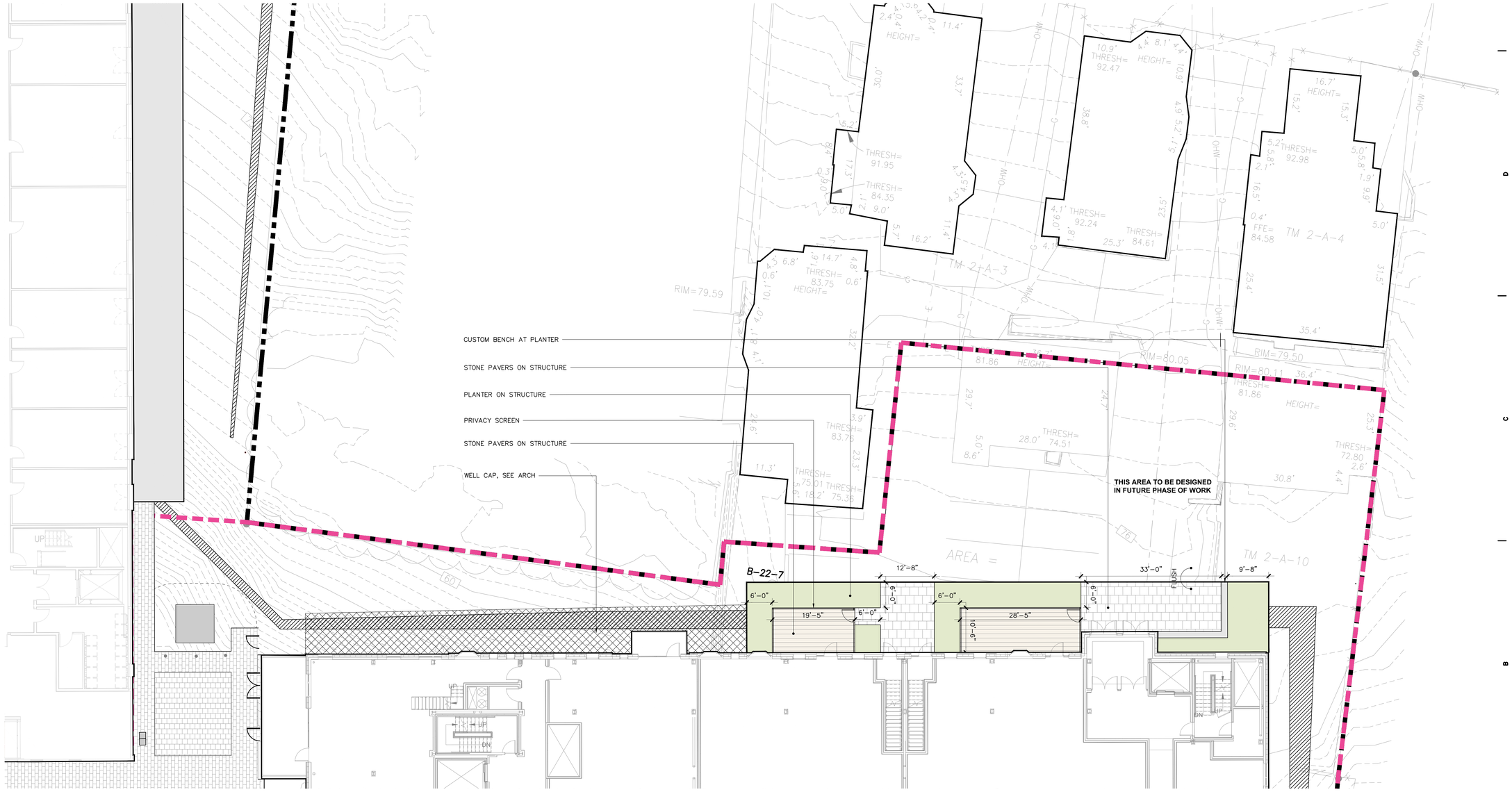
PDFC – BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
05/17/23
PERMITTING

LAYOUT AND MATERIALS PLAN – LEVEL 2 COURTYARDS

L1.3



LEGEND

- LIGHT DUTY STONE PAVERS ON STRUCTURE
- PEDESTAL PAVERS ON STRUCTURE
- PLANTING AREA
- LIMIT OF WORK
- PROPERTY LINE

SCALE: 1"=10'
0 5' 10' 20'
NORTH

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

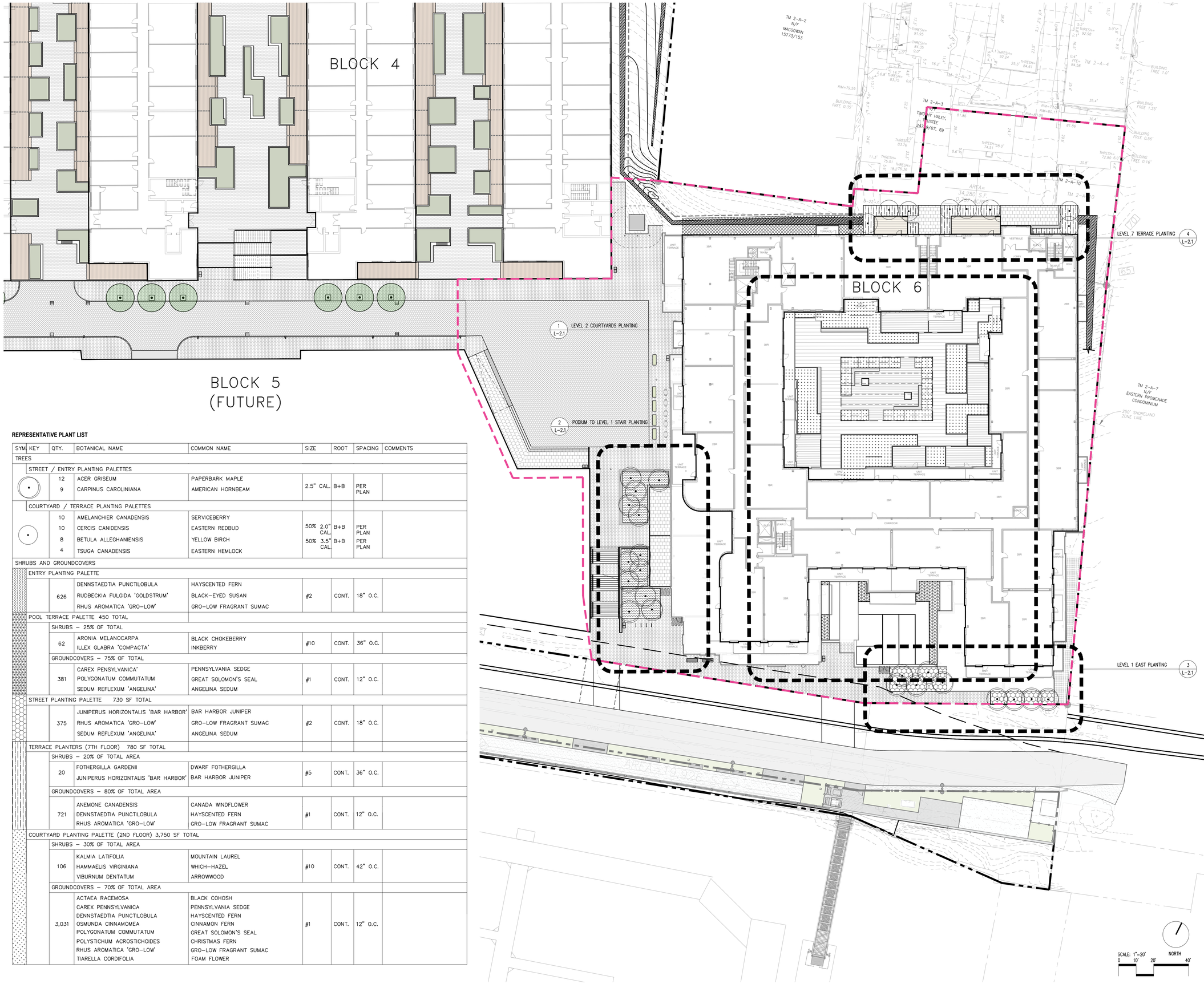
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
05/17/23
PERMITTING

LAYOUT AND MATERIALS PLAN – LEVEL 7 TERRRACE

L1.4



REPRESENTATIVE PLANT LIST

SYM	KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
TREES								
		STREET / ENTRY PLANTING PALETTES						
		12	ACER GRISEUM	PAPERBARK MAPLE	2.5" CAL.	B+B	PER PLAN	
		9	CARPINUS CAROLINIANA	AMERICAN HORNBEAM				
		COURTYARD / TERRACE PLANTING PALETTES						
		10	AMELANCHIER CANADENSIS	SERVICEBERRY	50% 2.0" CAL.	B+B	PER PLAN	
		10	CERCIS CANIDENSIS	EASTERN REDBUD				
		8	BETULA ALLEGHANIENSIS	YELLOW BIRCH	50% 3.5" CAL.	B+B	PER PLAN	
		4	TSUGA CANADENSIS	EASTERN HEMLOCK				
SHRUBS AND GROUNDCOVERS								
		ENTRY PLANTING PALETTE						
		626	DENNSTAEDTIA PUNCTILOBULA	HAYSCENTED FERN	#2	CONT.	18" O.C.	
			RUDBECKIA FULGIDA 'GOLDSTRUM'	BLACK-EYED SUSAN				
			RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC				
		POOL TERRACE PALETTE 450 TOTAL						
			SHRUBS - 25% OF TOTAL					
		62	ARONIA MELANOCARPA	BLACK CHOKEBERRY	#10	CONT.	36" O.C.	
			ILLEX GLABRA 'COMPACTA'	INKBERRY				
			GROUNDCOVERS - 75% OF TOTAL					
		381	CAREX PENSYLVANICA'	PENNSYLVANIA SEDGE	#1	CONT.	12" O.C.	
			POLYGONATUM COMMUTATUM	GREAT SOLOMON'S SEAL				
			SEDUM REFLEXUM 'ANGELINA'	ANGELINA SEDUM				
		STREET PLANTING PALETTE 730 SF TOTAL						
		375	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER	#2	CONT.	18" O.C.	
			RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC				
			SEDUM REFLEXUM 'ANGELINA'	ANGELINA SEDUM				
		TERRACE PLANTERS (7TH FLOOR) 780 SF TOTAL						
			SHRUBS - 20% OF TOTAL AREA					
		20	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	#5	CONT.	36" O.C.	
			JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER				
			GROUNDCOVERS - 80% OF TOTAL AREA					
		721	ANEMONE CANADENSIS	CANADA WINDFLOWER	#1	CONT.	12" O.C.	
			DENNSTAEDTIA PUNCTILOBULA	HAYSCENTED FERN				
			RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC				
		COURTYARD PLANTING PALETTE (2ND FLOOR) 3,750 SF TOTAL						
			SHRUBS - 30% OF TOTAL AREA					
		106	KALMIA LATIFOLIA	MOUNTAIN LAUREL	#10	CONT.	42" O.C.	
			HAMMAELIS VIRGINIANA	WHICH-HAZEL				
			VIBURNUM DENTATUM	ARROWWOOD				
			GROUNDCOVERS - 70% OF TOTAL AREA					
		3,031	ACTAEA RACEMOSA	BLACK COHOSH	#1	CONT.	12" O.C.	
			CAREX PENNSYLVANICA	PENNSYLVANIA SEDGE				
			DENNSTAEDTIA PUNCTILOBULA	HAYSCENTED FERN				
			OSMUNDA CINNAMOMEA	CINNAMON FERN				
			POLYGONATUM COMMUTATUM	GREAT SOLOMON'S SEAL				
			POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN				
			RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC				
			TIARELLA CORDIFOLIA	FOAM FLOWER				

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

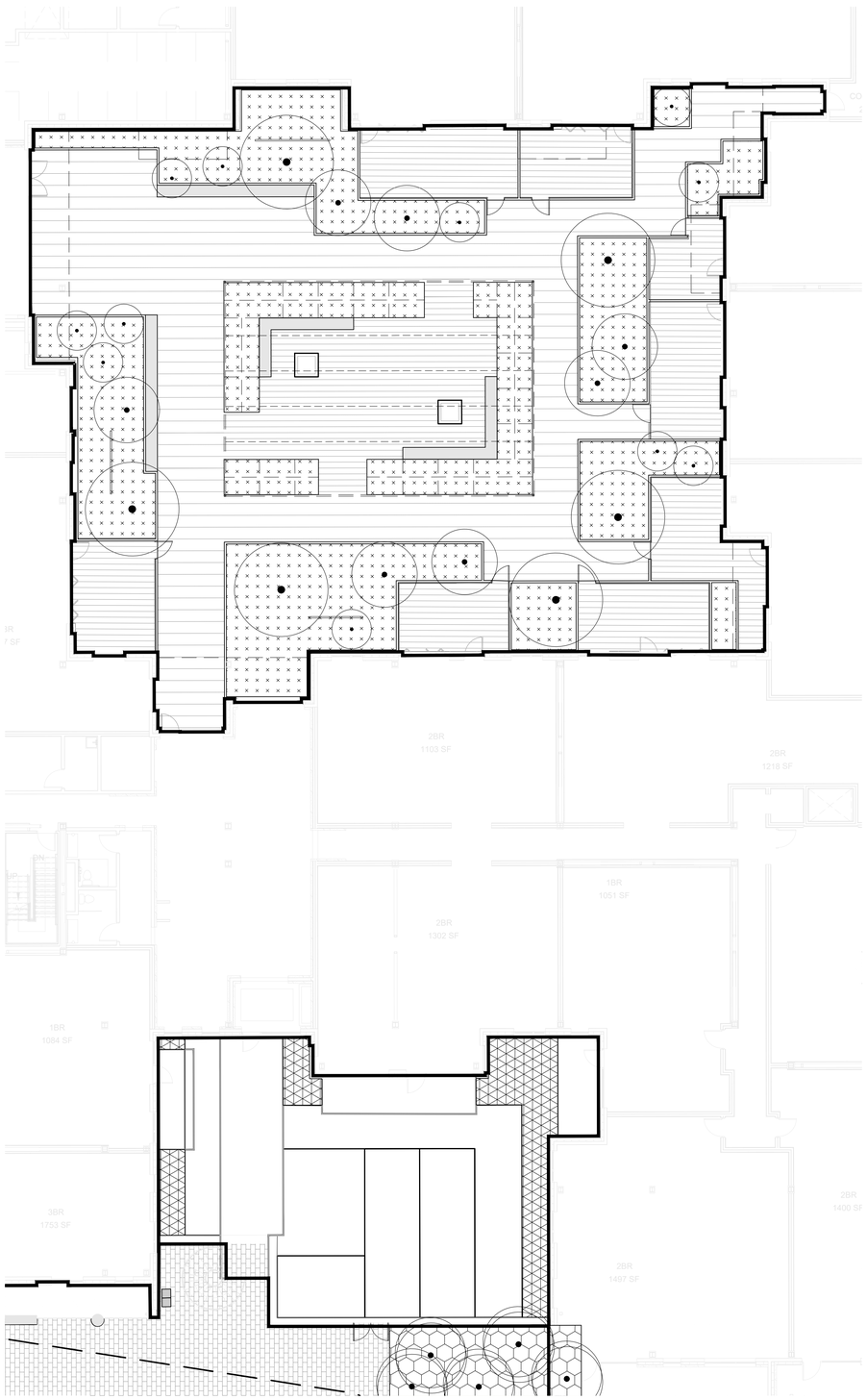
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

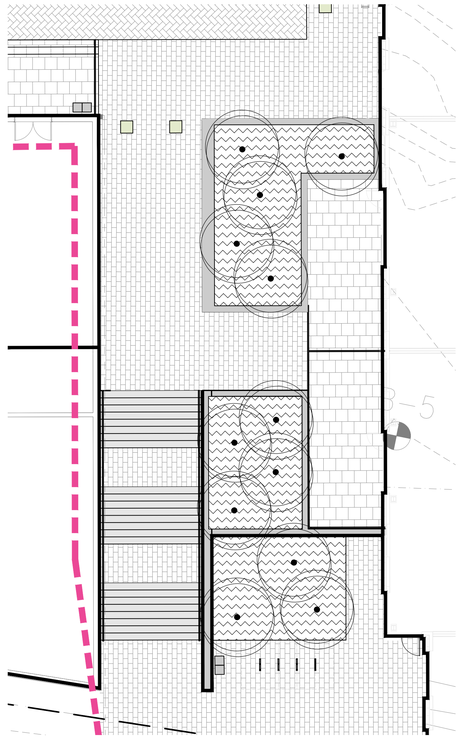
ISSUE
11/18/22
◂ DESIGN DEVELOPMENT

PLANTING REFERENCE PLAN

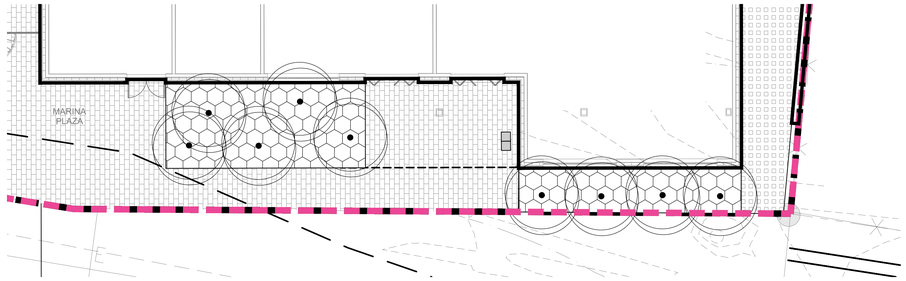
L2.0



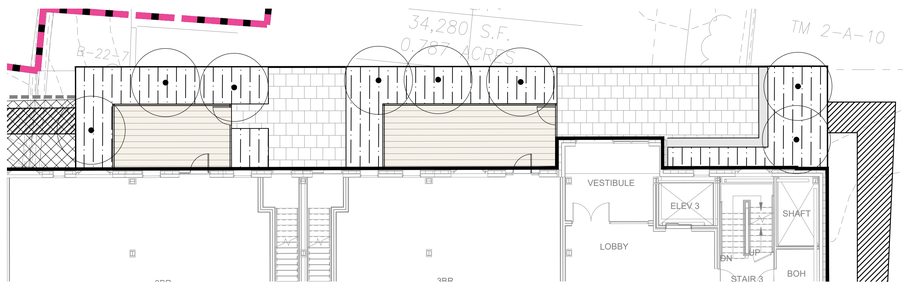
1 LEVEL 2 COURTYARDS PLANTING
1"=10'



2 PODIUM TO LEVEL 1 STAIR PLANTING
1"=10'



3 LEVEL 1 EAST PLANTING
1"=10'



4 LEVEL 7 TERRACE PLANTING
1"=10'

LEGEND

- ENTRY PLANTING PALETTE
- POOL TERRACE PALETTE
- STREET PLANTING PALETTE
- TERRACE PLANTERS
- COURTYARD PLANTING PALETTE
- PROPOSED TREE
- LIMIT OF WORK
- PROPERTY LINE

SCALE: 1"=10' 0 5' 10' 20' NORTH

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

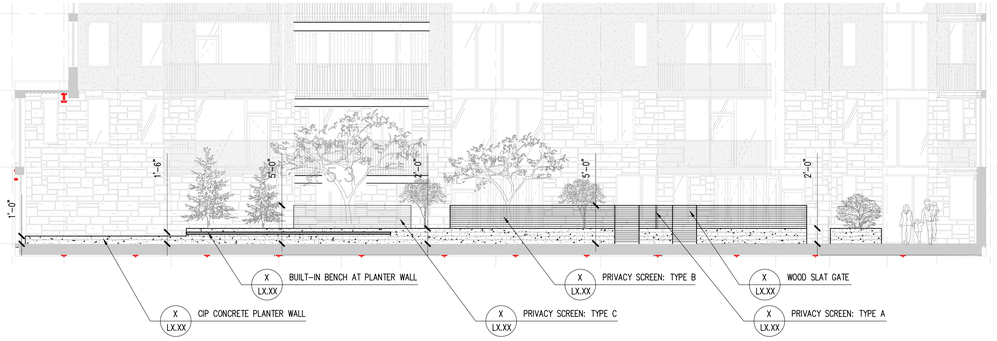
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

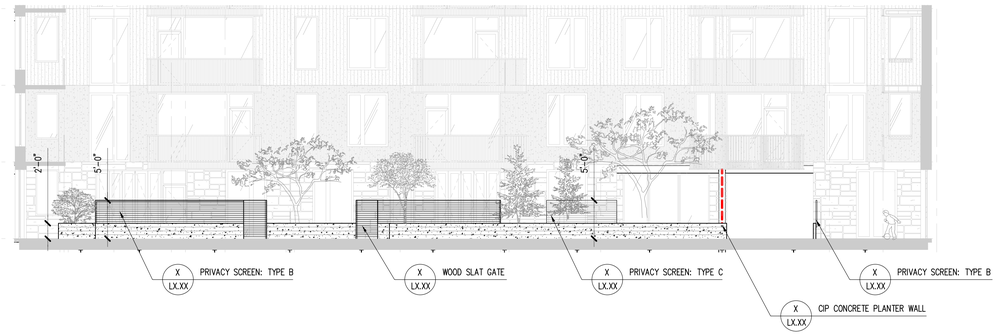
ISSUE
11/18/22
< DESIGN DEVELOPMENT

PLANTING DETAIL PLANS

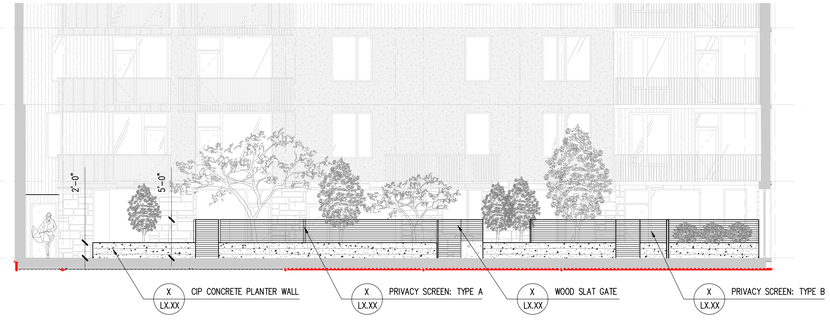
L2.1



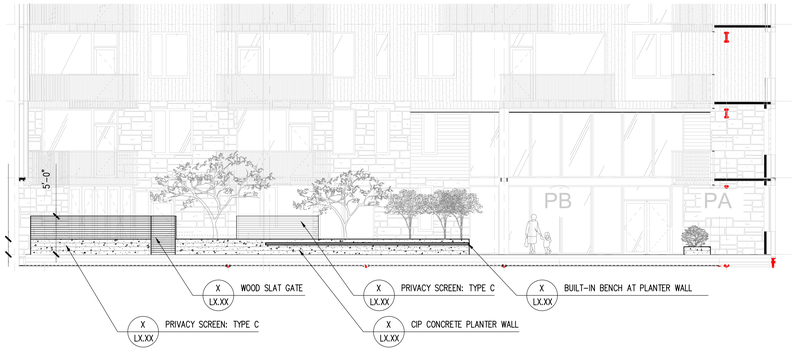
1 COURTYARD LANDSCAPE ELEVATION - LOOKING NORTH
1/8" = 1'-0"



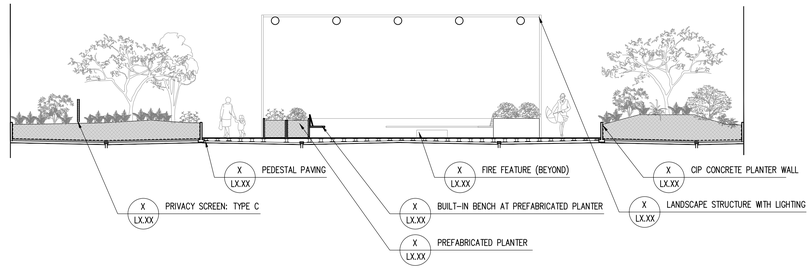
2 COURTYARD LANDSCAPE ELVATION - LOOKING SOUTH
1/8" = 1'-0"



3 COURTYARD LANDSCAPE ELEVATION - LOOKING EAST
1/8" = 1'-0"



4 COURTYARD LANDSCAPE ELEVATION - LOOKING WEST
1/8" = 1'-0"



5 CONCEPTUAL COURTYARD CROSS SECTION-ELEVATION
1/8" = 1'-0"

0 4' 8' 16'

Baskervill

FORESIDE7

THE CHANNEL MARK

BASKERVILL P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

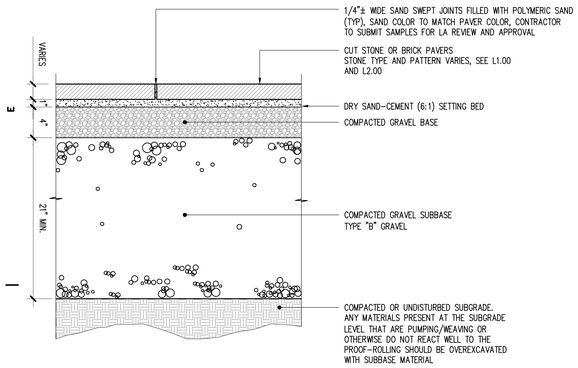
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

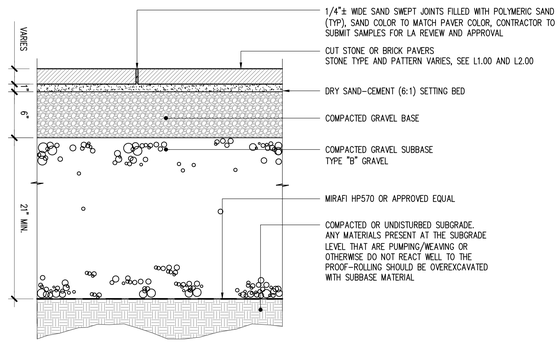
ISSUE
11/18/22
< DESIGN DEVELOPMENT

COURTYARD SECTIONS AND ELEVATIONS

L3.0

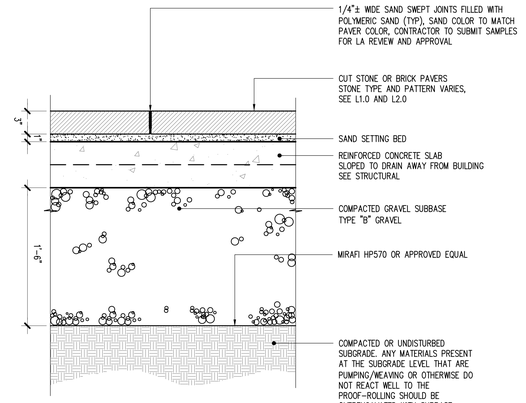


1 LIGHT DUTY STONE PAVING
1 1/2" = 1'-0"



2 HEAVY-DUTY STONE PAVING
1 1/2" = 1'-0"

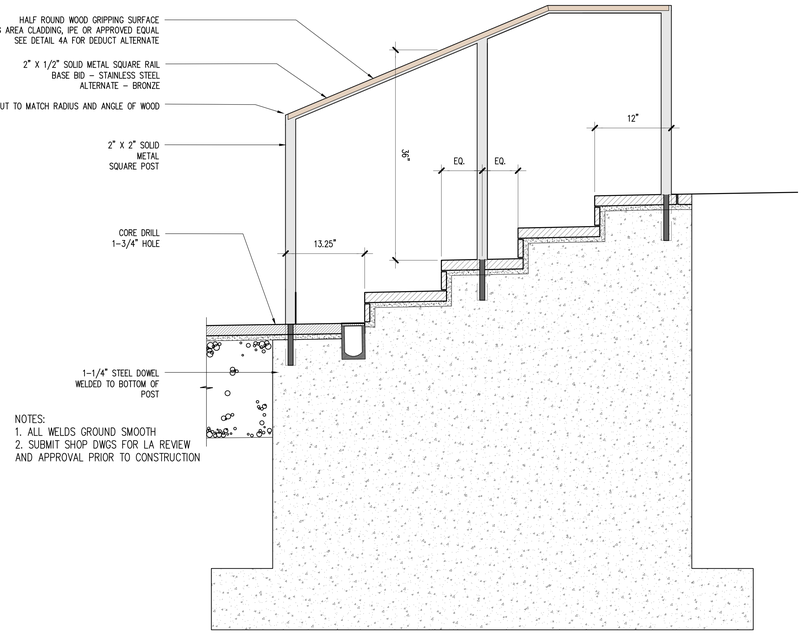
NOTE:
A. SUBGRADE PREPARATION AND PROTECTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ANY DISTURBANCE THAT OCCURS AS A RESULT OF THEIR MEANS AND METHODS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
B. FINAL EXCAVATIONS MADE TO THE DESIGN SUBGRADE LEVEL SHALL BE COMPLETED USING SMOOTH-BLADED EQUIPMENT TO LIMIT SOIL DISTURBANCE AT SUBGRADE LEVEL. EXCAVATION EQUIPMENT THAT IS OUTFITTED WITH A "TOOTHED" BUCKET OR A "TOOTHED" BUCKET WITH A FLAT PLATE WELDED ACROSS THE "TEETH" ARE NOT PERMITTED.
C. THE USE OF THE BACK OF THE EXCAVATOR BUCKET TO "SMOOTH" OR "SMEAR" SUBGRADE SURFACES IS NOT PERMITTED
D. PREVENT WATER FROM ACCUMULATING ON SURFACES TO REDUCE THE POSSIBILITY OF SOIL DISTURBANCE. SURFACES THAT BECOME DISTURBED DUE TO WATER INFILTRATION SHOULD BE EXCAVATED, STABILIZED AND/OR REPLACED.
E. THE CONCTRACTOR SHALL, TO THE EXTEND POSSIBLE, LIMIT EQUIPMENT AND CONSTRUCTION WORKER TRAFFIC ON THE EXPOSED SUBGRADE SURFACES.
F. GRANULAR SUBGRADE SURFACES SHALL BE PROOFROLLED WITH A STATIC OR VIBRATORY SMOOTH-DRUM ROLLER UNTIL FIRM PRIOR TO FILL PLACEMENT IF THE SOIL APPEARS DRY AND NO "FREE" WATER IS OBSERVED. TO MINIMIZE DISTURBANCE THE POTENTIAL FOR DISTURBANCE, MARINE SILT/CLAY AND GRANULAR SOILS WITH "FREE" WATER EXPOSED AT SUBGRADE LEVEL SHOULD NOT BE PROOFROLLED. AFTER PROOF-ROLLING, IT MAY BE NECESSARY TO REMOVE WEAK, DISTURBED OR OTHERWISE UNACCEPTABLE SOILS AS DESCRIBED ABOVE. IF OVER-EXCAVATION AND REPLACEMENT BELOW THE DESIGN SUBGRADE LEVEL IS REQUIRED, THE MATERIAL SHALL BE REPLACED WITH SUBBASE MATERIAL THAT IS PLACED 12-IN. THICK (MAXIMUM) LOOSE LIFTS AND COMPACTED TO 95 PERCENT (MINIMUM) OF THE MATERIALS MAXIMUM DRY DENSITY.
G. IF ENCOUNTERED AT THE SUBGRADE LEVEL, THE CONTRACTOR SHALL REMOVE DEBRIS, TOPSOIL, ORGANIC SOIL OR OTHER UNSUITABLE MATERIAL PRESENT. IF OVER-EXCAVATION BELOW THE DESIGN SUBGRADE LEVEL IS REQUIRED, THE EXCAVATED MATERIAL SHALL BE REPLACED WITH SUBBASE MATERIAL THAT SHALL BE PLACED IN 12-INCH THICK (MAXIMUM) LOOS LIFTS AND COMPACTED TO 95 PERCENT (MINIMUM) OF THE MATERIALS MAXIMUM DRY DENSITY.



3 STONE PAVING AT LANDING
1 1/2" = 1'-0"

4 PAVING EDGE
1 1/2" = 1'-0"

5 PLANTING CURB, BASALT
1 1/2" = 1'-0"



6 HANDRAIL AT STAIRS
1 1/2" = 1'-0"

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

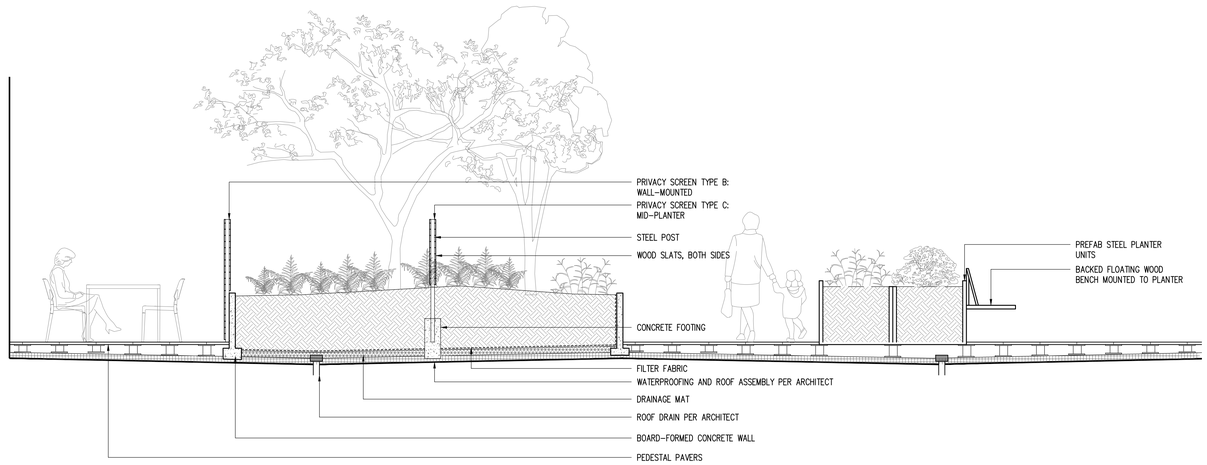
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

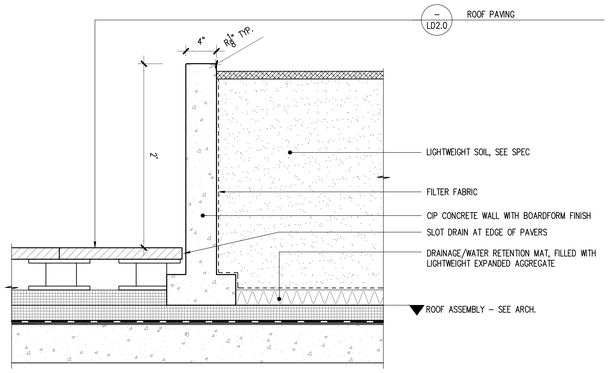
ISSUE
10/18/22
< DESIGN DEVELOPMENT

SITE DETAILS

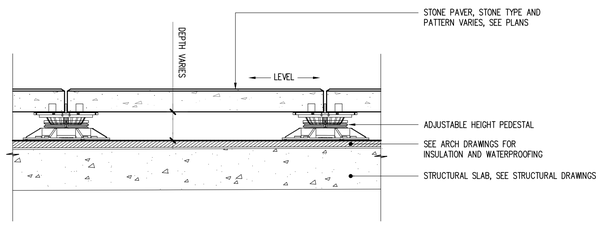
LD1.0



1 COURTYARD SECTION
1" = 30'



2 CIP PLANTER WALL
1-1/2" = 1'-0"

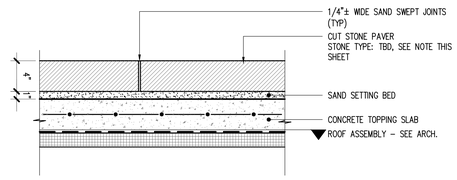


3 ROOF PAVING DETAIL - PEDESTAL
1-1/2" = 1'-0"

4 WATER FEATURE
1-1/2" = 1'-0"

5 BUILT-IN BENCH AT PLANTER WALL
1-1/2" = 1'-0"

6 BUILT-IN BENCH AT PLANTER WALL
1-1/2" = 1'-0"



7 ROOF PAVING DETAIL - HEAVY DUTY STONE PAVING
1-1/2" = 1'-0"

8 FIRE FEATURE
1-1/2" = 1'-0"

9 PRIVACY SCREEN TYPE A: FREE STANDING
1-1/2" = 1'-0"

10 PRIVACY SCREEN TYPE B: WALL-MOUNTED
1-1/2" = 1'-0"

11 PRIVACY SCREEN TYPE C: MID-PLANTER
1-1/2" = 1'-0"

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

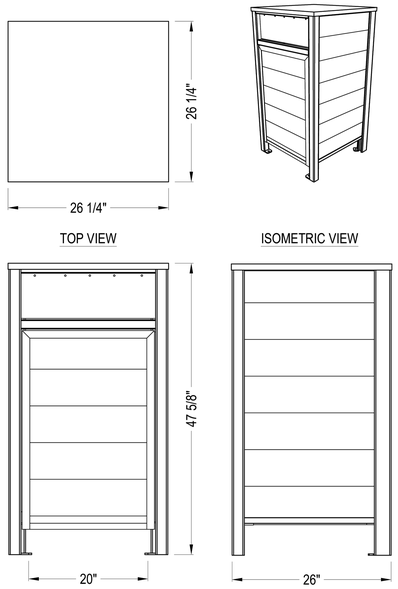
PDFC - BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

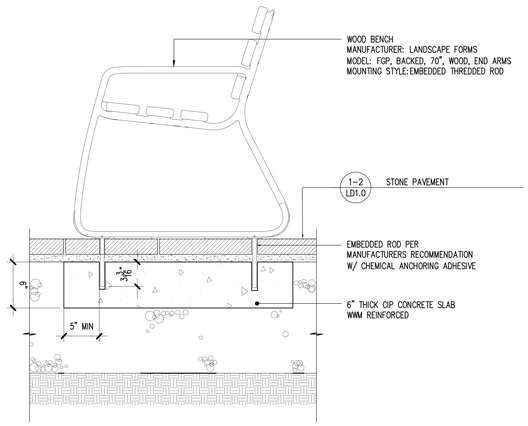
ISSUE
10/18/22
< DESIGN DEVELOPMENT

ROOFTOP COURTYARD DETAILS

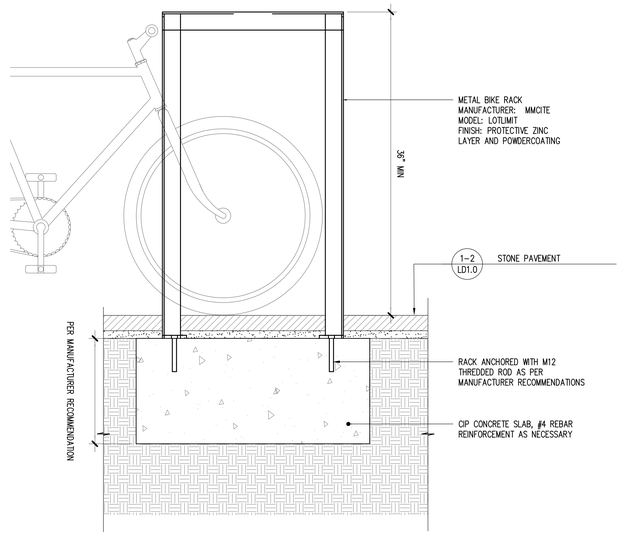
LD2.0



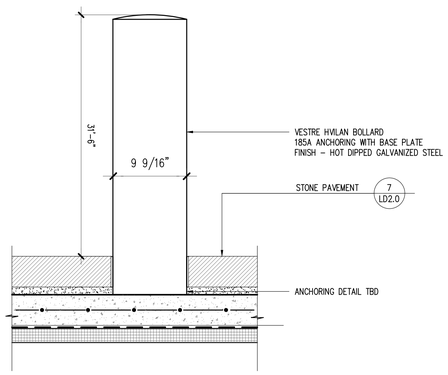
1 WISHBONE - URBAN FORM LARGE CAPACITY WASTE RECEPTACLE
NTS



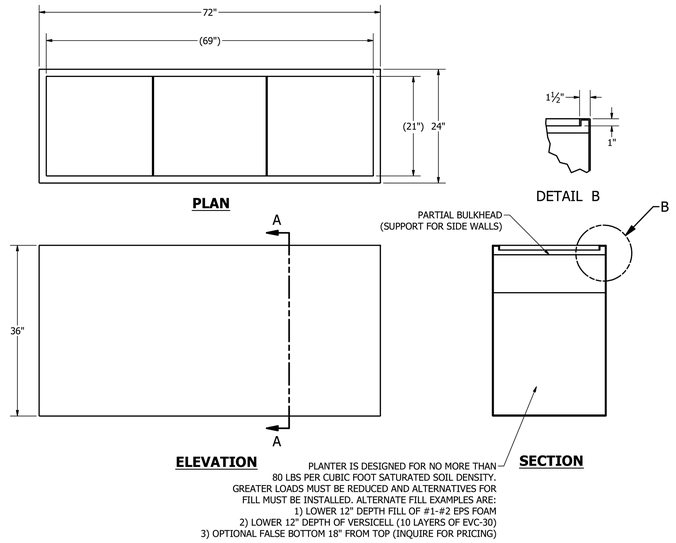
2 FGP BENCH
1 1/2" = 1'-0"



3 BIKE RACK B
1 1/2" = 1'-0"



4 SECURITY BOLLARD
1 1/2" = 1'-0"



5 TOURNESOL WILSHIRE PLANTER
NTS

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

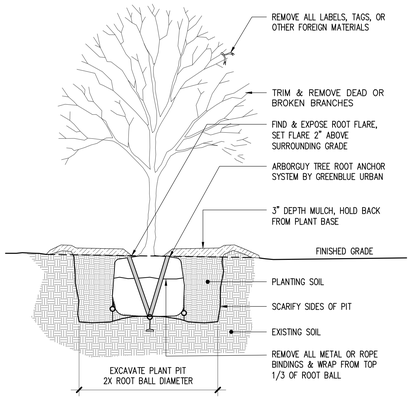
PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
11/18/22
DESIGN DEVELOPMENT

SITE FURNISHING DETAILS

LD3.0

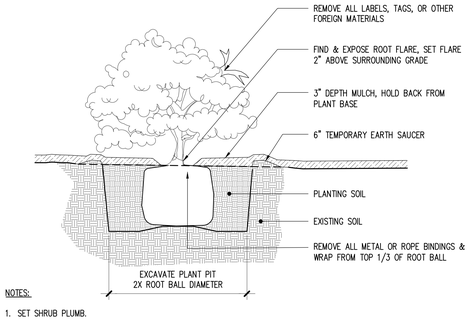


NOTES:

1. SET TREE PLUMB.
2. SECURE TREE AS REQUIRED ACCORDING TO TREE SIZE, LOCATION, & WIND/WEATHER CONDITIONS.
3. IF USING ROOTBALL STABILIZATION, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

1 TREE PLANTING & STAKING DETAIL

1/2" = 1'-0"

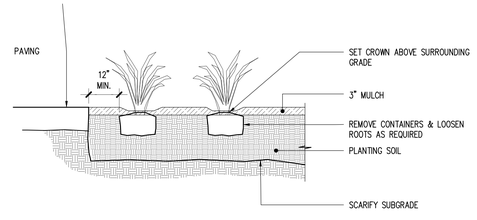


NOTES:

1. SET SHRUB PLUMB.
2. SECURE SHRUB AS MAY BE REQUIRED ACCORDING TO SIZE, LOCATION, & WIND/WEATHER CONDITIONS.
3. IF USING ROOTBALL STABILIZATION, FOLLOW MANUFACTURER'S RECOMMENDATIONS.

2 SHRUB PLANTING DETAIL

1/2" = 1'-0"



3 GROUNDCOVER PLANTING DETAIL

1/2" = 1'-0"

Baskervill

FORESIDE/

THE CHANNEL MARK°

BASKERVILL P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PDFC – BLOCK 6:
THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
11/18/22
DESIGN DEVELOPMENT

PLANTING DETAILS

LD4.0

LUMINAIRE SCHEDULE

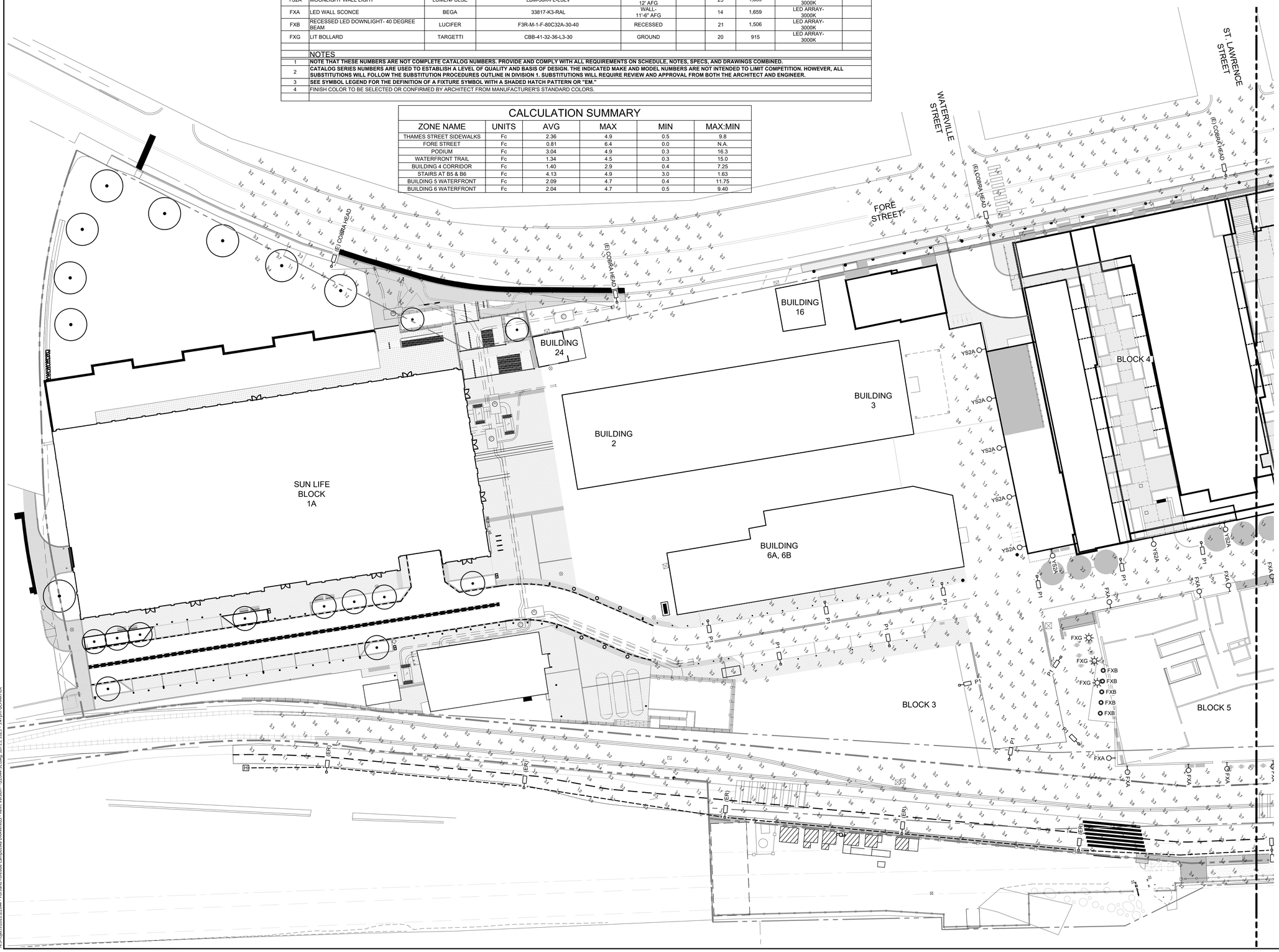
TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER SEE NOTES 1 & 2	MOUNTING, U.N.O.	VOLTS	LAMP WATTS	LAMP DELIVERED LUMENS	LAMP TYPE	KEY NOTES
P1	PEDESTRIAN POLE LIGHT	HOLOPHANE	GELB3-P303-30K-BG3	POLE- 16'-0"		28	3,385	LED ARRAY- 3000K	
FX1	LED FRAMING PROJECTOR	WE-EF	FLC210	POLE- SEE PLAN		28	1,154	LED ARRAY- 3000K	
FX2	CATERNARY-SUPPORTED LINEAR LED	STRUCTURA	CORDE-8-L30-MO-CAT/S	CATERNARY- SEE PLAN		24	2,034	LED ARRAY- 3000K	
FX3	LED WALLPACK	BEGA	22 386	WALL- 12' AFG		22.9	2,352	LED ARRAY- 3000K	
FX4	ENCAPSULATED LED STAIR LIGHT	Q-TRAN	LL3SW-1.5-30-ENC-STD-TL	STAIR RISER		1.5W/ft.	67 lum/ft.	LED ARRAY- 3000K	
FX5	MICRO LED DOWNLIGHT	SISTEMALUX	S3321-W-REM-19	CANOPY		2.19	132	LED ARRAY- 3000K	
FX6	DECORATIVE POLE LIGHT	BEGA	77 208	POLE- SEE PLAN		40	2,674	LED ARRAY- 3000K	
FX7	LIT BOLLARD	FORMS+ SURFACES	HELIO M30/K4	GROUND		34	604	LED ARRAY- 3000K	
YS2A	MOONLIGHT WALL LIGHT	LUMENPULSE	LBM-30K-FL-LSLV	WALL- 12' AFG		25	1,839	LED ARRAY- 3000K	
FXA	LED WALL SCONCE	BEGA	33817-K3-RAL	WALL- 11'-6" AFG		14	1,659	LED ARRAY- 3000K	
FXB	RECESSED LED DOWNLIGHT- 40 DEGREE BEAM	LUCIFER	F3R-M-1-F-80C32A-30-40	RECESSED		21	1,506	LED ARRAY- 3000K	
FXG	LIT BOLLARD	TARGETTI	CBB-41-32-36-L3-30	GROUND		20	915	LED ARRAY- 3000K	

NOTES

1. **NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. PROVIDE AND COMPLY WITH ALL REQUIREMENTS ON SCHEDULE, NOTES, SPECS, AND DRAWINGS COMBINED.**
2. **CATALOG SERIES NUMBERS ARE USED TO ESTABLISH A LEVEL OF QUALITY AND BASIS OF DESIGN. THE INDICATED MAKE AND MODEL NUMBERS ARE NOT INTENDED TO LIMIT COMPETITION. HOWEVER, ALL SUBSTITUTIONS WILL FOLLOW THE SUBSTITUTION PROCEDURES OUTLINE IN DIVISION 1. SUBSTITUTIONS WILL REQUIRE REVIEW AND APPROVAL FROM BOTH THE ARCHITECT AND ENGINEER.**
3. **SEE SYMBOL LEGEND FOR THE DEFINITION OF A FIXTURE SYMBOL WITH A SHADED HATCH PATTERN OR "EM."**
4. FINISH COLOR TO BE SELECTED OR CONFIRMED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

CALCULATION SUMMARY

ZONE NAME	UNITS	AVG	MAX	MIN	MAX:MIN
THAMES STREET SIDEWALKS	Fc	2.36	4.9	0.5	9.8
FORE STREET	Fc	0.81	6.4	0.0	N.A.
PODIUM	Fc	3.04	4.9	0.3	16.3
WATERFRONT TRAIL	Fc	1.34	4.5	0.3	15.0
BUILDING 4 CORRIDOR	Fc	1.40	2.9	0.4	7.25
STAIRS AT B5 & B6	Fc	4.13	4.9	3.0	1.63
BUILDING 5 WATERFRONT	Fc	2.09	4.7	0.4	11.75
BUILDING 6 WATERFRONT	Fc	2.04	4.7	0.5	9.40



PROJECT NORTH

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
T: 207.221.2360
F: 207.221.2266
Web: www.allied-eng.com

© COPYRIGHT 2022 ALLIED ENGINEERING, INC.

PE SEAL:

NOT FOR CONSTRUCTION

CLIENT INFO:
PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

WATERFRONT IMPROVEMENTS & UTILITY ENABLEMENT PHASE

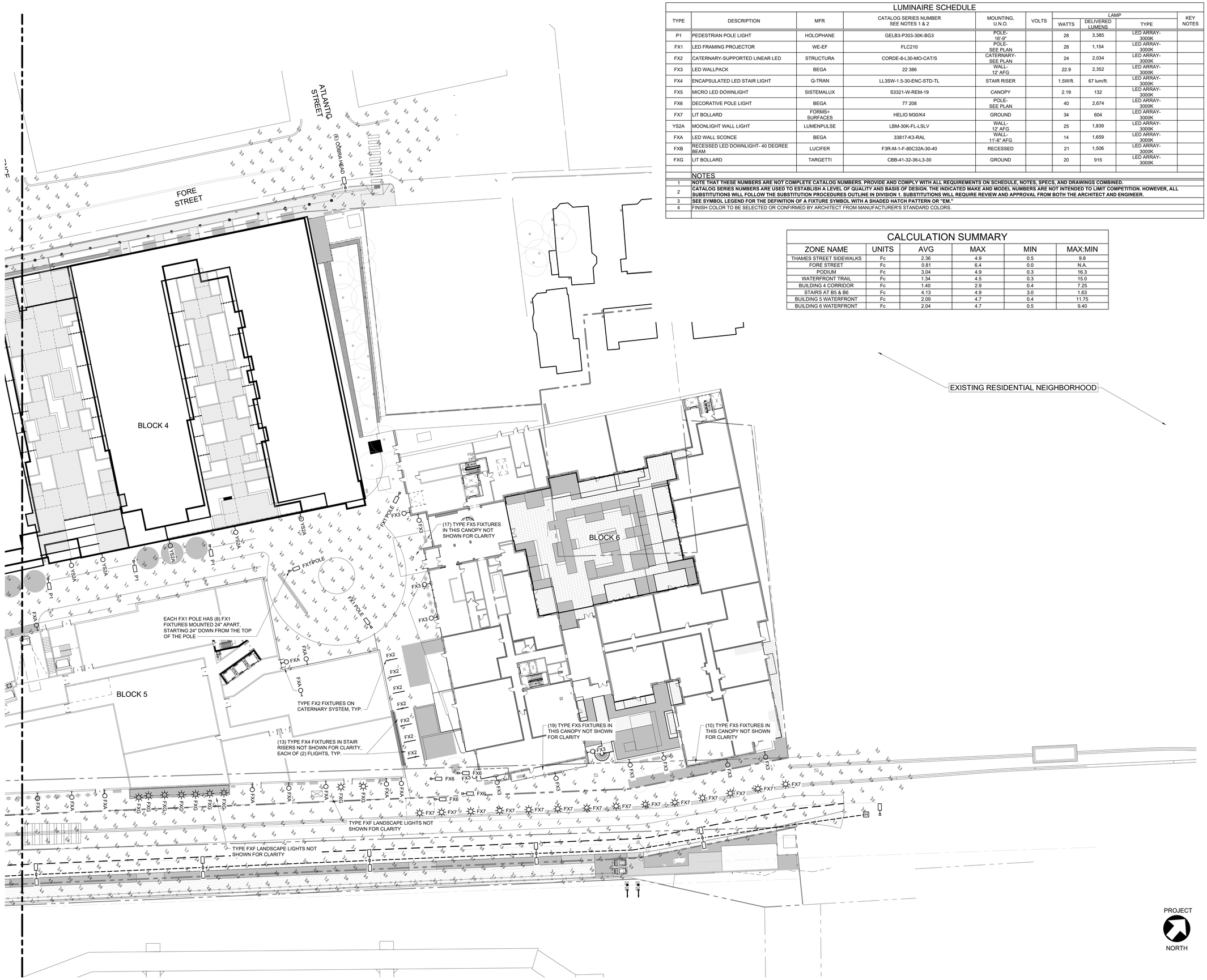
REV	MM/DD/YY	DESCRIPTION
9	6/23/23	ELECTRICAL UPDATES
8	2/28/23	ELECTRICAL UPDATES
7	1/13/23	ELECTRICAL UPDATES
6	12/13/22	ELECTRICAL UPDATES
5	11/23/22	ELECTRICAL UPDATES
4	10/28/22	ELECTRICAL UPDATES
3	10/19/22	ELECTRICAL UPDATES
2	09/16/22	ELECTRICAL UPDATES
1	08/22/22	CONSTRUCTION DOCUMENTS

JOB NO:	227007
DATE:	JULY 2022
SCALE:	AS NOTED
DESIGNED BY:	BTG
DRAWN BY:	GMC
CHECKED BY:	BTG
FILENAME:	22044-SL.dwg

DRAWING TITLE:
ELECTRICAL SITE PART PLAN- SITE LIGHTING PHOTOMETRICS

DRAWING NO:
SL-110
SHEET: 28 OF 37

N:\Projects\2022\22044 - Portland Foreside Campus\4x DRAWINGS - Revit Version - 22044-SL.dwg, Jun 23, 2023 - 3:47pm, GOHARTER



LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER SEE NOTES 1 & 2	MOUNTING, U.N.O.	VOLTS	LAMP			KEY NOTES
						WATTS	DELIVERED LUMENS	TYPE	
P1	PEDESTRIAN POLE LIGHT	HOLOPHANE	GELB3-P303-30K-BG3	POLE-16'-9"		28	3,385	LED ARRAY-3000K	
FX1	LED FRAMING PROJECTOR	WE-EF	FLC210	POLE-SEE PLAN		28	1,154	LED ARRAY-3000K	
FX2	CATERNARY-SUPPORTED LINEAR LED	STRUCTURA	CORDE-8-L30-MO-CAT/S	CATERNARY-SEE PLAN		24	2,034	LED ARRAY-3000K	
FX3	LED WALLPACK	BEGA	22 386	WALL-12' AFG		22.9	2,352	LED ARRAY-3000K	
FX4	ENCAPSULATED LED STAIR LIGHT	Q-TRAN	LL3SW-1.5-30-ENC-STD-TL	STAIR RISER		1.5W/ft.	67 lum/ft.	LED ARRAY-3000K	
FX5	MICRO LED DOWNLIGHT	SISTEMALUX	S3321-W-REM-19	CANOPY		2.19	132	LED ARRAY-3000K	
FX6	DECORATIVE POLE LIGHT	BEGA	77 208	POLE-SEE PLAN		40	2,674	LED ARRAY-3000K	
FX7	LIT BOLLARD	FORMS+ SURFACES	HELIO M30/K4	GROUND		34	604	LED ARRAY-3000K	
YS2A	MOONLIGHT WALL LIGHT	LUMENPULSE	LBM-30K-FL-LSLV	WALL-12' AFG		25	1,839	LED ARRAY-3000K	
FXA	LED WALL SCONCE	BEGA	33817-K3-RAL	WALL-11'-6" AFG		14	1,659	LED ARRAY-3000K	
FXB	RECESSED LED DOWNLIGHT- 40 DEGREE BEAM	LUCIFER	F3R-M-1-F-80C32A-30-40	RECESSED		21	1,506	LED ARRAY-3000K	
FXG	LIT BOLLARD	TARGETTI	CBB-41-32-36-L3-30	GROUND		20	915	LED ARRAY-3000K	

NOTES

1	**NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. PROVIDE AND COMPLY WITH ALL REQUIREMENTS ON SCHEDULE, NOTES, SPECS, AND DRAWINGS COMBINED.**
2	**CATALOG SERIES NUMBERS ARE USED TO ESTABLISH A LEVEL OF QUALITY AND BASIS OF DESIGN. THE INDICATED MAKE AND MODEL NUMBERS ARE NOT INTENDED TO LIMIT COMPETITION. HOWEVER, ALL SUBSTITUTIONS WILL FOLLOW THE SUBSTITUTION PROCEDURES OUTLINE IN DIVISION 1. SUBSTITUTIONS WILL REQUIRE REVIEW AND APPROVAL FROM BOTH THE ARCHITECT AND ENGINEER.**
3	**SEE SYMBOL LEGEND FOR THE DEFINITION OF A FIXTURE SYMBOL WITH A SHADED HATCH PATTERN OR "EM."**
4	FINISH COLOR TO BE SELECTED OR CONFIRMED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

CALCULATION SUMMARY

ZONE NAME	UNITS	AVG	MAX	MIN	MAX:MIN
THAMES STREET SIDEWALKS	Fc	2.36	4.9	0.5	9.8
FORE STREET	Fc	0.81	6.4	0.0	N.A.
PODIUM	Fc	3.04	4.9	0.3	16.3
WATERFRONT TRAIL	Fc	1.34	4.5	0.3	15.0
BUILDING 4 CORRIDOR	Fc	1.40	2.9	0.4	7.25
STAIRS AT B5 & B6	Fc	4.13	4.9	3.0	1.63
BUILDING 5 WATERFRONT	Fc	2.09	4.7	0.4	11.75
BUILDING 6 WATERFRONT	Fc	2.04	4.7	0.5	9.40

Woodard & Curran
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
T: 207.221.2360
F: 207.221.2266
Web: www.allied-eng.com

© COPYRIGHT 2022 ALLIED ENGINEERING, INC.

PE SEAL:

NOT FOR CONSTRUCTION

CLIENT INFO:

PORTLAND FORESIDE DEVELOPMENT COMPANY
PORTLAND, MAINE

WATERFRONT IMPROVEMENTS & UTILITY ENABLEMENT PHASE

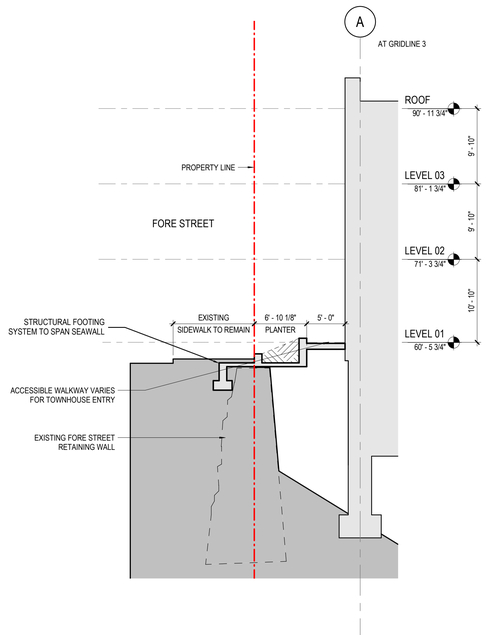
REV	MM/DD/YY	DESCRIPTION
8	6/23/23	ELECTRICAL UPDATES
7	2/28/23	ELECTRICAL UPDATES
6	12/13/22	ELECTRICAL UPDATES
5	11/23/22	ELECTRICAL UPDATES
4	10/28/22	ELECTRICAL UPDATES
3	10/19/22	ELECTRICAL UPDATES
2	09/16/22	ELECTRICAL UPDATES
1	08/22/22	CONSTRUCTION DOCUMENTS

JOB NO:	227007
DATE:	JULY 2022
SCALE:	AS NOTED
DESIGNED BY:	BTG
DRAWN BY:	GMC
CHECKED BY:	BTG
FILENAME:	22044-SL.dwg

DRAWING TITLE:
ELECTRICAL SITE PART PLAN- SITE LIGHTING PHOTOMETRICS

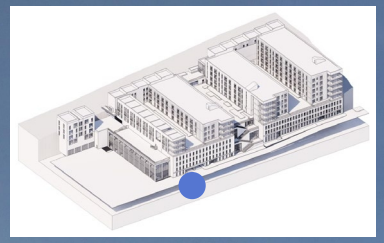
DRAWING NO:
SL-111
SHEET: 29 OF 37

K:\Projects\2022\22044 - Portland Foreside Campus\4a PERMITTING\5 - Revit Version - \22044-SL.dwg, Jan 23, 2023 - 3:47pm, GCHARTIER



FORE STREET @ SEAWALL
ACCESSIBLE WALKWAY
2 1/8" = 1'-0"

PROPERTY LINE



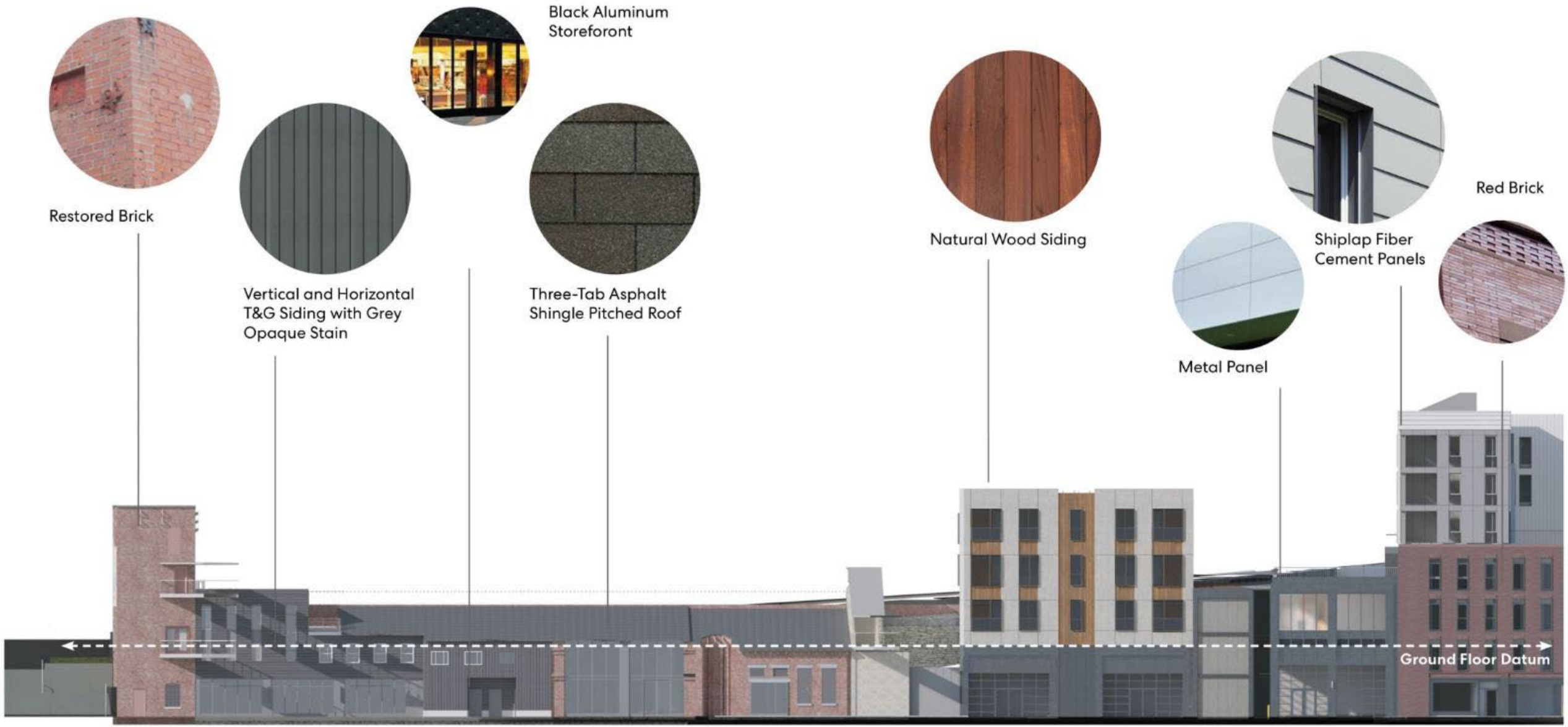
Thames Street looking East



John Poor Crossing



Boiler Passage


Restored Brick
Vertical and Horizontal T&G Siding with Grey Opaque Stain
Black Aluminum Storeforont
Three-Tab Asphalt Shingle Pitched Roof
Natural Wood Siding
Metal Panel
Shiplap Fiber Cement Panels
Red Brick
Ground Floor Datum



John Poor Crossing





Fore Street Overlook & Portland Company HD access






FITNESS
THE PROMENADE


CONDO
CONDO


RETAIL


THE PROMENADE





THE CHANNEL MARK | Portland Foreside Block 6 | View from Thames Street | January 5, 2023



THE CHANNEL MARK | Portland Foreside Block 6 | View from Eastern Promenade Trail | January 5, 2023

01- Atlantic

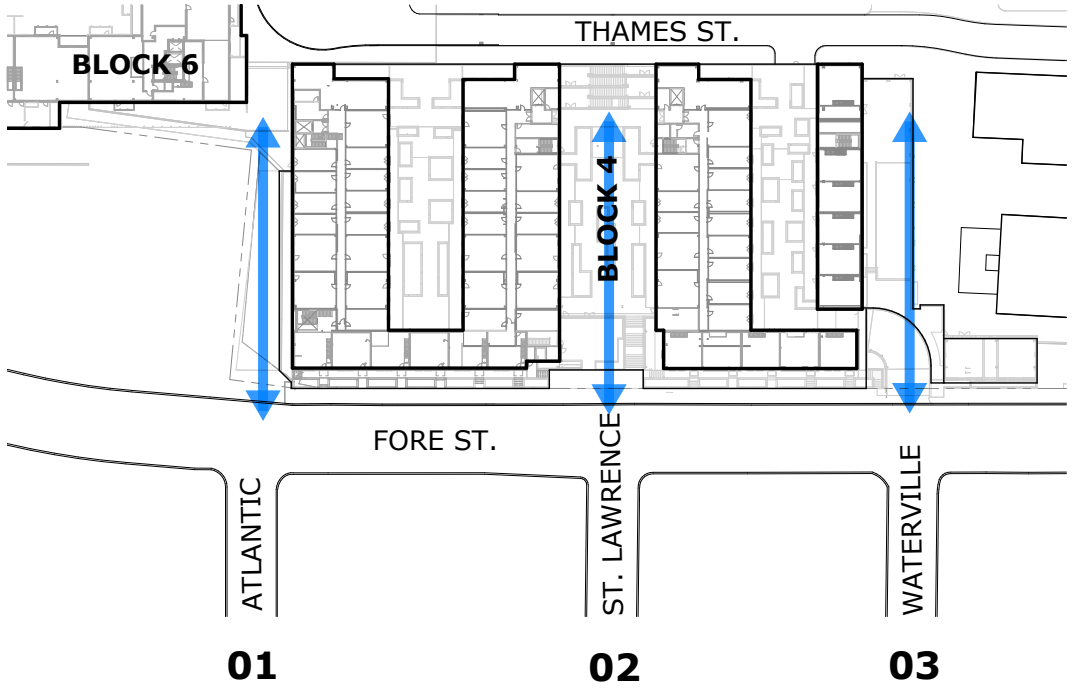


02- ST. Lawrence



03- Waterville





View Corridors



Atlantic Street View Corridor



Fore Street @ St. Lawrence Street



Courtyard Trees: "Amelanchier"

- A native, patio style tree with open type canopy
- Mature height approx. 12 feet (courtyard approx. 10 feet below Fore Street elevation)
- Located in planters towards edges of public courtyard



Fore Street @ Waterville & B2 Townhouses

2"
1"
1/2"
0

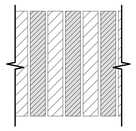
FACE BRICK TYPE DESCRIPTIONS

TYPE		DESCRIPTION	LOCATION
1a	MEDIUM IRONSPOT #46 (RED TONE)	ROMAN BRICK SIZE, RUNNING BOND. NO BRICK PROJECTIONS	FORE ST TOWNHOUSES, THAMES ST WRAPPER
1b		ROMAN BRICK SIZE, SINGLE SOLDIER COURSE, ALTERNATING 1" PROJECTIONS	THAMES ST STOREFRONT HEADER & PUNCHED...
1c		AMBASSADOR BRICK SIZE, SINGLE SOLDIER COURSE, ALTERNATING 1" PROJECTIONS	FORE ST TOWNHOUSE CORNICE
2a	MANGANESE IRONSPOT SMOOTH (GRAY TONE)	ROMAN BRICK SIZE, RUNNING BOND. NO BRICK PROJECTIONS	LEVEL 5 COURTYARD TERRACE BRICK BASE
2b		AMBASSADOR BRICK SIZE, SINGLE SOLDIER COURSE, NO PROJECTIONS	LEVEL 5 COURTYARD TERRACE BRICK HEAD

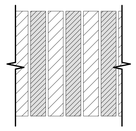
NOTES:
1. REFER TO OVERALL ELEVATIONS AND ENLARGED EXTERIOR ELEVATIONS FOR EXTENTS OF BRICK TYPES.
2. STANDARD MODULAR BRICK SIZE AT SOLDIER COURSE LOCATIONS, INDICATED ON ELEVATIONS.
3. BRICK SOLDIER COURSE HEADERS ABOVE WINDOWS AS INDICATED ON ELEVATIONS.
4. TYPICAL BRICK LOADING LOCATIONS INDICATED ON ENLARGED ELEVATIONS (RELIEF ANGLE AT EVERY OTHER LEVEL, DEAD LOADING AT STRUCTURAL SLABS).
5. SEE ILLUSTRATIVE BRICK COURSING DIAGRAM ON A20-01 FOR MORE INFORMATION.

Unit

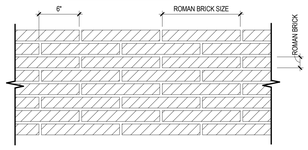
SINGLE SOLDIER COURSE WITH 1" PROJECTION TYPE 1c



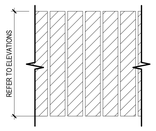
SINGLE SOLDIER COURSE WITH 1" PROJECTION TYPE 1b



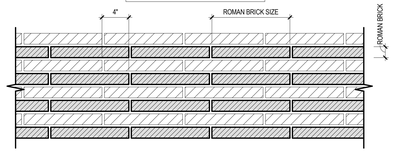
COURSING FOR BRICK TYPE 1a

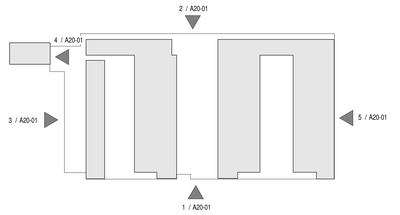


SINGLE SOLDIER COURSE TYPE 2b



COURSING FOR BRICK TYPE 2a

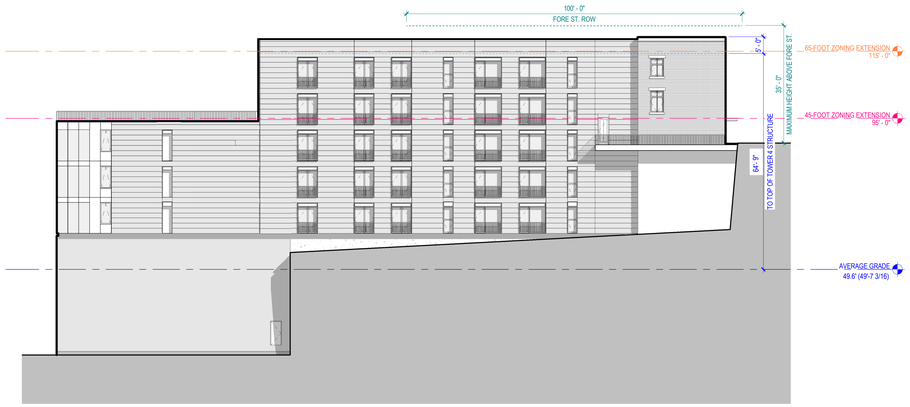




FACE BRICK

FACE BRICK WITH 1" PROJECTION

REFER TO FACE BRICK TYPE DESCRIPTIONS FOR MORE INFORMATION



5 OVERALL ELEVATION - EAST
1/16" = 1'-0"



4 OVERALL ELEVATION - B2 EAST
1/16" = 1'-0"

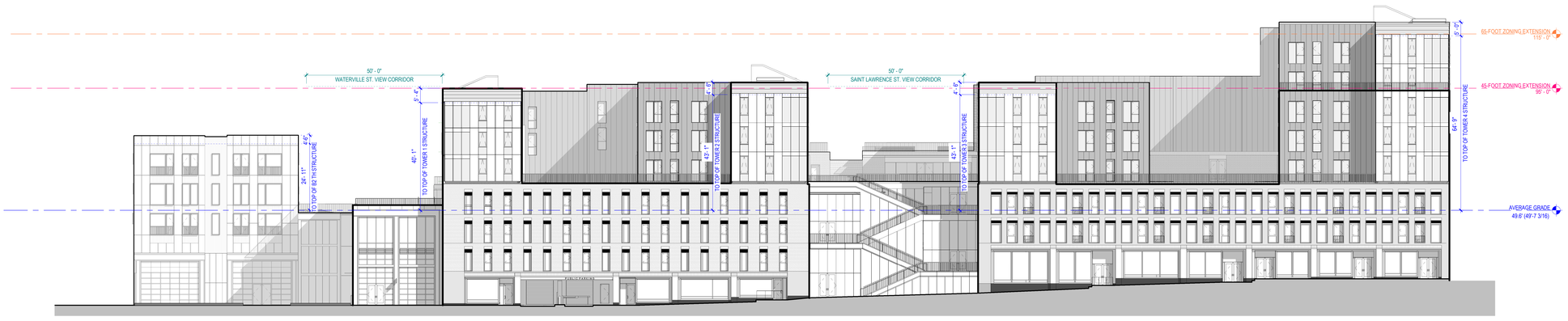
6 BRICK BONDING ELEVATIONS
1 1/2" = 1'-0"



3 OVERALL ELEVATION - WEST
1/16" = 1'-0"



2 OVERALL ELEVATION - NORTH
1/16" = 1'-0"



1 OVERALL ELEVATION - SOUTH
1/16" = 1'-0"

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

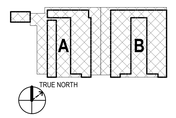
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

TITLE

OVERALL ELEVATIONS

SHEET NUMBER

A20-01

7/19/2023 9:26:39 AM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



ARCHITECT / LANDSCAPE ARCHITECT

MARVEL

145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101

STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101

MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119

ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103

CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102

LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032

LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018

LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011

SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001

CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018

ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036

ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110

FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY

POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY

TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	04.14.2023	SITE PLAN APPLICATION
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION



1 SOUTHEAST ELEVATION

1/16" = 1'-0"

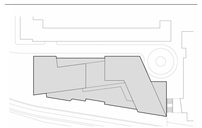
GENERAL ELEVATION NOTES

1. FLOOR-TO-FLOOR DIMENSIONS ARE TO TOP OF FINISHED FLOOR.
2. CLEAR FLOOR-TO-FLOOR DIMENSIONS ARE APPROXIMATE AND WILL BE IMPACTED BY FLOOR AND CEILING FINISHES, WHICH ARE NOT KNOWN AT THIS TIME.
3. REFER TO SHEET A-400 FOR ADDITIONAL INFORMATION ON FACADE WALL TYPES.

ELEVATIONS LEGEND

- GLAZING (IGU-1, TYP.)
- GL-3 REFLECTIVE INFILL PANEL
- GFRC-1 CLADDING PANEL
- GFRC-2 TEXTURED GFRC INFILL PANEL
- ST-1 GRANITE CLADDING
- MTL-8 FIXED METAL LOUVER
- MTL-7 METAL BULKHEAD CLADDING
- MTL-9 METAL MECHANICAL SCREEN WALL
- WD-1 WOOD RAINSCREEN & SOFFIT CLADDING
- WD-2 SLATTED WOOD SCREEN
- MTL-5 WEATHERING STEEL
- MTL-6 CHAMPAGNE ANODIZED ALUMINUM

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5
PORTLAND, ME

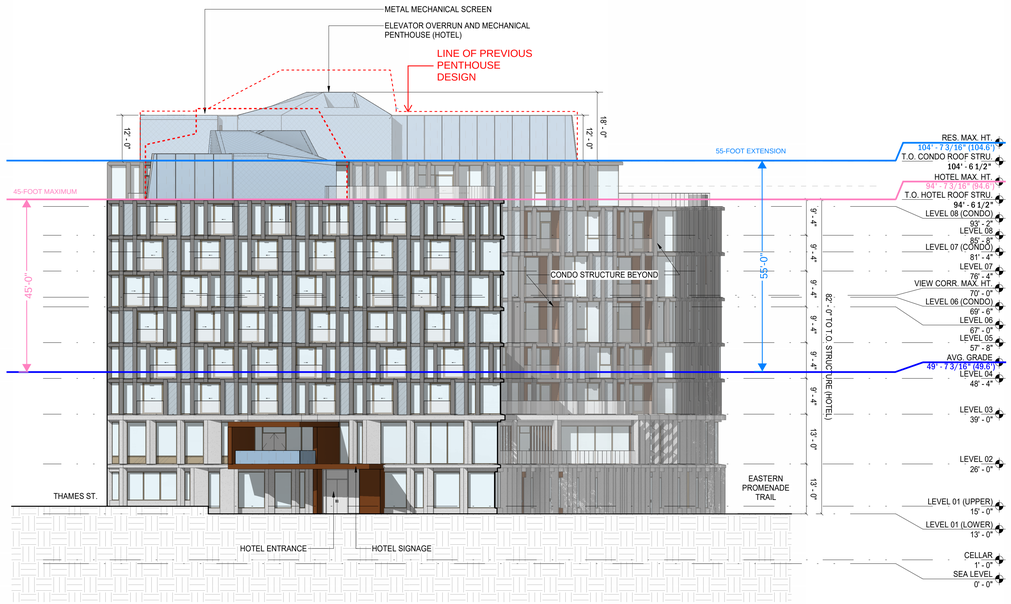
BUILDING ELEVATIONS

SCALE: As indicated

DRAWING #:
A-310
of ___
JOB #:

8/9/2023 11:06:16 AM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 SOUTHWEST ELEVATION

1/16" = 1'-0"



2 NORTHWEST ELEVATION

1/16" = 1'-0"

GENERAL ELEVATION NOTES

1. FLOOR-TO-FLOOR DIMENSIONS ARE TO TOP OF FINISHED FLOOR.
2. CLEAR FLOOR-TO-FLOOR DIMENSIONS ARE APPROXIMATE AND WILL BE IMPACTED BY FLOOR AND CEILING FINISHES, WHICH ARE NOT KNOWN AT THIS TIME.
3. REFER TO SHEET A-400 FOR ADDITIONAL INFORMATION ON FACADE WALL TYPES.

ELEVATIONS LEGEND

- GLAZING (IGU-1, TYP.)
- GL-3 REFLECTIVE INFILL PANEL
- GFRC-1 CLADDING PANEL
- GFRC-2 TEXTURED GFRC INFILL PANEL
- ST-1 GRANITE CLADDING
- MTL-8 FIXED METAL LOUVER
- MTL-7 METAL BULKHEAD CLADDING
- MTL-9 METAL MECHANICAL SCREEN WALL
- WD-1 WOOD RAINSCREEN & SOFFIT CLADDING
- WD-2 SLATTED WOOD SCREEN
- MTL-5 WEATHERING STEEL
- MTL-6 CHAMPAGNE ANODIZED ALUMINUM

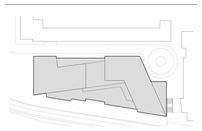


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	04.14.2023	SITE PLAN APPLICATION
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5

PORTLAND, ME

BUILDING ELEVATIONS

SCALE: As indicated

DRAWING #:
A-311
___ of ___
JOB #:



1 **NORTH ELEVATION (CONDO)**
1/16" = 1'-0"

GENERAL ELEVATION NOTES

1. FLOOR-TO-FLOOR DIMENSIONS ARE TO TOP OF FINISHED FLOOR.
2. CLEAR FLOOR-TO-FLOOR DIMENSIONS ARE APPROXIMATE AND WILL BE IMPACTED BY FLOOR AND CEILING FINISHES, WHICH ARE NOT KNOWN AT THIS TIME.
3. REFER TO SHEET A-400 FOR ADDITIONAL INFORMATION ON FACADE WALL TYPES.

ELEVATIONS LEGEND

- GLAZING (IGU-1, TYP.)
- GL-3 REFLECTIVE INFILL PANEL
- GFRC-1 CLADDING PANEL
- GFRC-2 TEXTURED GFRC INFILL PANEL
- ST-1 GRANITE CLADDING
- MTL-8 FIXED METAL LOUVER
- MTL-7 METAL BULKHEAD CLADDING
- MTL-9 METAL MECHANICAL SCREEN WALL
- WD-1 WOOD RAINSCREEN & SOFFIT CLADDING
- WD-2 SLATTED WOOD SCREEN
- MTL-5 WEATHERING STEEL
- MTL-6 CHAMPAGNE ANODIZED ALUMINUM

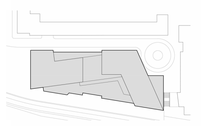


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	04.14.2023	SITE PLAN APPLICATION
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230
PORTLAND FORESIDE B5
PORTLAND, ME

BUILDING ELEVATIONS

SCALE: As indicated

DRAWING #:
A-312
___ of ___
JOB #:

EXTERIOR FINISH LEGEND

FINISH NO.	MATERIAL	MANUFACTURER	STYLE NAME / NO.	COLOR	SIZE	DESCRIPTION / REMARKS
CONCRETE						
CONC-01	CONCRETE	TBD				EXPOSED POURED IN PLACE CONCRETE OR LIGHTWEIGHT WRAP ALTERNATIVE
CONC-02	CONCRETE	PER LANDSCAPE				BOARD FORMED CONCRETE AT LANDSCAPE PLANTERS
EXTERIOR FLOORING						
CMP-01	COMPOSITE	MYDECK	SLEEPER SYSTEM INSTALLATION			UNIT TERRACE AND BALCONY FLOORING
CT-01	PORCELAIN PAVER		WOOD LOOK		LARGE FORMAT - RECTILINEAR	AT LEVEL 2 TERRACES
CT-02	PORCELAIN PAVER		STONE LOOK		LARGE FORMAT - PLANK	AT LEVEL 2 TERRACES
PS-01	PAVERS	PER LANDSCAPE			VARIED	AT WATER FRONT, AT PODIUM, AT LEVEL 7 TERRACES/PLAZA
MASONRY						
STN-01	STONE		GRANITE		LARGE FORMAT	CAVITY WALL VENEER
STN-02	STONE		GRANITE		LEDGESTONE	CAVITY WALL VENEER
METAL						
MTL-01	ALUMINUM FRAMED DOOR / WINDOW SYSTEM	WASAU		DARK BRONZE		THERMALLY BROKEN
MTL-01A	ALUMINUM PANEL			TO MATCH MTL-01		COMPOSITE METAL PANEL AND BREAK METALS AT SLAB EDGE CLOUSRE, CANOPIES, AND FLASHINGS
MTL-02	ALUMINUM PANEL	ATAS	BELEVEDERE	FACTORY FINISHED		ROOF EQUIPMENT SCREEN AND BELOW GRADE FACADE
MTL-03	ALUMINIUM RAILING AND MODULAR BALCONY SYSTEM	SAPPHIRE BALCONIES LIMITED	CUSTOM PREFABRICATED BALCONY	FACTORY FINISHED	REFERENCE PLANS	VERTICAL PICKET RAILING WITH NARROW PROFILE; THERMALLY BROKEN ATTACHMENT, RAILED ALLUM DECKING, AND EDGE DRAINAGE
MTL-04	GLASS GUARDRAIL	WESHAMPTON ARCHITECTURAL GLASS	BOTTOM SHOE	FINISH TO MATCH MTL-01	48" PANELS	GLASS PANEL RAILING WITH ALUMINUM MOUNT SYSTEM

EXTERIOR FINISH LEGEND

FINISH NO.	MATERIAL	MANUFACTURER	STYLE NAME / NO.	COLOR	SIZE	DESCRIPTION / REMARKS
PAINT						
PNT-01	ELASTOMERIC COATING			COLOR TO MATCH MTL-01		ALL EXPOSED STEEL
RAINSCREEN PANEL						
FCP-01	FIBER CEMENT PANEL	SWISS PEARL	GRAVIAL	GRANITE 624		CONCEALED ATTACHEMENT SYSTEM
GFRC-01	GLASSFIBER REINFORCED CONCRETE SLAT	RIEDER	ÖKO SKIN STRIPES	FINAL COLOR/FINISH MIX TO BE COORDINATED WITH MANUFACTURER FROM THE FOLLOWING COLOR SELECTIONS: VANILLA NS04, SAHARA NS01, SANDSTONE NS02, ALMOND NS05, & LARCH TI02; & TEXTTURE SELECTIONS: MATT, FERRO LIGHT, AND FERRO	302m	CONCEALED ATTACHEMENT SYSTEM; VERTICAL ORIENTATION; DESIGN INTENT IS 2-3 COLORS IN ALL 3 TEXTURES
GFRC-02	GLASSFIBER REINFORCED CONCRETE SLAT	RIEDER	ÖKO SKIN STRIPES	FINAL COLOR/FINISH MIX TO BE COORDINATED WITH MANUFACTURER FROM THE FOLLOWING COLOR SELECTIONS: VANILLA NS04, SAHARA NS01, SANDSTONE NS02, ALMOND NS05, & LARCH TI02; & TEXTTURE SELECTIONS: MATT, FERRO LIGHT, AND FERRO	147mm	CONCEALED ATTACHEMENT SYSTEM; HORIZONTAL ORIENTATION; DESIGN INTENT IS 2 COLORS IN 2-3 DIFFERENT TEXTURES
WOOD						
WD-01	WOOD FENCING	PER LANDSCAPE				AT LEVEL 2 AND LEVEL 7 UNIT TERRACES

KEYNOTES

05.59.13	MODULAR ALUMINUM BALCONY, BOD: AS SHOWN IN SCHEDULE BALCONY WITH RAILED ALUMINIUM BALUSTRADE, NON COMBUSTIBLE DECKING, AND EDGE DRAINAGE
05.73.00.B	PREFINISHED ALUMINUM GUARDRAIL TO MATCH MODULAR BALCONIES
05.73.13	GLASS GUARDRAIL IN ALUMINUM SHOE
07.44.53	FRP COLUMN WRAP, MOUNTED VERTICALLY
07.62.00.A	ALUMINUM COPING WITH KYNAR FINISH SEE SECTION 07 6200
08.11.13	PAINTED HOLLOW METAL DOOR AND FRAME SEE SHEETS A8-01, A8-02, AND SECTION 08 1113
08.33.23	OVERHEAD COILING DOORS
10.55.01	ADAPTIVE OUTDOOR SHADE STRUCTURE, BOD: LANDSCAPE FORMS UPFIT
31 32 36	SOE PER CIVIL DRAWINGS
32.13.13.A	GRAND EXTERIOR STAIR PER LANDSCAPE DRAWINGS



5C ELEVATION - WEST

SCALE: 3/32" = 1'-0" DRAWING REF: A111



5A ELEVATION - SOUTH

SCALE: 3/32" = 1'-0" DRAWING REF: A111

Baskervill

FORESIDE/

THE CHANNEL MARK®

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

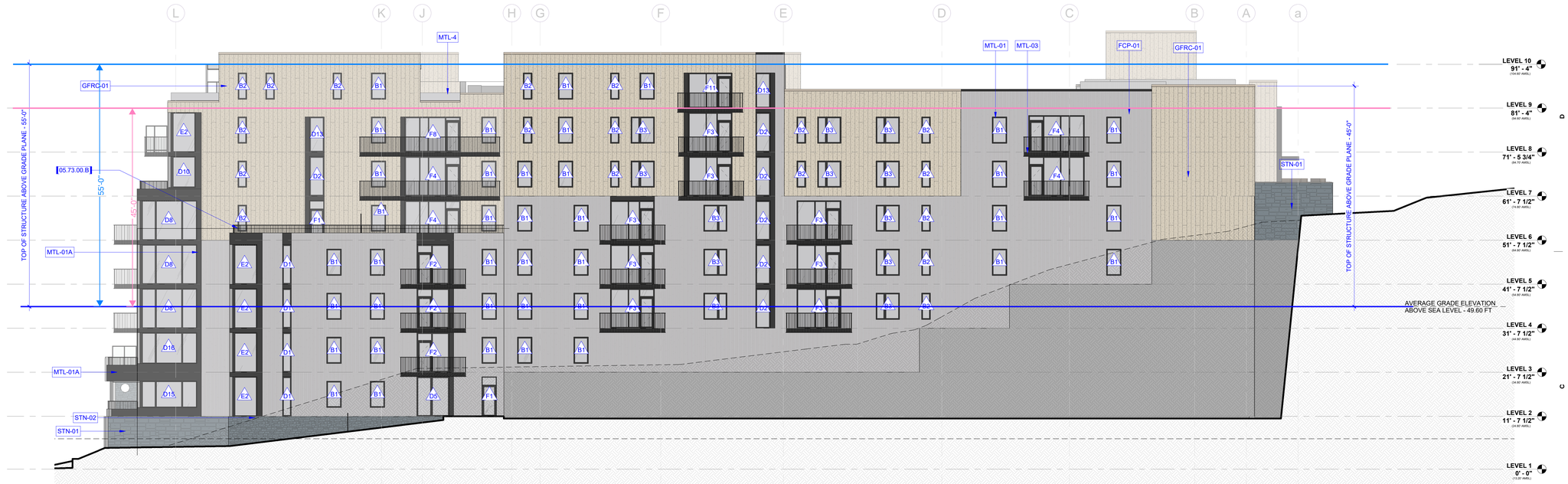
58 FORE ST
PORTLAND, ME 04101

ISSUE
07/14/2023 - APPENDIX B HP PACKAGE REVISIONS

EXTERIOR ELEVATIONS
A200

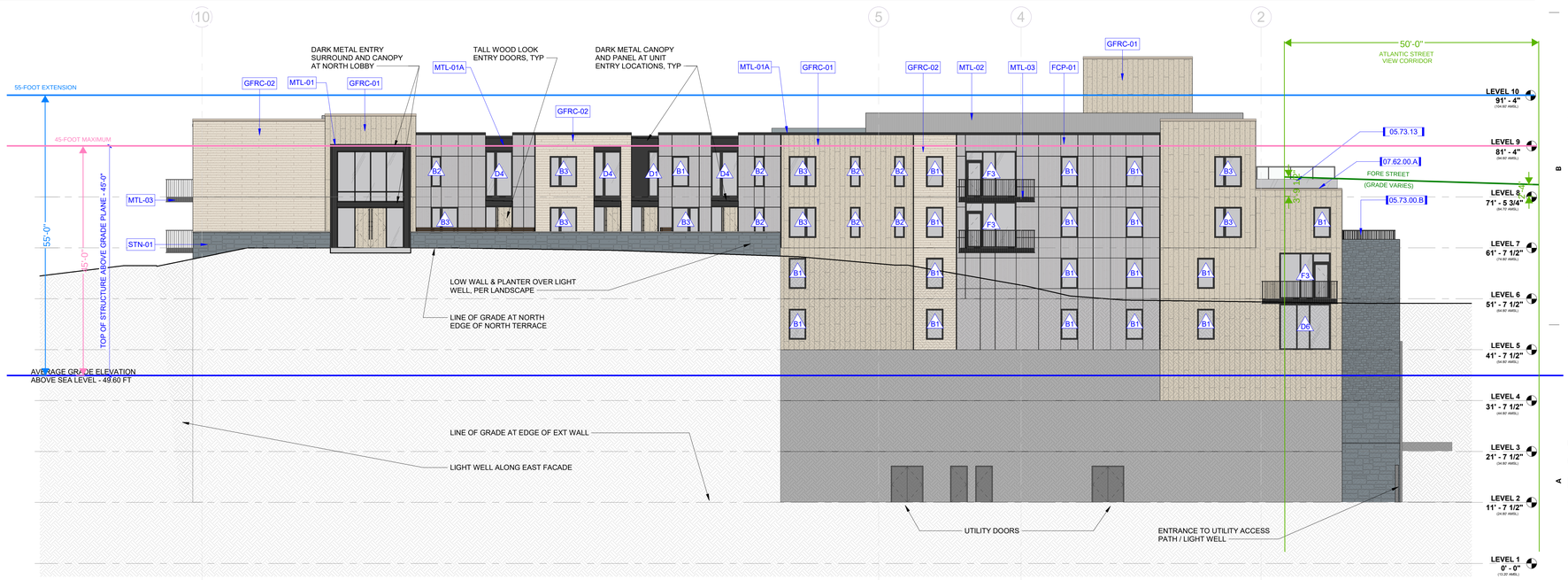
KEYNOTES

05.73.00.B	PREFINISHED ALUMINUM GUARDRAIL TO MATCH MODULAR BALCONIES
05.73.13	GLASS GUARDRAIL IN ALUMINUM SHOE
07.62.00.A	ALUMINUM COPING WITH KYNAR FINISH SEE SECTION 07 6200



5C ELEVATION - EAST

SCALE: 3/32" = 1'-0" DRAWING REF: A112



5A ELEVATION - NORTH

SCALE: 3/32" = 1'-0" DRAWING REF: A117

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

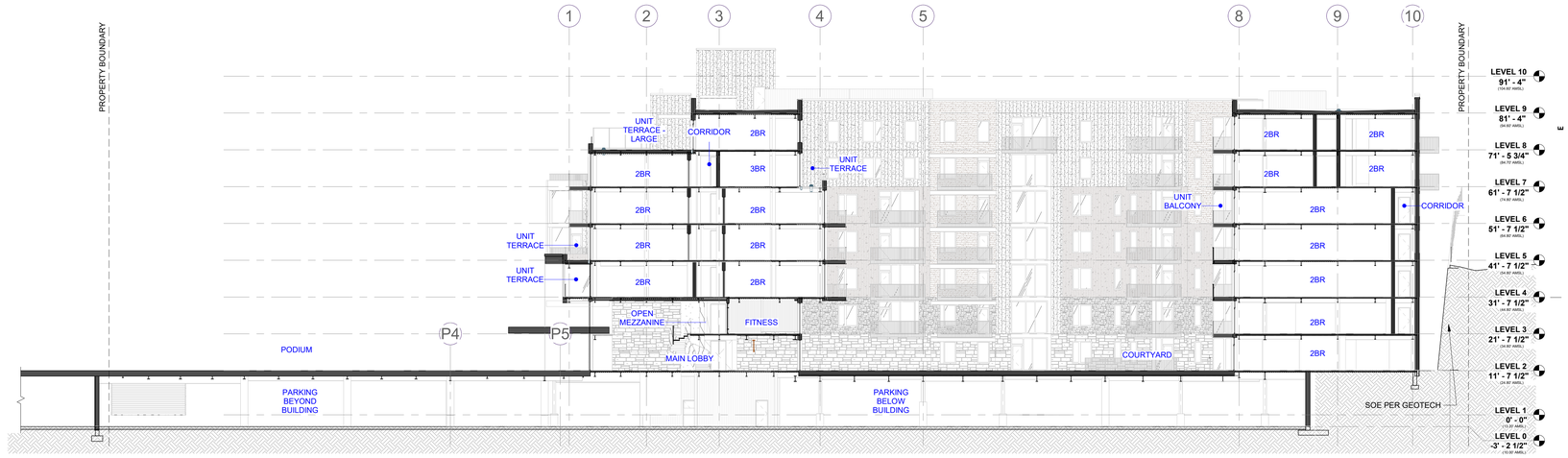
PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

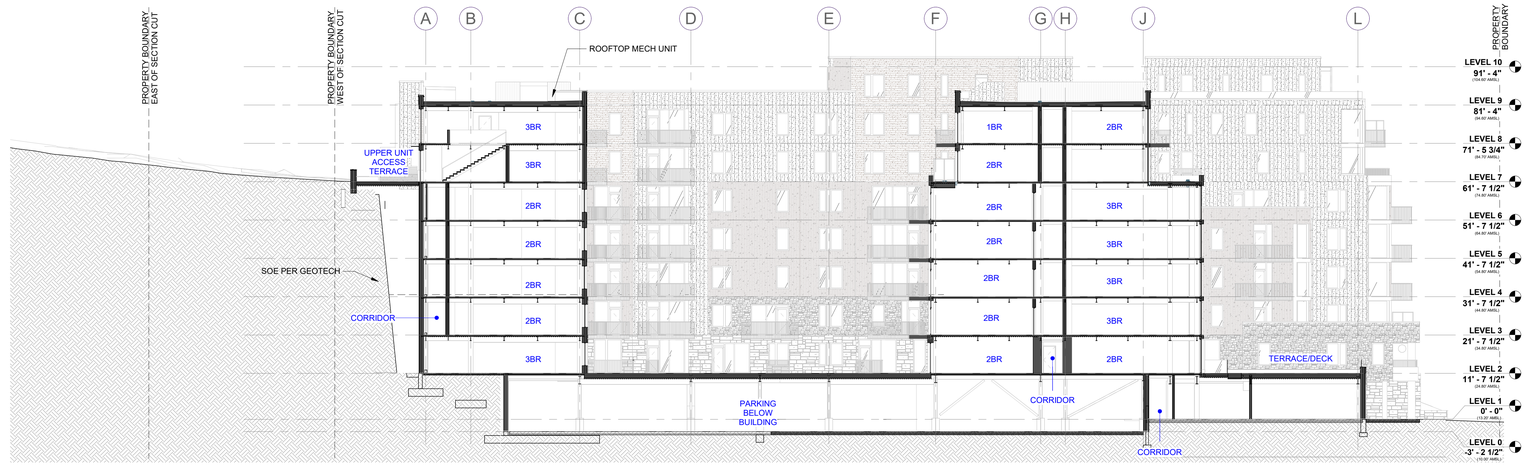
ISSUE
07/14/2023 - APPENDIX B HP PACKAGE REVISIONS

EXTERIOR ELEVATIONS
A201



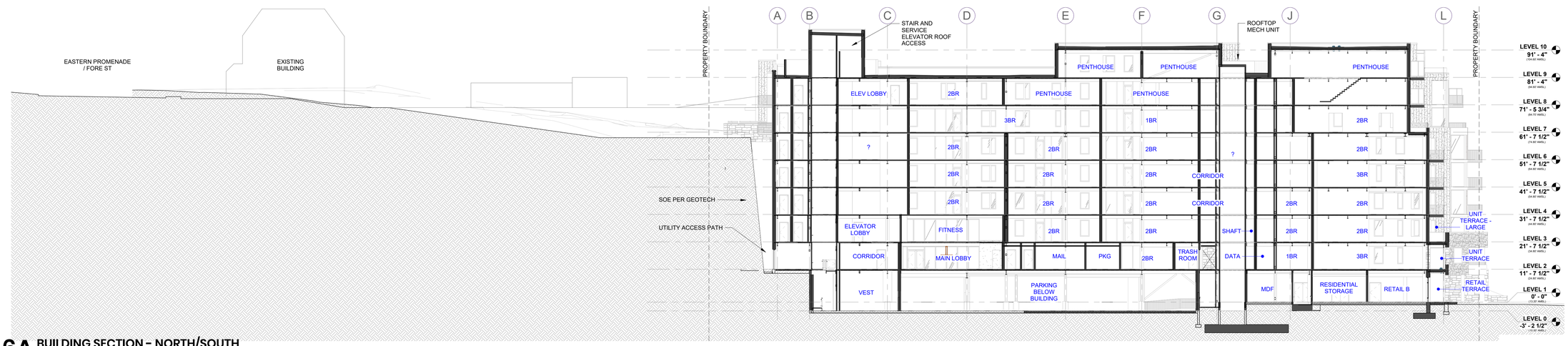
4D BUILDING SECTION - EAST/WEST AT COURTYARD

SCALE: 1/16" = 1'-0" DRAWING REF: A111



4B BUILDING SECTION - NORTH/SOUTH AT COURTYARD

SCALE: 1/16" = 1'-0" DRAWING REF: A111



6A BUILDING SECTION - NORTH/SOUTH

SCALE: 1/16" = 1'-0" DRAWING REF: A111

Baskervill

FORESIDE/

THE CHANNEL MARK®

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT 2022 BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

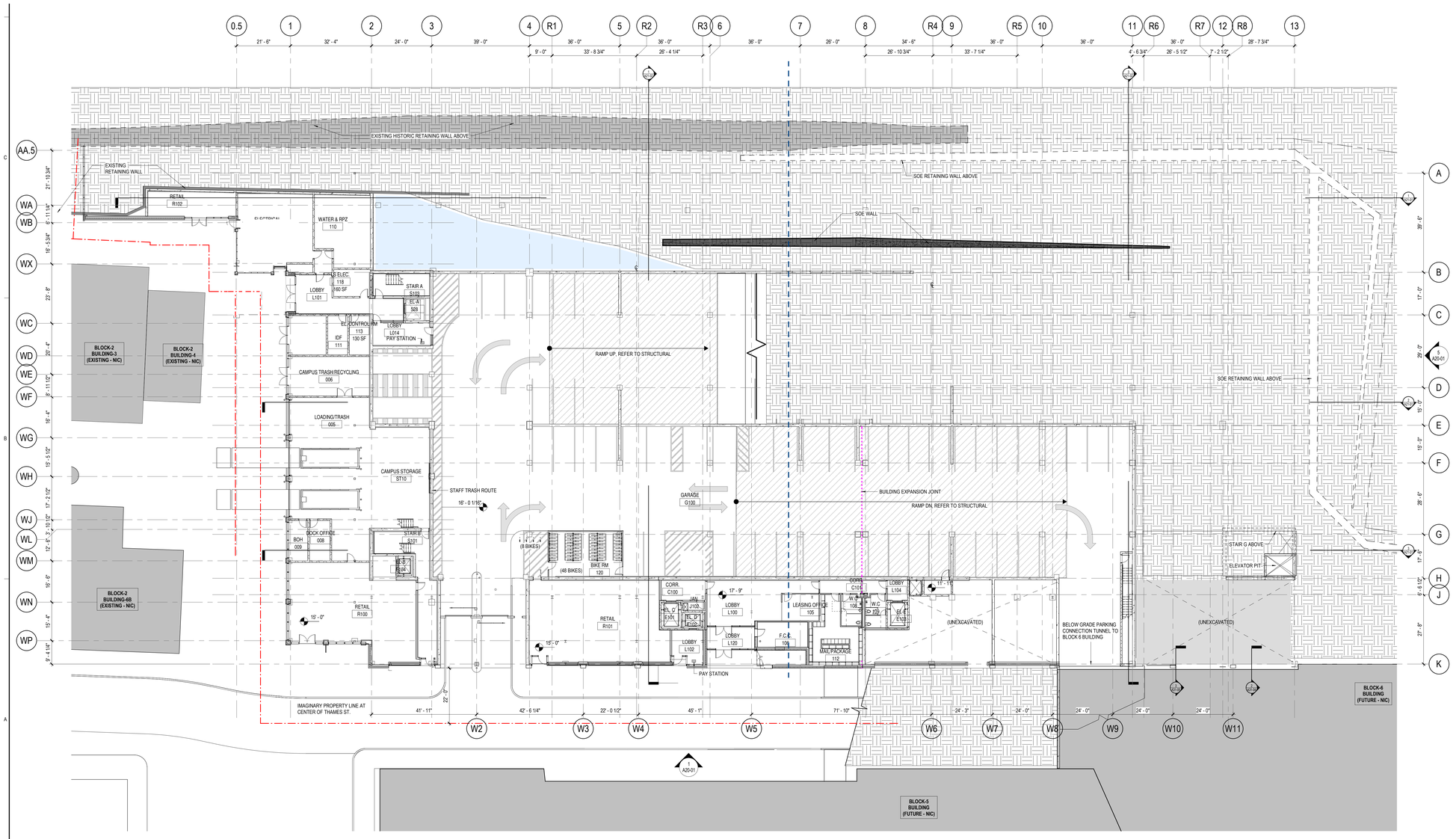
PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
08/15/2023 - SITE PLAN APPLICATION REV

OVERALL BUILDING SECTIONS

A300



1 OVERALL LEVEL 01 PLAN
1/16" = 1'-0"

FLOOR PLAN LEGEND

- NON-FIRE-RATED SMOKE PARTITION
- 30 MIN FIRE/SMOKE PARTITION
- 1-HOUR FIRE PARTITION
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS
- SOIL
- SLOPED PARKING SPEED RAMP
- CREVASSE SPACES (OPEN TO AIR, ADJACENT OR BELOW BUILDING SPACE - APPROXIMATE FOR DIAGRAMMATIC CLARITY)
- EXISTING HISTORIC SEAWALL
- SUPPORT OF EXCAVATION (SOE)
- 1t — DOOR TAG
- A11 — WALL TYPE TAG
- INTERCOM LOCATION
- CARD READER LOCATION
- TV — TV OUTLET LOCATION
- WALL DUPLEX OUTLET LOCATION
- GFI — WALL DUPLEX OUTLET LOCATION, GFI
- S — LIGHT SWITCH LOCATION
- FIRE EXTINGUISHER/ CABINET

FLOOR PLAN GENERAL NOTES

1. REFER TO CODE COMPLIANCE DRAWINGS G00-SERIES FOR FIRE RATING REQUIREMENTS
2. PARTITION TYPES ARE SCHEDULED IN THE A61 SERIES
3. TYPICAL RESIDENTIAL UNIT DEMISING PARTITIONS ARE TYPE " W10 " UNLESS NOTED OTHERWISE
4. TYPICAL RESIDENTIAL UNIT CORRIDOR PARTITIONS ARE TYPE " Q20 " UNLESS NOTED OTHERWISE
5. ALL CMU EXCEPT BOH SPACES TO RECEIVE M21 WALL TYPE DRYWALL
6. TYPICAL INTERIOR PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE
7. PARTITION DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.

KEYNOTES

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St, Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

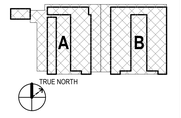
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023
ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

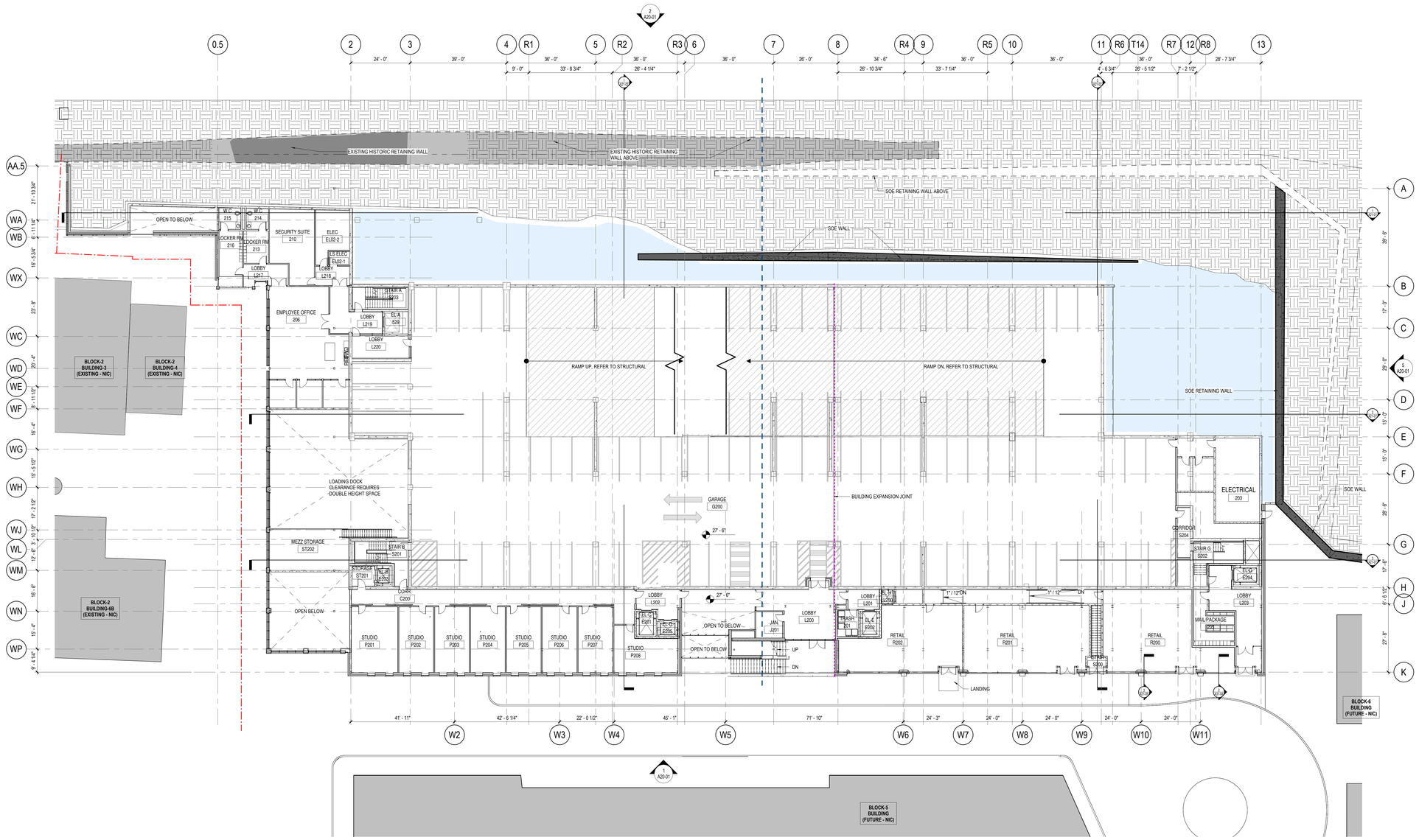
TITLE

OVERALL PLAN - LEVEL 01

SHEET NUMBER

A10-01

6/22/2023 1:25:16 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 OVERALL LEVEL 02 PLAN
1/16" = 1'-0"

FLOOR PLAN LEGEND

- NON-FIRE-RATED SMOKE PARTITION
- 30 MIN FIRE/SMOKE PARTITION
- 1-HOUR FIRE PARTITION
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS
- SOIL
- SLOPED PARKING SPEED RAMP
- CREVASSE SPACES (OPEN TO AIR, ADJACENT OR BELOW BUILDING SPACE - APPROXIMATE FOR DIAGRAMMATIC CLARITY)
- EXISTING HISTORIC SEAWALL
- SUPPORT OF EXCAVATION (SOE)
- 1t — DOOR TAG
- A11 — WALL TYPE TAG
- INTERCOM LOCATION
- CARD READER LOCATION
- TV — TV OUTLET LOCATION
- WALL DUPLEX OUTLET LOCATION
- GFI — WALL DUPLEX OUTLET LOCATION, GFI
- S — LIGHT SWITCH LOCATION
- FIRE EXTINGUISHER/ CABINET

FLOOR PLAN GENERAL NOTES

1. REFER TO CODE COMPLIANCE DRAWINGS G00-SERIES FOR FIRE RATING REQUIREMENTS
2. PARTITION TYPES ARE SCHEDULED IN THE A61 SERIES
3. TYPICAL RESIDENTIAL UNIT DEMISING PARTITIONS ARE TYPE " W10 " UNLESS NOTED OTHERWISE
4. TYPICAL RESIDENTIAL UNIT CORRIDOR PARTITIONS ARE TYPE " Q20 " UNLESS NOTED OTHERWISE
5. ALL CMU EXCEPT BOH SPACES TO RECEIVE M21 WALL TYPE DRYWALL
6. TYPICAL INTERIOR PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE
7. PARTITION DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.

KEYNOTES

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland, ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland, ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

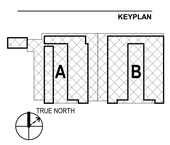
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

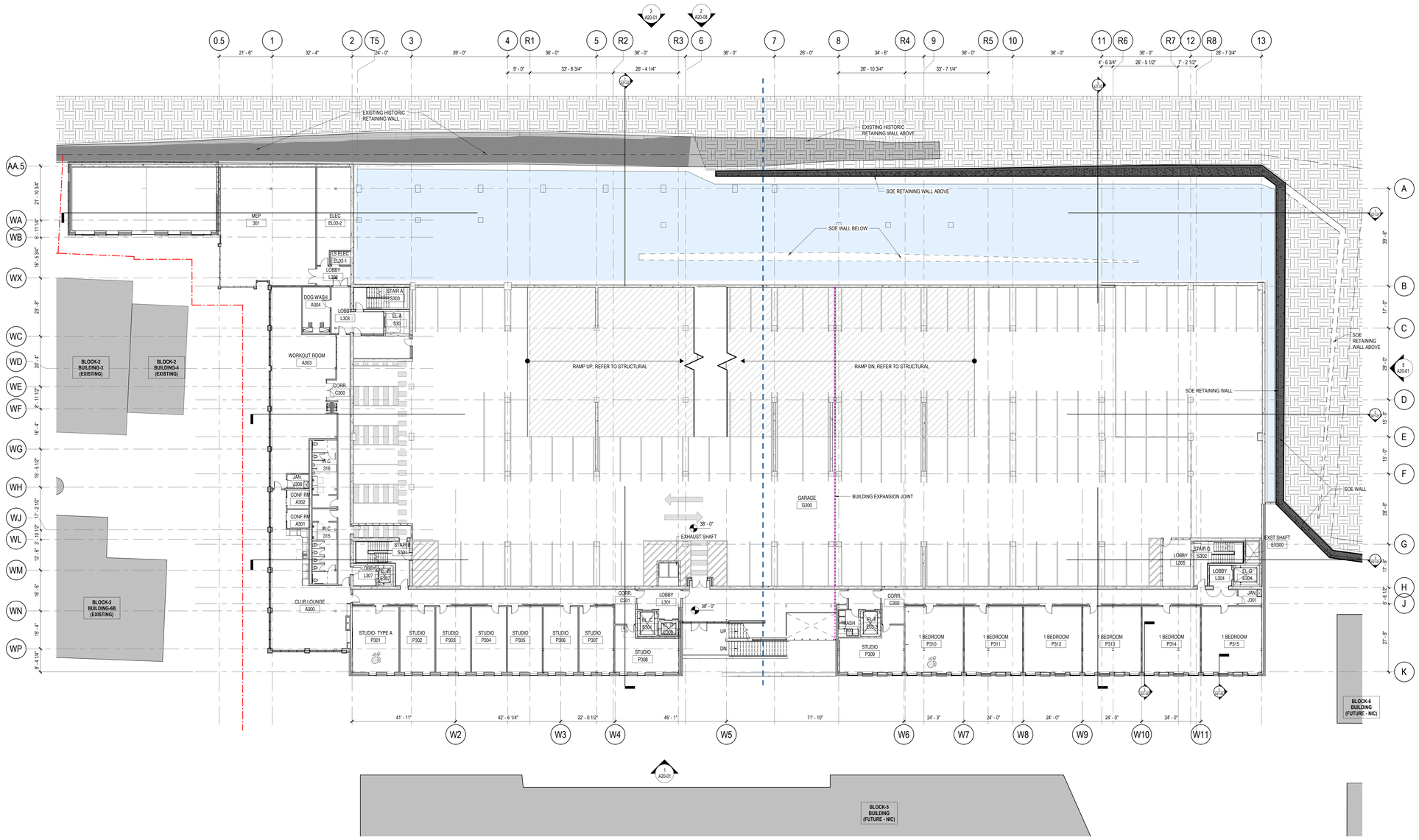
TITLE

OVERALL PLAN - LEVEL 02

SHEET NUMBER

A10-02

6/22/2023 1:25:20 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 OVERALL LEVEL 03 PLAN
1/16" = 1'-0"

FLOOR PLAN LEGEND

- NON-FIRE-RATED SMOKE PARTITION
- 30 MIN FIRE/SMOKE PARTITION
- 1-HOUR FIRE PARTITION
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS
- SOIL
- SLOPED PARKING SPEED RAMP
- CREVASSE SPACES (OPEN TO AIR, ADJACENT OR BELOW BUILDING SPACE - APPROXIMATE FOR DIAGRAMMATIC CLARITY)
- EXISTING HISTORIC SEAWALL
- SUPPORT OF EXCAVATION (SOE)
- 1t — DOOR TAG
- A11 — WALL TYPE TAG
- INTERCOM LOCATION
- CARD READER LOCATION
- TV — TV OUTLET LOCATION
- WALL DUPLEX OUTLET LOCATION
- GFI — WALL DUPLEX OUTLET LOCATION, GFI
- S — LIGHT SWITCH LOCATION
- FIRE EXTINGUISHER/ CABINET

FLOOR PLAN GENERAL NOTES

1. REFER TO CODE COMPLIANCE DRAWINGS G00-SERIES FOR FIRE RATING REQUIREMENTS
2. PARTITION TYPES ARE SCHEDULED IN THE A61 SERIES
3. TYPICAL RESIDENTIAL UNIT DEMISING PARTITIONS ARE TYPE " W10 " UNLESS NOTED OTHERWISE
4. TYPICAL RESIDENTIAL UNIT CORRIDOR PARTITIONS ARE TYPE " Q20 " UNLESS NOTED OTHERWISE
5. ALL CMU EXCEPT BOH SPACES TO RECEIVE M21 WALL TYPE DRYWALL
6. TYPICAL INTERIOR PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE
7. PARTITION DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.

KEYNOTES

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland, ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland, ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

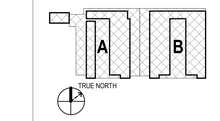
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

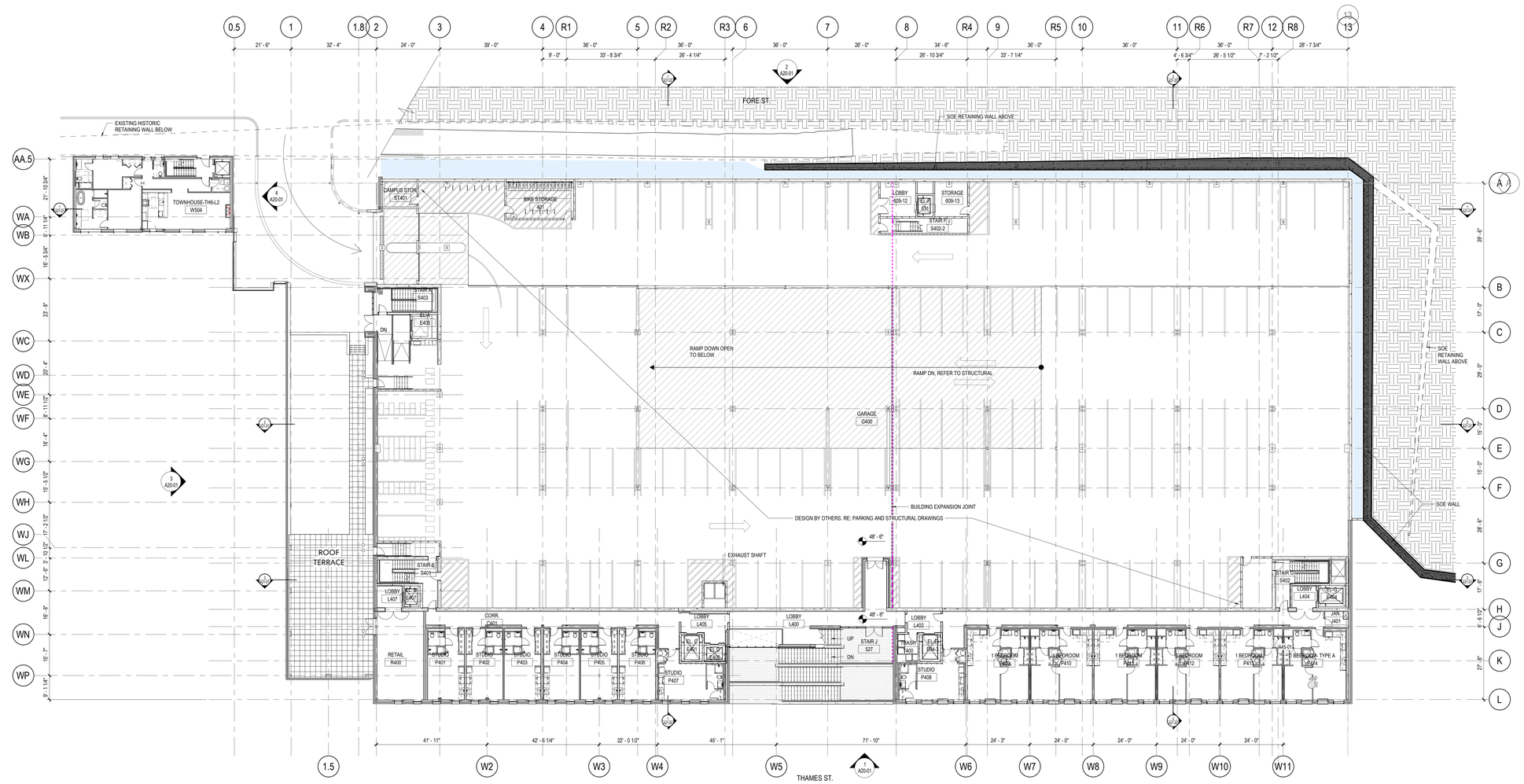
TITLE

OVERALL PLAN - LEVEL 03

SHEET NUMBER

A10-03

6/22/2023 1:25:26 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 OVERALL LEVEL 04 PLAN
1/16" = 1'-0"

FLOOR PLAN LEGEND

- NON-FIRE-RATED SMOKE PARTITION
- 30 MIN FIRE/SMOKE PARTITION
- 1-HOUR FIRE PARTITION
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS
- SOIL
- SLOPED PARKING SPEED RAMP
- CREVASSE SPACES (OPEN TO AIR, ADJACENT OR BELOW BUILDING SPACE - APPROXIMATE FOR DIAGRAMMATIC CLARITY)
- EXISTING HISTORIC SEAWALL
- SUPPORT OF EXCAVATION (SOE)
- 1t — DOOR TAG
- A11 — WALL TYPE TAG
- INTERCOM LOCATION
- CARD READER LOCATION
- TV — TV OUTLET LOCATION
- WALL DUPLEX OUTLET LOCATION
- GFI — WALL DUPLEX OUTLET LOCATION, GFI
- S — LIGHT SWITCH LOCATION
- FIRE EXTINGUISHER/ CABINET

FLOOR PLAN GENERAL NOTES

1. REFER TO CODE COMPLIANCE DRAWINGS G00-SERIES FOR FIRE RATING REQUIREMENTS
2. PARTITION TYPES ARE SCHEDULED IN THE A61 SERIES
3. TYPICAL RESIDENTIAL UNIT DEMISING PARTITIONS ARE TYPE " W10 " UNLESS NOTED OTHERWISE
4. TYPICAL RESIDENTIAL UNIT CORRIDOR PARTITIONS ARE TYPE " Q20 " UNLESS NOTED OTHERWISE
5. ALL CMU EXCEPT BOH SPACES TO RECEIVE M21 WALL TYPE DRYWALL
6. TYPICAL INTERIOR PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE
7. PARTITION DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.

KEYNOTES

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland, ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland, ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

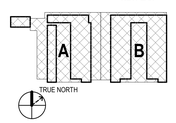
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

TITLE

OVERALL PLAN - LEVEL 04

SHEET NUMBER

A10-04

6/22/2023 1:38:52 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 OVERALL LEVEL 05 PLAN
1/16" = 1'-0"

FLOOR PLAN LEGEND

- NON-FIRE-RATED SMOKE PARTITION
- 30 MIN FIRE/SMOKE PARTITION
- 1-HOUR FIRE PARTITION
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS
- SOIL
- SLOPED PARKING SPEED RAMP
- CREVASSE SPACES (OPEN TO AIR, ADJACENT OR BELOW BUILDING SPACE - APPROXIMATE FOR DIAGRAMMATIC CLARITY)
- EXISTING HISTORIC SEAWALL
- SUPPORT OF EXCAVATION (SOE)
- 1t — DOOR TAG
- A11 — WALL TYPE TAG
- INTERCOM LOCATION
- CARD READER LOCATION
- TV — TV OUTLET LOCATION
- WALL DUPLEX OUTLET LOCATION
- GFI — WALL DUPLEX OUTLET LOCATION, GFI
- S — LIGHT SWITCH LOCATION
- FIRE EXTINGUISHER/ CABINET

FLOOR PLAN GENERAL NOTES

1. REFER TO CODE COMPLIANCE DRAWINGS G00-SERIES FOR FIRE RATING REQUIREMENTS
2. PARTITION TYPES ARE SCHEDULED IN THE A61 SERIES
3. TYPICAL RESIDENTIAL UNIT DEMISING PARTITIONS ARE TYPE " W10 " UNLESS NOTED OTHERWISE
4. TYPICAL RESIDENTIAL UNIT CORRIDOR PARTITIONS ARE TYPE " Q20 " UNLESS NOTED OTHERWISE
5. ALL CMU EXCEPT BOH SPACES TO RECEIVE M21 WALL TYPE DRYWALL
6. TYPICAL INTERIOR PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE
7. PARTITION DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.

KEYNOTES

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

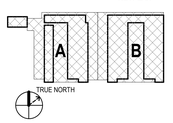
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

TITLE

OVERALL PLAN - LEVEL 05

SHEET NUMBER

A10-05

6/22/2023 4:45:39 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 OVERALL LEVEL 06 PLAN
1/16" = 1'-0"

FLOOR PLAN LEGEND

- NON-FIRE-RATED SMOKE PARTITION
- 30 MIN FIRE/SMOKE PARTITION
- 1-HOUR FIRE PARTITION
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER REQUIRED TO HAVE SMOKE DAMPERS
- SOIL
- SLOPED PARKING SPEED RAMP
- CREVASSE SPACES (OPEN TO AIR, ADJACENT OR BELOW BUILDING SPACE - APPROXIMATE FOR DIAGRAMMATIC CLARITY)
- EXISTING HISTORIC SEAWALL
- SUPPORT OF EXCAVATION (SOE)
- 1t — DOOR TAG
- A11 — WALL TYPE TAG
- INTERCOM LOCATION
- CARD READER LOCATION
- TV — TV OUTLET LOCATION
- WALL DUPLEX OUTLET LOCATION
- GFI — WALL DUPLEX OUTLET LOCATION, GFI
- S — LIGHT SWITCH LOCATION
- FIRE EXTINGUISHER/ CABINET

FLOOR PLAN GENERAL NOTES

1. REFER TO CODE COMPLIANCE DRAWINGS G00-SERIES FOR FIRE RATING REQUIREMENTS
2. PARTITION TYPES ARE SCHEDULED IN THE A61 SERIES
3. TYPICAL RESIDENTIAL UNIT DEMISING PARTITIONS ARE TYPE " W10 " UNLESS NOTED OTHERWISE
4. TYPICAL RESIDENTIAL UNIT CORRIDOR PARTITIONS ARE TYPE " Q20 " UNLESS NOTED OTHERWISE
5. ALL CMU EXCEPT BOH SPACES TO RECEIVE M21 WALL TYPE DRYWALL
6. TYPICAL INTERIOR PARTITIONS ARE TYPE " A41 " UNLESS NOTED OTHERWISE
7. PARTITION DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.

KEYNOTES

Perkins&Will

225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CONSULTANTS

CIVIL ENGINEER
Woodard & Curran
41 Hutchins Dr
Portland, ME 04102
t 207.774.2112

STRUCTURAL ENGINEER
Thornton Tomasetti
14 York Street, Suite 201
Portland, ME 04101
t +1 207.245.6002

MEP ENGINEER
Allied Engineering, Inc.
160 Veranda St. Portland,
ME 04103
t +1 207.221.2260

GEOTECH ENGINEER
Haley & Aldrich, Inc.
75 Washington Avenue, Suite 1A, Portland,
ME 04101
t +1 207.482.4607

OWNER'S CONSULTANT

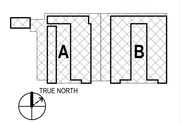
LANDSCAPE ARCHITECT
Michael Boucher Landscape Architecture
457 US Route 1 Suite 2
Freeport, Maine
t 207.865.1060

PROJECT

FORESIDE DEVELOPMENT

PFDC HARBOR HILL
254 COMMERCIAL ST
SUITE 118
PORTLAND, ME 04101

KEYPLAN



DESIGN DEVELOPMENT
FEBRUARY 24, 2023

ISSUE CHART

NO	ISSUE	DATE
Job Number		157111
Checked		Checker
Approved		Approver

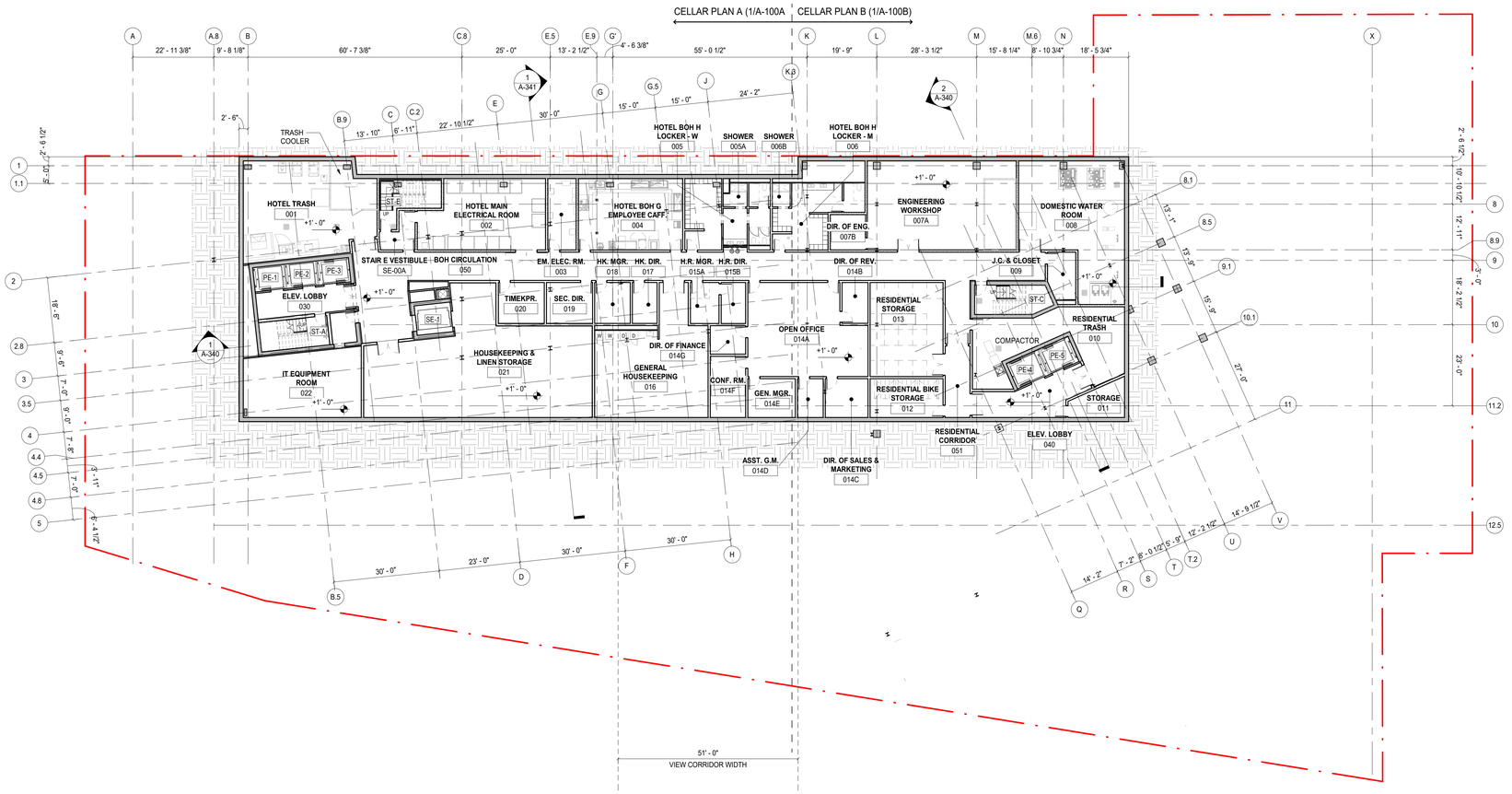
TITLE

OVERALL PLAN - LEVEL 06

SHEET NUMBER

A10-06

6/22/2023 4:45:43 PM
Autodesk Docs://PFDC Block Four/ARCH-PFDC_B4-Res_INT.rvt



1 CELLAR OVERALL PLAN

1/16" = 1'-0"

0 6' 12' 24'

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON.
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

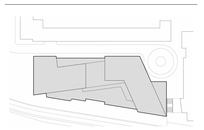


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5

PORTLAND, ME

CELLAR OVERALL PLAN

SCALE: As indicated

DRAWING #:

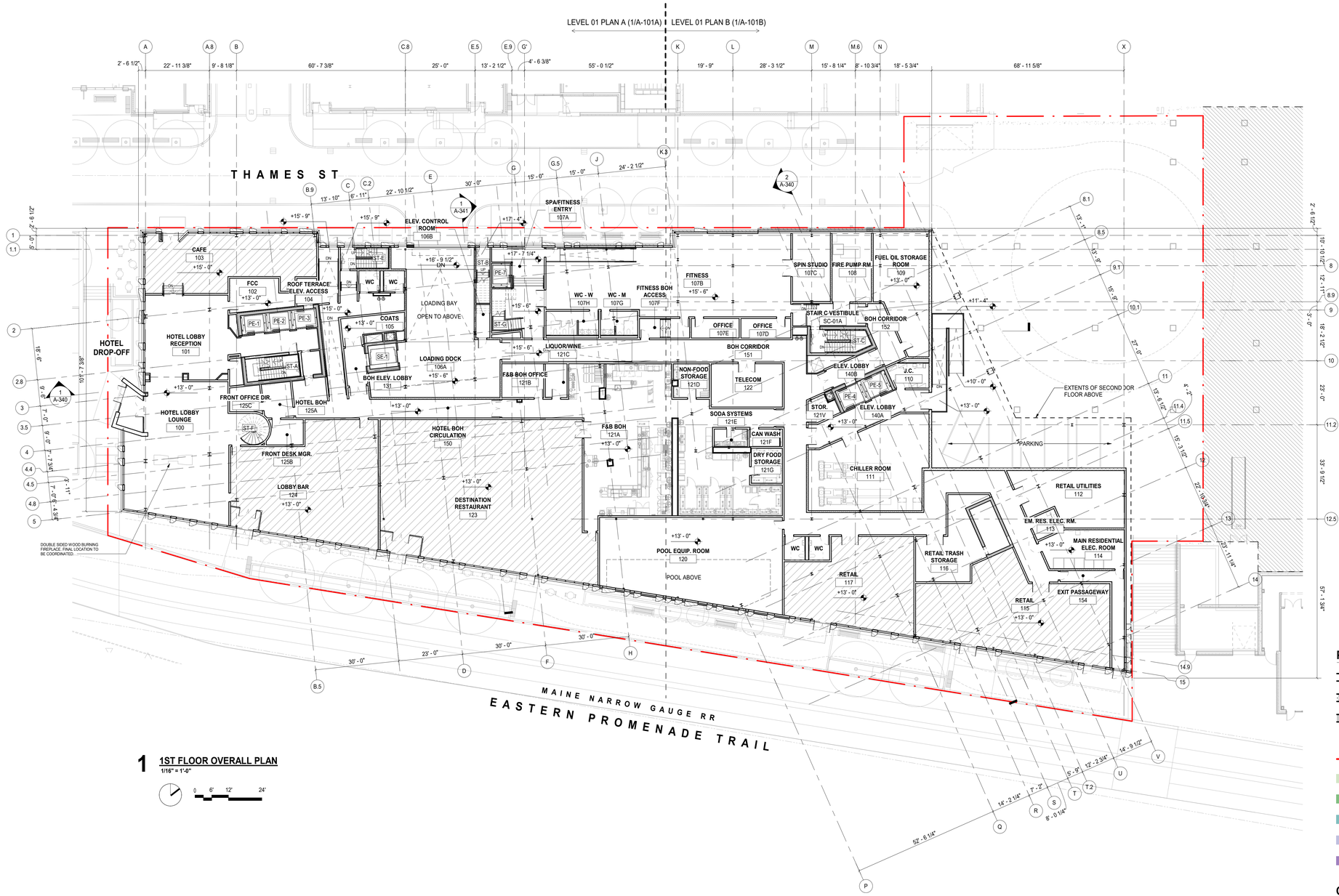
A-100

___ of ___

JOB #:

5/12/2023 6:25:00 PM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 1ST FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6' 12' 24'

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

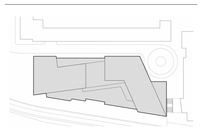


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5

PORTLAND, ME

1ST FLOOR OVERALL PLAN

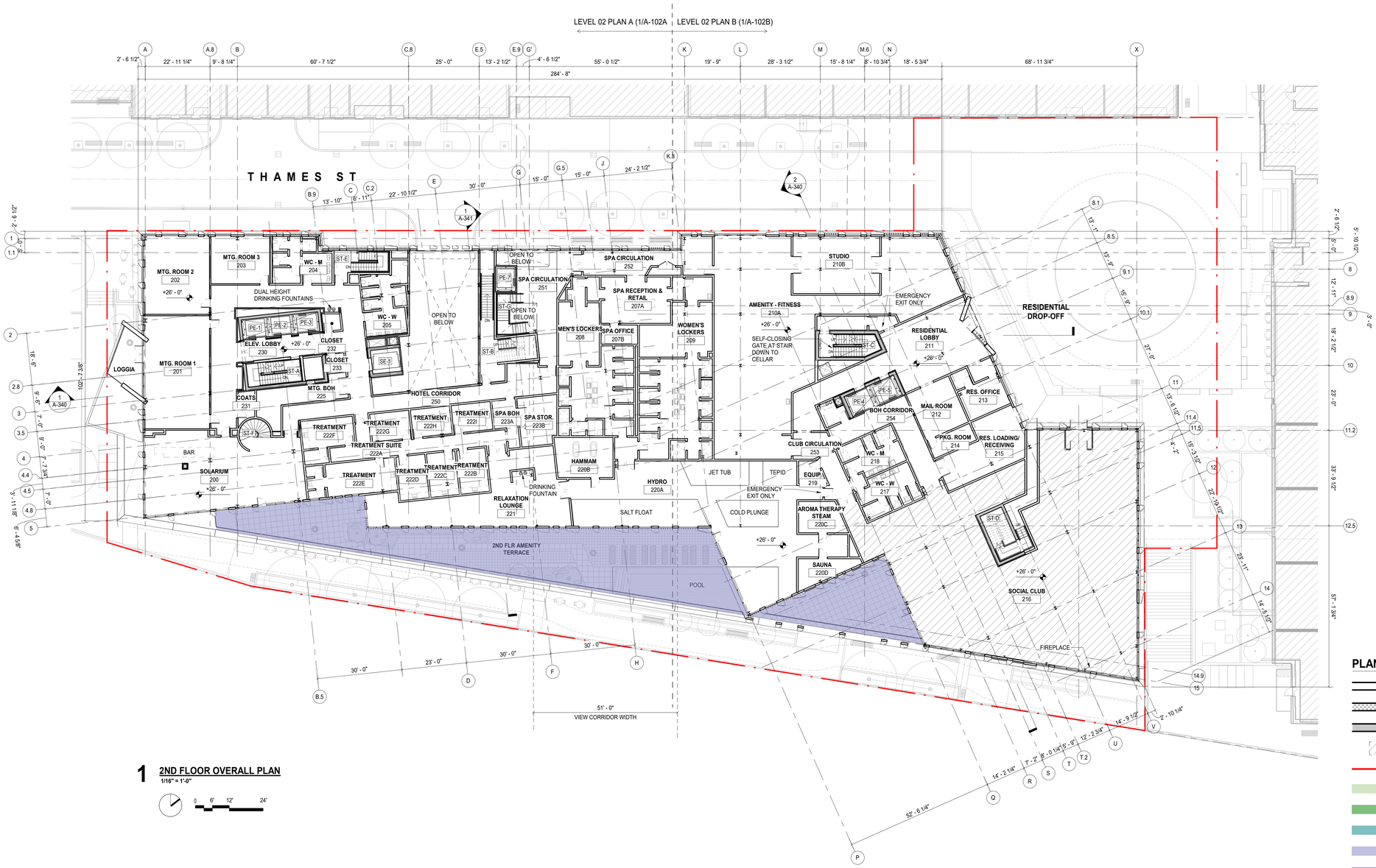
SCALE: As indicated

DRAWING #:

A-101

___ of ___

JOB #:



1 2ND FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6' 12' 24'

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

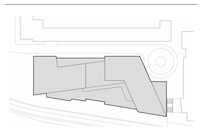


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5

PORTLAND, ME

2ND FLOOR OVERALL PLAN

SCALE: As indicated

DRAWING #:

A-102

of

JOB #:

5/12/2023 6:25:25 PM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 3RD FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6" 12" 24"

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' U.O.N.
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

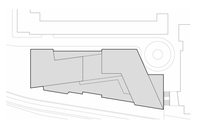


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN
2230
PORTLAND FORESIDE B5
PORTLAND, ME

3RD FLOOR OVERALL PLAN

SCALE: As indicated

DRAWING #:
A-103
___ of ___
JOB #:

5/12/2023 6:26:38 PM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 4TH FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6" 12" 24"

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' U.O.N.
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.



ARCHITECT / LANDSCAPE ARCHITECT

MARVEL

145 HUDSON STREET, FLR.3 NEW YORK, NY 10013

212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101

STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101

MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119

ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103

CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102

LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032

LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018

LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011

SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001

CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018

ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036

ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110

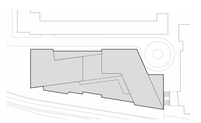
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY

POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY

TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5

PORTLAND, ME

4TH FLOOR OVERALL PLAN

SCALE: As indicated

DRAWING #:

A-104

___ of ___

JOB #:

5/12/2023 6:25:49 PM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 5TH FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6' 12' 24'

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON.
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

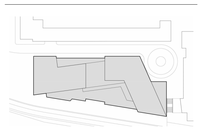


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN
2230
PORTLAND FORESIDE B5
PORTLAND, ME

5TH FLOOR OVERALL PLAN

SCALE: As indicated

DRAWING #:
A-105
___ of ___
JOB #:

5/12/2023 6:26:00 PM
MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 6TH FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6" 12" 24"

ARCHITECT / LANDSCAPE ARCHITECT

MARVEL

145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101

STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101

MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119

ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103

CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102

LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032

LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018

LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011

SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001

CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018

ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036

ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110

FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY

POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY

TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

NOT FOR CONSTRUCTION

PLOT PLAN

2230
PORTLAND FORESIDE B5
PORTLAND, ME

6TH FLOOR OVERALL PLAN

SCALE: As indicated

DRAWING #:
A-106
___ of ___
JOB #:

5/12/2023 6:26:13 PM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 7TH FLOOR OVERALL PLAN

1/16" = 1'-0"

0 6" 12" 24"

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

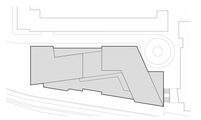


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230
PORTLAND FORESIDE B5
PORTLAND, ME

7TH FLOOR OVERALL PLAN

SCALE: As indicated

DRAWING #:
A-107
___ of ___
JOB #:

5/12/2023 6:26:24 PM

MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 8TH FLOOR OVERALL PLAN (HOTEL)

1/16" = 1'-0"

0 6" 12" 24"

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

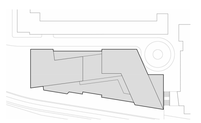


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



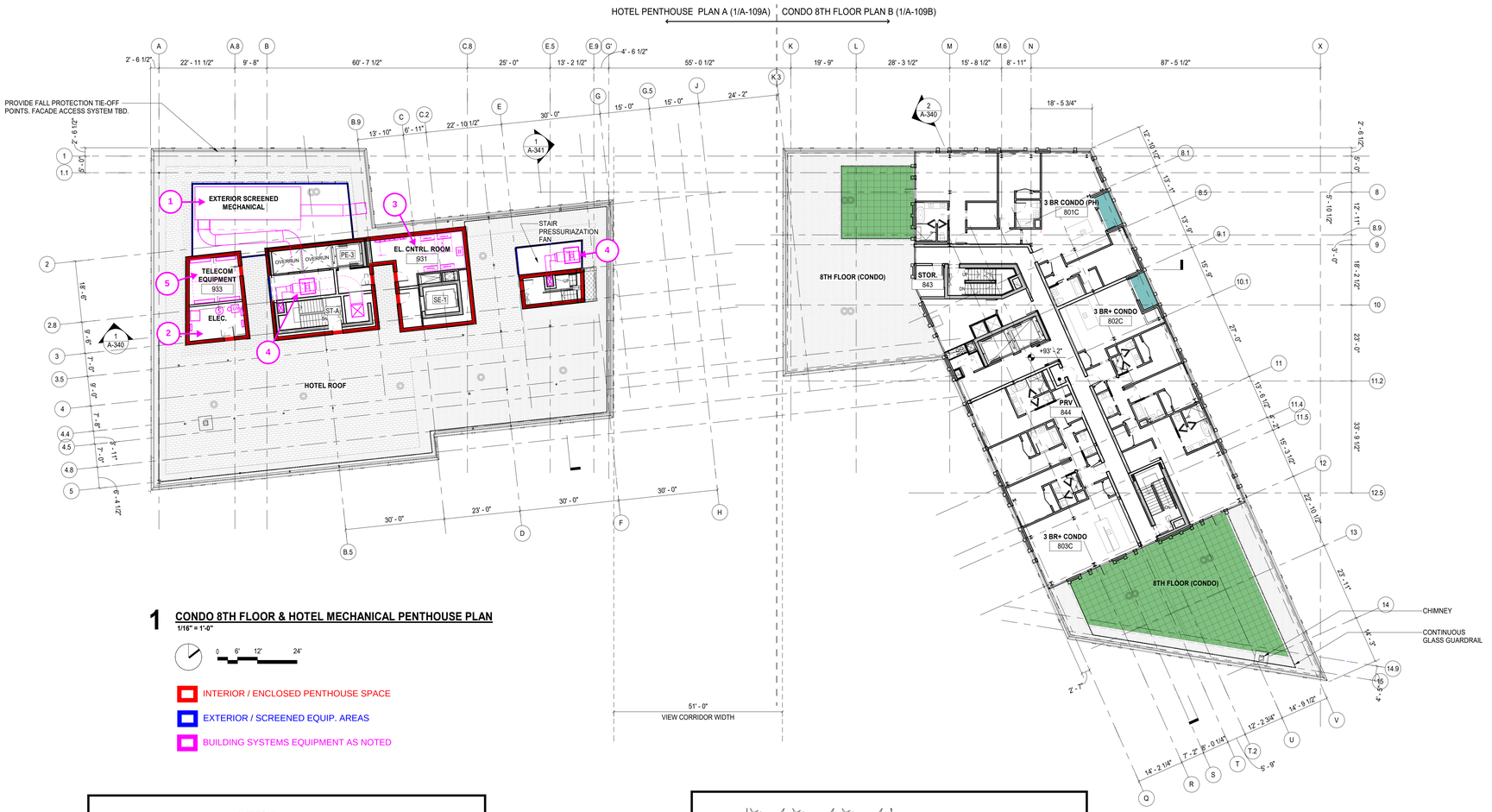
PLOT PLAN
2230
PORTLAND FORESIDE B5
PORTLAND, ME

8TH FLOOR OVERALL PLAN (HOTEL)

SCALE: As indicated

DRAWING #:
A-108
___ of ___
JOB #:

5/12/2023 6:26:36 PM MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC



1 CONDO 8TH FLOOR & HOTEL MECHANICAL PENTHOUSE PLAN

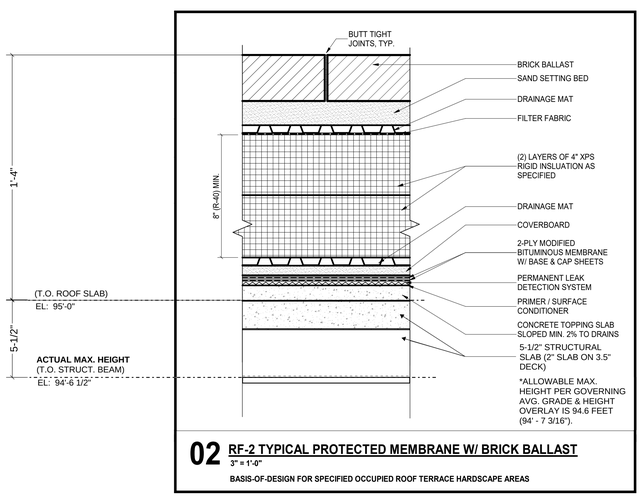
1/16" = 1'-0"

0 6" 12" 24"

INTERIOR / ENCLOSED PENTHOUSE SPACE

EXTERIOR / SCREENED EQUIP. AREAS

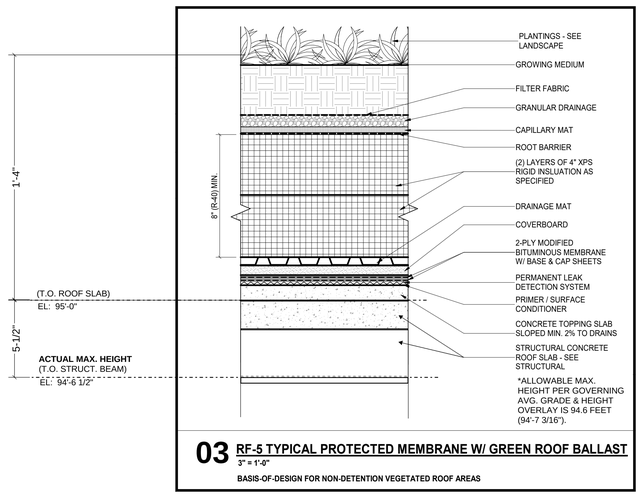
BUILDING SYSTEMS EQUIPMENT AS NOTED



02 RF-2 TYPICAL PROTECTED MEMBRANE W/ BRICK BALLAST

3" = 1'-0"

BASIS-OF-DESIGN FOR SPECIFIED OCCUPIED ROOF TERRACE HARDSCAPE AREAS



03 RF-5 TYPICAL PROTECTED MEMBRANE W/ GREEN ROOF BALLAST

3" = 1'-0"

BASIS-OF-DESIGN FOR NON-DETENTION VEGETATED ROOF AREAS

BUILDING OPERATING EQUIPMENT KEYNOTE LEGEND:

1 - AIR HANDLING UNIT TO PROVIDE OUTSIDE (FRESH) AIR TO ENTIRE BUILDING. AIR HANDLING UNIT LOCATED AT ROOF LEVEL TO PROVIDE ENHANCED OUTDOOR AIR QUALITY TO OCCUPANTS. LOCATION AT HIGH ROOF AVOIDS DISRUPTION OF VIEWS AND NOISE TO GUESTS BELOW AND AVOIDS IMPACTING THE PEDESTRIAN EXPERIENCE AT LOWER FLOORS. THE HIGH ROOF LOCATION ALSO CONTRIBUTES TO THE RESILIENCY OF THE BUILDING IN A FLOOD EVENT.

2 - ELECTRICAL DISTRIBUTION TO SUPPORT ROOFTOP EQUIPMENT. MUST BE LOCATED IMMEDIATELY ADJACENT TO ASSOCIATED ROOFTOP EQUIPMENT FOR PROPER MAINTENANCE AND OPERATION.

3 - ELEVATOR CONTROL EQUIPMENT NEEDS TO BE LOCATED IMMEDIATELY ADJACENT TO THE ELEVATOR SHAFTS FOR PROPER OPERATION. CONTROL EQUIPMENT IS OPTIMALLY LOCATED AT THE TOP OF THE SHAFTS TO CONTRIBUTE TO THE RESILIENCY OF THE BUILDING IN FLOOD EVENTS.

4 - STAIRWAY PRESSURIZATION FAN, REQUIRED BY CODE TO MAINTAIN SAFE EGRESS DURING FIRE CONDITION. EQUIPMENT LOCATED ON ROOF TO PROVIDE PROPER OPERATION.

5 - TELECOM EQUIPMENT IS REQUIRED TO BE PLACED EVERY SEVERAL FLOORS OF THE BUILDING, INCLUSIVE OF THE ROOF, TO PROPERLY SERVE ALL FLOORS AND BUILDING OCCUPANTS BELOW.

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON.
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

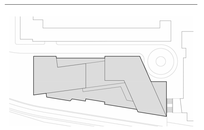


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN

2230

PORTLAND FORESIDE B5

PORTLAND, ME

8TH FLOOR OVERALL PLAN (CONDO)

SCALE: As indicated

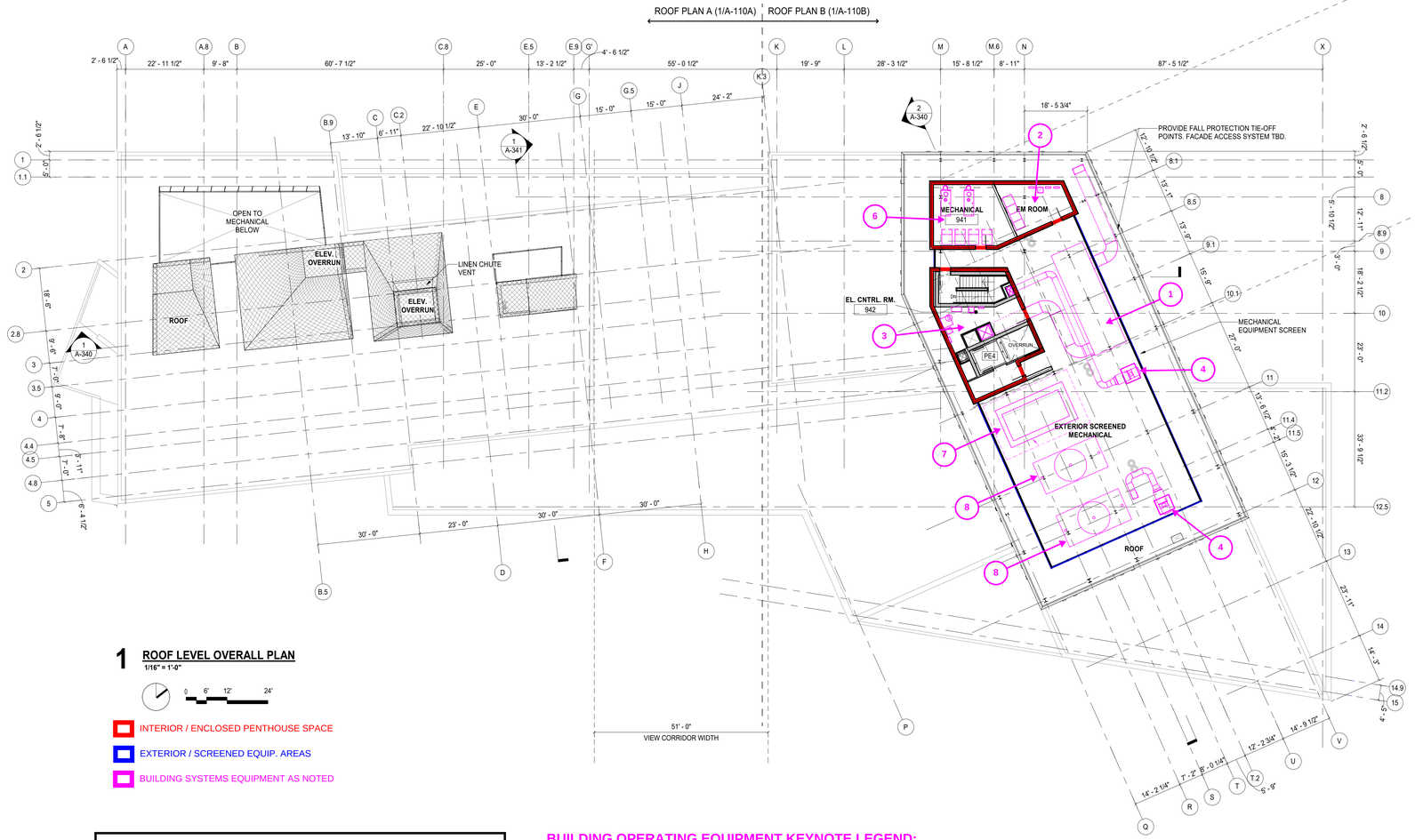
DRAWING #:

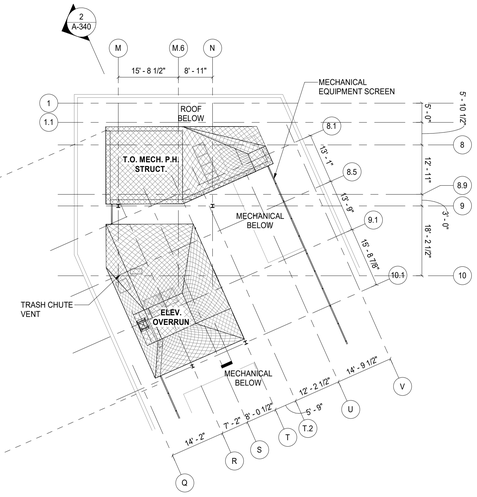
A-109

___ of ___

JOB #:

8/9/2023 12:26:43 PM MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC





2 T.O. BULKHEAD PLAN (CONDO)
1/16" = 1'-0"

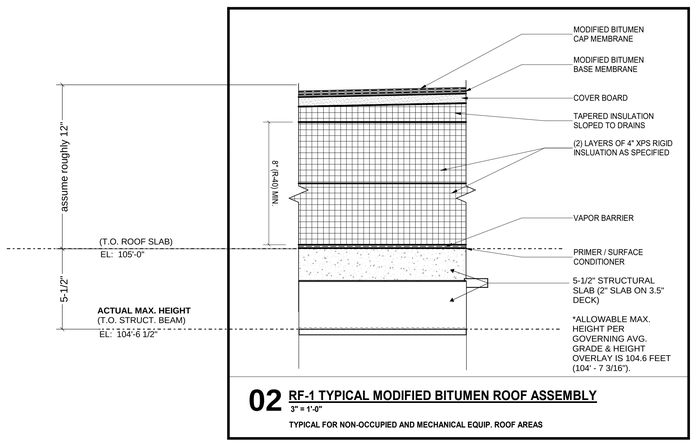
1 ROOF LEVEL OVERALL PLAN
1/16" = 1'-0"

0 6' 12' 24'

INTERIOR / ENCLOSED PENTHOUSE SPACE

EXTERIOR / SCREENED EQUIP. AREAS

BUILDING SYSTEMS EQUIPMENT AS NOTED



02 RF-1 TYPICAL MODIFIED BITUMEN ROOF ASSEMBLY
3" = 1'-0"

TYPICAL FOR NON-OCCUPIED AND MECHANICAL EQUIP. ROOF AREAS

BUILDING OPERATING EQUIPMENT KEYNOTE LEGEND:

1 - AIR HANDLING UNIT TO PROVIDE OUTSIDE (FRESH) AIR TO ENTIRE BUILDING. AIR HANDLING UNIT LOCATED AT ROOF LEVEL TO PROVIDE ENHANCED OUTDOOR AIR QUALITY TO OCCUPANTS. LOCATION AT HIGH ROOF AVOIDS DISRUPTION OF VIEWS AND NOISE TO GUESTS BELOW AND AVOIDS IMPACTING THE PEDESTRIAN EXPERIENCE AT LOWER FLOORS. THE HIGH ROOF LOCATION ALSO CONTRIBUTES TO THE RESILIENCY OF THE BUILDING IN A FLOOD EVENT.

2 - ELECTRICAL DISTRIBUTION TO SUPPORT ROOFTOP EQUIPMENT. MUST BE LOCATED IMMEDIATELY ADJACENT TO ASSOCIATED ROOFTOP EQUIPMENT FOR PROPER MAINTENANCE AND OPERATION.

3 - ELEVATOR CONTROL EQUIPMENT NEEDS TO BE LOCATED IMMEDIATELY ADJACENT TO THE ELEVATOR SHAFTS FOR PROPER OPERATION. CONTROL EQUIPMENT IS OPTIMALLY LOCATED AT THE TOP OF THE SHAFTS TO CONTRIBUTE TO THE RESILIENCY OF THE BUILDING IN FLOOD EVENTS.

4 - STAIRWAY PRESSURIZATION FAN, REQUIRED BY CODE TO MAINTAIN SAFE EGRESS DURING FIRE CONDITION. EQUIPMENT LOCATED ON ROOF TO PROVIDE PROPER OPERATION.

5 - TELECOM EQUIPMENT IS REQUIRED TO BE PLACED EVERY SEVERAL FLOORS OF THE BUILDING, INCLUSIVE OF THE ROOF, TO PROPERLY SERVE ALL FLOORS AND BUILDING OCCUPANTS BELOW.

6 - HOT WATER BOILER PLANT LOCATED AT ROOF TO MINIMIZE DISTANCES COMBUSTION FLUES NEED TO TRAVEL TO GET TO ROOF LEVEL. LOCATION AT ROOF CONTRIBUTES TO RESILIENCY OF BUILDING IN FLOOD EVENTS.

7 - EMERGENCY GENERATOR TO BE PROVIDED IN ENCLOSURE. EQUIPMENT IS LOCATED AT ROOF TO MINIMUZE GENERATOR EXHAUST STACK ROUTING. LOCATION ON HIGH ROOF IS OPTIMAL TO AVOID VISUAL AND NOISE DISRUPTION TO RESIDENTS AND PEDESTRIANS AT LOWER LEVELS. HIGH ROOF LOCATION ALSO CONTRIBUTES TO RESILIENCY OF BUILDING IN FLOOD EVENTS.

8 - COOLING TOWERS REQUIRED TO BE OUTSIDE IN OPEN AIR IN ORDER TO FUNCTION PROPERLY AND PROVIDE COOLING FOR BUILDING. LOCATION ON HIGH ROOF IS OPTIMAL TO AVOID VISUAL AND NOISE DISRUPTION TO RESIDENTS AND PEDESTRIANS AT LOWER LEVELS. HIGH ROOF LOCATION ALSO CONTRIBUTES TO RESILIENCY OF BUILDING IN FLOOD EVENTS.

PLAN LEGEND

- FRAMED GWB PARTITION
- CMU PARTITION
- STRUCTURAL CONCRETE WALL
- WHITE BOX SPACE
- PARCEL LINE
- SHARED RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL TERRACE
- PRIVATE RESIDENTIAL BALCONY
- SHARED HOTEL TERRACE
- PRIVATE HOTEL TERRACE

GENERAL PLAN NOTES

1. REFER TO SHEET **A-020-A-021** FOR PARTITION TYPES.
2. REFER TO SHEET **G-010** FOR PROJECT SUMMARY + GENERAL NOTES
3. REFER TO SHEET **G-015** FOR GRAPHIC SYMBOLS AND ABBREVIATIONS.
4. REFER TO SHEET **G-020/G-021/G-022** FOR ACCESSIBILITY NOTES AND DIAGRAMS.
5. SEE A-020 TO A-40 SERIES AND NOTED DETAILS FOR WALL, FLOOR, AND CEILING ASSEMBLIES.
6. EGRESS STAIR WALLS AND ELEVATOR CORE TO BE MIN. 2 HOUR RATED CONSTRUCTION U.O.N.
7. ALL DOORS WITHIN FIRE-RATED PARTITIONS SHALL BE LABELED. FIRE-RATED DOORS SHALL BE EQUIPPED WITH RATED HARDWARE. RATED DOORS ALONG EGRESS ROUTES AND WITHIN INTERIOR EXIT STAIRWAYS ARE TO BE LABELED, SELF-CLOSING, AND EQUIPPED WITH FIRE EXIT DEVICE HARDWARE.
8. ALL CORRIDOR WALLS SEPARATING APARTMENTS FROM CORRIDOR TO BE 1 HR FIRE PARTITIONS.
9. ALL DEMISING WALLS SEPARATING APARTMENTS TO BE TYPE 'D1' UON
10. PROVIDE WALL PROTECTION RAILS, IMPACT RESISTANT WALL COVERINGS, AND CORNER GUARDS IN ALL BACK OF HOUSE CORRIDORS. SEE SPECIFICATIONS.
11. GLASS GUARDRAILS TO BE PROVIDED AT ALL OCCUPIABLE TERRACES AND BALCONIES, INCLUDING JULIET BALCONIES. PROVIDE LAMINATED GLASS WITH SENTRYGLAS INTERLAYER AND STAINLESS STEEL BASE SHOE. THE GLASS BALUSTER PANELS SHALL BE TESTED TO REMAIN IN PLACE AS A BARRIER FOLLOWING IMPACT OR GLASS BREAKAGE IN ACCORDANCE WITH ASTM E2353.

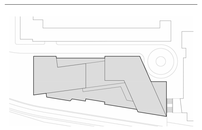


ARCHITECT / LANDSCAPE ARCHITECT
MARVEL
145 HUDSON STREET, FLR.3 NEW YORK, NY 10013
212.616.0420

CLIENT
PORTLAND FORESIDE
254 COMM. ST, STE 118, PORTLAND, ME 04101
STRUCTURAL ENGINEER / PARKING
THORNTON TOMASETTI
14 YORK ST, STE 201, PORTLAND, ME 04101
MEP/FP
WSP
250 W 34TH ST, 5TH FL, NEW YORK, NY 10119
ENCLOSURE
RWDI
1608 WALNUT ST, STE 1603, PHILA., PA 19103
CIVIL ENGINEER
WOODARD & CURRAN
41 HUTCHINS DR, PORTLAND, ME 04102
LANDSCAPE ARCHITECT (STREETSCAPE)
MBLA
457 US RTE 1, STE 2, FREEPORT, ME 04032
LEAD INTERIOR DESIGNER
WORKSHOP/APD
39 W 38TH ST, 7TH FL, NEW YORK, NY 10018
LIGHTING CONSULTANT
FISHER MARANTZ STONE
22 W 19TH ST, FL 6, NEW YORK, NY 10011
SUSTAINABILITY
ATELIER TEN
104 W 29TH ST, 8TH FL, NEW YORK, NY 10001
CODE / ACCESSIBILITY CONSULTANT
CCI
215 W 40TH ST, FL 10, NEW YORK, NY 10018
ACOUSTICAL CONSULTANT
LONGMAN LINDSEY
200 W41ST ST, STE1100, NEW YORK, NY 10036
ELEVATOR CONSULTANT
VDA
100 SUMMER ST, STE 1600, BOSTON, MA 02110
FOOD SERVICE
ROMANO GATLAND
1 HUNTINGTON QUAD #2C03, MELVILLE, NY
POOL
LOTHROP / AQUATECTONIC
333 WESTCHESTER AVE, WHITE PLAINS, NY
TECHNOLOGY
SHEN, MILSOM & WILKE
275 MADISON AVE, FL 14, NEW YORK, NY 10016

REV	DATE	DESCRIPTION
	10.14.2022	SCHEMATIC DESIGN
	05.12.2023	DESIGN DEVELOPMENT
	08.09.2023	SITE PLAN APPLICATION

NOT FOR CONSTRUCTION



PLOT PLAN
2230
PORTLAND FORESIDE B5
PORTLAND, ME

ROOF PLAN

SCALE: As indicated

DRAWING #:
A-110
of ___
JOB #:

8/9/2023 12:26:45 PM MARVEL ARCHITECTS, LANDSCAPE ARCHITECTS, URBAN DESIGNERS, PLLC

LEVEL 1 - PUBLIC SPACE SCHEDULE

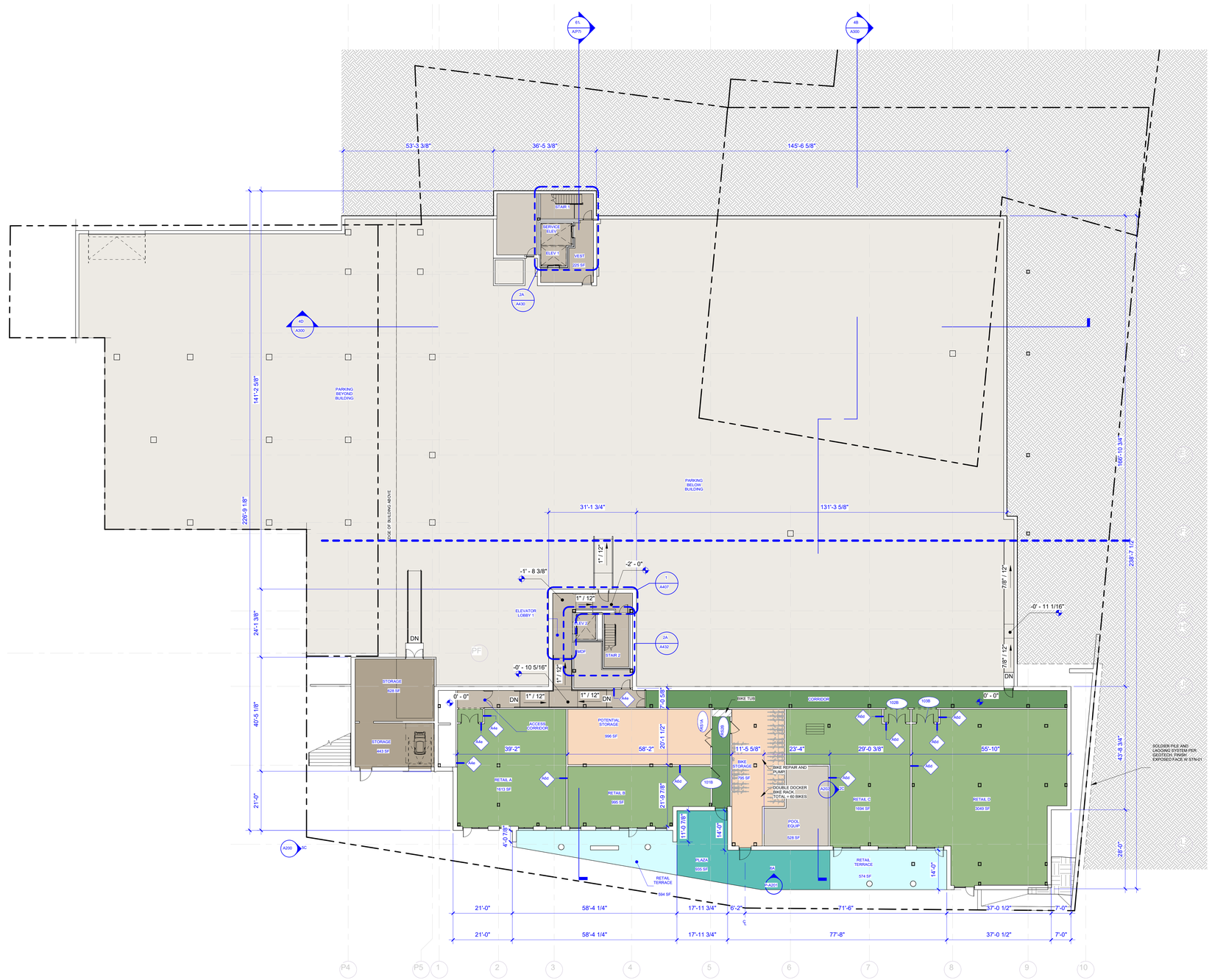
NO	SPACE	NET AREA
LEVEL 1		
1C4	CORRIDOR	1139 SF
1MP1	PLAZA	935 SF
1R1	RETAIL A	1613 SF
1R2	RETAIL B	995 SF
1R3	RETAIL C	1694 SF
1R4	RETAIL D	3049 SF
1RT1	RETAIL TERRACE	594 SF
1RT2	RETAIL TERRACE	574 SF
		10592 SF

LEVEL 1 - COMMON SPACE SCHEDULE

SPACE TYPE	NET AREA
LEVEL 1	
COMMON SPACE - ACCESS	1559 SF
COMMON SPACE - AMENITY	1791 SF
COMMON SPACE - BOH	1071 SF
COMMON SPACE - UTILITIES	758 SF
	5179 SF

AREA/UNIT TYPE

- SITE - OUTDOOR SPACE
- RETAIL
- RETAIL - ACCESS SPACE
- RETAIL - OUTDOOR SPACE
- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- COMMON SPACE - PARKING
- COMMON SPACE - AMENITY



5A LEVEL 1 (MARINA/PROMENADE) - PLAN

SCALE: 1/16" = 1'-0"

Baskerville

FORESIDE/

THE CHANNEL MARK°

BASKERVILL | P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE

06/22/2023 - PROGRESS PRINT

LEVEL 1 - OVERALL PLAN

A111

LEVEL 2 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 2		
204	2BR	1057 SF
204 T	UNIT TERRACE	286 SF
205	2BR	1419 SF
205 T	UNIT TERRACE	339 SF
207	3BR	1870 SF
207 T	UNIT TERRACE	395 SF
208	3BR	1752 SF
208 T	UNIT TERRACE	309 SF
209	1BR	1045 SF
209 T	UNIT TERRACE	102 SF
211	2BR	1310 SF
211 T	UNIT TERRACE	157 SF
212	2BR	1096 SF
212 T	UNIT TERRACE	230 SF
213	1BR	1061 SF
213 T	UNIT TERRACE	116 SF
214	2BR	1218 SF
214 T	UNIT TERRACE	268 SF
215	2BR	1502 SF
215 T	UNIT TERRACE	205 SF
216	2BR	1387 SF
216 T1	UNIT TERRACE	151 SF
217	3BR	1815 SF
217 T	UNIT TERRACE	259 SF
218	2BR	1706 SF
218 T	UNIT TERRACE	308 SF
219	2BR	1382 SF
219 T	UNIT TERRACE	280 SF
220	2BR	1662 SF
220 T	UNIT TERRACE	152 SF
221	3BR	2061 SF
221 T	UNIT TERRACE	230 SF
223	3BR	1826 SF
223 T	UNIT TERRACE	325 SF
		29281 SF

UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)
17

LEVEL 2 - COMMON SPACE SCHEDULE

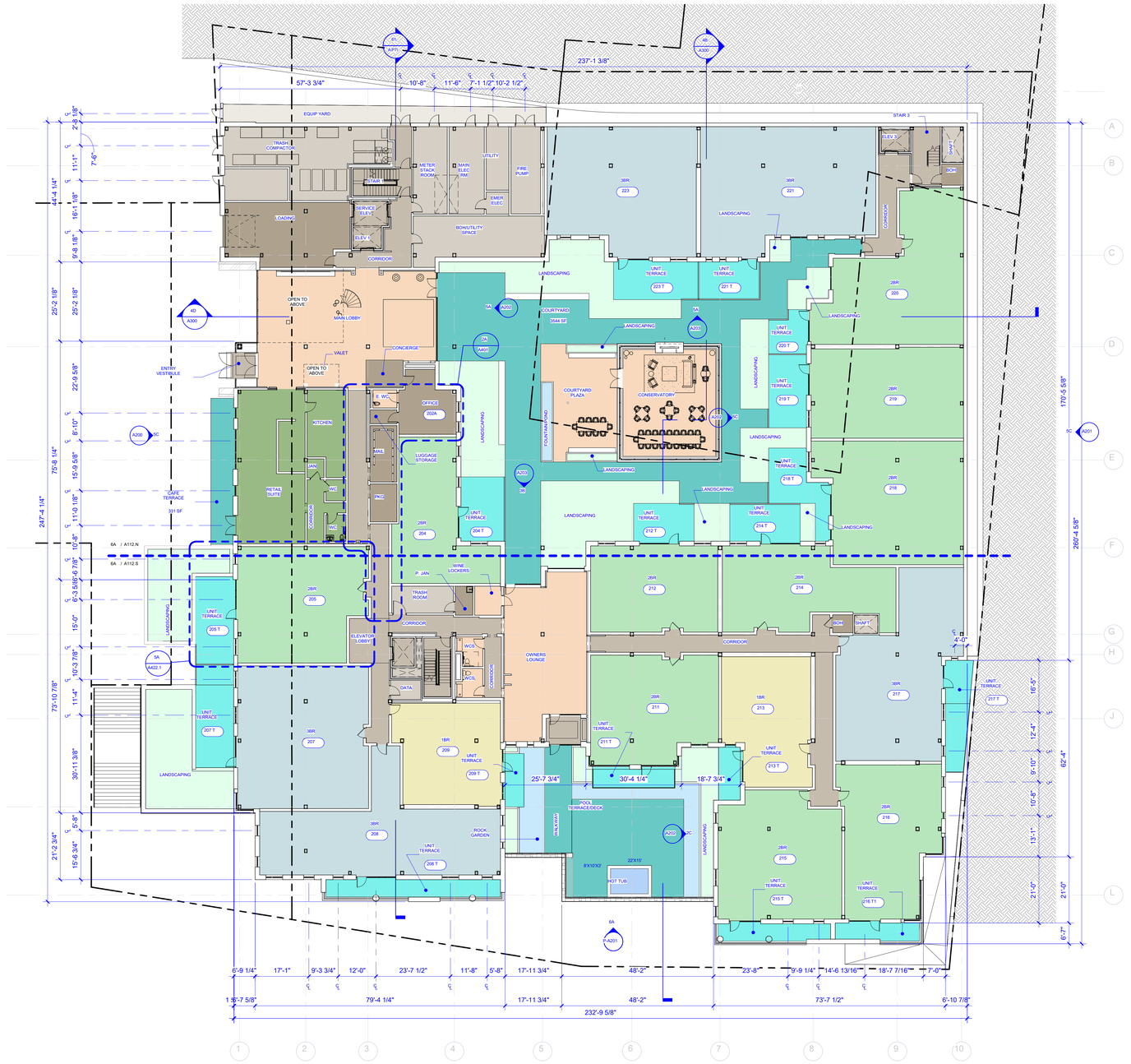
SPACE TYPE	AREA
LEVEL 2	
COMMON SPACE - ACCESS	3422 SF
COMMON SPACE - AMENITY	4972 SF
COMMON SPACE - BOH	1589 SF
COMMON SPACE - OUTDOOR	5150 SF
COMMON SPACE - UTILITIES	3046 SF
COMMON SPACE - UTILITIES (OUTDOOR)	561 SF
	18741 SF

UNIT TYPE & SELLEABLE SF

UNIT TYPE	COUNT	SQUARE FOOTAGE
1BR	17	15070.7 SF
2BR	108	129928 SF
3BR	23	40022.9 SF
PENTHOUSE	8	17184.6 SF
UNIT BALCONY	118	8557.7 SF
UNIT TERRACE - LARGE	16	8113.8 SF
UNIT COUNT WITHIN RESIDENTIAL = 72	290	218877.7 SF

AREA/UNIT TYPE

- SITE - LANDSCAPING
- SITE - WATER POOL
- SITE - WATER LOW
- RETAIL
- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- COMMON SPACE - UTILITIES (OUTDOOR)
- COMMON SPACE - AMENITY
- COMMON SPACE - OUTDOOR
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - OUTDOOR SPACE



Baskerville

FORESIDE/

THE CHANNEL MARK°

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL - USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE

06/22/2023 - PROGRESS PRINT

4A LEVEL 2 (STREET LEVEL) - PLAN

SCALE: 1/16" = 1'-0"

LEVEL 2 - OVERALL PLAN

A112

LEVEL 3 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 3		
302	2BR	908 SF
302 T	UNIT BALCONY	73 SF
303	3BR	1647 SF
303 T	UNIT BALCONY	73 SF
304	2BR	1112 SF
304 T	UNIT BALCONY	73 SF
305	2BR	1254 SF
305 T	UNIT BALCONY	75 SF
307	3BR	1873 SF
307 T	UNIT BALCONY	73 SF
308	2BR	1371 SF
308 T	UNIT TERRACE - LARGE	658 SF
309	2BR	1433 SF
309 T	UNIT BALCONY	70 SF
310	2BR	931 SF
310 T	UNIT BALCONY	73 SF
311	2BR	1014 SF
311 T	UNIT BALCONY	74 SF
312	2BR	921 SF
312 T	UNIT BALCONY	73 SF
313	3BR	1754 SF
313 T	UNIT BALCONY	73 SF
314	2BR	930 SF
314 T	UNIT BALCONY	73 SF
315	2BR	1282 SF
315 T	UNIT TERRACE - LARGE	638 SF
316	2BR	1365 SF
316 T1	UNIT TERRACE	175 SF
317	3BR	1531 SF
317 T	UNIT BALCONY	69 SF
318	2BR	1308 SF
318 T	UNIT BALCONY	76 SF
319	2BR	1709 SF
319 T	UNIT BALCONY	70 SF
320	2BR	1550 SF
320 T1	UNIT BALCONY	73 SF
320 T2	UNIT BALCONY	73 SF
321	2BR	1483 SF
321 T	UNIT BALCONY	70 SF
322	2BR	1493 SF
322 T	UNIT BALCONY	70 SF
323	1BR	961 SF
323 T	UNIT BALCONY	70 SF
324	3BR	1733 SF
324 T	UNIT TERRACE	124 SF
		32535 SF

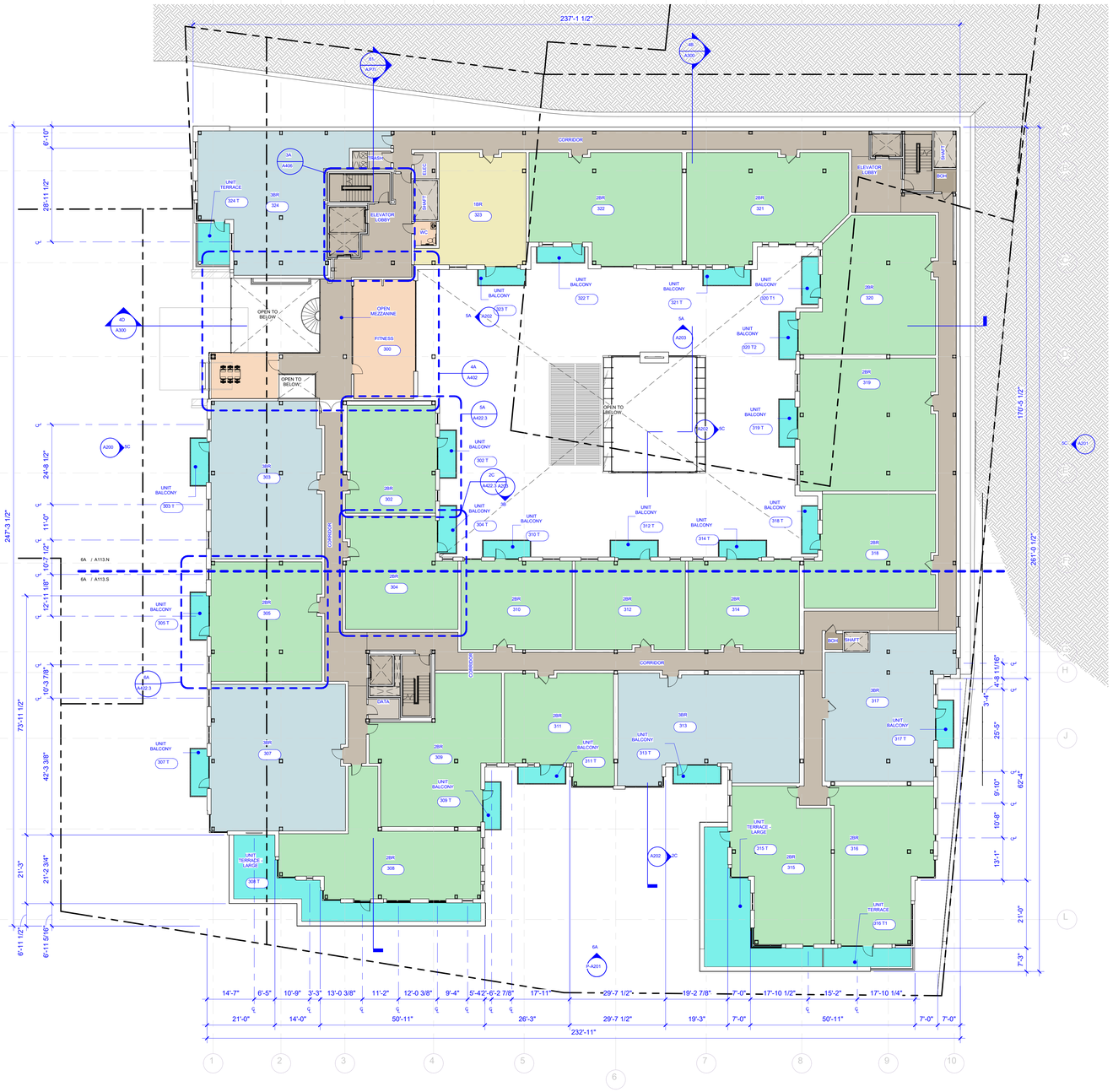
UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)
22

LEVEL 3 - COMMON SPACE SCHEDULE

SPACE TYPE	AREA
LEVEL 3	
COMMON SPACE - ACCESS	5803 SF
COMMON SPACE - AMENITY	1021 SF
COMMON SPACE - BOH	76 SF
COMMON SPACE - UTILITIES	313 SF
	7213 SF

AREA/UNIT TYPE

- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- COMMON SPACE - AMENITY
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - OUTDOOR SPACE



4A LEVEL 3 - PLAN

SCALE: 1/16" = 1'-0"

BASKERVILL, P.O. BOX 400, RICHMOND, VA
23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST.
PORTLAND, ME 04101

ISSUE
06/22/2023 - PROGRESS PRINT

LEVEL 3 - OVERALL PLAN

A113

LEVEL 4 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 4		
400	2BR	1091 SF
400 T	UNIT BALCONY	75 SF
401	2BR	1381 SF
401 T	UNIT TERRACE	84 SF
402	2BR	908 SF
402 T	UNIT BALCONY	73 SF
403	3BR	1643 SF
403 T	UNIT BALCONY	75 SF
404	2BR	1112 SF
404 T	UNIT BALCONY	73 SF
405	2BR	1254 SF
405 T	UNIT BALCONY	75 SF
407	3BR	1873 SF
407 T	UNIT BALCONY	73 SF
408	2BR	1371 SF
408 T	UNIT BALCONY	74 SF
409	2BR	1437 SF
409 T	UNIT BALCONY	73 SF
410	2BR	933 SF
410 T	UNIT BALCONY	73 SF
411	2BR	1014 SF
411 T	UNIT BALCONY	74 SF
412	2BR	918 SF
412 T	UNIT BALCONY	73 SF
413	3BR	1755 SF
413 T	UNIT BALCONY	73 SF
414	2BR	932 SF
414 T	UNIT BALCONY	73 SF
415	2BR	1276 SF
415 T1	UNIT BALCONY	73 SF
416	2BR	1373 SF
416 T1	UNIT BALCONY	73 SF
417	2BR	1099 SF
417 T	UNIT BALCONY	69 SF
418	1BR	762 SF
418 T	UNIT BALCONY	74 SF
419	1BR	706 SF
419 T	UNIT BALCONY	73 SF
420	2BR	1418 SF
420 T	UNIT BALCONY	73 SF
421	2BR	1112 SF
421 T	UNIT BALCONY	73 SF
422	1BR	966 SF
422 T	UNIT BALCONY	73 SF
423	2BR	1482 SF
423 T	UNIT BALCONY	73 SF
424	2BR	1488 SF
424 T	UNIT BALCONY	70 SF
425	1BR	1004 SF
425 T	UNIT BALCONY	73 SF
426	2BR	1545 SF
426 T	UNIT TERRACE	145 SF
		33838 SF

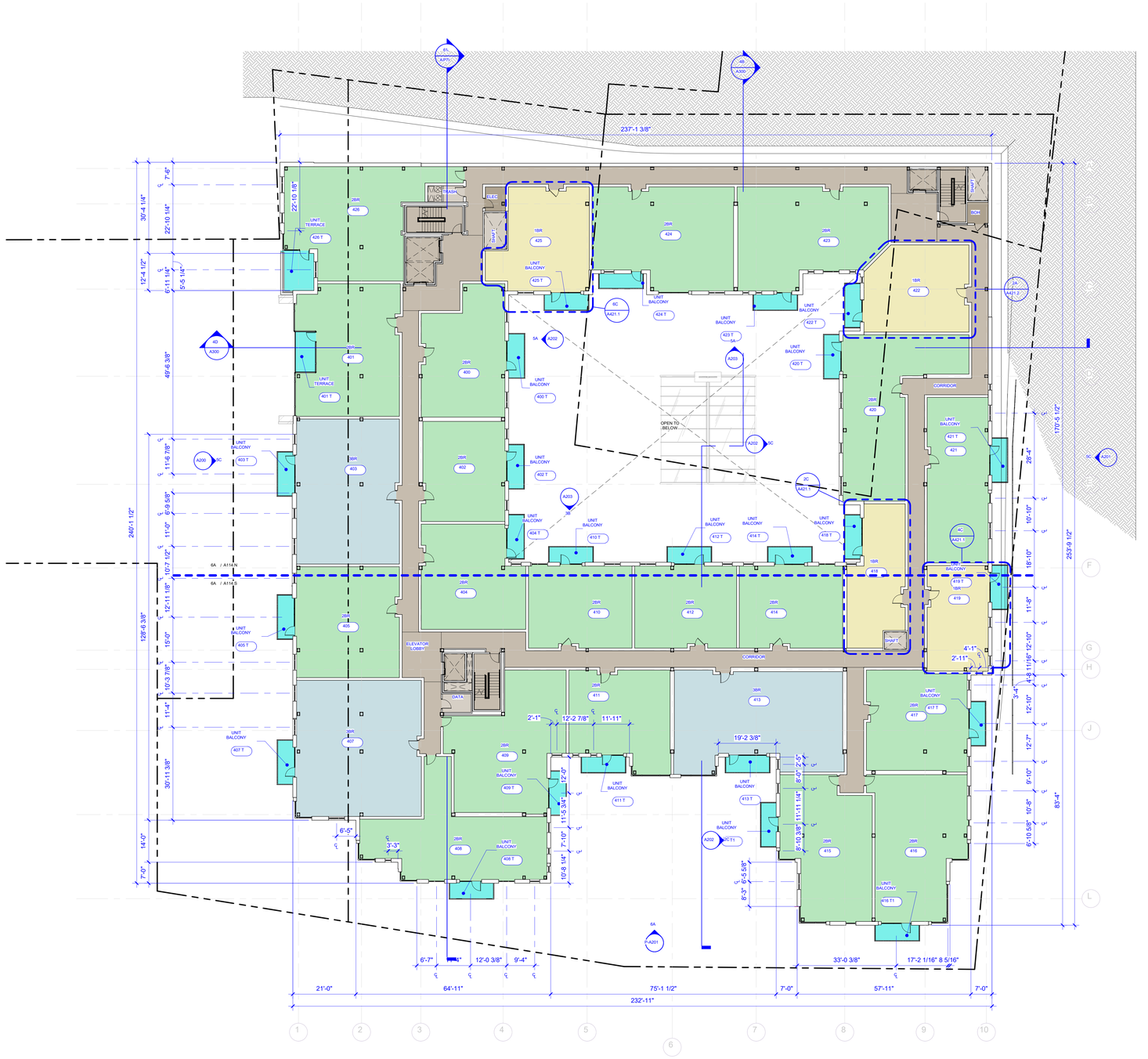
UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)
26

LEVEL 4- COMMON SPACE SCHEDULE

SPACE TYPE	AREA
LEVEL 4	
COMMON SPACE - ACCESS	5608 SF
COMMON SPACE - BOH	104 SF
COMMON SPACE - UTILITIES	95 SF
	5808 SF

AREA/UNIT TYPE

- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - OUTDOOR SPACE



4A LEVEL 4 - PLAN

SCALE: 1/16" = 1'-0"

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST.
PORTLAND, ME 04101

ISSUE
06/22/2023 - PROGRESS PRINT

LEVEL 4 - OVERALL PLAN

A114

LEVEL 5 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 5		
500	2BR	1092 SF
500 T	UNIT BALCONY	73 SF
501	2BR	919 SF
501 T	UNIT TERRACE	194 SF
502	2BR	914 SF
502 T	UNIT BALCONY	73 SF
503	2BR	951 SF
503 T	UNIT TERRACE	216 SF
504	2BR	1112 SF
504 T	UNIT BALCONY	73 SF
505	2BR	1424 SF
505T1	UNIT TERRACE	94 SF
508	3BR	1522 SF
508 T1	UNIT TERRACE	129 SF
508 T2	UNIT BALCONY	74 SF
509	2BR	1296 SF
509 T	UNIT TERRACE	112 SF
510	2BR	932 SF
510 T	UNIT BALCONY	73 SF
511	2BR	1015 SF
511 T	UNIT BALCONY	74 SF
512	2BR	919 SF
512 T	UNIT BALCONY	73 SF
513	3BR	1755 SF
513 T	UNIT BALCONY	73 SF
514	2BR	932 SF
514 T	UNIT BALCONY	73 SF
515	2BR	1275 SF
515 T1	UNIT BALCONY	73 SF
516	2BR	1373 SF
516 T1	UNIT BALCONY	73 SF
517	2BR	1100 SF
517 T	UNIT BALCONY	69 SF
518	1BR	762 SF
518 T	UNIT BALCONY	74 SF
519	1BR	706 SF
519 T	UNIT BALCONY	73 SF
520	2BR	1417 SF
520 T	UNIT BALCONY	73 SF
521	2BR	1112 SF
521 T	UNIT BALCONY	73 SF
522	1BR	966 SF
522 T	UNIT BALCONY	73 SF
523	2BR	1483 SF
523 T	UNIT BALCONY	73 SF
524	2BR	1494 SF
524 T	UNIT BALCONY	70 SF
525	1BR	999 SF
525 T	UNIT BALCONY	73 SF
526	2BR	1544 SF
526 T	UNIT TERRACE	157 SF
		31371 SF

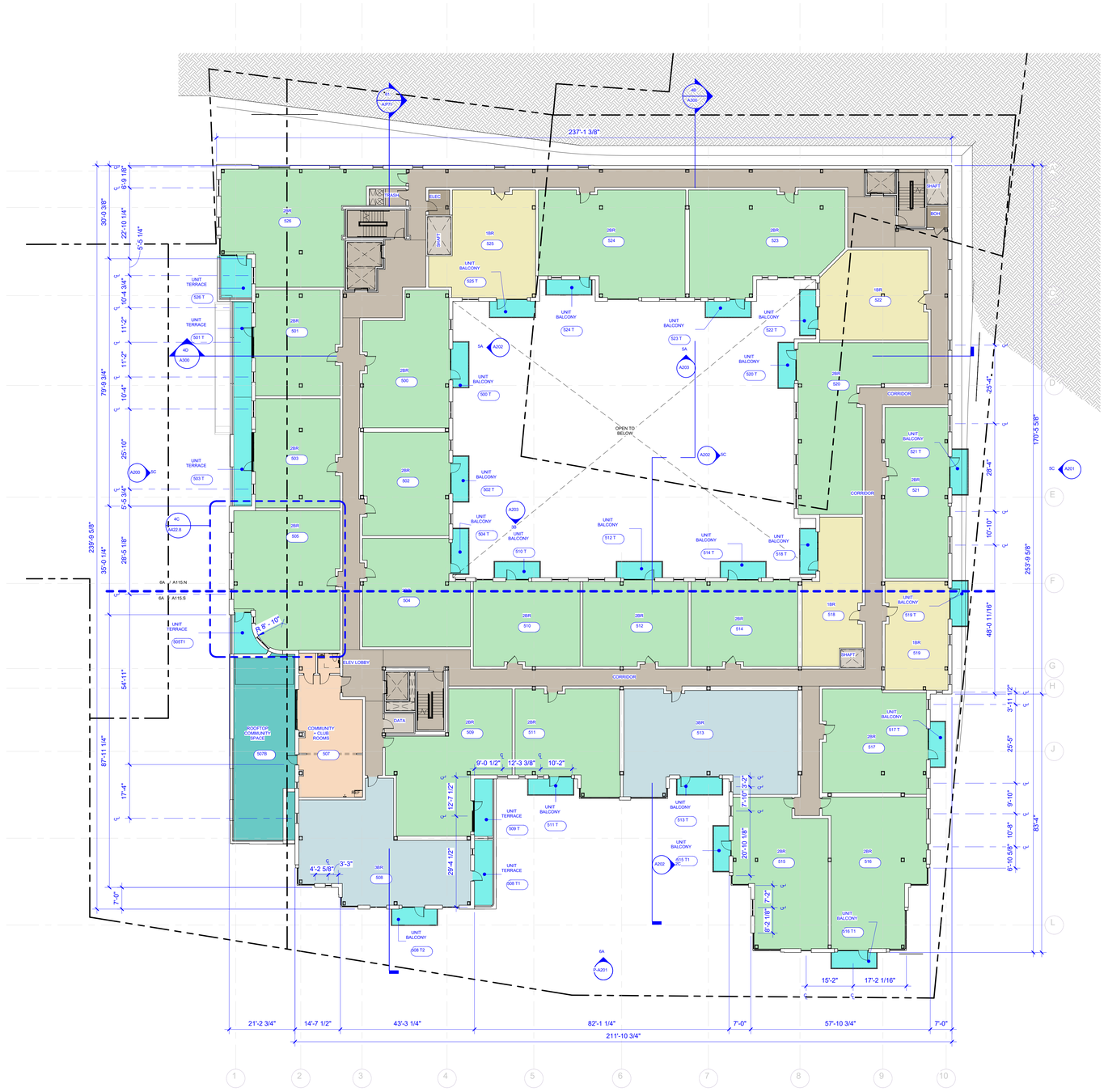
UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)
25

LEVEL 5- COMMON SPACE SCHEDULE

SPACE TYPE	AREA
COMMON SPACE - ACCESS	5632 SF
COMMON SPACE - AMENITY	826 SF
COMMON SPACE - BOH	104 SF
COMMON SPACE - OUTDOOR	1182 SF
COMMON SPACE - UTILITIES	59 SF
	7803 SF

AREA/UNIT TYPE

- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- COMMON SPACE - AMENITY
- COMMON SPACE - OUTDOOR
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - OUTDOOR SPACE


237'-1 3/8"
170'-5 5/8"
253'-9 5/8"
238'-9 5/8"
235'-0 1/4"
30'-0 3/8"
22'-10 1/4"
6'-5 1/4"
79'-9 3/4"
25'-10"
28'-5 1/8"
54'-11"
87'-11 1/4"
17'-4"
7'-0"
69 1/8"
10'-4 3/4"
11'-2"
11'-2"
10'-4"
6'-5 3/8"
28'-4"
10'-10"
48'-0 11/16"
3'-11 1/2"
25'-5"
9'-10"
10'-8"
6'-10 5/8"
83'-4"
21'-2 3/4"
14'-7 1/2"
43'-3 1/4"
82'-1 1/4"
7'-0"
57'-10 3/4"
7'-0"
211'-10 3/4"
15'-2"
17'-2 1/16"
9'-0 1/2"
12'-3 3/8"
10'-2"
12'-7 1/2"
29'-4 1/2"
4'-2 5/8"
3'-3"
7'-10"
3'-3"
20'-10 1/8"
7'-2"
8'-2 1/8"
R 8'-10"
1BR 525
2BR 526
2BR 524
2BR 523
1BR 522
2BR 520
2BR 521
1BR 519
1BR 518
2BR 510
2BR 512
2BR 514
2BR 509
2BR 511
3BR 513
2BR 517
2BR 501
2BR 500
2BR 503
2BR 502
2BR 505
2BR 504
3BR 508
2BR 515
2BR 516
ROOFTOP COMMUNITY SPACE 507B
COMMUNITY + CLUB ROOMS 507
UNIT TERRACE 526 T
UNIT TERRACE 501 T
UNIT TERRACE 503 T
UNIT TERRACE 505T1
UNIT TERRACE 509 T
UNIT TERRACE 508 T1
UNIT BALCONY 525 T
UNIT BALCONY 524 T
UNIT BALCONY 523 T
UNIT BALCONY 522 T
UNIT BALCONY 520 T
UNIT BALCONY 500 T
UNIT BALCONY 502 T
UNIT BALCONY 504 T
UNIT BALCONY 510 T
UNIT BALCONY 512 T
UNIT BALCONY 514 T
UNIT BALCONY 518 T
UNIT BALCONY 521 T
UNIT BALCONY 519 T
UNIT BALCONY 517 T
UNIT BALCONY 511 T
UNIT BALCONY 513 T
UNIT BALCONY 515 T1
UNIT BALCONY 516 T1
UNIT BALCONY 508 T2
OPEN TO BELOW
CORRIDOR
ELEV LOBBY
DATA
ELEC
SHAFT
SHAFT
SHAFT
SHAFT
MECH
4C A300
4C A422.6
5A A202
5A A203
2B A203
5C A201
6A A115.N
6A A115.S
6A A201
A200 5C
A202 5C
A202 5C
A202

LEVEL 6 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 6		
600	2BR	1092 SF
600 T	UNIT BALCONY	73 SF
601	2BR	919 SF
601 T	UNIT BALCONY	73 SF
602	2BR	908 SF
602 T	UNIT BALCONY	73 SF
603	2BR	951 SF
603 T	UNIT BALCONY	73 SF
604	2BR	1112 SF
604 T	UNIT BALCONY	73 SF
605	2BR	1423 SF
605 T	UNIT BALCONY	69 SF
607	2BR	981 SF
607 T	UNIT TERRACE	73 SF
608	2BR	1376 SF
608 T	UNIT BALCONY	74 SF
609	2BR	1295 SF
609 T	UNIT BALCONY	70 SF
610	2BR	932 SF
610 T	UNIT BALCONY	73 SF
611	2BR	1013 SF
611 T	UNIT BALCONY	74 SF
612	2BR	919 SF
612 T	UNIT BALCONY	73 SF
613	3BR	1714 SF
613 T	UNIT BALCONY	73 SF
614	2BR	932 SF
614 T	UNIT BALCONY	73 SF
615	2BR	1092 SF
615 T1	UNIT TERRACE	194 SF
615T2	UNIT BALCONY	74 SF
616	2BR	1178 SF
616 T1	UNIT TERRACE	175 SF
616 T2	UNIT BALCONY	73 SF
617	2BR	871 SF
617 T	UNIT TERRACE	200 SF
618	1BR	762 SF
618 T	UNIT BALCONY	74 SF
619	1BR	707 SF
619 T	UNIT BALCONY	73 SF
620	2BR	1412 SF
620 T	UNIT BALCONY	73 SF
621	2BR	1112 SF
621 T	UNIT BALCONY	73 SF
622	1BR	968 SF
622 T	UNIT BALCONY	73 SF
623	2BR	1483 SF
623 T	UNIT BALCONY	73 SF
624	2BR	1489 SF
624 T	UNIT BALCONY	70 SF
625	1BR	995 SF
625 T	UNIT BALCONY	73 SF
626	2BR	1544 SF
626 T	UNIT BALCONY	74 SF
		31565 SF

UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)
26

LEVEL 6- COMMON SPACE SCHEDULE

SPACE TYPE	AREA
LEVEL 6	
COMMON SPACE - ACCESS	5629 SF
COMMON SPACE - BOH	49 SF
COMMON SPACE - UTILITIES	114 SF
	5793 SF

AREA/UNIT TYPE

- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - OUTDOOR SPACE



4A LEVEL 6 - PLAN

SCALE: 1/16" = 1'-0"

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
06/22/2023 - PROGRESS PRINT

LEVEL 6 - OVERALL PLAN

A116

LEVEL 7 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 7		
702	2BR	1332 SF
702 T	UNIT BALCONY	63 SF
703	2BR	919 SF
703 T	UNIT BALCONY	73 SF
704	3BR	1516 SF
704 T	UNIT TERRACE	444 SF
705	2BR	1003 SF
705 T	UNIT BALCONY	73 SF
706	1BR	1019 SF
706 T	UNIT TERRACE	77 SF
707	2BR	1060 SF
707 T	UNIT TERRACE - LARGE	273 SF
708	2BR	1125 SF
708 T1	UNIT TERRACE - LARGE	600 SF
708 T2	UNIT TERRACE	108 SF
709	2BR	1161 SF
709 T	UNIT TERRACE	157 SF
710	2BR	1400 SF
710 T	UNIT TERRACE	423 SF
711	2BR	1076 SF
711 T	UNIT TERRACE - LARGE	383 SF
713	2BR	1235 SF
713 T	UNIT TERRACE - LARGE	354 SF
714	2BR	1447 SF
714 T1	UNIT TERRACE	248 SF
715	2BR	1014 SF
715 T	UNIT TERRACE	156 SF
716	2BR	1012 SF
716 T1	UNIT TERRACE	153 SF
717	2BR	871 SF
717 T	UNIT BALCONY	73 SF
719	3BR	1612 SF
719 T	UNIT BALCONY	73 SF
720	2BR	1424 SF
720 T	UNIT BALCONY	73 SF
721	2BR	1314 SF
721 T	UNIT BALCONY	73 SF
722	3BR	1656 SF
722 T1	UNIT TERRACE	232 SF
722 T2	UNIT BALCONY	73 SF
723	3BR	1707 SF
723 T1	UNIT TERRACE	240 SF
723 T2	UNIT BALCONY	70 SF
		29392 SF

LEVEL 7 - COMMON SPACE SCHEDULE

SPACE TYPE	AREA
LEVEL 7	
COMMON SPACE - ACCESS	4650 SF
COMMON SPACE - BOH	94 SF
COMMON SPACE - OUTDOOR	839 SF
COMMON SPACE - UTILITIES	95 SF
	5678 SF

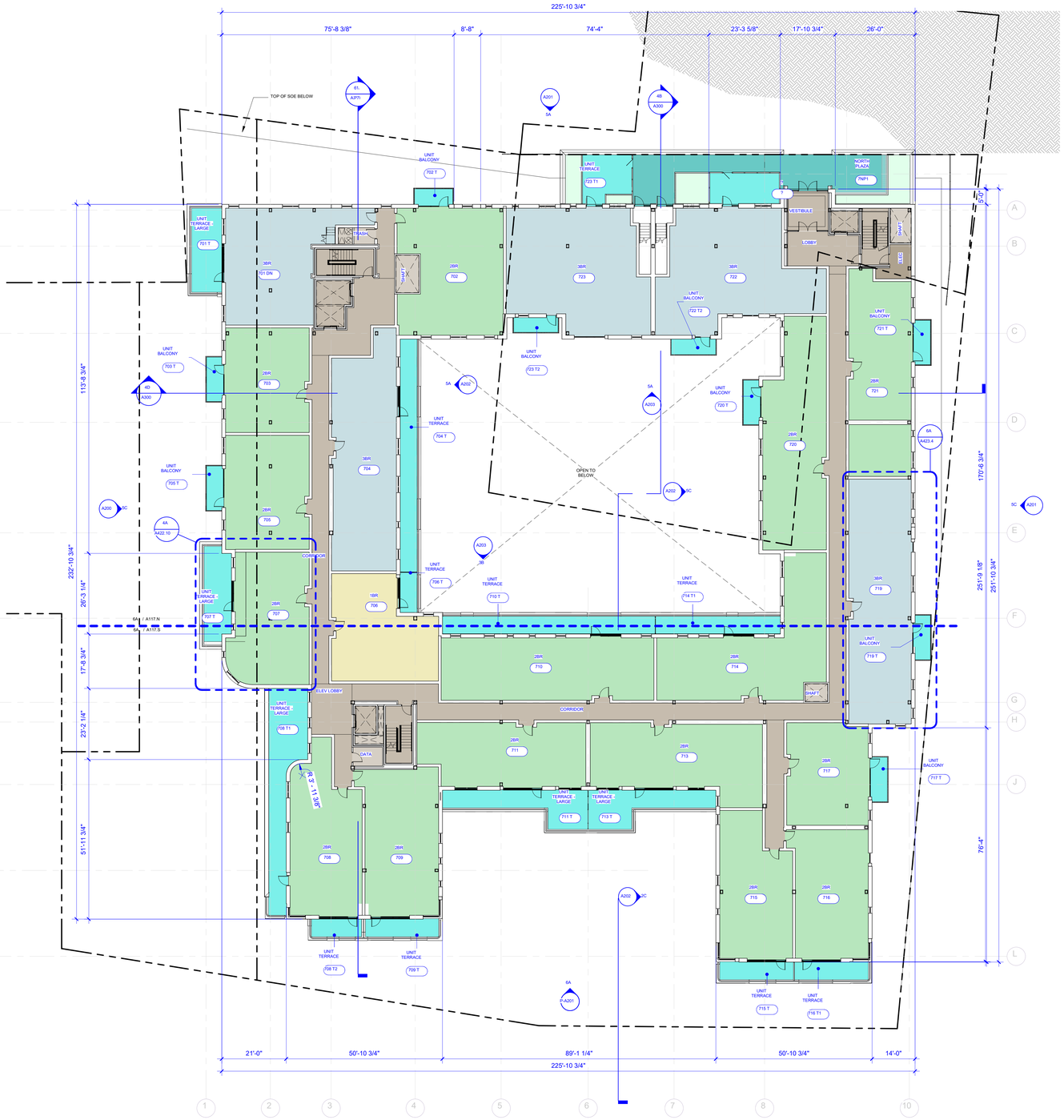
LEVEL 7 - MULTI STORY UNIT

NO	SPACE	LEVEL	AREA
701			
701 DN	3BR	LEVEL 7	1241 SF
701 UP	3BR	LEVEL 8	593 SF
2			1834 SF
701 T	UNIT TERRACE - LARGE	LEVEL 7	294 SF
701 RT	UNIT TERRACE - LARGE	LEVEL 8	610 SF
2			904 SF

UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)
21

AREA/UNIT TYPE

- SITE - LANDSCAPING
- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- COMMON SPACE - OUTDOOR
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - OUTDOOR SPACE



Baskerville

FORESIDE/

THE CHANNEL MARK®

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL, USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST.
PORTLAND, ME 04101

ISSUE

06/22/2023 - PROGRESS PRINT

LEVEL 7 - OVERALL PLAN

A117

4A LEVEL 7 - PLAN

SCALE: 1/16" = 1'-0" DRAWING REF: A200

LEVEL 8 - UNIT SCHEDULE

NO	SPACE	AREA
LEVEL 8		
802	2BR	1367 SF
802 T	UNIT BALCONY	63 SF
803	2BR	1009 SF
803 RT	UNIT TERRACE - LARGE	1159 SF
817	2BR	870 SF
817 T	UNIT BALCONY	73 SF
820	2BR	1424 SF
820 T	UNIT BALCONY	73 SF
822	3BR	1763 SF
822 T1	UNIT BALCONY	73 SF
823	3BR	1809 SF
823 T1	UNIT BALCONY	73 SF
		9757 SF

LEVEL 8 - COMMON SPACE SCHEDULE

SPACE TYPE	AREA
LEVEL 8	
COMMON SPACE - ACCESS	3966 SF
COMMON SPACE - BOH	94 SF
COMMON SPACE - UTILITIES	59 SF
	4119 SF

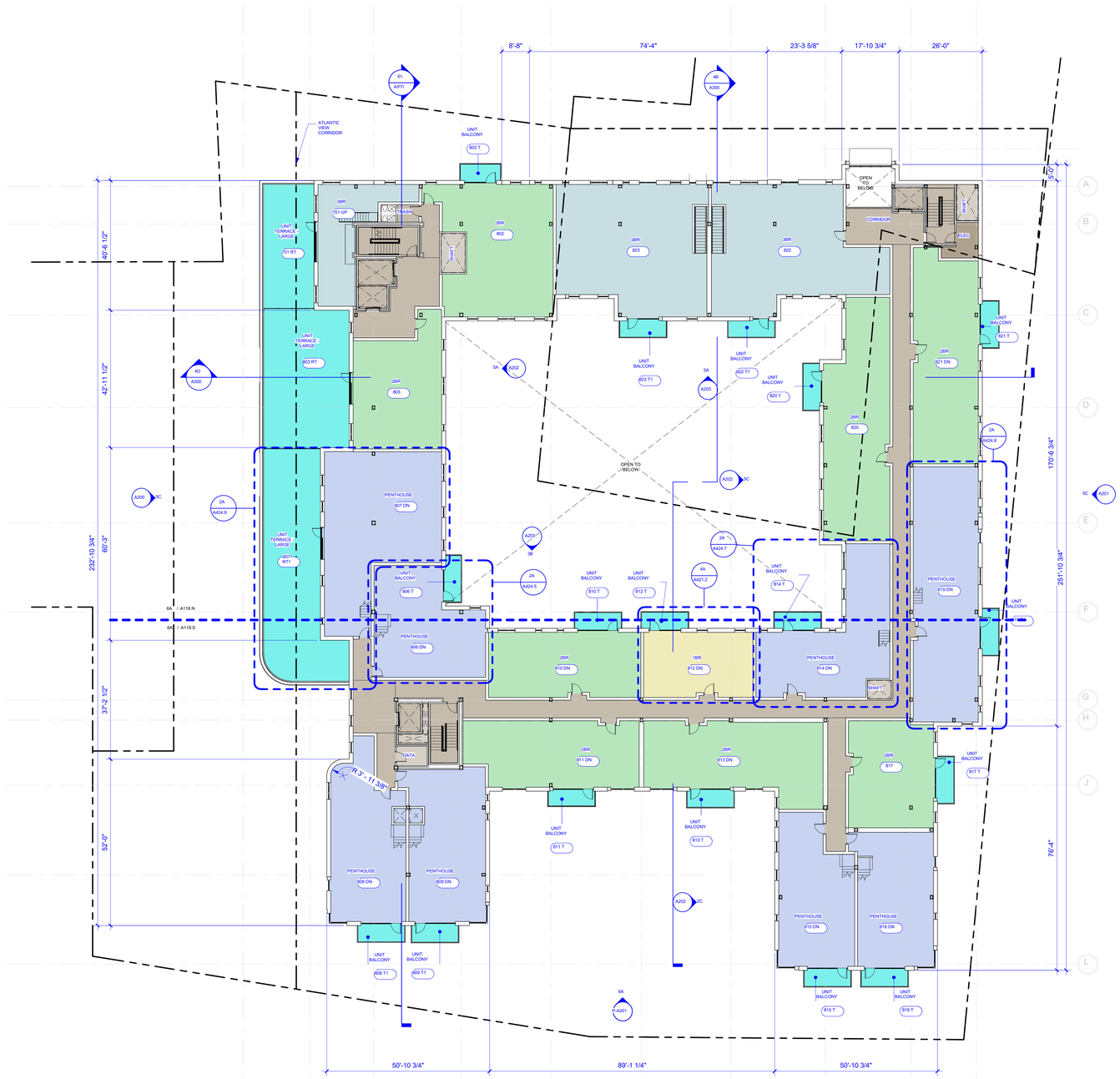
LEVEL 8 - MULTI STORY UNITS

NO	SPACE	LEVEL	AREA
806			
806 DN	PENTHOUSE	LEVEL 8	1029 SF
806 UP	PENTHOUSE	LEVEL 9	596 SF
2			1626 SF
806 RT2	UNIT ROOF TERRACE	Not Placed	Not Placed
807 RT2	UNIT ROOF TERRACE	Not Placed	Not Placed
806 T	UNIT BALCONY	LEVEL 8	70 SF
806 RT1	UNIT TERRACE - LARGE	LEVEL 9	292 SF
808 T4	UNIT BALCONY	LEVEL 9	63 SF
808 T3	UNIT BALCONY	LEVEL 9	63 SF
6			488 SF
807			
807 DN	PENTHOUSE	LEVEL 8	1607 SF
807 UP	PENTHOUSE	LEVEL 9	1220 SF
2			2827 SF
807 RT2	UNIT ROOF TERRACE	Not Placed	Not Placed
807 RT1	UNIT TERRACE - LARGE	LEVEL 8	1383 SF
2			1383 SF
808			
808 DN	PENTHOUSE	LEVEL 8	1131 SF
808 UP	PENTHOUSE	LEVEL 9	1104 SF
2			2234 SF
808 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
808 T3	UNIT TERRACE	Not Placed	Not Placed
808 T2	UNIT TERRACE	Not Placed	Not Placed
808 T1	UNIT BALCONY	LEVEL 8	74 SF
4			74 SF
809			
809 DN	PENTHOUSE	LEVEL 8	1165 SF
809 UP	PENTHOUSE	LEVEL 9	785 SF
2			1950 SF
809 RT2	UNIT ROOF TERRACE	Not Placed	Not Placed
809 T2	UNIT TERRACE	Not Placed	Not Placed
809 T1	UNIT BALCONY	LEVEL 8	75 SF
809 RT	UNIT TERRACE - LARGE	LEVEL 9	285 SF
4			359 SF
810			
810 DN	2BR	LEVEL 8	958 SF
1			958 SF
810 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
810 T	UNIT BALCONY	LEVEL 8	71 SF
2			71 SF
811			
811 DN	2BR	LEVEL 8	1075 SF
1			1075 SF
811 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
811 T	UNIT BALCONY	LEVEL 8	67 SF
2			67 SF
812			
812 DN	1BR	LEVEL 8	685 SF
1			685 SF
812 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
812 T	UNIT BALCONY	LEVEL 8	72 SF
2			72 SF
813			
813 DN	2BR	LEVEL 8	1235 SF
1			1235 SF
813 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
813 T	UNIT BALCONY	LEVEL 8	73 SF
2			73 SF
814			
814 DN	PENTHOUSE	LEVEL 8	1179 SF
814 UP	PENTHOUSE	LEVEL 9	777 SF
2			1956 SF
814 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
814 T	UNIT BALCONY	LEVEL 8	72 SF
2			72 SF
815			
815 DN	PENTHOUSE	LEVEL 8	1014 SF
815 UP	PENTHOUSE	LEVEL 9	634 SF
2			1648 SF
815 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
815 T2	UNIT TERRACE	Not Placed	Not Placed
815 T	UNIT BALCONY	LEVEL 8	73 SF
815 RT	UNIT TERRACE - LARGE	LEVEL 9	517 SF
816 RT2	UNIT TERRACE - LARGE	LEVEL 9	215 SF
814 RT	UNIT TERRACE - LARGE	LEVEL 9	204 SF
819 T2	UNIT BALCONY	LEVEL 9	73 SF
7			1083 SF
816			
816 DN	PENTHOUSE	LEVEL 8	1012 SF
816 UP	PENTHOUSE	LEVEL 9	958 SF
2			1970 SF
816 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
816 T2	UNIT TERRACE	Not Placed	Not Placed
816 T	UNIT BALCONY	LEVEL 8	73 SF
816 RT1	UNIT TERRACE - LARGE	LEVEL 9	249 SF
4			322 SF
819			
819 DN	PENTHOUSE	LEVEL 8	1613 SF
819 UP	PENTHOUSE	LEVEL 9	1361 SF
2			2974 SF
819 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
819 T1	UNIT BALCONY	LEVEL 8	73 SF
2			73 SF
821			
821 DN	2BR	LEVEL 8	1313 SF
1			1313 SF
821 RT	UNIT ROOF TERRACE	Not Placed	Not Placed
821 T	UNIT BALCONY	LEVEL 8	73 SF
2			73 SF

UNITS TOTAL FOR LEVEL (CONDITIONED SPACE)

AREA/UNIT TYPE

- COMMON SPACE - BOH
- COMMON SPACE - ACCESS
- COMMON SPACE - UTILITIES
- UNIT-ONE BEDROOM
- UNIT - TWO BEDROOM
- UNIT - THREE BEDROOM
- UNIT - PENTHOUSE
- UNIT - OUTDOOR SPACE



4A LEVEL 8 - PLAN

SCALE: 1/16" = 1'-0"

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

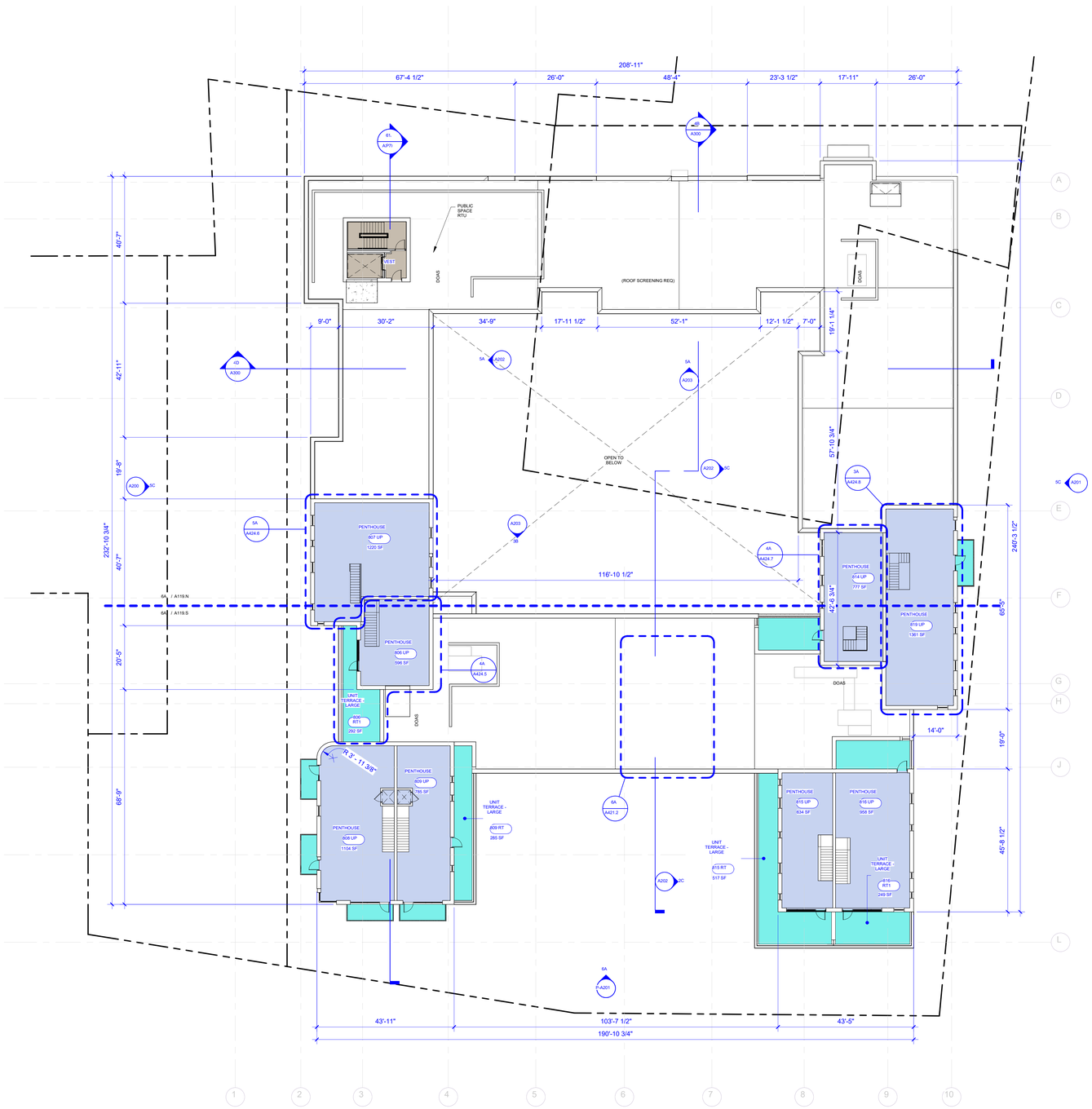
ISSUE
06/22/2023 - PROGRESS PRINT

LEVEL 8 - OVERALL PLAN

A118

AREA/UNIT TYPE

- COMMON SPACE - ACCESS
- UNIT - PENTHOUSE
- UNIT - OUTDOOR SPACE



4A LEVEL 9 (ROOF) - PLAN

SCALE: 1/16" = 1'-0" DRAWING REF: A200

BASKERVILL, P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL. USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT.

PROJECT NUMBER
2.210338.0

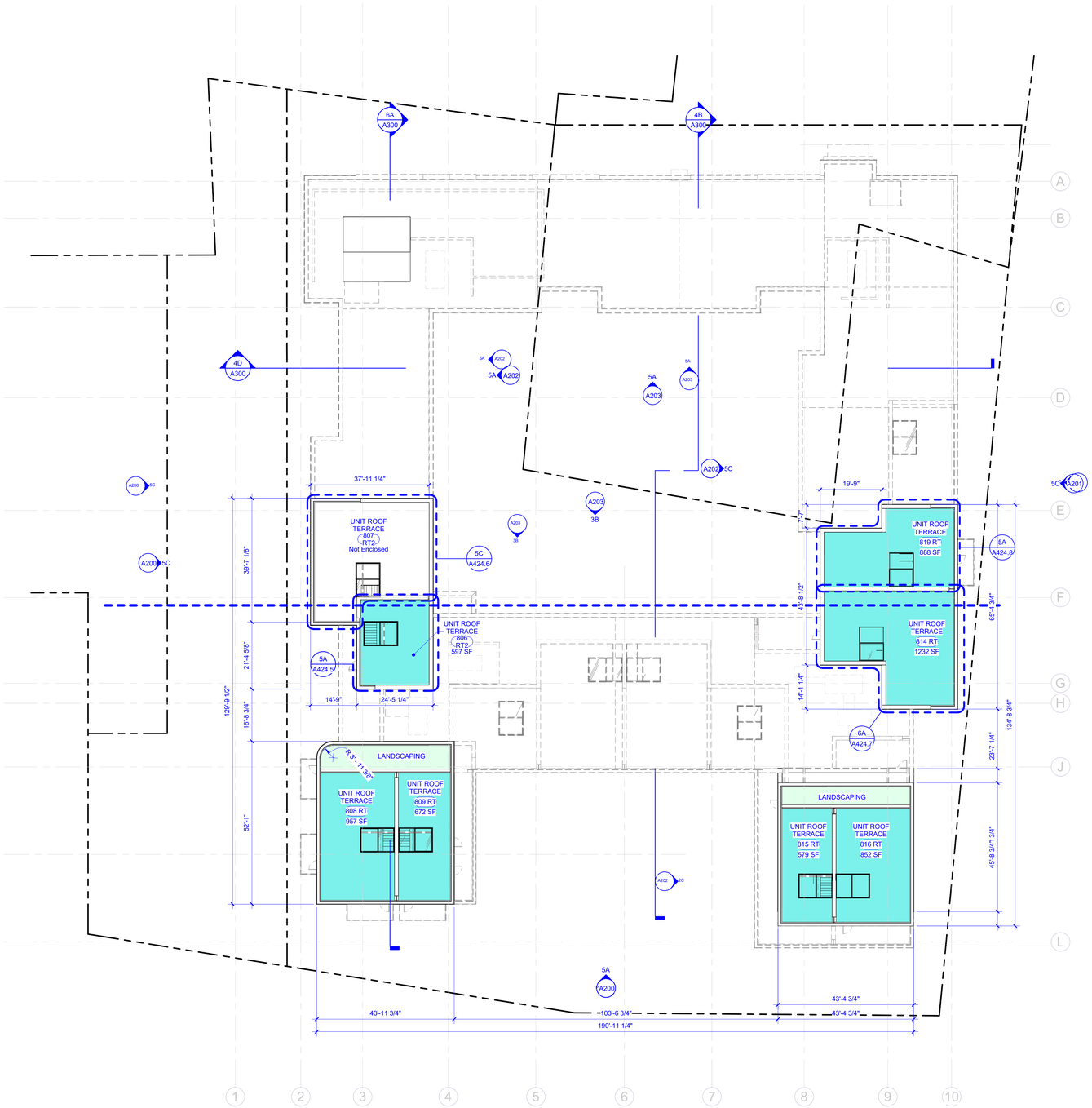
PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST
PORTLAND, ME 04101

ISSUE
06/22/2023 - PROGRESS PRINT

LEVEL 9 - OVERALL PLAN

A119



4A LEVEL 10 - (ROOF) PLAN

SCALE: 1/16" = 1'-0" DRAWING REF: A200

BASKERVILL P.O. BOX 400, RICHMOND, VA 23218-0400

NOT FOR CONSTRUCTION

COPYRIGHT BASKERVILL - USE OF THIS WORK IN WHOLE OR IN PART IS FORBIDDEN WITHOUT EXPRESSED WRITTEN CONSENT

PROJECT NUMBER
2.210338.0

PFDC - BLOCK 6: THE CHANNEL MARK

58 FORE ST.
PORTLAND, ME 04101

ISSUE
06/22/2023 - PROGRESS PRINT

LEVEL 10 - PLAN

A120

Sandra L. Guay
Partner
sguay@archipelagolaw.com

1 Dana Street
Portland, Maine 04101
(207) 558-0102

August 11, 2023

Via Email:

Portland Planning Board
Maggie Stanley, Chair
City of Portland Planning & Urban Development
389 Congress Street
Portland, ME 04101
planningboard@portlandmaine.gov

Re: Portland Foreside Development Company
58 Fore Street/Mixed Use of Blocks 4, 5 and 6
Level III Site Plan, Subdivision and Conditional Use Application

Dear Madam Chair and Board Members:

This letter is sent on behalf of John Roger Trettel, an abutter to 58 Fore Street and the mixed-use development project that is the subject of the Portland Foreside Development Company ("Applicant") site plan application currently pending before the Board ("Application"). As the Board is aware Mr. Trettel, and this firm on behalf of Mr. Trettel, have submitted several letters and emails to the Planning Board with comments and concerns regarding the pending Application. Those letters and emails are listed below in order to (a) make certain that the Board members have seen and reviewed each one; and (b) to make certain that all are in the record moving forward.

The letters and emails referenced below address the following serious concerns:

1. The expiration of the 2016 Master Development Plan ("MDP") and the validity of the Planning Board's review under the now voided MDP.
2. The several violations of height restrictions and the methods by which height is being measured and calculated including, in part, the fiction of using a parking garage structure as grade to measure height from, the fiction of calling three separate structures a single structure for the purposes of measuring height, and the manipulation of measuring points for height calculations.
3. The inclusion of property that was not approved as a part of the now void 2016 MDP.
4. The failure to provide or secure proof of right, title or interest, including necessary easements, prior to submittal or review of the Application.

5. The failure to provide any geotechnical reports evidencing that the proposed massive retaining wall abutting residential property, including Mr. Trettel's property at 5 Eastern Promenade, will not fail.
6. The failure to comply with the City's Shoreland Overlay Zone and the State Mandatory Shoreland Zoning Act, 38 M.R.S. §§ 435-448.

To that last item, while this issue has been previously raised in our comment letters to the Planning Board, neither the Applicant nor the City has provided any comment or addressed how this proposed development plan complies with either the City's shoreland zoning requirements or the State's mandatory shoreland zoning requirements.

As shown on a map that was provided to the Planning Board in the July 7, 2023 memo from Charles Tetelman (and attached again to this letter), the Shoreland Overly Zone covers almost half of the project site. Per the Mandatory Shoreland Zoning Act ("Act"), 38 M.R.S. §§ 435-448[1] and legal precedent,[2] mandatory shoreland zoning can be made more restrictive, but not less. This means that to the extent the City is interpreting height and grade so as to defeat the purpose of the Act, the Act preempts that local zoning interpretation. The preemption issue is significant here, as the Act requires that for new structures located within in the shoreland zone, "height" is defined as "the vertical distance between the mean ***original grade*** at the ***downhill side*** of the structure, ***prior to construction***, and the highest point of the structure . . . ." 38 M.R.S. § 436-A(7-A). This definition preempts the City's interpretation of "grade" on two grounds: first, the height calculation standards apply to "average grade" *before* construction, rather than post development; and second, the property owner must calculate height from the downhill side of the structure. The project, as currently proposed, violates the City's zoning for its Shoreland Overly Zone, as well as the State Mandatory Shoreland Zoning Act.

Letters previously sent to Planning Board:

1. December 28, 2022
2. March 17, 2023
3. June 16, 2023

Emails sent to Planning Board:

1. July 12, 2023

[1] "In accordance with a schedule adopted by the board and acting in accordance with a local comprehensive plan, municipalities shall prepare and submit to the commissioner zoning and land use ordinances that are *consistent with or are no less stringent than the minimum guidelines adopted by the board* and, for coastal communities, that address the coastal management policies cited in section 1801." 38 M.R.S.A. § 438-A.2 (emphasis added).
[2] *See, e.g., Sawyer Envtl. Recovery Facilities, Inc. v. Town of Hampden*, 2000 ME 179, ¶ 27, 760 A.2d 257 (municipal action preempted where application of the municipal ordinance prevents accomplishment of a defined state purpose).

2. July 13, 2023
3. July 26, 2023

For all of the reasons put forth above, as further detailed in the submitted letters and emails (copies of emails are attached to this letter in the event the Planning Board has not had an opportunity thus far to review them), Mr. Trettel respectfully asks the Board to continue to work with the Applicant to bring this project into compliance prior to the scheduling of a public hearing.

Very Truly Yours,

SANDRA L. GUAY

KEITH P. RICHARD

SLG/lb
Enclosures
Copy to: John Roger Trettel

applicant has included a summary of the engineering, landscape architecture, and partners who are completing various aspects of design (Attachment 2). The five m ıde Woodard & Curran, MBLA, Perkins+Will, Baskervill, and Marvel. The combined folios of all partners demonstrate technical capacity.

ıNING ANALYSIS

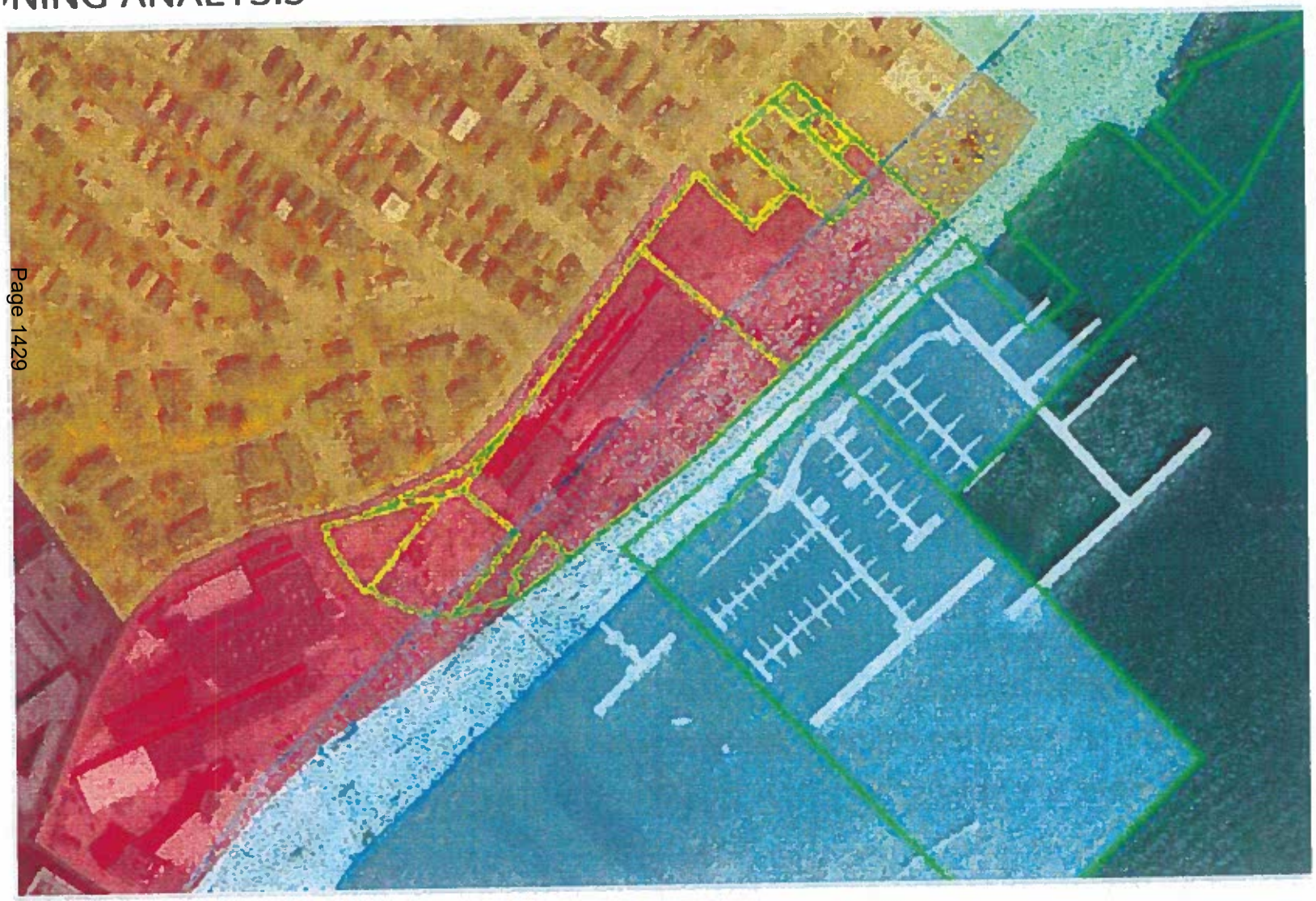


Figure 7: Zoning Context

Subject: Planning Board Workshop 7-11-23 Comments
Date: Wednesday, July 12, 2023 at 11:01:12 AM Eastern Daylight Time
From: Roger Trettel
To: Charles Tetelman
CC: Kevin Kraft, Sandra Guay
Attachments: Portland Planning Workshop JRT comments 7-11-23.pdf

Dear Charles -

Thank you for providing the opportunity to speak at yesterday's Planning workshop pertaining to the 58 Fore St. project. I had prepared comments that I was going to send, but because I was able to attend the meeting, I read them in. I am attaching the written version of them here for the paper record.

I must say I was surprised to hear that Planning is beginning to buy into the notion that the 3-building project consists of a single building and that the obviously manipulated grade elevations are correct. I may suggest that asking the applicant to calculate the average grade by taking measurements at even intervals (say every 50-100 feet) around the perimeter of the site would be a good cross check of the 6-point figure they have most recently produced. As this is an approved alternative method of calculating grade in the code, it would be an easy check to help put this issue to rest. If the applicant is unwilling to do this, perhaps the staff could do it as a quick check.

Thank you for the opportunity to comment.

Sincerely,

Roger Trettel
5 Eastern Promenade, Portland

Portland Planning Board Workshop – 58 Fore Street Comments – J. Roger Trettel - 7/11/23

- My name is Roger Trettel and I am the owner of 5 Eastern Promenade, a direct abutter to the project on two sides of my property. I agree with comments made on my behalf and the written comments we have submitted. As I have stated before, I don't object to the project; I only object to aspects of it that don't comply with the code. I am an experienced developer of a variety of projects for over 30 years and understand the importance of full code compliance and the legal responsibility of the regulator. If a project cannot be built in compliance with the law/code, it is fundamentally flawed.

- Our comments to date are not the arm-waving rantings of uninformed obstructionists who just don't want change. These are thoughtful, informed, and objective comments, put together by experienced and highly trained professionals who understand the law and engineering and development principles.

- Regarding the fundamental issue of building height (which effects essentially every aspect of the project in a cascading manner) we have engaged a world class engineering firm with professional engineering experts who have objectively concluded there is no rational way to arrive at the average grade of 50.0 feet the whole project is based on. It is simply wrong – it was wrong in 2016 and it is wrong today. The obviously blatantly skewed grade calculations and renderings prepared by the applicant and its engineer/architect frankly should insult the intelligence of the Planning staff, the Board, and the public.

- I commend the Planning staff for asking questions about this critical issue and encourage them to ensure that the applicant produces a realistic response that properly weights the existing grade conditions at the site and does not continue to manipulate the numbers to achieve the desired goal of obtaining more height not in compliance with code.

- The applicant maintains that the three buildings are in fact one building and bases their entire grade analysis based on a total of only 6 elevation data points, with four of them strategically selected on the high side of the site. However, much of the applicant's drawings and renderings reflect three separate buildings. This is most clearly shown by the applicant's construction process renderings on pages 479-491 of its most recent filing. Three building envelopes will generate different grade elevations and height limits for the project. But whether it is treated as a single building or three separate buildings, the average grade calculated by the applicant is too high, not rationally supportable and cannot withstand objective professional scrutiny in court.

Thank you for the opportunity to comment and I strongly encourage the Planning Staff and Board to be objective, thoughtful and analytical in your review of every aspect of this project. I believe this can be a really nice project simply by building a project that is in compliance with the code and with the intentions of many years of eastern waterfront zone planning. In doing so, this project can be a win-win for the Applicant, the City, the neighbors on Munjoy Hill, and overall for the people of Portland.

Subject: Public Comment on 58 Fore St. Project - Construction Phasing and Retaining Wall
Date: Thursday, July 13, 2023 at 1:38:33 PM Eastern Daylight Time
From: Roger Trettel
To: Charles Tetelman
CC: Kevin Kraft, Sandra Guay
Attachments: 58 Fore 3-building construction phasing.pdf

Dear Charles and Kevin -

I own the property at 5 Eastern Promenade and I would like to record this comment and request for data from the applicant for the 58 Fore Street project. The latest filing from the applicant includes a 13-page slide deck illustrating the proposed construction sequence of the project (attached for reference). This clearly shows a multi-phased approach to constructing three separate buildings despite what the applicant has described as being a single, very large, irregularly shaped building with a shared foundation. I will not go further than to point this out to you and the public at large as we have submitted multiple reasoned comments on this issue. Three buildings need to be measured as three separate building envelopes and maximum building heights for each building need to comply with the B6 overlay.

Although I am well experienced with development and construction, and knew conceptually what the plan was, these renderings make it possible for reviewers and abutters to actually visualize how this would happen if approved. The presentation shows very clearly how the 3-building project would be constructed and the extent of excavation and new retaining wall required to make the project even possible. This wall will extend all along Fore Street and adjacent properties to the eastern end of the site, and would be required at the very first stage of construction before anything else could proceed. Thus, this entire retaining wall would exist whether or not any of the proposed buildings are ever ultimately constructed. In the case of my specific property, this vertical, approximately 50-foot high retaining wall would need to fully support two sides of my property (approximately 300 linear feet). It would therefore have to be engineered and warranteed to function (and be maintained) at 100 percent effectiveness ***in perpetuity,*** or my property and house will be destabilized and at risk of slumping and collapse.

The applicant's geotechnical evaluations have determined that the area in question is underlain by glacial till, which is subject to lateral force landsliding and slumping when base supporting material is excavated and the slope destabilized (hence the need for a retaining wall). I am hereby asking the city to request additional information from the applicant as to how they intend to investigate the geologic conditions of the abutting lands and design and build this retaining wall such that it protects all abutting properties and prevents any temporary or long term damage to land, foundations, structures, etc. and resulting property devaluation. Additionally, how perpetual maintenance of this wall will be ensured and funded in the event of bankruptcy/default, incompletion or abandonment of the project, and/or ownership transfer. Per the city code, a project cannot be approved that creates a potential hazard or adverse risk to adjacent properties or a devaluation of adjacent properties due to ground destabilization.

Thank you for the opportunity to comment and request additional information.

Sincerely,

Roger Trettel
5 Eastern Promenade



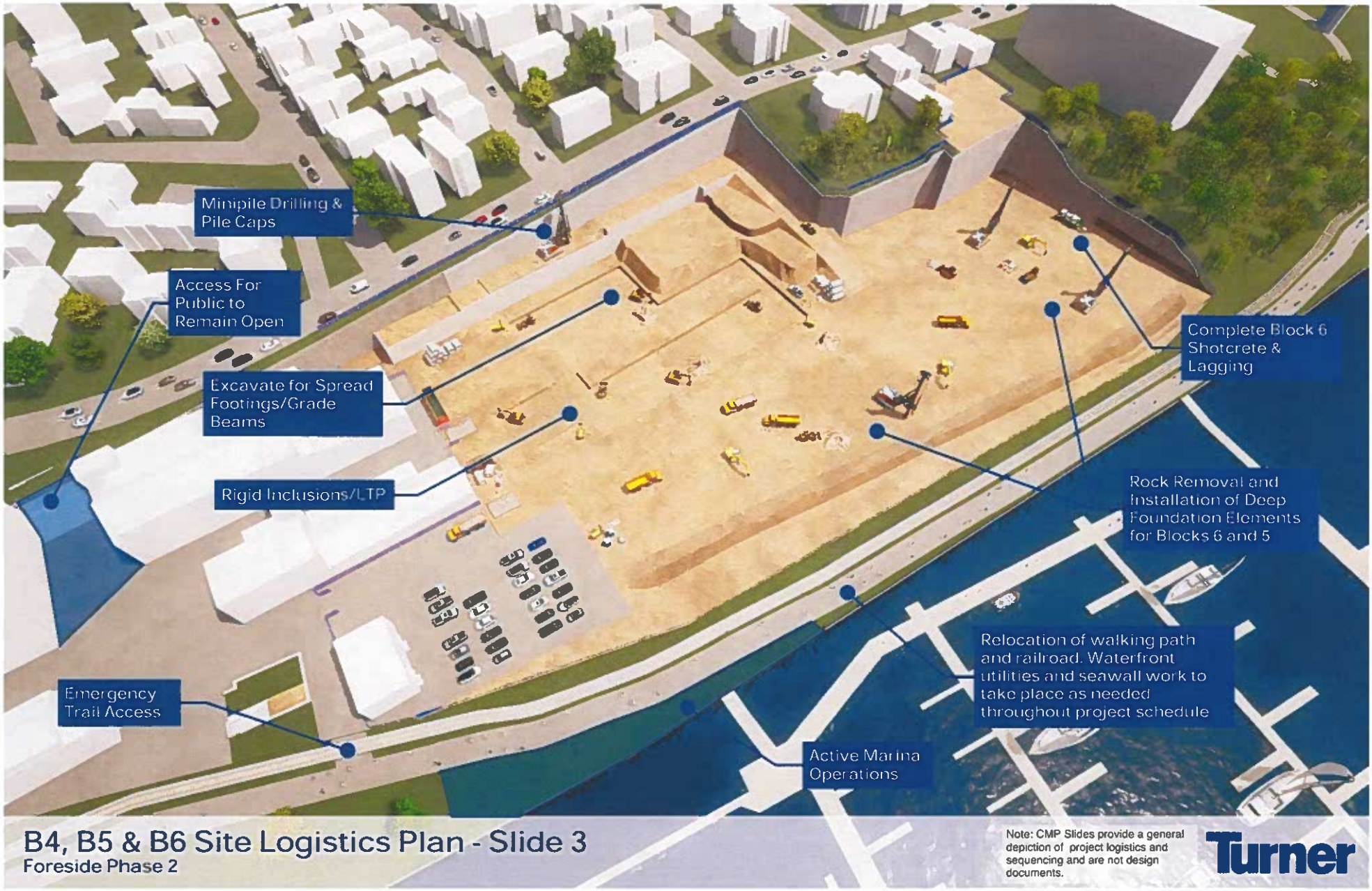
B4, B5 & B6 Site Logistics Plan - Slide 1 (Existing Site)

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner


Soil Nail/Shotcrete Operation. 2 Rigs EA B4 & B6
Soil Stockpile/Trucking
Wheel Washing Area
Construction Gate
Access For Public to Remain Open
Parking Entrance Gate
Emergency Trail Access
Demo of Eastern Promenade Buildings
Benching/ Ramps for SOE
Drainage Swale
Site Fence/Erosion Control Typical at Perimeter
Contractor Trailers For SOE & Utility Work
Site utility work/enabling for block 4 & 6 and marina ongoing during SOE
Owner Parking
Active Marina Operations
Construction Traffic
Public Traffic
B4, B5 & B6 Site Logistics Plan - Slide 2
Foreside Phase 2
Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.
Turner

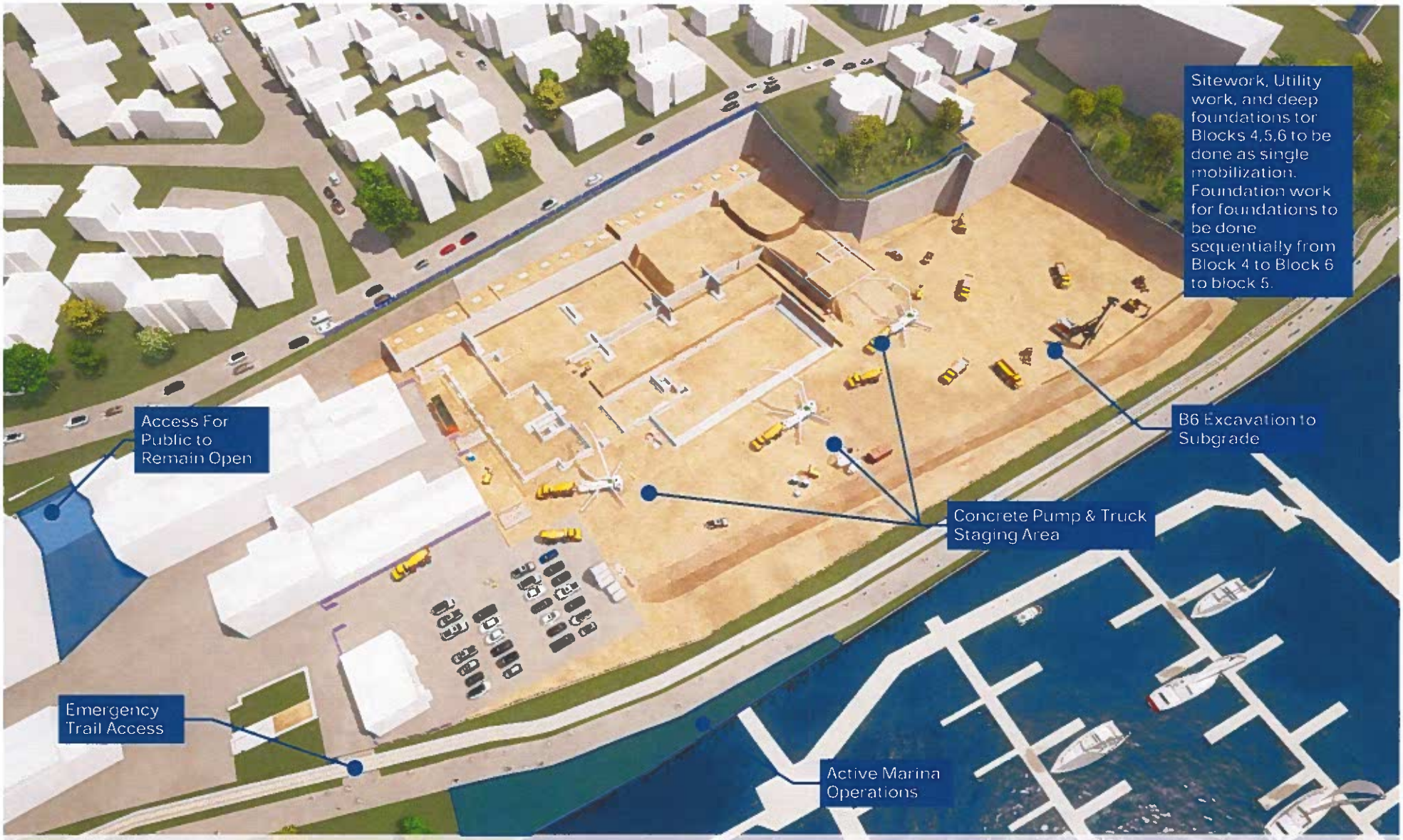


B4, B5 & B6 Site Logistics Plan - Slide 3

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 4

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner

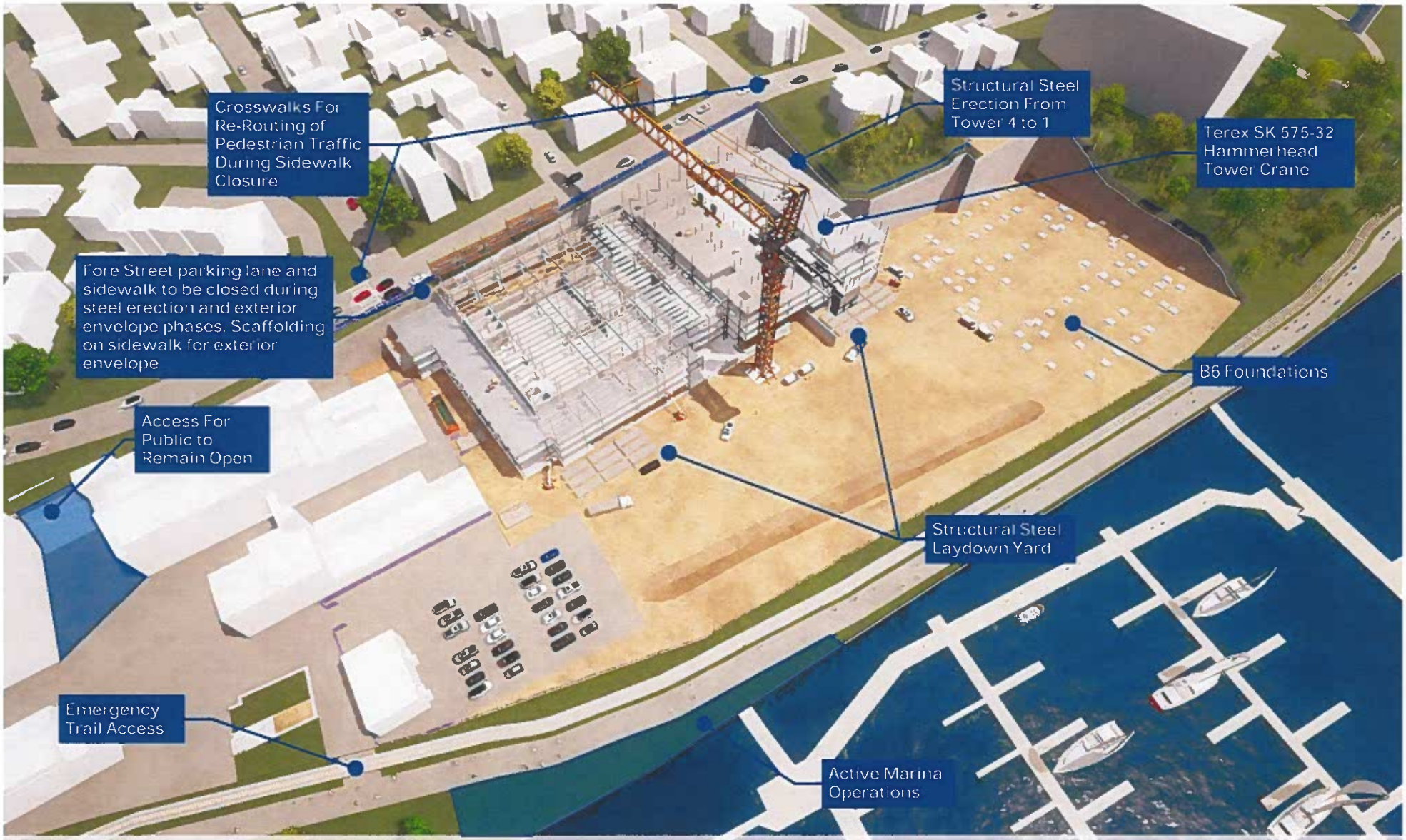


B4, B5 & B6 Site Logistics Plan - Slide 5

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner

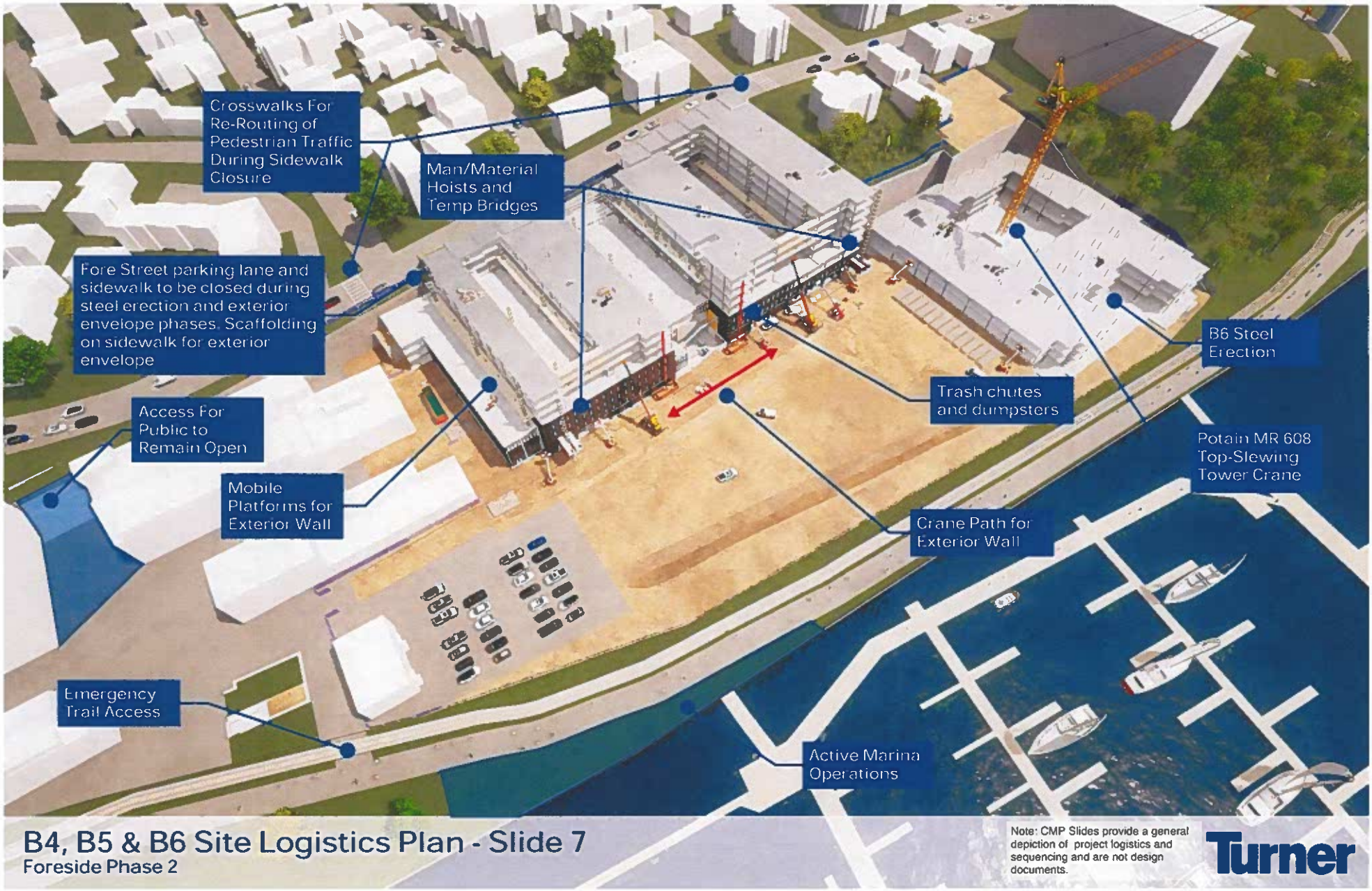


B4, B5 & B6 Site Logistics Plan - Slide 6

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 7

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 8

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents

Turner



B4, B5 & B6 Site Logistics Plan - Slide 9

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 10

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 11

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 12

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner



B4, B5 & B6 Site Logistics Plan - Slide 13

Foreside Phase 2

Note: CMP Slides provide a general depiction of project logistics and sequencing and are not design documents.

Turner

Subject: 58 Fore St. Public Comment - Historic and Planning - "One Block" Perimeter Grade Measurement
Date: Wednesday, July 26, 2023 at 11:25:28 AM Eastern Daylight Time
From: Roger Trettel
To: Charles Tetelman, Evan Schueckler
CC: Kevin Kraft, Sandra Guay
Attachments: 58 Fore One Block Perimeter Measurements 7-26-23.pdf

Dear Mr. Tetelman and Mr. Schueckler,

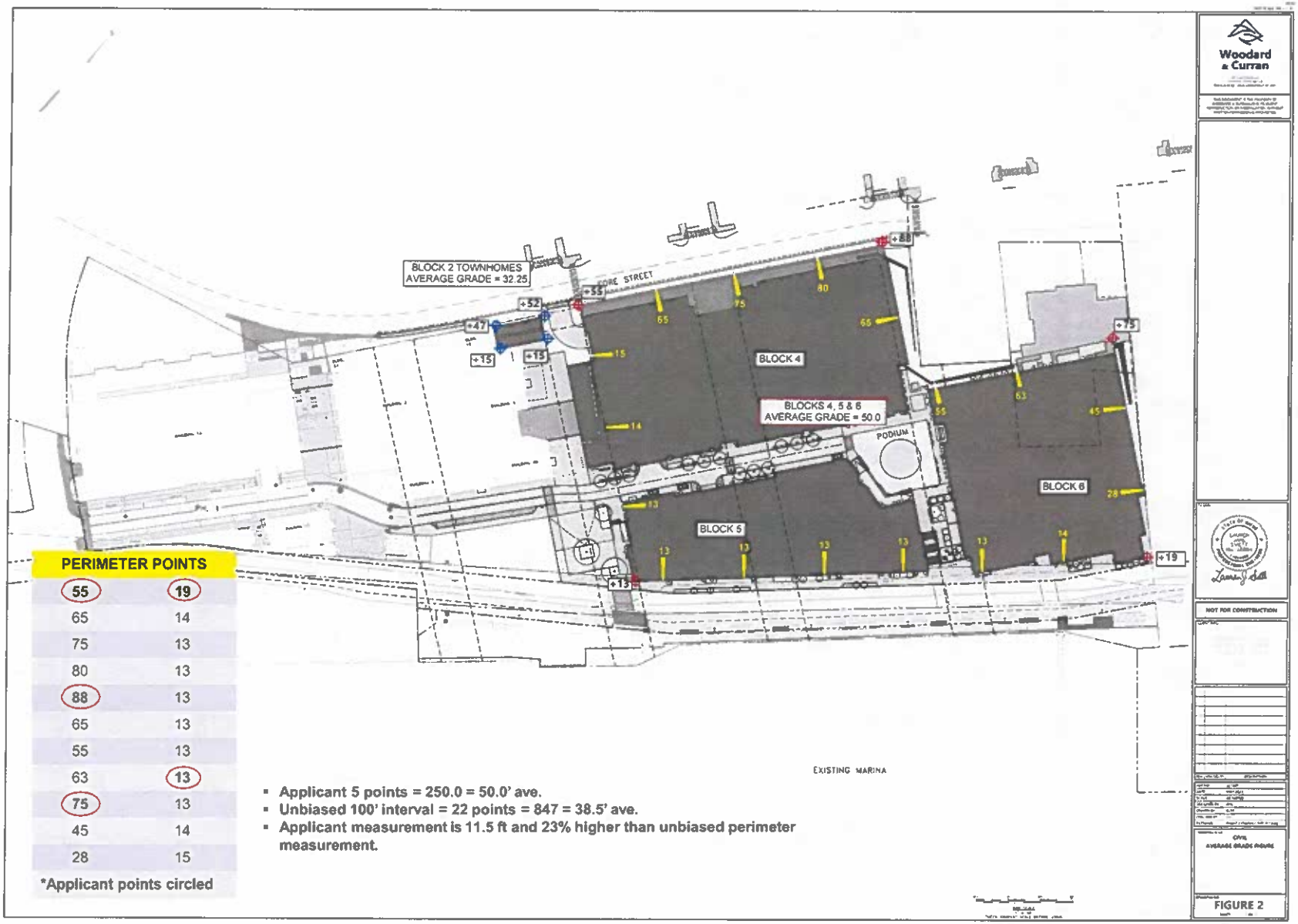
I submit this comment and attachment as an abutter to the 58 Fore St. project at 5 Eastern Promenade. The issue of average grade and resultant height of the project is critical to the overall Planning analysis and thoughtful Historic analysis of impacts to the surrounding Munjoy Hill and Portland Company historic districts. The applicant has prepared an existing site grade map that depicts the 3-building complex as a single building and calculates the average grade of the dramatically sloping site with 5 strategically-placed points and comes up with an average grade of 50.0 feet.

Because the majority (approx 70%) of the site is at a lower grade (approx 13-14 ft) and it exhibits extreme grade changes only at the northern and eastern portions of the site, it is much more appropriate to calculate the average grade using the unbiased method of measuring elevation at a set standard interval around the perimeter of the site (in this case every 100 feet). Attached is the applicant's site map with grade elevations measured at 100-foot intervals. When employing this simple and unbiased perimeter method, a total of 22 points are measured, resulting in an average grade of the site comprising the "one block" concept of 38.5 feet. The applicant has based its entire project on a number that is at least 11.5 feet and 23% higher than is the reality of the site. The resultant taller buildings are not in compliance with the B6 height overlay and thus have an undue effect on the properties of the Historic Districts and the eastern waterfront at large.

Thank you for the opportunity to comment.

Sincerely,

Roger Trettel
5 Eastern Promenade



PERIMETER POINTS	
(55)	(19)
65	14
75	13
80	13
(88)	13
65	13
55	13
63	(13)
(75)	13
45	14
28	15

*Applicant points circled

- Applicant 5 points = 250.0 = 50.0' ave.
- Unbiased 100' interval = 22 points = 847 = 38.5' ave.
- Applicant measurement is 11.5 ft and 23% higher than unbiased perimeter measurement.

Planning Board Report
Planning & Urban Development Department

Four Lot Commercial Subdivision
432-446 Fore Street
Subdivision Application
PL-002510-2023
Fore Street Partners, LLC, Applicant

Submitted to:	Portland Planning Board	**Prepared By:**	Maya Balassa
Public Hearing Date:	August 15, 2023	**Date:**	August 11, 2023

I. INTRODUCTION



Figure 1 Street view from Fore Street

Fore Street Partners, LLC has submitted a subdivision application for a proposed four lot subdivision associated with the parcels occupying the existing buildings from 432 to 446 Fore Street. The area previously existed as three parcels under single ownership. These parcels contain a series of existing buildings connected by party-wall, that were constructed during the early 20th century.

Given the administrative nature of the subdivision, which involves no new physical improvements, these applications were scheduled for a Planning Board public hearing without an initial workshop.

The Planning and Urban Development Department mailed 111 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the August 4 and 5, 2023 editions of the *Portland Press Herald*.

Applicant Fore Street Partners, LLC
:
Agent: Steve Bushey, P.E., Gorrill Palmer

REQUIRED REVIEWS

Review	*Applicable Standards*
Subdivision	Section 15.4

II. PROJECT DATA

Existing Zoning	B-3 Business Zone
Historic District	Waterfront (Old Port) Historic District
Property Size	9,191 Square Feet
Existing Use	Commercial/Residential

III. BACKGROUND & EXISTING CONDITIONS

As these connected buildings were previously under common ownership, they share some common utility connections, notably two fire service lines which service all five buildings. Each building contains its own separate water and sewer service, and there are existing easements which allow for maintenance of common infrastructure.

Each building contains ground-level commercial along both Fore Street. All of the buildings also have commercial uses along Wharf Street and residential uses on upper floors, except 442 Fore Street. The building at 446 Fore Street has Fore & Wharf along Fore Street and Rathskeller on Wharf Street. Venus and Mars Marijuana Dispensary reside in the commercial space at 442 Fore Street. Fore Play Sports Pub is at 436 Fore Street, with Jefe Juans Restaurant along Wharf Street. Gorgeous Gelato is at 434 Fore Street, with Higher Ground Marijuana and Coffee along Wharf Street. The Vermont Flannel Co. is at 432 Fore Street, with Room for Improvement along Wharf Street.

IV. PROPOSED SUBDIVISON

According to the applicant a land sale was completed in January 2017 that created two lots (R-003/004 and R-007/008). A third lot was created when #446 Fore Street (032-R-008) was sold in November 2019. The applicant now intends to further divide lot 032-R007 into two lots, thus creating a total of four lots within the subdivision. Therefore, the proposal before the Planning Board is a request for a four-lot subdivision. The total land area is 9,191 square feet or 0.21 acres and the lots are entirely covered by existing buildings. Below is a description of the proposed lots:

Owner	CBL	Deed Reference	Proposed lot	Proposed Lot Size
Terrapin Properties LLC/ 432 and 434 Fore Street	032-R-003 and 032-R-004	33761/108	Lot 1	2,383 sf
Fore Street Properties LLC/ 436 and 442 Fore Street	032-R-007	33761/112	Lot 3 and 4	Lot 3: 2,530 sf Lot 4: 2,356 sf
Orange Crush LLC/ 446 Fore Street	032-R-008	36174/313	Lot 2	1,922 SF

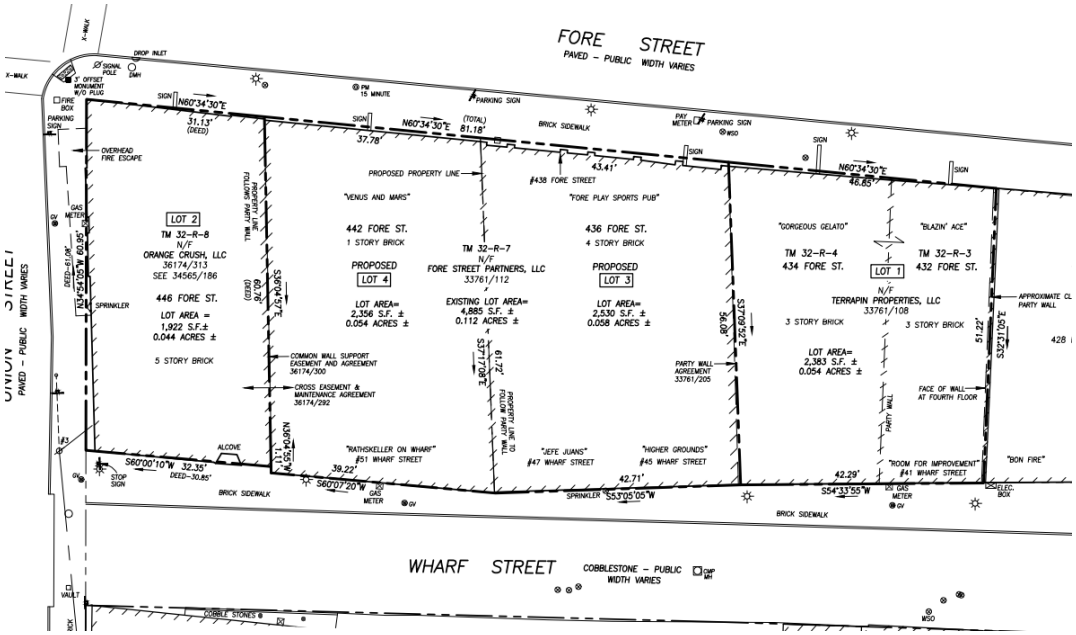


Figure 2 Proposed subdivision plat

V. RIGHT, TITLE, & INTEREST

The applicant has shown right, title, and interest through inclusion of the deeds for all properties (Attachment 2-5).

VI. FINANCIAL & TECHNICAL CAPACITY

The applicant has shown financial and technical capacity. The applicant team consists of Owen Haskell Inc., Gorrill Palmer Consulting Engineers, and Berstein Shur.

VII. ZONING ANALYSIS



Figure 3 Zoning map with proposed lots highlighted

All proposed lots are located in the B-3 Downtown Business Zone and the Downtown Entertainment Overlay Zone. The existing buildings on the proposed lots are meeting B-3 zoning standards (Attachment 7-10). The proposed subdivision will not create non-conforming parcels.

B-3-Dimensional Standard	Lot Size Minimum (None)	Minimum Street Frontage (15 ft)	Front Yard Max (5 ft)
Lot 1	2,383 SF	46.85 ft	0
Lot 2	1,922 SF	31.13 ft	0
Lot 3	2,530 SF	43.41 ft	0
Lot 4	2,356 SF	37.78 ft	0

VIII. SUBDIVISION REVIEW STANDARDS (Section 15.4)

The proposed subdivision 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 15.4.1.A), and will not result in undue soil erosion (Section 15.4.1.D)
   Staff Finding: Met. The subject properties are developed sites and no new development is proposed; thus, there are no anticipated impacts to water, air, and soil.

2. Has sufficient water available and will not cause unreasonable burden on existing water supply (Section 15.4.1.B and C)
   Staff Finding: Met. The proposed subdivision is currently serviced by Portland Water District. The applicant is not seeking to alter or expand service as part of this application, and no changes of use are being proposed. A confirmation from the Portland Water District has been requested as a condition of approval to ensure each lot has separate meters and that the two existing fire services are sufficient.

3. Will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highway or public roads existing or proposed (Section 15.4.1.E)
   Staff Finding: Met. The proposed subdivision is not expected to generate significant traffic volumes or have a major impact on existing or proposed public roads as the existing, as-built condition will remain post-subdivision and there is no development proposed in conjuncture with the subdivision application.

4. Will provide for adequate sanitary sewer and stormwater disposal (Section 15.4.1.F) and will not cause an unreasonable burden on municipal solid waste and sewage (Section 15.4.1.G)
   Staff Finding: Met. There is no new development proposed with the subdivision. The existing buildings are connected to the city's sewer system.

5. Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat (Section 15.4.1.H)
   Staff Finding: Met. No new construction or alterations are proposed as part of this application.

6. Is in conformance with the Comprehensive Plan (Section 15.4.1.I)
   Staff Finding: Met. No development is currently being proposed and the proposed lots conform with applicable zoning dimensional and use standards. Therefore, the proposed subdivision is consistent with Portland's Plan 2030 and supports stated goals around authenticity (preserving historic buildings), and further supports goals around stabilizing and enhancing historic areas and ensuring quality investment in existing structures. In addition, any future redevelopment and investment into these properties will further support the City's desire of creating complete neighborhoods and reinforcing the center as the subject properties are located within a central location in the Old Port near transit and walkable services.

7. Adequate financial and technical capacity (Section 15.4.1.J)
   Staff Finding: Met. As mentioned in sections VI and VII of this report, the applicant has demonstrated adequate financial and technical capacity.

8. Whenever situated, in whole or in part, within the watershed of any pond or lake or within 250 feet of any wetland, great pond, or river, will not adversely affect the quality of such body of water or unreasonably affect the shoreline of such body of water (Section 15.4.1.K)
   Staff Finding: Met. No development or site changes are being proposed that would adversely impact water quality or areas of shoreline.

9. Will not, adversely affect the quality and quantity of groundwater (Section 15.4.1.L)
   Staff Finding: Met. No adverse impacts are expected on groundwater from this subdivision. Any future development would need to comply with all local, state and federal standards.

10. Is or is not in a flood-prone area (Section 15.4.1.M)
    Staff Finding: The lots are not located within any designated flood zones.

11. Will provide for adequate stormwater management (Section 15.4.1.N)
    Staff Finding: Not applicable. No development Is being proposed in conjuncture with the proposed subdivision.

12. Will not have lots with a lot depth-to-shore frontage ratio greater than 5 to 1 if any lots in the proposed subdivision have shore frontage on a river, stream brook, great pond, or coastal wetland (Section 15.4.1.O)
    Staff Finding: Not applicable.

13. For any proposed subdivision that crosses municipal boundaries, will not cause unreasonable traffic congestion or unsafe conditions with respect to the use of existing public ways in an adjoining municipality in which part of the subdivision is located (Section 15.4.1.P)
    Staff Finding: Not applicable.

IX. PROPOSED MOTIONS

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 August 15, 2023 for application #PL-002510-2023 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.
2. The applicant shall submit confirmation from Portland Water District that existing shared fire service lines are sufficient following subdivision of the property.

X. ATTACHMENTS

APPLICANT'S SUBMITTAL

1. Cover Letter
2. Deed Bk 33761 pg 108
3. Deed Bk 36174 pg 313
4. Deed Bk 33761 Pg 112
5. Deed Bk 34565 Pg 186
6. Subdivision Checklist
7. Zoning Analysis Table Lot 1
8. Zoning Analysis Table Lot 2
9. Zoning Analysis Table Lot 3
10. Zoning Analysis Table Lot 4

PLANS

A. Proposed Subdivision Plat

GORRILL PALMER

300 Southborough Drive, Suite 200
South Portland, Maine 04106
207.772.2515

May 10, 2023

Ms. Christine Grimando -Director
City of Portland Planning & Urban Development
389 Congress Street, 4th Floor
Portland, ME 04101

Subject: 432-446 Fore Street – Subdivision Application
Applicant: Fore Street Partners LLC c/o Cooper Properties Inc.
CBL: 032-R-003, 032-R-004, 032-R-007, 032-R-008

Dear Christine:

On behalf of **Fore Street Partners, LLC,** Gorrill Palmer is submitting a Subdivision application for a proposed four lot subdivision associated with the parcels occupying the existing buildings from 432 Fore Street to 446 Fore Street. Owen Haskell Inc is the property surveyor and they have prepared the accompanying Subdivision plan. The property currently consists of three deeded parcels that were previously part of single ownership. Land Transfers have occurred that result in three separate deeds for three lots as summarized below:

Owner/Site Address	CBL	Deed Reference (Book/page)	Proposed Lot
Terrapin Properties LLC/432 and 434 Fore Street	032-R-003 and 032-R-004	33761/108	Lot 1
Fore Street Properties LLC/436 and 442 Fore Street	032-R-007	33761/112	Lots 3 and 4
Orange Crush LLC/446 Fore Street	032-R-008	36174/313	Lot 2

Basically, the lots were previously under single ownership. A land sale was completed in January 2017 that created two lots (R-003/004 and R-007/008). A third lot was created when #446 Fore Street (032-R-008) was sold in November 2019. Each of the deeds are contained in the materials uploaded as part of the application. A subdivision plan was not created at the time of these land transfers; thus, the current subdivision application considers this lot formation as after-the-fact. The applicant now intends to further divide the lot 032-R-007 into two lots, thus creating a total of four lots within the subdivision. The total land area is 9,191 SF or 0.21 acres and the lots are entirely covered by buildings.

The lots contain existing buildings all constructed circa 1900 according to the assessing records. The lots also share party walls between the five buildings and various easements and agreements are identified on the Owen Haskell Inc survey. According to the Portland Water District there are domestic water services for each of the buildings as well as two fire services (436 Fore and 446 Fore). Each building also has a sewer service.



The properties are located in the B3 Zoning District and the spaces have had various uses over time including ground level retail/commercial and upper floor residential. The applicant is not proposing any different land uses than historically seen for the buildings. To the best of our understanding the proposed lots will also comply with the Dimensional standards outlined in Table 7-E of the ReCode.

In accordance with the Subdivision General Document and Drawing Checklist we offer the following:

1. **Project Description** – Existing parcels located in the B-3 zoning District that the applicant is seeking to divide into four lots. See description above.
2. **Completed Checklist** – See upload to Eplan.
3. **Evidence of Right, Title and Interest**. See summary table above. Fore Street Partners LLC is seeking to create four lots with Lot 2 at 446 Fore Street created after the fact. Copies of all deeds will be uploaded to Eplan.

4. **Zoning Assessment** – Located in B-3 zone. See attached.
5. **Site plan Standards Assessment** – Not applicable as there is no new construction proposed and simply four lots to be created.
6. **Summary of Existing and/or proposed easements or covenants** – See the Subdivision plan prepared by Owen Haskell Inc and the related deeds. The easements and agreements primarily relate to shared party walls and access.
7. **Waiver Request** – none requested. We note that the survey used as the base for the Subdivision plan does not contain topography, utilities, or related sidewalk features, all of which lie outside of the subdivision boundary and are within the surrounding public right of way. If required, a formal waiver request for this information may be supplied to the Planning Authority upon request. Based on the simplified nature of the Subdivision request on a previously developed property, we believe this supply of this information is unnecessary.
8. **Evidence of financial and Technical Capacity** – The applicant has retained Owen Haskell Inc, Gorrill Palmer Consulting Engineers, and Bernstein Shur to assist with the Subdivision plan, permitting and related real estate affairs. No further evidence will be provided unless requested by the City.

All other supplemental materials fall under the category of not applicable therefore no further evidence will be provided unless requested by the City.



432 -436 Fore Street (Proposed lots 1 and 3)

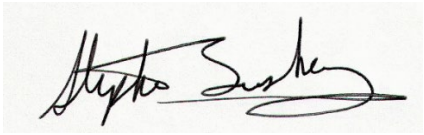


442 and 446 Fore Street (Proposed lots 2 and 4)

We trust the supporting application materials are acceptable and we look forward to the Planning Authority's prompt review and scheduling of a workshop with the Planning Board.

Sincerely,

GORRILL-PALMER



Stephen Bushey, PE
Senior Associate
Phone: 207-772-2515 x286
sbushey@gorrillpalmer.com

Attachments

c: Hawley Strait, Bernstein Shur
Joe Cooper, Fore Street Partners, LLC

U:\4118_Fore Street Subdivision_Portland_CBF Properties\P Applications\Local\2023.05.10 app_432-446 Fore Street Subdivision_cover letter.docx

Doc#: 2249 Bk:33761 Pg: 108

QUITCLAIM DEED WITH COVENANT

DREAM PORT 3, LLC, a Maine limited liability company with a principal place of business in Bergenfield, New Jersey ("Grantor"), for consideration paid, hereby grants to **TERRAPIN PROPERTIES, LLC**, a Maine limited liability company with a mailing address of c/o Cooper Properties, Inc., P.O. Box 491, Portland, Maine 04112 ("Grantee"), with QUITCLAIM COVENANT, a certain lot or parcel of land situated at or near 432-434 Fore Street in Portland, Cumberland County, Maine, being more particularly described on the attached **Exhibit A** (the "Real Property"), subject to (i) all matters of record affecting the Real Property as of the date hereof (other than the mortgage and other encumbrances that are being discharged herewith); (ii) the real estate taxes not due and payable as of the date hereof; (iii) any state of facts an accurate land title survey of the Real Property on date hereof would disclose; (iv) zoning and land use matters; (v) leases in effect on the date hereof which relate to the Real Property and (vi) any party wall rights relating to the wall in the vicinity of the southwesterly boundary of the Real Property.

MAINE REAL ESTATE TAX PAID

Being a portion of the property described as Lot 1 in the Quitclaim Deed with Covenant dated December 30, 2013 from BACM 2007-3 Wharf Street, LLC to Grantor recorded in the Cumberland County Registry of Deeds in Book 31269, Page 272.

IN WITNESS whereof, the said Grantor, has caused this instrument to be signed and sealed ~~this~~ as of 13th day of January, 2017.

DREAM PORT 3, LLC
By: DP3, Inc., its Managing Member

By: Stephen B. Wolgin
Stephen B. Wolgin, President

STATE OF NJ
COUNTY OF BERGEN , SS.

Personally appeared before me this 9 day of January, 2017, the above-named Stephen B. Wolgin, President of DP3, Inc., Managing Member of Dream Port 3, LLC, and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of Dream Port 3, LLC. and DP3, Inc.

JANARDAN R. NUKALAPATI NOTARY PUBLIC NEW JERSEY

Janardan R Nukalapati
Notary Public
JANARDAN REDDY NUKALAPATI
Type or Print Name
My commission expires: 5-27-20

EXHIBIT A

432 - 434 FORE STREET

A CERTAIN LOT OR PARCEL OF LAND WITH THE BUILDINGS THEREON, SITUATED ON THE SOUTHERLY SIDE OF FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND, AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING ON THE SOUTHERLY SIDE OF FORE STREET AT ITS INTERSECTION WITH THE EASTERLY SIDE OF UNION STREET;

THENCE, N 60° 34' 30" E ALONG SAID FORE STREET, 112.31 FEET TO THE POINT OF BEGINNING;

THENCE, N 60° 34' 30" E ALONG SAID FORE STREET, 46.85 FEET TO LAND NOW OR FORMERLY OF 428 FORE STREET, LLC;

THENCE, S 32° 31' 05" E ALONG SAID LAND OF 428 FORE STREET, LLC, 51.22 FEET TO THE NORTHERLY SIDELINE OF WHARF STREET;

THENCE, ALONG SAID WHARF STREET S 54° 33' 55" W A DISTANCE OF 42.29 FEET TO LAND NOW OR FORMERLY OF DREAM PORT 3 LLC;

THENCE, N 37° 09' 52" W ALONG LAND NOW OR FORMERLY OF DREAM PORT 3, LLC, 56.08 FEET TO THE POINT OF BEGINNING, CONTAINING 2,383 SQUARE FEET.

Received
Recorded Register of Deeds
Jan 13,2017 11:25:10A
Cumberland County
Nancy A. Lane

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT
Maine Statutory Short Form

KNOW ALL BY THESE PRESENTS THAT **446 FORE STREET LLC**, a Maine limited liability company with a principal place of business in Falmouth, County of Cumberland and State of Maine (the "Grantor"), for consideration paid, grants to **ORANGE CRUSH, LLC**, a Maine limited liability company with a place of business at 110 Hay Street, Newbury, Massachusetts 01951 (the "Grantee"), with **QUITCLAIM COVENANT**, certain real property, together with any improvements thereon, located in the City of Portland, Cumberland County, Maine and more particularly described on Exhibit A attached hereto (the "Premises").

IN WITNESS WHEREOF, 446 FORE STREET LLC, has caused this instrument to be signed and sealed this 15 day of November, 2019.

WITNESS:

446 FORE STREET LLC

By _____
Chris Grimm, Manager

STATE OF MAINE
COUNTY OF CUMBERLAND

November 15, 2019

Then personally appeared the above named Chris Grimm, in his said capacity, and acknowledged the foregoing instrument to be his free act and deed, and the free act and deed of said limited liability company, before me.

_____
Attorney at Law~~/Notary Public~~
Drew A. Anderson
Printed Name

EXHIBIT A

A certain lot or parcel of land, together with the building and improvements situated thereon, located at the corner of Fore Street and Union Street in the City of Portland, County of Cumberland and State of Maine, and being more particularly bounded and described as follows:

Beginning at a point formed by the intersection of the southerly sideline of Fore Street and the easterly sideline of Union Street; thence

Easterly along the southerly sideline of Fore Street a distance of 31.13 feet to a point in the centerline of the party wall between the building on the premises herein described and the adjacent premises now or formerly of W. Spencer, Inc.; thence

Southerly along the centerline of said party wall by an included angle of 96° 45' 13" a distance of 60.76 feet; thence

Westerly by an included angle of 83° 46' 54" a distance of 30.85 feet to the easterly sideline of Union Street; thence

Northerly by an included angle of 96° 26' 22" along the easterly sideline of Union Street a distance of 61.08 feet to a point of beginning.

Grantor conveys the above property described herein **TOGETHER WITH THE BENEFIT OF** and **SUBJECT TO**:

(A) all terms, conditions, obligations, rights, benefits, covenants and restrictions set forth in the "COMMON WALL SUPPORT EASEMENT AND AGREEMENT" by and between Fore Street Partners LLC and 446 Fore Street LLC, dated November 15, 2019, which is recorded at the Cumberland County Registry of Deeds in Book 36174, Page 360;

(B) all terms, conditions, obligations, rights, benefits, covenants and restrictions set forth in the "CROSS-EASEMENT AND MAINTENANCE AGREEMENT" by and between Fore Street Partners LLC and 446 Fore Street LLC, dated November 15, 2019, which is recorded at the Cumberland County Registry of Deeds in Book 36174, Page 292;

(C) the following limitations and restrictions:

a. Grantee shall not permit, nor allow any tenant, occupant, agent, employee, invitee, or guest to permit the performance of live, or the playback of recorded, amplified music within any building now or hereafter located on the property conveyed herein, with the exception of acoustic music, which may be amplified ONLY so long as the music is not audible outside the such building, including without limitation any neighboring structure that shares a common wall with such building;

b. Grantee shall not install, use or permit to be installed or used by a tenant or occupant, any sound system, public address system, or similar equipment which broadcasts music, voice, or other noise outside of any building now or hereafter located on the property conveyed herein, or which is located within any such building but which is intended to produce sounds that would be audible from outside any building now or hereafter located on the property conveyed herein; and

c. sales of cannabis, cannabis derivatives, cannabis related products, including without limitation paraphernalia used in the consumption of cannabis, are PROHIBITED within or on the property conveyed herein regardless of the property owner's or its tenant's or occupant's ostensible compliance with the Maine Medical Use of Marijuana Act, 22 M.R.S. §§ 2421 *et seq.*, the Marijuana Legalization Act, 28-B M.R.S. §§ 101 *et seq.*, or any other state or federal statute or regulation, now in effect or implemented hereafter, which purports to govern the legal sale or use of cannabis within the United States, the State of Maine, and/or the City of Portland.

All easements, rights and restrictions described and mentioned herein are easements appurtenant and running with the land. By acceptance of this Deed Grantee agrees to include all of the foregoing covenants and restrictions in any subsequent deed of conveyance of the Property.

Meaning and intending to convey and hereby conveying the same premises conveyed to 446 Fore Street LLC by Quitclaim Deed dated December 28, 2017 and recorded in said Registry of Deeds in Book 34565, Page 185.

CPER006/1332697

Received
Recorded Register of Deeds
Nov 15,2019 12:55:04P
Cumberland County
Nancy A. Lane

Doc#: 2251 Bk:33761 Pg: 112

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT

DREAM PORT 3, LLC, a Maine limited liability company with a principal place of business in Bergenfield, New Jersey ("Grantor"), for consideration paid, hereby grants to **FORE STREET PARTNERS LLC**, a Maine limited liability company with a mailing address of c/o Cooper Properties, Inc., P.O. Box 491, Portland, Maine 04112 ("Grantee"), with QUITCLAIM COVENANT, a certain lot or parcel of land situated at or near 436-446 Fore Street in Portland, Cumberland County, Maine, being more particularly described on the attached **Exhibit A** (the "Real Property"), subject to (i) all matters of record affecting the Real Property as of the date hereof (other than the mortgage and other encumbrances that are being discharged herewith); (ii) the real estate taxes not due and payable as of the date hereof; (iii) any state of facts an accurate land title survey of the Real Property on date hereof would disclose; (iv) zoning and land use matters; (v) leases in effect on the date hereof which relate to the Real Property and (vi) any party wall rights relating to the wall in the vicinity of the northeasterly boundary of the Real Property.

Being a portion of the property described as Lot 1 in the Quitclaim Deed with Covenant dated December 30, 2013 from BACM 2007-3 Wharf Street, LLC to Grantor recorded in the Cumberland County Registry of Deeds in Book 31269, Page 272.

IN WITNESS whereof, the said Grantor, has caused this instrument to be signed and sealed ~~this~~ as of 13th day of January, 2017.

DREAM PORT 3, LLC
By: DP3, Inc., its Managing Member

By: Stephen B. Wolgin
Stephen B. Wolgin, President

STATE OF NJ
COUNTY OF BERGEN, SS.

Personally appeared before me this 9 day of January, 2017, the above-named Stephen B. Wolgin, President of DP3, Inc., Managing Member of Dream Port 3, LLC, and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of Dream Port 3, LLC. + DP3, Inc.

Janardan R. Nukalapati
Notary Public
JANARDAN REDDY NUKALAPATI
Type or Print Name
My commission expires: 5-27-2020

JANARDAN R. NUKALAPATI NOTARY PUBLIC NEW JERSEY

EXHIBIT A

436 - 446 FORE STREET

A CERTAIN LOT OR PARCEL OF LAND WITH THE BUILDINGS THEREON, SITUATED ON THE SOUTHERLY SIDE OF FORE STREET IN THE CITY OF PORTLAND, COUNTY OF CUMBERLAND, AND STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING ON THE SOUTHERLY SIDE OF FORE STREET AT ITS INTERSECTION WITH THE EASTERLY SIDE OF UNION STREET;

THENCE, N 60° 34' 30" E ALONG SAID FORE STREET, 112.31 FEET TO LAND NOW OR FORMERLY OF DREAM PORT 3, LLC;

THENCE, S 37° 09' 52" E ALONG SAID LAND OF DREAM PORT 3, LLC, 56.08 FEET TO THE NORTHERLY SIDELINE OF WHARF STREET;

THENCE, ALONG SAID WHARF STREET THE FOLLOWING COURSES AND DISTANCES:

S 53° 05' 05" W A DISTANCE OF 42.71 FEET;

S 60° 07' 20" W A DISTANCE OF 39.22 FEET;

N 36° 04' 55" W A DISTANCE OF 1.11 FEET;

S 60° 00' 10" W A DISTANCE OF 32.35 FEET TO SAID UNION STREET;

THENCE N 34° 54' 05" W ALONG SAID UNION STREET, 60.95 FEET TO THE POINT OF BEGINNING, CONTAINING 6,807 SQUARE FEET.

Received
Recorded Register of Deeds
Jan 13,2017 11:28:36A
Cumberland County
Nancy A. Lane

Att. 5

DLN 1001740018634

SHORT FORM QUITCLAIM DEED

FORE STREET PARTNERS LLC, a Maine limited liability company with a mailing address c/o Cooper Properties, Inc., P.O. Box 491, Portland, Maine 04112 (the "Grantor"), FOR CONSIDERATION PAID, grants to **446 FORE STREET LLC**, a Maine limited liability company with a mailing address c/o Cooper Properties, Inc., P.O. Box 491, Portland, Maine 04112 (the "Grantee"), certain real property, together with any improvements thereon, located in the City of Portland, Cumberland County, Maine and more particularly described on Exhibit A attached hereto (the "Premises").

For Grantor's source of title reference is hereby made to a Quitclaim Deed with Covenant granted by Dream Port 3, LLC to Grantor dated as of January 13, 2017 and recorded in the Cumberland County Registry of Deeds in Book 33761, Page 112, the Premises being a portion of the property described in said deed.

IN WITNESS WHEREOF, FORE STREET PARTNERS LLC, has caused this instrument to be executed by Chris Grimm, its Member thereunto duly authorized, as of this 25 day of December, 2017.

WITNESS:

Print Name:

FORE STREET PARTNERS LLC

By:
Chris Grimm
Its Member

State of Maine
County of Cumberland, ss.

December 26, 2017

Personally appeared the above named Chris Grimm, Member of FORE STREET PARTNERS LLC as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability company.

Before me,
Candice Pierce
Notary Public
Print Name:
Commissions Expires:

Candice R. Pierce
Notary Public, Maine
My Commission Expires August 15, 2022

DOC :65851 BK:34565 PG:187
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
12/29/2017, 12:22:03P
Register of Deeds Nancy A. Lane E-RECORDED

EXHIBIT A

A certain lot or parcel of land, together with the building and improvements situated thereon, located at the corner of Fore Street and Union Street in the City of Portland, County of Cumberland and State of Maine, and being more particularly bounded and described as follows:

Beginning at a point formed by the intersection of the southerly sideline of Fore Street and the easterly sideline of Union Street; thence

Easterly along the southerly sideline of Fore Street a distance of 31.13 feet to a point in the centerline of the party wall between the building on the premises herein described and the adjacent premises now or formerly of W. Spencer, Inc.; thence

Southerly along the centerline of said party wall by an included angle of 96° 45' 13" a distance of 60.76 feet; thence

Westerly by an included angle of 83° 46' 54" a distance of 30.85 feet to the easterly sideline of Union Street; thence

Northerly by an included angle of 96° 26' 22" along the easterly sideline of Union Street a distance of 61.08 feet to a point of beginning.

The above described Premises is subject to Mortgage, Assignment of Leases and Rents, Security Agreement, and Financing Statement granted by Fore Street Partners LLC to Camden National Bank dated January 10, 2017 and recorded in the Cumberland County Registry of Deeds in Book 33761, Page 175.

CITY OF PORTLAND
Planning & Urban Development Department

SUBDIVISION
GENERAL DOCUMENT AND DRAWINGS CHECKLIST
Please submit each document as a separate PDF file.
Please confirm by electronically checking the boxes in the left-hand column.

**** PLEASE FILL OUT AND UPLOAD THE ZONING ASSESSMENT TABLE AND WAIVER TABLE SEPARATELY AS NOTED BELOW ****

At the time of application submission, please contact the Department of Public Works regarding E-911 addressing of your project.

GENERAL APPLICATION DOCUMENTS	
Yes NA	**Project Description** • Cover letter with detailed project description
Yes NA	**Completed Checklist** (this document)
Yes NA	**Evidence of 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** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
Yes **NA**	**Subdivision Standards Assessment** (see Article 15.4 of the land use code) • Summary of compliance with subdivision review standards of the land use code
Yes **NA**	**Existing and/or Proposed Easements or Covenants, applicable.** • Evidence of existing easements and any proposed easements
Yes **NA**	**Waiver Requests** (see Waiver Table) • Written request for waiver describing request and compliance with applicable waiver standards
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

SUBDIVISION
SUPPLEMENTAL SUBMISSIONS CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

Yes NA	• When private sewage systems are used, the results and supporting data of a soil test of each lot in the subdivision conducted by a soil evaluator licensed in the state.
Yes NA	• When the adequacy of the subdivision's load bearing capacity is in question, a geotechnical report with supporting data that includes the result of test borings shall be prepared by a professional engineer registered in the state and submitted.
Yes NA	• Price range of houses that will be built in the subdivision.
Yes NA	• Traffic impact analysis.
Yes NA	• High intensity soil survey, if required by the Planning Authority.
Yes NA	• Types and estimated quantities of solid waste to be generated by the development.
Yes NA	• A narrative describing all proposed buffer strips, their dimensions, and maintenance plans and responsibilities.
Yes NA	• A description of any wetlands, wildlife and fisheries habitats, archaeological sites or unusual natural areas located on or near the project site and a description of the methods that will be used to protect such area.
Yes NA	• Construction plan outlining the anticipated sequence of construction of the major features of the project including without limitation roads, retention basins, sewer lines, seeding and other erosion and sedimentation control measures, and pollution abatement measures and also setting forth the approximate dates for commencement and completion of the project.
Yes NA	• When conditions warrant, a program to control dust, erosion and sedimentation and/or vehicular traffic during construction.
	• At the option of the subdivider, any other information that may be necessary for the full and proper consideration of the subdivision shall be submitted in writing.

SUBDIVISION
DRAWINGS CHECKLIST

Please submit each document as a separate PDF file.
All drawings must be submitted in a 24 x 36 sheet size.

SUBDIVISION PLAT (at a scale not more than 1"=60', unless lots are more than one acre in size)

1. Date, north point, title and graphic scale.

2. Names, addresses and stamp or certification, if applicable, of registered professional engineer, subdivider, and owner

3. Vicinity sketch (may be shown on separate plan);

4. Names of adjacent property owners with parcels over 25,000 square feet or names of adjacent subdivision;

5. Location and designation of any zoning district boundaries affecting the subdivision;

6. Total site data, including total area of the subdivision, total area in streets, total area in recreation or open space and number of house lots;

7. Based on a recent survey by the subdivider, existing contours at two foot intervals or as otherwise required by the Public Works Authority. Existing structures which are to remain will shall be delineated;

8. Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered;

9. Names of proposed streets, width of rights of way, typical cross section reservation, and depth of construction materials;

10. Locations, widths and purposes of other rights of way or easements to be recorded;

11. All appropriate street geometry information, including point of curvature, point of tangency, tangent distance, radii and interior angle, in standard engineering format;

12. Location of those utilities existing on or adjacent to the tract to be subdivided, including size and elevation of buried or underground utilities (may be shown on separate plan);

13. Designation of flood hazard areas, as defined by the National Flood Insurance Program and shown on the city flood hazard boundary map, as well as any other areas in the subdivision subject to inundation by stormwater or storm sewer overflow;

14. All potential wetlands within the proposed subdivision, regardless of the size of those wetlands;

15. Any river, stream or brook within or abutting the proposed subdivision. For purposes of

this section, "river, stream or brook" has the same meaning as in 38 M.R.S. § 480 B, Subsection 9.

16. Existing historic sites and structures which either appear on the National Register or are nominated to the National Register by the state historic preservation officer;

17. Proposed private and public utility system including water, gas, telephone, fire hydrants, and any other services which shall supply the area (may be shown on separate plan);

18. Sanitary sewer and storm drain plans and profiles showing size, kind and slope of pipe, proposed manhole rim and invert elevations and catch basin locations and drains (may be shown on separate plan);

19. Lighting plan showing the location, design, height and spacing from each other of the support poles, in accordance with standards and specifications established by the Public Works Authority (may be shown on separate plan);

20. Tree plan showing groups of existing, sizeable trees which the subdivider intends to preserve (may be shown on separate plan);

21. A detailed plan of the entire subdivision and the immediate vicinity showing all existing and proposed drainage both on- and off-site including drainage swales, ditches, etc., with directional flow arrows and approximate slope grades, and showing proposed finished "spot elevations" around the perimeter of the subdivision. Proposed drainage shall be shown as it may affect or restrict development on individual lots and with reference to improvements for which a performance guarantee is required under this article. Where deemed feasible by the Public Works Authority, proposed finished contours at intervals of two feet shall be provided on the drainage plan upon request (may be shown on separate plan);

22. All future phases and sections of the subdivision proposed by the subdivider (may be shown on separate plan);

23. Proposed parks and school sites, or other public open space that the developer proposes to convey to the city;

24. Streets and right of way monuments and property line markers;

25. Profiles of each street or way in the subdivision shall be shown on the subdivision plat. They shall be drawn to a longitudinal scale of 40 feet to one foot and a vertical scale of four feet to one inch. Such profiles shall include separate profiles of each side line and center line of the street or way. Any buildings abutting on the street shall be shown in standard engineering format as requested by the Public Works Authority.

26. Where submission drawings are available in electronic form, the applicant shall submit any available electronic CAD files with final plans.

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B3 - lot 1

All Projects:

	Required	Proposed
Lot Size	-	2,383 SF
Area Per Dwelling Unit	-	
Minimum Street Frontage	15	46.85 ft
Front Yard Minimum		
Front Yard Maximum	5	0
Rear Yard		
Yard Right		
Yard Left		
Side Street Setback		
Step Back		
Maximum Lot Coverage		
Minimum Lot Coverage		
Maximum Height		
Open Space		
Maximum Impervious Area		
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces		
Loading Bays		
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):			

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B3 - lot 1

All Projects:

	Required	Proposed
Lot Size	-	2,383 SF
Area Per Dwelling Unit	-	
Minimum Street Frontage	15	46.85 ft
Front Yard Minimum		
Front Yard Maximum	5	0
Rear Yard		
Yard Right		
Yard Left		
Side Street Setback		
Step Back		
Maximum Lot Coverage		
Minimum Lot Coverage		
Maximum Height		
Open Space		
Maximum Impervious Area		
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces		
Loading Bays		
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):			

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B3 - lot 1

All Projects:

	Required	Proposed
Lot Size	-	2,383 SF
Area Per Dwelling Unit	-	
Minimum Street Frontage	15	46.85 ft
Front Yard Minimum		
Front Yard Maximum	5	0
Rear Yard		
Yard Right		
Yard Left		
Side Street Setback		
Step Back		
Maximum Lot Coverage		
Minimum Lot Coverage		
Maximum Height		
Open Space		
Maximum Impervious Area		
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces		
Loading Bays		
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):			

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B3 - lot 1

All Projects:

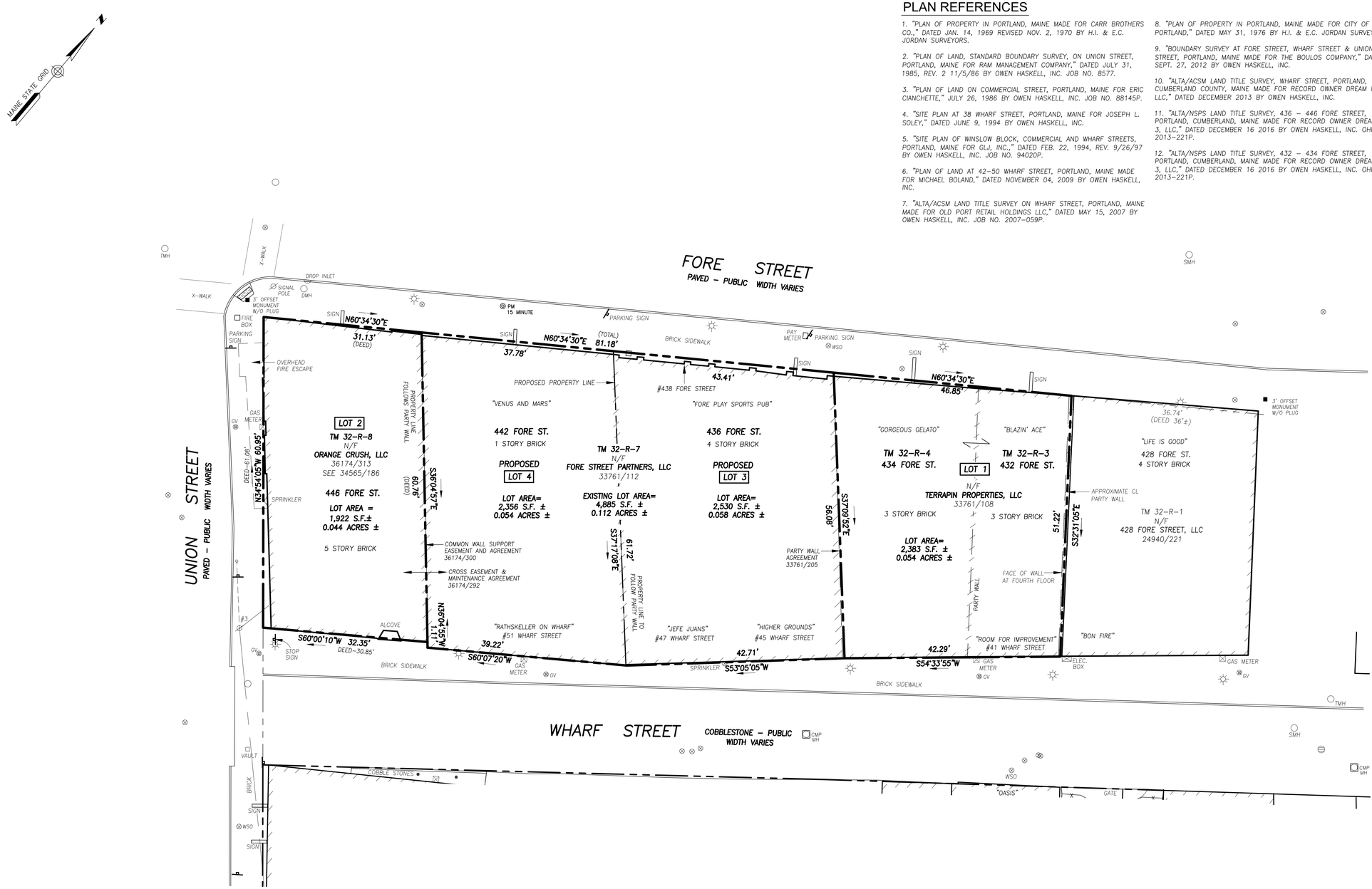
	Required	Proposed
Lot Size	-	2,383 SF
Area Per Dwelling Unit	-	
Minimum Street Frontage	15	46.85 ft
Front Yard Minimum		
Front Yard Maximum	5	0
Rear Yard		
Yard Right		
Yard Left		
Side Street Setback		
Step Back		
Maximum Lot Coverage		
Minimum Lot Coverage		
Maximum Height		
Open Space		
Maximum Impervious Area		
Pavement Setback		
Floor Area Ratio		
Off Street Parking Spaces		
Loading Bays		
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		

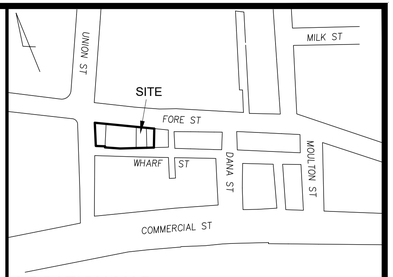
Affordable Housing Density Bonuses (if applicable)

	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):			



PLAN REFERENCES

1. *"PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR CARR BROTHERS CO.," DATED JAN. 14, 1969 REVISED NOV. 2, 1970 BY H.I. & E.C. JORDAN SURVEYORS.*
2. *"PLAN OF LAND, STANDARD BOUNDARY SURVEY, ON UNION STREET, PORTLAND, MAINE FOR RAM MANAGEMENT COMPANY," DATED JULY 31, 1985, REV. 2 11/5/86 BY OWEN HASKELL, INC. JOB NO. 8577.*
3. *"PLAN OF LAND ON COMMERCIAL STREET, PORTLAND, MAINE FOR ERIC CIANCHETTE," JULY 26, 1986 BY OWEN HASKELL, INC. JOB NO. 88145P.*
4. *"SITE PLAN AT 38 WHARF STREET, PORTLAND, MAINE FOR JOSEPH L. SOLEY," DATED JUNE 9, 1994 BY OWEN HASKELL, INC.*
5. *"SITE PLAN OF WINSLOW BLOCK, COMMERCIAL AND WHARF STREETS, PORTLAND, MAINE FOR GLJ, INC.," DATED FEB. 22, 1994, REV. 9/26/97 BY OWEN HASKELL, INC. JOB NO. 94020P.*
6. *"PLAN OF LAND AT 42–50 WHARF STREET, PORTLAND, MAINE MADE FOR MICHAEL BOLAND," DATED NOVEMBER 04, 2009 BY OWEN HASKELL, INC.*
7. *"ALTA/ACSM LAND TITLE SURVEY ON WHARF STREET, PORTLAND, MAINE MADE FOR OLD PORT RETAIL HOLDINGS LLC," DATED MAY 15, 2007 BY OWEN HASKELL, INC. JOB NO. 2007–059P.*
8. *"PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR CITY OF PORTLAND," DATED MAY 31, 1976 BY H.I. & E.C. JORDAN SURVEYORS.*
9. *"BOUNDARY SURVEY AT FORE STREET, WHARF STREET & UNION STREET, PORTLAND, MAINE MADE FOR THE BOULOS COMPANY," DATED SEPT. 27, 2012 BY OWEN HASKELL, INC.*
10. *"ALTA/ACSM LAND TITLE SURVEY, WHARF STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR RECORD OWNER DREAM PORT 3, LLC," DATED DECEMBER 2013 BY OWEN HASKELL, INC.*
11. *"ALTA/NSPS LAND TITLE SURVEY, 436 – 446 FORE STREET, PORTLAND, CUMBERLAND, MAINE MADE FOR RECORD OWNER DREAM PORT 3, LLC," DATED DECEMBER 16 2016 BY OWEN HASKELL, INC. OHI JOB# 2013–221P.*
12. *"ALTA/NSPS LAND TITLE SURVEY, 432 – 434 FORE STREET, PORTLAND, CUMBERLAND, MAINE MADE FOR RECORD OWNER DREAM PORT 3, LLC," DATED DECEMBER 16 2016 BY OWEN HASKELL, INC. OHI JOB# 2013–221P.*



LOCATION MAP

N.T.S.

LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- UTILITY POLE
- MANHOLE
- SIGN
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- LIGHT POLE
- GV GAS VALVE
- PM PARKING METER
- (E) ELECTRIC CONDUIT
- X—X— FENCE
- CURB
- OHW OVERHEAD WIRES
- IPF/IRF IRON PIPE OR ROD FOUND
- N/F NOW OR FORMERLY
- 000/000 DEED BOOK / PAGE
- LOT 1 SUBDIVISION LOT NO.

GENERAL NOTES

1. *OWNERS OF RECORD:*

   TAX MAP 32–R–8
   ORANGE CRUSH, LLC, P.O. BOX 66749, FALMOUTH, ME 04105
   C.C.R.D. 36174, PAGE 313

   TAX MAP 32–R–7
   FORE STREET PARTNERS LLC, P.O. BOX 66749, FALMOUTH, ME 04105
   C.C.R.D. 33761, PAGE 112

   TAX MAP 32–R–4
   TERRAPIN PROPERTIES, LLC, P.O. BOX 66749, FALMOUTH, ME 04105
   C.C.R.D. BOOK 31269, PAGE 272
   TAX MAP 32–R–3
   C.C.R.D. BOOK 33761, PAGE 108

2. *BEARINGS ARE BASED ON MAINE STATE COORDINATE SYSTEM WEST ZONE.*
3. *ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY–PANEL NUMBER 230051 0013 B WITH AN EFFECTIVE DATE OF JULY 17, 1986, PANEL 13 OF 17, THE SUBJECT PROPERTY LIES IN ZONE C, AN AREA OF MINIMAL FLOODING.*
4. *UTILITIES, (WATER, GAS, ELECTRIC, TELEPHONE AND SEWER) ARE AVAILABLE THROUGH ADJOINING PUBLIC STREETS OR THROUGH APPURTENANT EASEMENTS WHICH ARE SHOWN ON THE SURVEY.*

Owners of Record

ORANGE CRUSH, LLC
P.O. BOX 66749, FALMOUTH, ME 04105

FORE STREET PARTNERS, LLC
P.O. BOX 66749, FALMOUTH, ME 04105

TERRAPIN PROPERTIES, LLC
P.O. BOX 66749, FALMOUTH, ME 04105

Subdivision Plan

At

432-446 Fore Street, Portland, Maine

Made for

Fore Street Partners, LLC

c/o Dirigo Management

1 City Center, 4th Fl., Portland ME 04101

REGISTRY BLOCK

STATE OF MAINE, CUMBERLAND, ss
REGISTRY OF DEEDS

RECEIVED _____, 20____

AT ____ hr. ____ min. ____ m

AND RECORDED IN

PLAN BOOK _____, PAGE _____

ATTEST: _____
REGISTER

SCALE : 1" = 10'

0' 5' 10' 20'

APPROVED BY THE CITY OF PORTLAND PLANNING BOARD

_____

_____

_____

_____

_____

_____

_____

_____
DATE

CERTIFICATE

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE WITH THE EXCEPTION OF PROPERTY MARKERS SET AT ALL CORNERS

05/10/2023
DATE

SAMUEL D. GLIDDEN, PLS #2520

STATE OF MAINE · SAMUEL D. GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: JLW	DATE: APRIL 6, 2023	JOB NO. 2023-065 P	
CHECKED BY: SDG	SCALE: 1" = 10'	DRWG. NO. 1-SB	